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Brandis M. Ansley
Georgia State University

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ACCEPTANCE

This dissertation, A PILOT STUDY OF AN ONLINE STRESS INTERVENTION FOR P-12 TEACHERS, by BRANDIS M. ANSLEY, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education and Human Development, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

David E. Houchins, Ph.D.
Committee Chair

Kris Varjas, Psy.D.
Committee Member

DaShaunda Patterson, Ph.D.
Committee Member

Andrew Roach, Ph.D.
Committee Member

Robert Hendrick, Ph.D.
Committee Member

Date

Brendan Calandra, Ph.D.
Chairperson
Department of Learning Sciences

Paul Alberto, Ph.D.
Dean
College of Education and Human Development

AUTHOR'S STATEMENT

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Brandis M. Ansley

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Brandis M. Ansley

Department of Educational Psychology, Special Education and Communication Disorders
College of Education and Human Development
Georgia State University

The director of this dissertation is:

David Houchins, Ph.D.

Department of Educational Psychology, Special Education, and Communication Disorders
College of Education and Human Development
Georgia State University
Atlanta, GA 30303

CURRICULUM VITAE
Brandis M. Ansley

EDUCATION

2012-2018

Doctor of Philosophy in Education of Students with Exceptionalities (Ph.D.)
Georgia State University, Atlanta, GA.

2008-2009

Specialist in Education in Special Education Leadership (Ed.S.)
University of West Georgia, Carrollton, GA.

2001-2004

Master of Science in Applied Clinical Psychology (M.S.)
University of South Carolina-Aiken, Aiken, SC.

1995-2000

Bachelor of Art in Psychology (B.A.)
Augusta State University, Augusta, GA.

PROFESSIONAL EXPERIENCE

2016-2018

Graduate Assistantship
Center for Research on School Safety, School Climate, and Classroom Management
Collaboration and Resources for Encouraging and Supporting Transformations in Education
(CREST-Ed Initiative)
Georgia State University, Atlanta, GA

2012-2017

Graduate Assistantship
Leaders in Education, Alternative, and Delinquency-Related Environments through Research
and Scholarship (Project LEADERS)
Department of Educational Psychology, Special Education, and Communication Disorders.
Georgia State University, Atlanta, GA.

2007-2012

Special Education Teacher
Henry County Schools, Stockbridge, GA

PUBLICATIONS

Ansley, B. M., Houchins, D., & Varjas, K. (in press). Cultivating positive work contexts that promote teacher job satisfaction and retention in high-need schools. *Journal of Special Education Leadership*.

Blinder, M., Ansley, B., & Varjas, K., Benson, G., & Ogletree, S. (2017). Supporting students by maintaining professional well-being in a high stress job. *LEARNING Landscapes*, 10(2), 59-72.

Ansley, B. M., Houchins, D., & Varjas, K. (2016). Optimizing special educator wellness and job performance through stress management. *TEACHING Exceptional Children*, 48(4), 176-185. doi: 10.1177/0040059915626128

ELECTRONIC MEDIA

Ansley, B. M., Blinder, M. B., & Varjas, K. (2017, January 25). Building resilience in special educators [Webinar]. *Council for Exceptional Children (CEC) Webinar Series*. Retrieved from <http://www.pubs.cec.sped.org/web1701a/>

Ansley, B. M. (2016, September 15). Writing your IEP for stress management [Podcast]. *Council for Exceptional Children (CEC) Research2Practice Podcast Series*. Retrieved from <http://www.pubs.cec.sped.org/podcast-optimizing-special-educator-wellness-and-job-performance-through-stress-management/>

NATIONAL CONFERENCE WORKSHOPS

Ansley, B., Varjas, K., & Houchins, D. (2018, February). *Caring for everyone (including yourself!): Social-emotional competence for special educators*. Workshop facilitated the annual conference of the Council for Exceptional Children (CEC), Tampa, FL.

Blinder, M., Ansley, B., & Varjas, K., & Demere, J. (2018, February). *Training school psychologists in promoting social-emotional competence among educators*. Mini-skills workshop facilitated the annual convention of the National Association for School Psychologists (NASP), Chicago, IL.

Ansley, B., & Tantillo-Philibert, C. (2017, April). *Caring for students, caring for yourself: Stress management in the classroom*. Workshop facilitated at the annual conference of the Council for Exceptional Children (CEC), Boston, MA.

Blinder, M., Ansley, B., & Varjas, K. (2017, February). *Burn out or bounce back*. Mini-skills workshop facilitated at the annual convention of the National Association for School Psychologists (NASP), San Antonio, TX.

PROFESSIONAL SOCIETIES & ORGANIZATIONS

Council for Exceptional Children (CEC). 2013-present.

Psi Chi (National Psychology Honor Society). 2000-present.

A PILOT STUDY OF AN ONLINE STRESS INTERVENTION FOR P-12 TEACHERS

by

Brandis M. Ansley

Under the direction of David E. Houchins

ABSTRACT

Researchers (e.g., Greenberg, Brown, & Abenavoli, 2016) suggest that P-12 teachers are routinely exposed to high levels of stress and prone to burnout, which is characterized by emotional exhaustion, depersonalization, and a lack of personal accomplishment (Maslach, Leiter, & Johnson, 1996). Burnout has been associated with deleterious effects on teachers': (a) health and wellbeing; (b) job performance; (c) job commitment; and (d) workplace relationships (Greenberg et al., 2016). Thus, burnout is a critical issue that must be addressed in order to maintain a solid workforce of engaged and effective teachers who influence positive student outcomes. According to the transactional model of stress, stress is the gap between an individual's demands and resources for meeting those demands (Lazarus & Folkman, 1987). As such, teachers may benefit from opportunities to develop effective coping resources. Chapter One is a systematic review of 18 studies of stress interventions for P-12 teachers in the United

States. Participant groups included special educators as well as general educators. Results suggested that teachers who participated in stress interventions reported a range of benefits that included reduced stress, burnout, health-related symptoms, and student misbehaviors as well as increased job satisfaction, teacher efficacy, and mindfulness. The discussion section focuses on the implications for policy and practice. Chapter Two is an experimental study that explored the preliminary outcomes of Mindfulness and More for School Personnel (MMSP), an online stress intervention for school personnel. MMSP instructed scientifically-supported individual coping strategies and addressed ways to build supportive relationships with others in the school workplace. Results demonstrated large positive effects of MMSP on study outcomes. In comparison to a control group, MMSP participants demonstrated significant: (a) decreases in burnout, (b) increases in teacher efficacy; and (c) greater use of coping strategies. Thus, MMSP holds promise as a feasible program that may improve teacher stress management skills and prevent burnout.

INDEX WORDS: Teacher stress, teacher burnout, stress management, burnout prevention, self-care

A PILOT STUDY OF AN ONLINE STRESS INTERVENTION FOR P-12 TEACHERS

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A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Philosophy

in

Education of Students with Exceptionalities

in

Educational Psychology, Special Education, and Communication Disorders

in

the College of Education and Human Development

Georgia State University

Atlanta, GA

2018

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DEDICATION

I dedicate this dissertation to my Nana. I hope somehow, she is able to read this or get the message. Thank you so much for always loving me and accepting me as I am. I can recall you often telling me how stubborn I was as a child. Finishing my dissertation and therefore, my Ph.D., is an example of how my stubbornness and tenacity pays off. Thank you for giving me the space to be this way. I hope I have made you proud and will continue to do so. I love you and miss you so much. I'll see you at some point, but not too soon, on the other side.

ACKNOWLEDGEMENTS

What an amazing journey this dissertation has been! What first seemed like an impractical dream has now become a fruitful reality. I haven't always known what I wanted to be when I grow up, but I knew I wanted to be someone who can help others confront their hindrances and allow their gifts to shine. This has manifested in various roles over the years, from client liaison to therapist to school teacher. These experiences have all led me to where I am today, as I now have the privilege of guiding those who guide others. Since the first year of my doctoral program, I've dreamed of developing a stress intervention for teachers (and other school personnel). My Ph.D. program couldn't have ended on a sweeter note!

I first want to thank my advisors, Dr. Houchins and Dr. Varjas, for their time and effort the past six years. You have challenged just about every fiber of my existence yet connected me with pathways to fulfilling my wildest dreams. I truly appreciate you two taking many chances on me and having confidence in my abilities, especially at moments I was merely hanging on by threads. I have truly evolved over the course of these six years. In the beginning, I was intimidated and wondered if it was a mistake to allow me into the program. Now, I am certain I've always been where I was meant to be. I believe strongly in our work and proudly stand behind it. Thank you for giving me these opportunities to discover my scholastic identity.

To the rest of my committee, Dr. Hendrick, Dr. Patterson, and Dr. Roach, thank you so much for sharing your expertise, providing quality feedback, and especially, for having patience with my lengthy defense. I also want to thank Dr. McKeown and Dr. Jolivette who were not on my committee, but nonetheless have imparted much of their experience and wisdom. Thank you for your time, assistance, and for giving me opportunities that allowed me to develop further.

I have several colleagues to thank as well. First of all, a shout out is due to my Project LEADERS cohort: James Schwab, Carrie Kane, Weke Andrews, Mora Pressley, and Zac

Johnson. We all have something unique to contribute to our field. Thank you for the experiences we have shared. To my CREST-Ed colleagues, Melanie Blinder and Josephine Demere. Of course, I want to thank you for the hours and effort you put into my interrater reliability and quality assurance for my literature review, instruments, and intervention. Mostly, I want you to know I've had an absolute blast working with each of you. You make professional development fun. Erin FitzPatrick, thank you for driving the several hours to Atlanta and taking such detailed notes during the dissertation defense. Furthermore, thank you for the moral support and advice in processes I found a bit daunting (e.g., applications, interviews). As someone who just did that yourself, your perspective was uniquely valuable as I navigated unfamiliar territory.

In my personal life, I have more individuals to thank than I can really name. You all may not have directly contributed to my dissertation or Ph.D., but you were a huge part of my life throughout it all. First, I owe so much gratitude to the people of Decatur Women's Sports League and now the Roots Women's League. Sports, especially softball, was the outlet that kept me reasonably sane. A handful of you were so much more, though: activity buddies, lifelong friends, and well...more. A special thank you also goes out to my sister-by-choice, Caroline Hires. We've seen each other through much over the years and this is no different. I'm grateful to be chosen family. To my children, Morghan Ansley and Chandler Ansley. You blossomed into beautiful young adults during this program. Many people have come and gone in our lives, but the three of us have always had each other. You know I love you at your highest and lowest points. Thank you for loving me through mine as well. Courtney Wilson, thank you for all the support the past two years. I appreciate the moral support, encouragement to persevere, and rides to the airport. Most of all, you are an excellent dog mom to Evander and Mika, which eased my mind at times I was less available. Speaking of whom, I'd be remiss if I didn't mention how

much I appreciate Evander. All the hours I spent typing at my computer wouldn't have felt so safe without you snuggled up against me, "protecting" me as I confronted one the most mentally intense challenges of my life. You and Mika also forced me to peel away from my computer to take you outdoors. I needed that just as much as you two (though for different reasons).

I know I couldn't possibly identify everyone who has been a part of my journey in some way, shape, or form. Whether listed or not, I hope everyone understands my immense gratitude and appreciation for having them in my life. I have now realized a dream I once considered impossible. The Universe, including what is seen and unseen, has blessed me incredibly. Thank you to all!

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1 STRESS INTERVENTIONS FOR P-12 TEACHERS IN THE UNITED STATES: A SYSTEMATIC LITERATURE REVIEW

Teachers in pre-kindergarten through 12th grade (P-12) classrooms in the United States have demanding job responsibilities that require them to balance a heavy workload (Hughes, 2012; Jennings & Greenberg, 2009; Richards, 2012). P-12 teachers must balance: (a) planning and preparing high quality lessons; (b) addressing a variety of student academic and behavior needs; (c) collaborating with parents and other school personnel; (d) maintaining mandatory paperwork; (e) ensuring their work is in compliance with students' Individual Education Programs (IEPs), 504 Plans, or other tiered support plans; and (f) tending to other assigned responsibilities (e.g., lunch duty, bus and car line duty, parent-teacher nights; Brownell, Sindelar, Kiely, & Danielson, 2010; Greenberg, Brown, & Abenavoli, 2016; Jennings & Greenberg, 2009). As such, they often report high levels of stress associated with their jobs. For example, in a national survey of P-12 teachers, 46% reported experiencing high daily stress (Gallup, 2014). In another study, 93% of teachers reported experiencing high stress levels associated with their jobs (Herman, Hickmon-Rosa, & Reinke, 2018).

Stress is a natural phenomenon that manifests through physical, mental, and emotional responses to a demand (Schneiderman, Ironson, & Siegel, 2005; Selye, 1946). Acute stress may benefit teachers by enhancing their attention and motivation related to meeting immediate demands (Schneiderman et al., 2005). Chronic stress, however, places teachers at risk of burnout (Jennings & Greenberg, 2009). Burnout is characterized by: (a) emotional exhaustion, or a depletion of psychological energy; (b) depersonalization, or cynicism toward work and consumers of one's work; and (c) a lack of personal achievement (Maslach, Jackson, & Leiter, 1996).

Teacher Burnout

The issue of teacher burnout has been well-documented, as literature reviews since the early 1980s have identified studies that addressed teacher burnout, involving both general education teachers (GETs) and special education teachers (SETs) (Cunningham, 1983; Goodman, 1980; Greenberg et al., 2016; Jennings & Greenberg, 2009; Kyriacou, 1987; Montgomery & Rupp, 2005) as well as burnout specific to SETs (Brunsting, Sreckovic, & Lane, 2014; Weiskopf, 1980; Wisniewski & Gargiulo, 1997; Zabel & Zabel, 1982). It is inconclusive as to whether a GET or SET is more prone to burnout, as all types of teachers have reported high stress levels in recent studies (Herman et al., 2018; Greenberg et al., 2016). Reviews of teacher burnout studies, whether specific to SETs (Brunsting et al., 2014; Weiskopf, 1980; Wisniewski & Gargiulo, 1997) or including GETs (Cunningham, 1983; Goodman, 1980; Greenberg et al., 2016; Jennings & Greenberg, 2009; Kyriacou, 1987; Montgomery & Rupp, 2005), have collectively drawn conclusions and suggested future directions regarding teacher burnout in regard to: (a) teachers as individuals; (b) the education workforce; (c) the impact on students; (d) stress management in professional learning; and (e) future research directions.

Teacher burnout is personally harmful to teachers. Chronic stress and burnout is associated with teachers' physical and mental health symptoms (e.g., elevated stress hormones, sleep disturbance, anxiety and depression), which contribute to high rates of absenteeism (Cunningham, 1983; Kolbe & Tirozzi, 2011; Greenberg et al., 2016). Similarly, teacher burnout is also associated with poor relationship quality in the workplace. Such correlations may be cyclical in nature. For example, some researchers (e.g., Brunsting et al., 2014; Montgomery & Rupp, 2005; Wisniewski & Gargiulo, 1997) have suggested that stressful work-related interactions elevate teacher stress levels and lead to burnout. Jennings and Greenberg (2009),

however, suggested burnout diminishes a teacher's capacity to build and maintain effective relationships with administrators, co-teachers, students, and parents. Both experiences, burnout and poor working relationships, could plausibly exacerbate one another (Schaufeli, Leiter, & Maslach, 2009). The same concept applies to teacher job performance. While some researchers (Brunsting et al., 2014; Oakes, Lane, Jenkins, & Booker, 2013; Wisniewski & Gargiulo, 1997) have indicated burnout may be prevented by helping teachers improve the quality of their work (e.g., implementation of evidence-based instructional and behavior management practices), others (e.g., Jennings & Greenberg, 2009; Ruble & McGrew, 2013; Wong, Ruble, Yu, & McGrew, 2017) suggested teachers do not perform to the best of their abilities when experiencing chronic stress and burnout. The emotional exhaustion depletes energy required for delivering quality instruction and managing challenging student behaviors (Jennings & Greenberg, 2009). Thus, the cause and effect dynamic could plausibly go either direction here as well, depending on the individual teacher. Overall, it is clear there are associations between teacher burnout and negative personal and professional experiences (Brunsting et al., 2014; Greenberg et al., 2016; Jennings & Greenberg, 2009; Ruble & McGrew, 2013; Wisniewski & Gargiulo, 1997; Wong et al., 2017), though the original source of the problem, whether the physical and mental consequences of burnout or professional skills deficits that result in burnout, vary according to individual circumstances.

Teacher burnout is harmful to the education workforce. The negative effect of burnout on teacher health, interactions on the job and job performance have been associated with job dissatisfaction, negative school climate, and ultimately higher teacher turnover (Berkowitz, Moore, Astor, & Benbenishty, 2016; Brunsting et al., 2014; Wisniewski & Gargiulo, 1997). This requires school leaders to devote much time and financial resources to filling vacancies. A report

by the National Commission on Teaching and America's Future (NCTAF; Barnes, Crowe, & Schaefer, 2007) estimated that in the United States, teacher turnover costs more than \$7.3 billion per year. The cost to replace each teacher was estimated from \$4,000 in rural areas to \$17,000 in urban districts (Barnes et al., 2007). Moreover, the burnout-attrition cycle appears to be worst in places that need quality teachers the most. Teacher turnover is disproportionately higher in high-need settings (e.g., special education, high-poverty areas) and further exacerbates instability in relationships between teachers, students, and parents in these school communities (Beteille, Kalogrides, & Loeb, 2012).

Teacher burnout impacts students. In addition to personal health consequences, job performance problems, and workforce instability, findings based on extensive literature reviews (Berkowitz et al., 2016; Brunsting et al., 2014; Jennings & Greenberg, 2009; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013) suggest teacher burnout ultimately hurts student progress. Teacher burnout has been found to be inversely related to task performance and Individualized Education Program (IEP) goal achievement for students with disabilities (Brunsting et al., 2014; Ruble & McGrew, 2013; Wong et al., 2017). In addition, teacher burnout and negative school climate was associated with student behavior problems and lower academic achievement (Berkowitz et al., 2016; Jennings & Greenberg, 2009; Thapa et al., 2013). The connection between teacher burnout and student achievement likely reflects a lack of teacher effectiveness in implementing quality instructional and behavior management practices, whether due to a lack of relevant skills (e.g., Brunsting et al., 2014) or a diminished capacity to meet multiple job demands (e.g., Wong et al., 2017).

Transactional Model of Stress

As burnout stems from chronic stress (Maslach et al., 1996), reducing stress levels is a logical approach. According to the transactional model of stress, individuals experience stress when their demands exceed their resources required for addressing them (Lazarus & Folkman, 1987). Thus, to effectively meet the demands encountered by P-12 teachers, they must possess adequate resources that support their role. Common P-12 teacher resources include instructional materials (e.g., textbooks, technology, classrooms; Hiebert & Morris, 2012), social capital (e.g., departmental or grade-level collaboration, community partnerships; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009), and social-emotional support (e.g., constructive administrative feedback, positive collegial interactions; Bettini, Jones, Brownell, Conroy, & Leite, 2018). While such resources are vital, effective individual stress management and coping skills are arguably important resources as well. Even under the best circumstances, P-12 teachers encounter stress inherent to providing direct services to students and therefore require the skills to manage that stress (Ansley, Houchins, & Varjas, 2016). Teachers can be taught coping skills that build their resilience, or the ability to manage and persevere through stress, and therefore prevent teacher burnout (Roeser, 2014; Steinhardt & Dolbier, 2008).

A recent study lends support for the importance of stress management skills among P-12 teachers. Herman et al. (2018) explored the effects of teacher stress and coping on student outcomes. Teachers completed self-reports that measured their levels of stress, burnout, teacher efficacy, and coping abilities. In addition, participants completed checklists to rate their students' behavior. Standardized tests were used to measure students' academic achievement. Though teachers' coping abilities had no significant relationship to their stress levels, higher coping abilities were associated with lower levels of burnout. Such findings suggest effective coping

skills prevent stress from escalating to burnout. Furthermore, researchers identified four teacher adjustment profiles: (a) high stress/high coping/low burnout (60%); (b) high stress/moderate coping/moderate burnout (30%); (c) high stress/low coping/high burnout (3%); and (d) low stress/high coping/low burnout (7%). The poorest student outcomes were associated with the high stress/low coping/high burnout profile. Findings of this study (Herman et al., 2018) therefore confirmed that the consequences of teacher burnout extends to students as well.

Teacher Resilience and Social-Emotional Competence

In addition to serving as resources for managing stress, healthy coping skills are also critical to teachers' social-emotional competence (SEC; Jennings & Greenberg, 2009). SEC is a set of prosocial personal characteristics that include self-awareness, social awareness, responsible decision-making, self-management, and relationship management as it pertains to their role (Collaborative for Academic and Social Emotional Learning, 2017). Lower burnout and higher SEC have been associated with healthy relationships with students and other school personnel (Hen & Goroshit, 2016; Jennings & Greenberg, 2009; Thapa et al., 2013), promotion of social-emotional learning and positive behavior supports (Jennings & Greenberg, 2009; Merritt, Wanless, Rimm-Kaufman, Cameron, & Peugh, 2012), and implementation of evidence-based instructional strategies (Greenberg et al., 2016; Guo & Higgins-D'Alessandro, 2011; Oakes et al., 2013). To effectively implement quality teaching and behavior management practices, teachers must effectively manage their stress and apply SECs while instructing and interacting with students (Jennings & Greenberg, 2009; Wong et al., 2017).

Purpose

Given the need to promote teacher resilience and SEC (Jennings & Greenberg, 2009; Roeser, 2014; Steinhardt & Dolbier, 2008), the current study is a systematic review of

intervention studies addressing stress and burnout in P-12 classroom teachers working in American schools. For the current review, paraeducators were included along with teachers, because they are an integral part of the daily instructional and behavior-management services provided to students (Fisher & Pleasants, 2012). Therefore, in the settings in which they are staffed, they contribute to the learning environment and climate, and plausibly have similar stress management needs as teachers (Garwood, Van Loan & Wertz, 2017).

The deleterious impact of teacher stress and burnout has been well-documented over the past four decades (e.g., Greenberg et al., 2016; Jennings & Greenberg, 2009; Kyriacou, 1987; Montgomery & Rupp, 2005; Weiskopf, 1980; Wisniewski & Gargiulo, 1997; Zabel & Zabel, 1982). However, Jennings and Greenberg (2009) highlighted the dearth of empirical research on stress interventions for teachers. They suggested the need for intervention studies aimed at building teachers' resilience and SEC. Under the assumption that more research has since been published, the current literature review sought to explore these studies and provide answers to the following guiding questions:

Q1. What stress interventions, using experimental or quasi-experimental designs, have been empirically studied with P-12 teachers in the United States and what were the major components of each intervention? To establish causal connections between the interventions and their outcomes, the review was limited to studies that utilized quantitative designs. Additionally, as a standard of study quality, only studies published in peer-reviewed academic journals were included. Major components of each intervention were also examined in order to know what strategies have been instructed in an effort to help teachers manage their stress. The researcher also wanted to know details regarding dosage to determine the amount of time necessary to devote to stress interventions for teachers.

Q2. Have stress intervention studies specifically targeted P-12 special educators or general educators? This review explored the extent to which stress interventions have been aimed specifically at GETs, SETs, or both. Previous literature reviews of studies about teacher stress have either focused on SETs (Brunsting et al., 2014; Weiskopf, 1980; Wisniewski & Gargiulo, 1997) or presumably included both SETs and GETs (Cunningham, 1983; Goodman, 1980; Greenberg et al., 2016; Jennings & Greenberg, 2009; Kyriacou, 1987; Montgomery & Rupp, 2005). While findings from recent studies (e.g., Greenberg et al., 2016; Herman et al., 2018) suggested stress may be problematic for both GETs and SETs, the current study explored whether stress management efforts targeted either population specifically.

Q3. What were the outcomes reported for P-12 teachers in these studies? The current literature review explored the outcomes associated with participation in the stress interventions. Outcomes may be based on stress-related perceptions examined in previous literature reviews (e.g., Brunsting et al., 2014; Greenberg et al., 2016), such as self-reported stress, burnout, or quality of work experience (e.g., job satisfaction, teacher efficacy, intention to remain in current position). Other outcomes that have been associated with stress include observational measures (e.g., student behaviors, teacher behaviors), attention-based tasks (e.g., working memory, attentional biases), or physiological measures (e.g., cortisol levels, blood pressure).

Method

To identify studies addressing P-12 teacher stress interventions, a systematic search was conducted to include electronic, hand, and ancestral searches. To determine eligible articles to be included in the review, a set of inclusion criteria was established (see below) and a binary coding scheme of met/not met was used (see Table 1.1).

Search and Identification Process

To locate studies, the following electronic databases were used: Academic Search Complete, ERIC, Professional Development Collection, PsycARTICLES, Psychology and Behavioral Sciences Collection, and PsycINFO. All possible combinations of the following search terms were used: (Field 1) *stress management, stress reduction, stress intervention, coping, or stress techniques*; (Field 2) *intervention, instruction, treatment, strategy, therapy, or program*; and (Field 3) *teacher, educator, paraeducator, teacher aide, or paraprofessional*. The search was limited to peer-reviewed studies.

The search yielded 730 articles (excluding duplicates). All titles and abstracts were read to determine if the article met inclusion criteria. Each study must have: (a) specifically addressed teacher stress or burnout; (b) included P-12 teachers or paraeducators as participants; (c) utilized a quantitative intervention design (e.g., experimental, quasi-experimental, single-case design); (d) tested an intervention targeting teacher stress or burnout; and (e) been conducted in the United States. One hundred thirty-two ($n = 132$) studies were excluded, because they were not about teacher stress or burnout; 162 studies did not include P-12 teachers or paraeducators as participants; 348 studies did not utilize intervention designs; 55 studies did not test an intervention targeting teacher stress or burnout; and 17 studies were conducted outside of the United States. After applying inclusion criteria, there were 16 studies that met criteria for the review.

Next, the same search terms were used on the Google Scholar website (<http://scholar.google.com>). No additional studies were found. Then, a hand search was conducted of journals publishing at least one of the included articles by reviewing the titles and authors of each article (i.e., *International Journal of Stress Management, Journal of Positive*

Behavior Interventions, Mindfulness, Psychology in the Schools, and School Psychology Quarterly) and yielded no additional studies. Finally, the reference lists of all included articles were searched for additional studies. Two additional articles were located through the ancestral search.

A second researcher, a state-certified school psychologist with experience facilitating stress management professional development to various education personnel, was trained on the established inclusion criteria and search methods. During the training, the primary investigator and second researcher reached 100% agreement. She was then provided the search terms, databases, and inclusion criteria as specified above. The second researcher duplicated the search (i.e., database, Google Scholar, hand search) conducted by the primary investigator. Inter-rater agreement for inclusionary criteria was 100%. Eighteen (n =18) articles met the inclusion criteria and were included.

Data Extraction Process

The primary investigator determined which data to extract after reading the articles and identifying common themes in the studies as they pertained to the guiding questions. For Q1, the interventions were mindfulness-based or they were not. In addition, the interventions either included explicit applications to the participants' professional role or they did not. For Q2, data were extracted regarding the participants' professional role (i.e., teachers, paraeducators, other school personnel). Data also were extracted in regard to certification type (i.e., general education, special education, not specified). For Q3, data regarding the types of outcome measures were coded (i.e., self-report, observation, attentional-task, or physiological). For further details regarding data extraction procedures, see Table 1.2. After receiving instructions for extracting data and without knowledge of the investigator's coding results, the second researcher completed

the same data extraction process. Inter-rater agreement was 98.6%. Disagreements were resolved by discussion between the reviewers to achieve consensus. After consensus discussion, inter-rater agreement was 100%.

Results

Eighteen ($n = 18$) studies met inclusion criteria. Fourteen ($n = 14$) of the 18 studies used a group experimental design with a control group (Ancona & Mendelson, 2014; Anderson, Levinson, Barker, & Kiewra, 1999; Benn, Akiva, Arel, & Roeser, 2012; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Cook et al., 2017; Flook, Goldberg, Pinger, Bonus, & Davidson, 2013; Harris, Jennings, Katz, Abenavoli, & Greenberg, 2015; Jeffcoat & Hayes, 2012; Jennings, Snowberg, Coccia, & Greenberg, 2011a; Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013; Jennings et al., 2017; Kaspereen, 2012; Kemeny et al., 2011). In addition, Cecil and Forman (1990) examined a comparison intervention as well as a control condition. There was also one ($n = 1$) quasi-experimental study that included a control group (Roeser et al., 2013). Two ($n = 2$) quasi-experimental studies (Jennings et al., 2011b; Reiser, Murphy, & McCarthy, 2016) did not include control groups. One ($n = 1$) study used a single-case design with multiple baselines across participants (Singh, Lancioni, Winton, Karazsia, & Singh, 2013). The studies are summarized in Table 1.3 and denoted in the reference list with an asterisk. A synthesis of the studies was conducted and reported below.

Teacher Stress Interventions and Components

The first guiding question asked what stress interventions were studied with P-12 teachers and what components were included in each intervention. Table 1.3 includes descriptions of each intervention. All but three ($n = 3$) studies (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996) were published in recent years. Among the recent

studies, all but one ($n = 1$) study (Kaspereen, 2012) tested a mindfulness-based intervention (MBI).

Mindfulness. Fourteen ($n = 14$) of the 18 studies explored the effect of MBIs for P-12 teachers (Ancona & Mendelson, 2014; Benn et al., 2012; Cook et al., 2017; Flook et al., 2013; Harris et al., 2015; Jeffcoat & Hayes, 2012; Jennings et al., 2013; Jennings et al., 2011a, 2011b; Jennings et al., 2017; Kemeny et al., 2011; Reiser et al., 2016; Roeser et al., 2013; Singh et al., 2013). Mindfulness is a habit-of-mind that involves personal and social awareness, attention to details, presence in the here-and-now, nonjudgmental observations, self-compassion, and compassion for others (Flook, Goldberg, Pinger, & Davidson, 2015, Kabat-Zinn, 2003). MBIs typically involve facilitated mindfulness meditations, in which practitioners guide individuals or groups to focus their attention to specific targets, such as natural respiration, sounds, or other sensory details (Cavanaugh, Strauss, Forder, & Jones, 2014). Participants are then prompted to observe their thoughts and then to redirect their attention back to the designated target, without reacting or judging themselves.

All but one of the MBI studies (i.e., Jeffcoat & Hayes, 2012) featured an intervention facilitated by clinicians trained specifically in facilitating mindfulness techniques. Facilitators guided participants through mindfulness meditation exercises with a focus on developing mindful mental habits, such as noticing details of the present moment, nonjudgment, and emotion regulation. The one exception to the facilitator-led MBIs (Jeffcoat & Hayes, 2012) emphasized similar skills through a self-guided self-help workbook. Three of the MBIs also included yoga instruction (Ancona & Mendelson, 2014; Harris et al., 2015; Kemeny et al., 2011).

All but three studies (i.e., Harris et al., 2015; Jeffcoat & Hayes, 2012; Kemeny et al., 2012) tested MBIs that directly connected the intervention contents to participant job functions.

An example of direct job-related connections was included in an intervention, Modified Mindfulness-Based Stress Reduction (mMBSR), which was adapted to include a session where mindfulness strategies were practiced with in-vivo exposure to typical classroom stressors (Flook et al., 2013). Cook and colleagues (2017) examined an intervention, ACHIEVERS' Resilience Curriculum (ARC), which included a strategy encouraging teachers to accept aversive experiences in the classroom, rather than control or avoid them.

Representing 77.8% of studies identified for the current synthesis, MBIs were clearly the most studied type of intervention; however, each MBI was rarely studied more than once. The only interventions explored in multiple studies were SMART-in-Education (Benn et al., 2012; Roeser et al., 2013) and CARE for Teachers (Jennings et al., 2011a, 2011b, 2013, 2017). Across all MBIs were commonalities that included paying attention to details in the present moment, breathing exercises, regulating emotions, reappraising stressful events on the job, self-compassion, and empathy toward others. The MBIs varied, however, in details such as total duration, increments in which the intervention was presented, and components of the session (e.g., yoga, mindfulness meditation, didactic instruction, applications to teaching). See the section labeled "Time commitment" below as well as Table 1.3 for more details.

Other than mindfulness. Four ($n = 4$) studies (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012) explored interventions not identified as MBIs. Anderson et al. (1999) explored the impact of a standardized meditation program on teacher stress, burnout, and anxiety. Like an MBI, this intervention included strategies designed to help participants focus on the present moment, observe physical and mental responses, and regulate their emotions. In contrast, standardized meditation participants were instructed to focus on a specific mantra, or personal motto, and to dispute competing thoughts. Mindfulness training

differs in that participants are instructed to acknowledge their thoughts and emotions, rather than set intentions for how they should think or feel (Abenavoli, Jennings, Greenberg, Harris, & Katz, 2013). The intervention components also included controlled breathing exercises and progressive muscle relaxation (Anderson et al., 1999). These strategies activate the parasympathetic nervous system or relaxation response (Van Dixhoorn & White, 2005). Activation of the relaxation response is often taught in clinical settings to help individuals manage sympathetic nervous system reactivity associated with stress (Selye, 1946). Similarly, Kaspereen (2012) studied relaxation therapy and its impact on teacher stress and life satisfaction. Relaxation therapy involved a guided meditation designed to help participants regulate their responses to stress by activating the relaxation response (Kaspereen, 2012). Furthermore, the intervention directly connected contents to the teacher role, as the guided meditation script presented imagery that directed participants to visualize their students, classrooms, and school building with positivity and peace.

The oldest studies included in the review (Cecil & Forman, 1990; Cooley & Yovanoff, 1996) examined other interventions without meditation components. Cecil and Forman (1990) examined two intervention conditions, one identified as stress inoculation, a technique originally developed by Meichenbaum (1977) and adapted specifically to teachers. Stress inoculation instructs direct coping strategies for regulating emotions and reappraising stressful events on the job. In addition to relaxation response training (e.g., breathing techniques, progressive muscle relaxation), stress inoculation also includes cognitive restructuring (Meichenbaum, 1977). Cognitive restructuring is a strategy that helps participants identify unproductive thought patterns that perpetuate stressful experiences and replace them with alternative thoughts that either neutralize or reduce stress levels (Butler, Chapman, Forman, & Beck, 2006). Though work-

related topics were addressed in the introduction to the intervention (e.g., causes of teacher stress, justification for the intervention), the article did not specifically describe ways that intervention strategies were applied to job-specific stressors. In addition to a control group, Cecil and Forman (1990) compared stress inoculation to another intervention condition: a facilitated coworker support group. This condition involved meeting for the same frequency and duration (i.e., once a week, 90 minutes, 6 consecutive weeks) as the stress inoculation condition. The coworker support group was a structured facilitation of sharing work experiences from the week, exploring solutions within the group, and offering encouragement. No specific coping strategies were taught, though social support was provided (Cecil & Forman, 1990). In addition, Cooley and Yovanoff (1996) studied a two-part intervention that involved a combination of similar stress management strategies (e.g., relaxation techniques, cognitive reappraisal) plus peer-collaboration training (e.g., collegial interactions and communication). This intervention also included instruction that transferred stress management skills to work-related situations. For example, each session incorporated role-playing stressful teaching scenarios and responding with stress management strategies. Furthermore, there were homework assignments in between sessions that involved logging use of strategies during the workday.

Time commitment. The time commitment required by participants varied greatly across the 18 studies reviewed with total participation time ranging from 2 to 42 hours. The intervention requiring the least total time commitment was relaxation therapy, which involved four weekly sessions 30-45 minutes in length (Kaspereen, 2012). Participants who completed the Kaspereen (2012) intervention spent from 2 to 3 total hours. Another intervention on the lower spectrum of time commitment included Ancona and Mendelson (2014), with a mindfulness training and yoga intervention having required 4.5 total hours across 3 weeks. Most studies described their

interventions as a series of weekly or bi-weekly sessions across 5 to 8 weeks. However, the duration of time involved in the interventions varied greatly. For example, Anderson et al. (1999) studied a meditation program that involved 7.5 hours of sessions across 5 weeks, and Reiser et al. (2016) examined an MBI that required six total hours of participant commitment across 6 weeks. In contrast, Flook et al. (2013) explored an MBI that totaled 26 hours in duration across 8 weeks. Jeffcoat and Hayes (2012), however, did not estimate a time requirement. Instead, they indicated that participants were instructed to read a self-help book and complete a series of intervention activities over the course of 8 weeks. There were four studies on the 30-hour CARE for Teachers program that reported lengthier blocks of time with fewer sessions (Jennings et al., 2011a, 2011b, 2013, 2017). There were differences, however, in the span of time the sessions were delivered. Both studies from Jennings (2011) featured interventions spread across 4 weeks. In the Jennings (2013) study, CARE for Teachers was implemented over the course of 4 weeks. Finally, in the Jennings et al. (2017) study, CARE for Teachers was implemented with 30 hours of contact across 4 months. Conversely, there were also interventions that spanned across longer periods of time (e.g., 10 weeks, 16 weeks) with shorter implementation sessions (e.g., Cooley & Yovanoff, 1996; Harris et al., 2015). The intervention with the most total time commitment was 42 hours, which required contemplative and emotion skills training (Kemeny et al., 2011). This intervention included four day-long sessions as well as four shorter evening sessions across 8 weeks. Also on the higher end of participant time commitment was SMART-in Education (Benn et al., 2012; Roeser et al., 2013). This intervention spanned 5 weeks and included nine 2.5-hour sessions as well as two day-long sessions that were 7 hours each.

All studies encouraged practice and application of skills taught within the intervention outside of the actual contact hours. However, most did not collect data regarding outside

practice. One exception was the Flook et al. (2013) study, which instructed participants to keep weekly logs of their mindfulness meditation practice time. Participants of this study reported a mean of 21.5 minutes per day and 7.5 minutes per day of formal and informal practice, respectively (Flook et al., 2013). Another exception was the Harris et al. (2015) study, which simply described participants as having reported mindfulness practice on their own at least once per week. The SMART-in-Education intervention also encouraged home practice (Benn et al., 2012; Roeser et al., 2013). Participants reported means of 10 minutes (Benn et al., 2012) and 16 minutes (Roeser et al., 2013) of daily mindfulness meditation practice. These studies did not analyze the relationship between home-based meditation practice and study outcomes. However, the study that used a single-case design (Singh et al., 2013) instructed three participants to keep a journal of their weekly mindfulness meditation practice over the 8-week intervention phase. For 16 weeks following, they were instructed to continue with their meditation practice on their own. Singh et al. (2013) collected data on their participants' home practice and found a functional relation between the duration of their meditation and changes to their classroom management practices (e.g., less reactivity to misbehavior, more redirection without visible stress). Kemeny et al. (2011) collected data on home meditation practice and found the amount of time reported for home meditation practice correlated directly with mindfulness measures and was inversely correlated with anxiety levels. Thus, while most studies did not report home-based practice in relation to study outcomes, this information could help interpret the cause-and-effect connection between an intervention and results.

P-12 Teachers

The second guiding question inquired about the P-12 teachers who participated in the studies. Details regarding participant role and certification type are described below.

Participant role. All studies included certified teachers as participants. Five studies included other school personnel (e.g., paraeducators, related service providers) in addition to teachers (Cooley & Yovanoff, 1996; Harris et al., 2015; Jeffcoat & Hayes, 2012; Jennings et al., 2011 (study one); Kaspereen, 2012) but did not report separate outcomes based on these roles. One study targeted pre-service teachers and their in-service mentors (Jennings et al., 2011 (study two) but did not report separate results for each. Another study included parents of students in addition to their teachers (Benn et al., 2012) and did separate outcomes according to role. Only the outcomes disaggregated for teachers was included in the synthesis. There were no studies located that addressed paraeducators only.

Certification area. Data were extracted to determine how studies included teacher certification (e.g., general education vs. special educator). Three studies specifically explored stress interventions for special educators (Benn et al., 2012; Cooley & Yovanoff, 1996; Singh et al., 2013). One study specifically identified GETs as their participants (Cecil & Forman, 1990). Jennings et al. (2017) identified both general education and special education staff as participants but did not report results specific to their certification areas. The remaining 13 studies did not discriminate between general educators and special educators and likely included both.

Outcomes Reported

Study measurements and outcomes varied widely across the 18 studies. Results from each study are outlined in Table 1.3. In addition, Table 1.4 summarizes the magnitude of the effect sizes for each intervention's associated outcomes.

Self-reports. All studies included self-report measures. Because there was a plethora of self-reports, they were coded according to the type of constructs measured. These categories were identified, because they measured a type of stress or outcomes associated with teacher

stress in previous literature reviews (e.g., Brunsting et al., 2014; Jennings & Greenberg, 2009) and white papers (e.g., Greenberg et al., 2016; Kolbe & Tirozzi, 2011). These included participant perceptions of: (a) stress; (b) burnout; (c) psychological symptoms; (d) physiological symptoms; (e) quality of work experiences; (f) job performance; and (g) mindfulness. While Table 1.3 lists all measures and their reported results, the following subsections describe a synthesis of self-reported outcomes that were: (a) identified as belonging to one of the categories; and (b) had effect sizes available.

Stress. Eleven ($n = 11$) studies assessed self-reported stress levels with outcomes for teacher stress (Ancona & Mendelson, 2014; Anderson et al., 1999; Cecil & Forman, 1990), job stress (Cecil & Forman, 1990), psychological distress (Cook et al., 2017; Flook et al., 2013; Harris et al., 2015; Jeffcoat & Hayes, 2012; Jennings et al., 2017; Kaspereen, 2012), physical distress (Jennings et al., 2011a, 2011b, 2013) distress tolerance (Harris et al., 2015), general stress (Jeffcoat & Hayes, 2012), occupational stress (Kaspereen, 2012), and coping skills (Cecil & Forman, 1990). The Kaspereen (2012) study reported large effects for psychological distress and occupational stress. Harris et al. (2015) reported large effects for distress tolerance. Medium effects were found for psychological distress in two studies (Cook et al., 2017; Flook et al., 2013) and for general stress in one study (Jeffcoat & Hayes, 2012). Small effects were reported for teacher stress in two studies (Ancona & Mendelson, 2014; Cecil & Forman, 1990) and physical distress in one of the CARE studies (Jennings et al., 2013). However, two other CARE studies (Jennings et al., 2011a, 2011b) found no effects for physical distress. In addition, the Cecil and Forman (1990) study used subscale measures (i.e., personal/professional stressors, professional distress, discipline and motivation, emotional manifestations) from the Teacher Stress Inventory (TSI; Fimian, 1984) as outcomes. Effect sizes ranged from small to medium

(Cecil & Forman, 1990). Furthermore, Cecil and Forman (1990) found medium effects for increased peer support in the workplace and increased coping skills as well as no effects for task-based stress.

Burnout. Six ($n = 6$) studies included at least one measure of burnout, all using the Maslach Burnout Inventory (MBI; Maslach, Johnson, & Leiter, 1996). Ancona and Mendelson (2014) reported an outcome for the emotional exhaustion subscale while Anderson et al. (1999), Cooley & Yovanoff (1996), Flook et al. (2013), Harris et al. (2015), and Jennings et al. (2013) used each of the three subscales (i.e., emotional exhaustion, depersonalization, personal accomplishment) as measures. For emotional exhaustion, Anderson et al. (1999) reported medium effects at post-intervention and large effects at the follow-up. Small effects were reported by Flook et al. (2013) and Harris et al. (2015), while no effects were found in the Ancona & Mendelson (2014), Cooley & Yovanoff (1996) and Jennings et al. (2013) studies. No effects were found for depersonalization with the exception of one study (Harris et al., 2015) that reported a medium effect. For personal accomplishment, one study reported a large effect (Flook et al., 2013) and four studies (Anderson et al., 1999; Cooley & Yovanoff, 1996; Harris et al., 2015; Jennings et al., 2013) reported small effects.

Psychological symptoms. Six ($n = 6$) studies assessed psychological symptoms through self-reports that measured levels of depression (Jeffcoat & Hayes, 2012; Kemeny et al., 2012; Jennings et al., 2011a, 2011b, 2013; Roeser, 2013) and anxiety (Jeffcoat & Hayes, 2012; Roeser et al., 2013). Kemeny et al. (2012) reported large effects for depression. In two of the Jennings et al. studies (2011a, 2013), there were small effects and no effects reported in another (Jennings et al., 2011b). Roeser et al. (2013) reported large effects for depression and anxiety, while Jeffcoat and Hayes (2012) reported medium effects for both.

Physiological symptoms. Three ($n = 3$) studies assessed physiological symptoms through self-reports that measured sleep-related impairments (Harris et al., 2015), general health perceptions (Jeffcoat & Hayes, 2012), and physical manifestations (i.e., ache-related symptoms, gastrointestinal symptoms, medication use; Jennings et al., 2017). Effect sizes were small for sleep-related impairments (Harris et al., 2015) and medium for general health perceptions (Jeffcoat & Hayes, 2012). For physical manifestations, there were small effects for gastrointestinal symptoms and no effects for ache-related symptoms or medication use.

Quality of work experiences. Three ($n = 3$) studies measured participants' quality of work experiences with self-report assessments of job satisfaction (Cook et al., 2017; Cecil & Forman, 1990), role overload (Cecil & Forman, 1990), and job commitment (Cooley & Yovanoff, 1996). While results from Cook et al. (2017) illustrated medium effects for job satisfaction, the Cecil & Forman (1990) study revealed no effects for job satisfaction or role overload. Cooley and Yovanoff (1996) found small effects for job commitment.

Job performance. Seven ($n = 7$) studies assessed participants' job performance through self-reported measures of teacher efficacy (Benn et al., 2012; Cook et al., 2017; Harris et al., 2015; Jennings et al., 2011a, 2011b, 2013, 2017), and intentions to implement evidence-based practices (Cook et al., 2017). Cook et al. (2017) reported medium effect sizes for teacher efficacy and intentions to implement evidence-based practices. Other results for global teacher efficacy indicated a small effect (Benn et al., 2012) and no effect (Jennings et al., 2017). Some studies reported teacher efficacy outcomes through subscale measures (i.e., classroom management, instructional practice, student engagement). For teacher efficacy in classroom management, there was a medium effect (Harris et al., 2015), no effect (Jennings et al., 2011b), and two small effects (Jennings et al., 2011a, 2013). Results for teacher efficacy in instructional practice also

indicated a medium effect (Jennings et al., 2013), no effect (Harris et al., 2015), and two small effects (Jennings et al., 2011a, 2011b). Effect sizes ranged from none (Harris et al., 2015; Jennings et al., 2011a, 2011b) to medium (Jennings et al., 2013) for teacher efficacy in student engagement.

Mindfulness. Mindfulness-related outcomes were measured in seven ($n = 7$) studies. Five studies (Flook et al., 2013; Harris et al., 2015; Jennings et al., 2011a, 2011b, 2013) reported outcomes based on subscales (i.e., observing, describing, awareness, nonjudgment, nonreactivity) of the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) and one study reported global FFMQ results (Jennings et al., 2017). Other measures included self-reports that assessed emotion regulation (Benn et al., 2012; Harris et al., 2015; Jennings 2013, 2017), self-compassion (Flook et al., 2013), and interpersonal mindfulness (Jennings et al., 2011a). Results indicated large effects for emotion reappraisal (Jennings et al., 2013) and self-compassion (Flook et al., 2013); medium effects for emotion regulation self-efficacy (Benn et al., 2012), mindfulness-nonreactivity (Flook et al., 2013; Jennings et al., 2011a, 2011b), and mindfulness-observing (Harris et al., 2015; Jennings et al., 2013); small effects for mindfulness-observing (Flook et al., 2013), mindfulness-describing (Flook et al., 2013; Jennings et al., 2011a, 2013), mindfulness-awareness (Flook et al., 2013; Harris et al., 2015; Jennings et al. 2011a, 2011b), mindfulness-nonjudgment (Harris et al., 2015; Jennings et al., 2011a), and interpersonal mindfulness (Jennings et al., 2011a); and no effects for mindfulness-observing (Jennings et al., 2011b), mindfulness-describing (Harris et al., 2015; Jennings et al., 2011b), mindfulness-awareness (Jennings et al., 2013), mindfulness-nonjudgment (Flook et al., 2013; Jennings et al., 2011b, 2013), mindfulness-nonreactivity (Harris et al., 2015; Jennings et al., 2011b), and emotion reappraisal (Harris et al., 2015).

Observational measures. In addition to self-reported outcomes, three ($n = 3$) studies included observation-based measures of teacher practices related to their instructional environment (Cecil & Forman, 1990; Flook et al., 2013; Jennings et al., 2017). Results from Flook et al. (2013) and Jennings et al. (2017) suggested that teachers that their interventions, both MBIs, had small effects on observed teacher practices regarding emotional support for students. The Flook et al. (2013) study also reported small effects for teachers' classroom organization and no effects for their instructional support. Jennings et al. (2017) reported no effect of the intervention for classroom organization and instructional support. Cecil and Forman (1990) included an observational measure of overt anxiety-related gestures (e.g., clearing throat, fiddling with objects) while teaching. When comparing the intervention group to the control group only, effect sizes were medium to large at post-intervention and follow-up. Small to medium effects were detected when comparing the intervention group to the peer-support comparison condition. Another study included observation-based measures of student behaviors (Singh et al., 2013). Though three teachers participated in an MBI, results were based on student behavior observations. Singh et al. (2013) study reported large effect sizes that reflected substantial increases in their students' compliance with teacher requests and neutral peer interactions. Large effects were also found for decreases in maladaptive behaviors and negative peer interactions. Furthermore, medium effect sizes indicated increases in positive peer interactions.

Attention-based measures. One study used a computerized neurocognitive assessment, the Cambridge Neuropsychological Test Automated Battery (CANTAB; Robbins, 1994), to measure sustained attention and affective attentional bias (Flook et al., 2013). The first part was the Rapid Visual Information Processing task, which is a measure of sustained visual attention.

Participants monitor a stream of digits flashing on the computer screen and click a button whenever they see a predetermined sequence of three digits presented. The outcome is calculated according to how well participants detected target sequences (Robbins, 1994). Next, the Affective Go/No-Go task is a measure of emotional processing (Kaplan et al., 2006). During this task, participants were presented affectively valenced words (e.g., happy, sad). In each trial, one valence is the target valence and a second valence is a distractor valence. When a word from the target valence was presented, participants clicked a button. Responses to distractor words were errors of commission and indicated attentional bias toward the given valence. Flook et al. (2013) found no effects of the intervention, an MBI, on the sustained attention task. However, small effects were detected for the affective attentional biases task. Kemeny et al. (2012), who also tested an MBI, used a computerized attentional task, the Micro-Expression Training Tool (METT; Ekman, 2004), to measure implicit compassion. Participants evaluated by the METT are assessed by their ability to correctly identify the emotions a (e.g., anger, sadness, happiness) associated with various facial expressions that are displayed very briefly (40 ms) on a computer screen. Though reported data was insufficient to determine the effect size, results otherwise indicated that implicit compassion increased significantly at post-intervention for the MBI group.

Physiological measures. Three ($n = 3$) MBI studies analyzed physiological measures that included salivary cortisol (Flook et al., 2013; Harris et al., 2015), blood pressure (Flook et al., 2013; Kemeny et al, 2012), and respiration rate.

Cortisol is a natural hormone secreted by the adrenal glands in response to stress. Cortisol levels can be measured through blood, urine, and saliva. Salivary cortisol has become more commonly used in stress research as a physiological indicator of participant stress levels. Thus, higher cortisol levels indicate higher levels of acute stress. However, chronic stress ultimately

leads to lower cortisol levels, particularly upon awakening, as the body becomes fatigued from the stress response. Two studies (Flook et al., 2013; Harris et al., 2015) measured participants' morning cortisol levels. Both studies reported medium-sized effects. More specifically, their control group participants had significantly lower morning cortisol levels than their counterparts who received the intervention. Such findings were an indication of burnout for control group participants.

Other physiological indications of stress are blood pressure and respiration rates, both of which increase with exposure to stress. Harris et al. (2015) reported small to medium effects for blood pressure, which dropped significantly among MBI participants between pre- and post-intervention. In another study of an MBI, Kemeny et al. (2012) measured participants' blood pressure and respiration rate in conjunction with a stress-induced task. While effect sizes were not available, results demonstrated significant differences in responding between the intervention and control groups.

Discussion

Based on multiple literature reviews (e.g., Brunsting et al., 2014; Goodman, 1980; Weiskopf, 1980; Wisniewski & Gargiulo, 1997; Zabel & Zabel, 1982), teacher burnout has been a critical issue for approximately four decades. During that time, researchers (e.g., Bettini, Crockett, Brownell, & Merrill, 2016; Billingsley, 2004; Brownell & Smith, 1992; Cancio, Albrecht, & Johns, 2013; Darling-Hammond, 1984; Fore, Martin, & Bender, 2002; Littrell, Billingsley, & Cross, 1994; Shaw, 1980) have suggested ways to improve organizational factors (e.g., recruitment, induction, working conditions) in ways that may reduce teacher stress and burnout. In addition, research-to-practice papers (e.g., Ansley et al., 2016; Cancio & Conderman, 2008; Raschke et al., 1988) have described how teachers can recognize their stress, apply healthy

coping skills, and reduce the impact of burnout. However, only 18 studies of stress interventions were located. These studies are merely the beginning of empirical research aimed at reducing teacher stress and preventing burnout.

Effective stress management may have far-reaching effects that ultimately benefit students as well (Shen et al., 2015; Wong et al., 2017). Jennings and Greenberg (2009) proposed a model of a prosocial classroom for all teachers. A prosocial classroom is one led by socially and emotionally competent teachers who promote SEC in students. Effective self-care is necessary in order for the teacher to maintain energy levels that empower them to demonstrate SEC, cultivate supportive learning environments, and implement best teaching practices for instruction and classroom management (Greenberg et al., 2016; Jennings & Greenberg, 2009). It is noteworthy that, when Jennings and Greenberg (2009) first presented the model for a prosocial classroom, there were only three known stress intervention studies conducted with P-12 teaching personnel (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996). Given the dearth of stress intervention research for teachers at that time, Jennings and Greenberg (2009) suggested more research was needed on interventions that target teacher stress and coping skills. From then, the publication of 15 additional peer-reviewed studies suggest there is an increased interest in teachers coping skills. Results of this literature review suggest that overall, the 18 intervention studies that directly addressed teacher stress or burnout have shown promise in improving personal (e.g., life satisfaction, sleep quality, blood pressure) and professional outcomes (e.g., classroom climate, teacher efficacy, behavior management).

Stress Interventions for P-12 Teachers

The first guiding question asked which stress interventions had been studied with P-12 teachers and what the major components were for each intervention. All studies tested

interventions that included coping strategies (e.g., mindfulness, yoga, relaxation-response training) that have previously been supported by multiple systematic literature reviews or meta-analyses (Ansley et al., 2016). It seems that as the interest in studying stress interventions for teachers has risen, the trend appears to favor MBIs. Nearly all (77.8%) of the studies examined the impact of MBIs on teacher stress and stress-related job variables (Ancona & Mendelson, 2014; Benn et al., 2012; Cook et al., 2017; Flook et al., 2013; Harris et al., 2015; Jeffcoat & Hayes, 2012; Jennings et al., 2013; Jennings et al., 2011; Jennings et al., 2017; Kemeny et al., 2011; Reiser et al., 2016; Roeser et al., 2013; Singh et al., 2013), while the remaining studies explored other modes of stress management such as: (a) guided meditations (Anderson et al., 1999; Kaspereen, 2012); (b) controlled breathing exercises (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012); (c) progressive muscle relaxation (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012); (d) cognitive restructuring (Cecil & Forman, 1990; Cooley & Yovanoff, 1996); (e) collaboration skills training (Cooley & Yovanoff, 1996); and (f) a coworker support group (Cecil & Forman, 1990). Thus, the publication dates of the studies reflect a trend toward MBIs to address teacher stress concerns.

Relevance of the Interventions

In order for professional learning to be effective with teachers, it has to be meaningful to the participant and relevant to their job-related tasks (Desimone & Garet, 2015; McLeskey, 2011). With few exceptions (i.e., Anderson et al., 1999; Cecil & Forman, 1990; Harris et al., 2015; Jeffcoat & Hayes, 2012; Kemeny et al., 2012), the interventions included components specifically connecting the intervention contents with the participants' job functions. As stress intervention research progresses in the education field, it is important that coping strategy

instruction be directly connected to teacher responsibilities. That is, teachers should be shown how the coping strategies potentially benefit their job performance as well as ways to incorporate the learned content into their job-related tasks (Desimone & Garet, 2015; McLeskey, 2011). Teachers have reported disengagement in their professional learning due to perceived irrelevance to their positions (Boston Consulting Group, 2014). Thus, connections between stress management and job functions may possibly generate more buy-in among P-12 teachers toward building their own resilience and SEC. Benefits would likely further extend to students, as teacher resilience and SEC are essential building blocks of the prosocial classroom (Jennings & Greenberg, 2009).

P-12 Teaching Staff as Participants

The second guiding question addressed the participants' role and certification type. The investigator wanted to know: (a) the extent to which interventions included paraeducators and other school personnel; and (b) if studies had specifically targeted general educators and special educators.

Participant role. The peer-reviewed stress intervention studies ($N = 18$) primarily targeted P-12 classroom teachers. Though few studies included other school personnel (e.g., Harris et al., 2015; Jeffcoat & Hayes, 2012; Kaspereen, 2012), such as paraeducators and related service providers, teachers represented the majority of their participants. This was consistent with Garwood et al.'s (2017) suggestion that little attention has been given to paraeducator burnout. While paraeducators assist teachers and are not charged with the same level of responsibilities, they are exposed to similar daily stressors (e.g., addressing multiple student needs, meeting administrative demands) and therefore, subject to burnout as well (Garwood et

al., 2017; Shyman et al., 2010). Thus, efforts aimed at reducing teacher stress and burnout may benefit paraeducators as well.

Participant certification. Previous research about teacher stress has broadly addressed all P-12 teachers (e.g., Greenberg et al., 2016; Jennings & Greenberg, 2009; Montgomery & Rupp, 2005) or specifically targeted special educators (e.g., Brunsting et al., 2014; Wisniewski & Gargiulo, 1997). The investigator wanted to know the extent to which stress intervention research has focused specifically on GETs or SETs. Only one study specifically identified GETs (Cecil & Forman, 1990) as their participants, while three identified SETs (Benn et al., 2012; Cooley & Yovanoff, 1996; Singh et al., 2013). Most of studies ($n = 14$), however, did not distinguish among the certificate types of their staff. This may be reflective of trends toward inclusion in education settings. In 21st century American schools, SETs do not typically work separately from GETs, because the majority of students with disabilities (SWDs) receive their education in mainstream settings for at least 80% of the school day (United States Department of Education [USDOE], 2017). It is noteworthy that the studies conducted only with GETs or SETs either recruited teachers from self-contained settings (Benn et al., 2012; Singh et al., 2013) or were conducted in times (i.e., Cecil & Forman, 1990; Cooley & Yovanoff, 1996) when students with disabilities were more often separated from their peers without disabilities (USDOE, 2017). However, between 1989 and 2012, the percentage of students with disabilities who received their education in inclusive settings for greater than 80% of the school day rose from 31.7% - 62.2%. Thus, GETs and SETs most often work in the same environments. Moreover, there is evidence that teacher stress is an issue for both GETs and SETs (e.g., Greenberg et al., 2016), and could therefore, both benefit from stress interventions.

Major Outcomes

Stress interventions show promise in reducing stress and improving professional outcomes for P-12 teachers. Across the review studies, the 85 of 135 reported effect sizes (63.0%) ranged from small to medium ($d = 0.20 - 0.79$) for measured outcomes. Self-reported improvements were associated with all interventions studied, whether MBIs (Ancona & Mendelson, 2014; Benn et al., 2012; Cook et al., 2017; Flook et al., 2013; Harris et al., 2015; Jeffcoat & Hayes, 2012; Jennings et al., 2013; Jennings et al., 2011; Jennings et al., 2017; Kemeny et al., 2011; Reiser et al., 2016; Roeser et al., 2013; Singh et al., 2013) or based on other stress reduction strategies (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012). Going beyond self-reported measures, stress interventions were also associated with improvements in objective outcomes, which included observed anxiety manifestations (Cecil & Forman, 1990) observed job performance (Flook et al., 2013; Jennings et al., 2017), observed student behaviors (Singh et al., 2013), and blood pressure and cortisol levels (Harris et al., 2015; Kemeny et al., 2011).

Given the lack of replication studies and wide variety in outcomes, it is premature to claim any given intervention is superior. However, there were some noteworthy outcomes to consider. Two interventions were consistently associated with large effect sizes, $d = 0.79 - 1.25$ (Kaspereen, 2012), $\phi = 0.76 - 1.00$ (Singh et al., 2013). Singh et al. (2013) studied an individualized mindfulness training program that included two hours of training once a week for eight weeks for a total of 16 hours. In addition, the training was followed by 16 weeks of independent practice. This intervention was arguably the most intense, as the training involved a 1:1 facilitator-trainee ratio and it was the only intervention that required independent practice after the facilitated training concluded. Outcomes for the three teachers who participated in the

Singh et al. (2013) study were measured by observations of their student behaviors and indicated substantial improvements in neutral and positive behaviors with substantial decreases in negative behaviors. In contrast, Kaspereen (2012) studied Relaxation Therapy, which was facilitated in group format during teacher planning periods, lunches, and before and after school. Weekly sessions lasted 30-45 minutes at a time over four weeks, for a total time requirement ranging from two to three hours. Results suggested the participants of Relaxation Therapy experienced significant decreases in psychological distress and occupational stress as well as significant increases in life satisfaction (Kaspereen, 2012).

There were also two interventions consistently associated with medium effect sizes, $d = .57 - .77$ (Cook et al., 2017), $d = 0.50 - 0.68$ (Jeffcoat & Hayes, 2012). The ACHIEVER Resilience Curriculum involved weekly sessions, two and a half hours long, over five weeks. Total time required was 12.5 hours, all of which were delivered to an intervention group through a synchronous web-based platform (Cook et al., 2017). Medium effect sizes were reported for psychological distress ($d = 0.69$), teacher efficacy ($d = 0.64$), job satisfaction ($d = 0.57$), and intentions to implement evidence-based instructional practices ($d = 0.77$). Jeffcoat and Hayes (2012) studied an MBI packaged as a self-help workbook. This intervention was arguably the least intense, as intervention group participants were simply presented with the materials and instructions. They completed the program independently over the course of eight weeks by reading a book and responding to written prompts. Medium effect sizes were found for general health ($d = 0.52$), anxiety ($d = 0.68$), and psychological distress ($d = 0.50$).

The intervention associated with the overall least effects was CARE (Jennings et al., 2011a, 2011b, 2013, 2017), which is also the program with the most replication thus far. The proportion of no effects may reflect the numerous outcomes reported across the four CARE

studies (Jennings et al., 2011a, 2011b, 2013, 2017). Jennings et al. (2011a, 2011b, 2013, 2017) used subscale measures, all of which had inconsistent results across studies (see Table 1.2). For example, teacher efficacy measures had no effect or small effects in three out of four studies (Jennings et al., 2011a, 2011b, 2017) but demonstrated medium effects in another (Jennings et al., 2013). The implementation increments and duration differed from the other interventions. The first three studies (Jennings et al., 2011a, 2011b, 2013), CARE consisted of two weekend retreats one month apart. In the fourth study (Jennings et al., 2017), CARE was delivered in a weekend session and then three one-day sessions each two weeks apart. Phone-based coaching was also part of each CARE program (Jennings et al., 2011a, 2011b, 2013, 2017). Results indicated CARE consistently demonstrated the smallest effects on a multitude of measured outcomes, including burnout, job performance observations, and various mindfulness indicators.

Though it is not known exactly why CARE was associated with lower effect sizes than other interventions, it was the only intervention conducted in large blocks of time with fewer sessions relative to the span of the intervention (Jennings et al., 2011a, 2011b, 2013, 2017). Within a month's time, CARE required participants to devote 30 hours across two sessions (Jennings et al., 2011a, 2011b, 2013) or four sessions (Jennings et al., 2017). The interventions associated with consistently large (Kaspereen, 2012; Singh et al., 2013) and medium (Cook et al., 2017) effect sizes required less time commitment relative to the span of the intervention. For example, Relaxation Therapy (Kaspereen, 2012) required no more than three total hours of participation in the same span of time that CARE required 30 hours of participation (Jennings et al., 2011a, 2011b, 2013; 2017). Singh et al. (2013) required participants to commit to 16 hours of training over eight weeks and then left participants to independent mindfulness practices for the next 16 weeks. The self-help workbook intervention from the Jeffcoat and Hayes (2012) study

was based entirely on independent practice (Jeffcoat & Hayes, 2012). Collectively, the results from these studies (Cook et al., 2017; Jeffcoat & Hayes, 2012; Jennings et al., 2011a, 2011b, 2013, 2017; Kaspereen, 2012; Singh et al., 2013) suggested interventions may be more effective when implemented gradually and reinforced with independent practice.

Limitations and Future Directions

Results should be interpreted with caution as there were some limitations of this literature review. First, the review only included peer-reviewed studies published in academic journals. While this criterion was intended to ensure quality research, there are likely stress intervention studies not included in this review. Results may also reflect publication bias, as unpublished studies may indicate instances where interventions have not proven beneficial to P-12 teachers. Future studies should consider using dissertations, conference papers, and other studies not published in academic journals.

Volunteer bias may be another limitation. Those who volunteer for research participation are presumably open to the intervention and expecting to benefit (Dollinger & Leong, 1993). Though volunteer bias does not necessarily undermine the legitimacy of the results, beneficial outcomes may not generalize to individuals without buy-in.

For practice-based directions, ethics must be considered, especially in cases of mandatory professional development. Some individuals may be philosophically opposed to engaging in some of the strategies instructed for stress management, particularly involving mindfulness (Jennings, 2016). While mindfulness has shown much promise for P-12 teachers (e.g., Cook et al., 2017; Singh et al., 2013) as well as other populations (Cavanagh et al., 2014), other intervention components (e.g., controlled breathing, progressive muscle relaxation, collaboration training) also showed promise in their outcomes (Anderson et al., 1999; Cecil &

Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012). The wide variation across interventions and relatively small research base precluded the investigator from making comparisons to suggest which interventions may be superior in promoting effective stress management skills. However, with results having suggested all interventions were associated with beneficial outcomes, and participant buy-in impacting results (e.g., Kemeny et al., 2011), it may be worthwhile to present P-12 teachers with a variety of scientifically supported coping strategies and let them determine which stress management methods are most beneficial.

Research-based directions present much opportunity for exploring ways to build teacher stress management skills. Future studies can help grow the evidence-base by either replicating existing studies or testing other scientifically-supported strategies with P-12 teachers. In addition, a meta-analysis of teacher stress intervention studies may allow researchers to draw more specific conclusions about the effectiveness of interventions or their components (Lipsey & Wilson, 2001).

Furthermore, researchers may also consider investigating interventions that allow participants to select among scientifically supported coping mechanisms and personalize their stress management program. Just as the demand for personalized learning has increased for students (Jenkins, Williams, Moyer, George, & Foster, 2017), the same concepts could perhaps apply to teachers' professional learning. As long as teachers are managing their stress effectively, does it really matter how? Realistically, individual teachers will prefer different strategies. Though empirical studies tend to include specific protocols for treatment, only those teachers buying into the programs tend to benefit (Desimone & Garet, 2015; McLeskey, 2011). Personalized stress interventions that include evidence-based content, have flexibility that allows

participants to select preferred strategies, and are aligned with educator job functions may lead to optimal outcomes associated with educator resilience and social-emotional competence.

Conclusions

The literature from the fields of medicine, psychology, and neuroscience is replete with support for individual stress management and wellness promotion (Ansley et al., 2016; Khoury et al., 2015; Richardson & Rothstein, 2008; Schneiderman et al., 2005). Not only is stress management recommended as a health behavior, but it is considered necessary, especially for individuals working in high-stress environments (Richardson & Rothstein, 2008). Teacher preparation programs and continuous professional learning should routinely address teacher stress management and burnout prevention. Future research on stress interventions specifically for P-12 may expand current evidence and continually inform these teacher education practices.

Table 1.1

Coding Instructions for Studies Identified for Literature Review

Please indicate if the studies met each of the following criteria:

Criterion	Definition
This study specifically addressed teacher stress and burnout	Teacher stress and burnout was specifically described as a focus of the study
Study participants included P-12 teachers or paraeducators	Participants were identified as P-12 teachers, teacher assistants, paraeducators, or classroom paraprofessionals; Participants may include others if: (a) P-12 teachers or paraeducators comprised the majority of the sample; or (b) results were disaggregated for P-12 teachers or paraeducators
The study utilized an intervention design	This includes group experimental, group quasi-experimental, single-case experimental, or mixed-methods designs that include one of the experimental designs.
At least one of the outcomes measured was a variable relevant to stress	Outcomes that measure stress include stress perceptions, teacher efficacy, job-related perceptions, physiological and/or psychological health
The study was conducted in the United States	Study may include populations outside of the United States if it reported results disaggregated for U.S. participants

Table 1.2

Coding Instructions for Data Extraction

For each study, identify the data reported in each study below.

Type of Data	Definition
Intervention components (Select one.)	<p>The interventions are either based on mindfulness or they are not</p> <ul style="list-style-type: none"> A. Mindfulness (One or more of the following is present) <ol style="list-style-type: none"> 1. The title of the study indicates use of mindfulness as a therapy, meditation, program, etc., for teachers 2. The intervention is described specifically with the word “mindfulness” B. Other than mindfulness (Anything that is not described as a mindfulness intervention)
Direct applications to classroom role (Select one.)	<ul style="list-style-type: none"> A. Directly identified in description of intervention or procedures—The study identifies intervention components that directly apply the content to their role in the classroom (e.g., connection between stress and classroom role; role play a classroom scenario and application of intervention; examples of how intervention can be used in connection with work-related stress) B. Not directly identified in description of intervention or procedures
Participants’ role in the classroom (Select all that apply.)	<p>The role of the participant is directly stated in the method.</p> <ul style="list-style-type: none"> A. Teacher B. Paraeducator (Other terms that may be used: paraprofessional, teacher assistant) C. Other (must include A and B as majority or separate results disaggregated)
Certification type (Select all that apply.)	<p>This is either specifically stated or not addressed at all.</p> <ul style="list-style-type: none"> A. General education B. Special education C. Not specified

Types of outcomes measured
(Select all that apply.)

- A. Self-reports (May be described as self-report, survey, questionnaire)
- B. Observational (Required trained observers to count behaviors or provide an evaluation based on concrete indicators)
- C. Attention task-performance (Participant performance on an attention-based task was used to measure their attention or a construct reported to manifest as an attentional bias)
- D. Physiological (Apparatus was used to measure activity within the participants' bodies)
 - 1. Salivary cortisol levels
 - 2. Blood pressure
 - 3. Heart rate
 - 4. Respiration rate
 - 5. Galvanic skin response

Categories of self-report outcomes
(Select one.)

- A. Stress (Contains the words *stress* or *coping*; or acquisition of coping resources (material or social) in the description of the outcome)
 - B. Burnout (Contains the word *burnout* in the description of the outcome)
 - C. Psychological symptoms (Measures improvements of psychological symptoms)
 - 1. Depression
 - 2. Anxiety
 - 3. Lack of focus or concentration
 - 4. Any other descriptors of mental impairment not already accounted by stress or burnout
 - D. Physiological symptoms (Measures improvements of physiological symptoms)
 - 1. Fatigue, insomnia, or sleep-related impairment
 - 2. Aches, pains
 - 3. Any other descriptors of physical illness (e.g., upset stomach, medication)
 - E. Quality of work experiences (Participant perspectives related to their jobs)
 - 1. Job satisfaction
 - 2. Job commitment
 - F. Job performance (Participant perspectives that indicate how well they do their job or the level of quality of their work)
 - 1. Teacher efficacy
 - 2. Standards of practice
 - G. Mindfulness (Includes the words *mindfulness*, *compassion*, *resilience*, or *regulation*)
-

Table 1.3

Overview of Stress and Burnout Intervention Studies for PK-12 Teachers

Study	Participants, Location, Intervention, and Study Design	Intervention Name and/or Description	Dependent Measures (Outcomes)	<u>Treatment</u>		<u>Control</u>		<u>Comparison</u>			
				<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>ES</i>	
Ancona & Mendelson (2014)	<i>N</i> = 43; primary and secondary teachers; Baltimore (urban); yoga and mindfulness training; experimental group	Yoga and mindfulness training; 6 sessions (45 mins each) offered over 3 weeks; Core components: yogic breathing techniques, yoga postures, and guided mindful reflection practices; instruction on recognizing stress response and how to apply calming techniques on the job	<i>TSI</i> (Stress)								
			Pre	2.85	(.74)	2.75	(.61)			.15	
			Post	2.56	(.63)	2.71	(.64)			.24	
			Change †	-.29	(.42)	-.04	(.50)			.54	
			<i>MBI</i> (Emotional Exhaustion)								
			Pre	31.48	(10.04)	30.05	(12.51)			.13	
Post	29.81	(8.50)	30.68	(10.81)			.09				
Change	-1.67	(4.02)	.63	(6.60)			.42				
Anderson, Levinson, Barker, & Kiewra (1999)	<i>N</i> = 91; primary and secondary; Pennsylvania, Illinois, & Missouri (suburban); standardized meditation; experimental group	Standardized meditation: 5 weeks, One 1.5-hour session per week (7.5 hours total); designed by lead author according to American Meditation Society programs; introduction to meditation, breathing techniques, progressive muscle relaxation, interactive verbal discussions, and applications to life as a teacher	<i>TSI</i> (Stress)								
			Pre	2.80	(.50)	2.80	(.60)				
			Post**	2.50	(.60)	2.70	(.60)			.33	
			Follow-up**	2.30	(.50)	2.80	(.60)			.90	
			<i>STAI</i> (State Anxiety)								
			Pre	39.60	(10.80)	43.90	(10.90)				
Post**	30.30	(8.10)	43.50	(11.20)			1.35				
Follow-up**	30.80	(10.0)	44.50	(9.40)			1.41				
<i>STAI</i> (Trait Anxiety)											
Pre	42.40	(10.10)	44.90	(9.60)							

			Post**	37.60 (9.30)	43.90 (9.40)		.67
			Follow-up**	37.10 (8.10)	44.40 (8.10)		.90
			<i>MBI</i> (Emotional Exhaustion)				
			Pre	27.20(11.50)	26.70(10.20)		
			Post**	22.00(10.40)	27.80(10.40)		.56
			Follow-up**	20.60(10.60)	28.30 (9.60)		.76
			<i>MBI</i> (Depersonalization)				
			Pre	8.00 (6.40)	7.60 (5.00)		
			Post	7.90 (5.20)	8.60 (6.40)		.12
			Follow-up**	6.90 (5.10)	8.70 (5.50)		.34
			<i>MBI</i> (Personal Accomplishment)				
			Pre	36.60 (6.90)	35.30 (6.50)		
			Post	37.20 (7.10)	35.50 (7.00)		.24
			Follow-up	36.80 (1.00)	35.50 (5.80)		.31
Benn, Akiva, Arel, & Roeser (2012)	<i>N</i> = 60 (<i>n</i> = 25 parents, <i>n</i> = 35 PK-12 extended school year special education teachers and staff); small Midwestern city; mindfulness	SMART-in-Education (Stress Management and Relaxation Techniques): 5-week program (Nine 2.5-hour sessions and two 7-hour day-long sessions); approximately 70% of the same components and practices as the Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 2003) and includes additional content focused on emotion theory and regulation, forgiveness, kindness and compassion, and the application	‡ (Teaching Self-Efficacy)				
			Pre	3.84 (.55)	3.80 (.52)		
			Post	4.06 (.55)	3.64 (.43)		.45
			Follow-up*	4.28 (.56)	3.33 (.90)		1.27
			† <i>ERWSES</i> (Emotion Regulation Self-Efficacy)				
			Pre	3.41 (.74)	3.42 (.52)		
			Post †	3.70 (.65)	3.40 (.43)		.55
			Follow-up	3.71 (.72)	3.78 (.90)		.09

	training; experimental	of mindfulness to parenting and teaching									
Cecil & Forman (1990)	<i>N</i> = 54 elementary and middle school GETs; Southeast (suburban); Stress inoculation and coworker support groups (separate interventions plus control); experimental group	Stress inoculation: 6 weeks, One 1.5-hour session per week (9 hours total); a cognitive- behavioral approach, based on Meichenbaum (1977) and Forman (1982) and adapted for teachers; building coping skills with the following components: (a) presentation of a conceptual framework (education phase), (b) training in relaxation and cognitive restructuring (rehearsal phase), and (c) practice using coping skills (application phase); coworker support: 6 weeks, One 1.5-hour session per week (9 hours total); support group approach based on Kirschenbaum and Glaser (1978) and Walley and Stokes (1981); facilitated peer support within a small problem-solving group with the following components: (a) sharing their problems, (b) giving reassurance and support, (c) sharing successful coping strategies, and (d) listening empathetically.	<i>TSI</i> (Personal/ Professional Stressors-S) Pre Post Follow-up (Personal/ Professional Stressors-F) Pre Post Follow-up (Professional Distress-S) Pre Post Follow-up (Professional Distress-F) Pre Post Follow-up (Discipline and Motivation-S) Pre Post Follow-up (Discipline and Motivation-F) Pre								
					3.46	(1.09)	3.73	(.61)	3.41	(.83)	
					3.50	(.95)	3.66	(.92)	3.65	(1.01)	.17
					3.37	(.84)	3.82	(.63)	3.50	(1.09)	.60
					4.49	(1.30)	5.03	(1.15)	4.71	(1.31)	
					4.45	(1.54)	4.78	(1.41)	4.66	(1.43)	.22
					4.39	(1.41)	4.78	(1.48)	4.76	(1.73)	.27
					2.80	(.81)	2.75	(1.06)	2.71	(1.04)	
					2.53	(1.04)	2.82	(1.09)	2.87	(.93)	.27
					2.47	(.89)	3.06	(1.06)	2.61	(.86)	.60
					3.14	(1.08)	3.05	(1.62)	3.29	(1.54)	
					2.97	(1.50)	3.38	(1.59)	3.19	(1.44)	.27
					2.96	(1.31)	3.44	(1.61)	3.08	(1.43)	.33
					4.18	(.75)	3.53	(.83)	3.59	(.93)	
					4.15	(.74)	3.59	(.71)	3.62	(1.04)	.77
					3.86	(.92)	3.59	(.84)	3.77	(.70)	.31
					5.65	(1.18)	4.75	(1.26)	4.89	(1.68)	

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Post	5.39	(1.00)	4.93	(1.13)	4.78	(1.49)	.43
Follow-up	5.11	(1.11)	4.63	(1.41)	4.96	(1.38)	.38
(Emotional Manifestations-S)							
Pre	3.45	(.87)	3.18	(.79)	2.81	(.79)	
Post	3.15	(1.02)	3.12	(1.19)	2.62	(.97)	.27
Follow-up	3.07	(1.13)	2.94	(.92)	2.48	(.96)	.13
(Emotional Manifestations-F)							
Pre	4.19	(1.40)	3.21	(1.30)	3.12	(1.12)	
Post	3.65	(1.44)	3.48	(1.65)	2.72	(1.02)	.13
Follow-up	3.64	(1.47)	3.09	(1.33)	2.89	(1.59)	.39
<i>JSSS</i>							
(School Stress)							
Pre	4.24	(1.32)	3.84	(1.34)	4.69	(1.60)	
Post	3.65	(1.37)	4.08	(1.30)	4.29	(1.85)	.32
Follow-up	3.74	(1.36)	4.09	(1.25)	4.34	(1.52)	.27
(Task-Based Stress)							
Pre	3.92	(.76)	3.78	(.87)	4.12	(.99)	
Post	3.77	(.70)	3.86	(.90)	3.78	(1.08)	.11
Follow-up	3.50	(.53)	3.74	(.65)	3.80	(.67)	.40
(Role Overload)							
Pre	3.28	(1.16)	3.59	(1.04)	4.06	(1.14)	
Post	3.35	(.98)	3.48	(1.27)	3.58	(1.26)	.11
Follow-up	3.24	(.99)	3.55	(1.27)	3.74	(1.22)	.27
(Peer Support)							
Pre	1.43	(.61)	1.68	(.67)	1.69	(.65)	
Post	1.57	(.68)	1.97	(.88)	1.84	(.78)	.51
Follow-up	1.57	(.65)	2.02	(.96)	1.71	(.73)	.55
(Job Satisfaction)							
Pre	3.00	(1.07)	2.45	(1.10)	3.13	(1.28)	
Post	2.66	(1.30)	2.53	(.82)	3.12	(1.48)	.12
Follow-up	2.71	(.88)	2.77	(1.04)	3.14	(1.37)	.06

			€ (coping skills)					
			Pre	2.88	(.56)	2.54	(.50)	2.78 (.46)
			Post	2.00	(.91)	2.46	(.58)	2.39 (.58) .60
			Follow-up	2.23	(.76)	2.79	(.64)	2.60 (.73) .80
			<i>TAOS</i>					
			(Speech Disfluencies)					
			Pre	2.43	(3.07)	5.23	(7.96)	4.93 (5.22)
			Post	0.97	(.91)	3.40	(3.86)	3.60 (5.65) .87
			Follow-up	1.00	(1.36)	5.30	(5.05)	4.87 (4.32) 1.16
			(Body Touches)					
			Pre	16.80	(8.40)	21.50	(11.30)	29.13 (12.46)
			Post	13.80	(5.24)	19.50	(10.17)	16.57 () .70
			Follow-up	9.20	(4.31)	18.77	(6.23)	20.63 (6.43) 1.79
			(Clears Throat)					(8.59)
			Pre	0.33	(.44)	3.53	(9.09)	.67
			Post	0.33	(.50)	.07	(.14)	.23 (.79) .71
			Follow-up	0.30	(.64)	.10	(.16)	.13 (.23) .43
			(Moistens Lips)					(.17)
			Pre	10.57	(7.38)	10.40	(5.84)	10.40
			Post	9.83	(6.11)	8.23	(8.53)	8.23 (7.41) .22
			Follow-up	5.23	(4.16)	7.63	(4.72)	7.63 (4.84) .54
			(Flips/plays with Objects)					(5.26)
			Pre	2.43	(3.17)	5.20	(8.05)	5.03
			Post	2.27	(2.32)	2.77	(2.87)	2.23 (3.42) .21
			Follow-up	0.80	(.88)	2.30	(1.61)	3.57 (1.66) 1.15
								(3.16)
Cook et al. (2017)	<i>N</i> = 44 secondary-level teachers; Midwest; mindfulness	ACHIEVER Resilience Curriculum (ARC): 5 weeks, One 2.5 hours session per week (12.5 hours total), delivered through a synchronous web-based platform;	<i>PSS</i> (Psychological distress)					
			Pre	15.50	(6.22)	16.22	(6.00)	
			Post**	12.50	(3.91)	16.86	(4.83)	.69

	training; experimental group	applications of positive psychology, cognitive behavioral therapy, and mindfulness-based approaches specifically for educators	<i>TSES</i> (Teacher efficacy) Pre Post**	13.31 (3.42) 15.05 (2.17)	13.04 (3.06) 12.88 (3.06)		.64
			<i>SWWS</i> (Job satisfaction) Pre Post*	24.54 (4.68) 27.88 (4.08)	21.65 (4.90) 22.14 (5.10)		.57
			<i>MIUS</i> (Intentions to implement EBPs) Pre Post**	18.05 (4.89) 20.77 (3.65)	17.90 (5.06) 17.17 (4.29)		.77
Cooley & Yovanoff (1996)	<i>N</i> = 92 PK-12 SETs and related service providers; location not specified; stress management and peer- collaboration training; experimental group	Part 1: Stress management: 5 weeks, one 2-hour session per week with the following components: (a) the source of stress, (b) physical coping strategies, (c) cognitive coping strategies; part 2: peer- collaboration training: 5 weeks, One 2-hour session per week for a 4-step collegial process (20 hours total for both parts combined): clarifying, summarizing, intervention and prediction, evaluation	<i>MSQ</i> (Job satisfaction) Pre Post †	4.95 (.82) 5.13 (.71)	5.16 (1.02) 5.04 (.81)		^a .04
			<i>MBI</i> (Emotional exhaustion) Pre Post*	31.68 (8.93) 26.14(10.70)	29.10(11.55) 28.19(12.51)		^a .09
			(Depersonalization) Pre Post	7.98 (6.57) 7.64 (6.46)	6.45 (5.53) 6.77 (6.31)		^a .01
			(Personal accomplishment) Pre Post**	37.64 (5.21) 39.92 (5.54)	39.84 (7.02) 37.90 (6.64)		^a .20
			<i>OCQ</i> (Job commitment) Pre Post †	4.46 (.98) 4.47 (.96)	4.77 (.85) 4.52 (.97)		^a .06

			(Personal accomplishment)					
			Pre	39.60	(5.54)	39.50	(6.50)	
			Post*	42.20	(4.64)	36.88	(6.20)	.99
			<i>CLASS</i>					
			(Emotional support)					
			Pre	4.92	(.57)	5.38	(.49)	
			Post	5.25	(.76)	5.05	(.70)	.28
			(Classroom organization)					
			Pre	5.19	(.58)	5.35	(.77)	
			Post*	5.50	(.45)	5.27	(1.11)	.28
			(Instructional support)					
			Pre	3.49	(.50)	3.98	(.60)	
			Post	3.69	(.54)	3.84	(1.00)	.19
			<i>CANTAB</i>					
			(Sustained attention)					
			Pre	.91	(.07)	.91	(.02)	
			Post	.94	(.05)	.94	(.04)	.03
			(Affective bias)					
			Pre	15.30	(8.71)	15.63	(4.14)	
			Post*	10.90	(5.92)	12.88	(5.96)	.33
			Morning cortisol					
			Pre	3.13	(.37)	3.30	(.32)	
			Post*	3.06	(.61)	2.67	(.47)	.70
Harris, Jennings, Katz, Abenavoli, &	<i>N</i> = 64 (middle school teachers and staff); Location not specified;	Community Approach to Learning Mindfully (CALM): 16 weeks, Four 20-30 minutes sessions per week, participants asked to attend at least 2 sessions per week (approximately 10-16	<i>FFMQ</i> (Observe)					
			Pre	3.29	(.65)	3.26	(0.60)	
			Post*	3.56	(.61)	3.30	(0.64)	.56
			(Describe)					
			Pre	3.56	(.62)	3.54	(.65)	

Greenberg (2015)	mindfulness training and yoga; experimental group	hours total); blend of mindfulness training activities and yoga poses with relevance to school setting	Post	3.65	(.58)	3.59	(.65)	.14	
			(Awareness)	Pre	3.33	(.58)	3.22	(.85)	
			Post	3.51	(.55)	3.34	(.88)	.26	
			(Non-judgment)	Pre	3.36	(.83)	3.39	(.91)	
			Post	3.64	(.80)	3.53	(.87)	.41	
			(Non-reactivity)	Pre	3.26	(.52)	3.08	(.51)	
			Post	3.32	(.55)	3.20	(.64)	.07	
			<i>ERQ</i>						
			(Reappraisal)	Pre	5.14	(1.08)	4.77	(1.24)	
			Post	5.27	(.82)	5.18	(1.18)	.12	
			(Suppression)	Pre	3.44	(1.00)	3.58	(1.40)	
			Post	3.22	(1.16)	3.49	(1.05)	.25	
			<i>DTS</i> (Distress tolerance)	Pre	3.72	(.79)	3.66	(1.02)	
			Post**	3.96	(.64)	3.63	(.90)	.80	
			<i>PANAS</i>						
			(Positive affect)	Pre	3.51	(.64)	3.15	(.74)	
			Post**	3.70	(.69)	3.24	(.77)	.74	
			(Negative affect)	Pre	2.00	(.78)	2.08	(.85)	
			Post	1.94	(.60)	1.98	(.78)	.01	
			<i>TSES^b</i>						
(Student engagement)	Pre	6.35	(1.18)	6.95	(1.13)				
Post*	6.57	(1.31)	6.71	(1.43)	.11				

(Classroom management)					
Pre	7.55	(1.02)	7.35	(1.09)	
Post*	7.74	(.96)	7.36	(1.01)	.54
(Instructional practices)					
Pre	7.11	(1.45)	7.66	(0.92)	
Post	7.61	(.93)	7.42	(.97)	.18
<i>TTRT</i>					
(Relational trust)					
Pre	3.45	(.50)	3.22	(.59)	
Post	3.38	(.42)	3.18	(.56)	.04
<i>PSS</i>					
(Psychological distress)					
Pre	1.42	(.87)	1.44	(.88)	
Post	1.15	(.84)	1.34	(.92)	.41
<i>TUS</i>					
(Time urgency)					
Pre	3.67	(.52)	3.62	(.56)	
Post †	3.42	(.51)	3.52	(.70)	.43
<i>MBI</i>					
(Emotional exhaustion)					
Pre	23.53	(11.38)	25.90	(13.30)	
Post	22.21	(10.25)	25.57	(14.23)	.25
(Personal accomplishment)					
Pre	39.82	(6.69)	38.85	(6.49)	
Post	39.68	(6.31)	37.14	(7.36)	.23
(Depersonalization)					
Pre	5.15	(5.69)	5.62	(4.44)	
Post †	4.50	(3.42)	6.08	(5.05)	.48

			<i>DPS</i> (Physical distress)					
			Pre	.13	(.07)	.12	(.08)	
			Post*	.10	(.08)	.12	(.09)	.53
			<i>PROMIS</i> (Sleep-related impairment)					
			Pre	18.71	(7.03)	20.60	(7.03)	
			Post	17.47	(6.10)	20.00	(7.29)	.34
			(Systolic BP)					
			Pre	114.3	(14.07)	117.9	(12.69)	
			Post	109.7	(13.13)	116.2	(14.20)	.39
			(Diastolic BP)					
			Pre	78.32	(11.30)	81.76	(9.51)	
			Post*	75.37	(10.74)	81.31	(11.15)	.52
			(Cortisol awakening response)					
			Pre	6.82	(6.66)	7.29	(7.74)	
			Post*	7.51	(5.10)	3.27	(8.56)	.64
Jeffcoat & Hayes (2012)	<i>N</i> = 236 (PK-12 teachers and staff); Washoe County, Nevada; mindfulness-based bibliotherapy; experimental group	Acceptance and Commitment Therapy (ACT; Hayes et al., 1999): 8 weeks, self-help workbook (time requirement not reported); participants instructed to read the book and complete exercises	<i>GHQ</i> (General health)					
			Pre	13.55	(5.16)	14.39	(6.45)	
			Post**	10.00	(6.08)	12.74	(6.10)	
			Follow-up**	7.03	(4.31)	12.66	(6.81)	.52
			<i>DASS-21</i> (Depression)					
			Pre	18.78	(7.36)	19.71	(7.78)	
			Post**	11.07	(9.90)	15.18	(8.96)	
			Follow-up**	10.35	(8.68)	18.24	(8.54)	.48
			(Anxiety)					
			Pre	15.72	(6.73)	15.09	(7.72)	
			Post**	12.21	(8.02)	14.46	(8.82)	
			Follow-up**	9.33	(8.85)	18.80	(12.07)	.68
			(Stress)					

			Pre	25.05 (6.91)	23.83 (7.32)	
			Post*	18.04(10.13)	21.33 (8.84)	
			Follow-up**	11.65 (9.11)	16.68 (9.09)	.50
Jennings, Frank, Snowberg, Coccia, & Greenberg (2013)	N = 50 (PK-12 teachers); small Northeastern city (urban and suburban); mindfulness training; experimental group	Cultivating Awareness and Resilience in Education (CARE): 2-day weekend session (12 hours), 1-day session 2 weeks later, 1-day session 2 weeks after the third session, 1-day session a month after the fourth session, phone-based coaching between sessions (30 hours total); professional development program combines emotion skills instruction, mindful awareness practices and compassion building activities	<i>PANAS</i> (Positive affect)			
			Pre	3.44 (.65)	3.35 (.92)	
			Post	3.51 (.71)	3.26 (.81)	.24
			(Negative affect)			
			Pre	2.05 (.60)	2.23 (.71)	
			Post	1.94 (.52)	2.27 (.74)	.16
			<i>ERQ</i> (Reappraisal)			
			Pre	4.61 (1.26)	4.37 (1.10)	
			Post**	5.36 (.82)	4.45 (.98)	.80
			(Suppression)			
			Pre	3.16 (1.32)	2.85 (1.07)	
			Post †	2.91 (1.50)	3.26 (1.06)	.43
			<i>CES-D</i> (Depression)			
			Pre	11.56 (6.99)	14.61 (8.74)	
			Post	11.30 (6.88)	17.82(11.53)	.45
			<i>DPS</i> (Physical distress)			
			Pre	20.20(13.97)	24.89(20.97)	
			Post**	13.13(10.82)	30.37(25.48)	.32
			<i>TSES^b</i> (Total self-efficacy)			
			Pre	6.69 (1.09)	6.92 (1.12)	
			Post**	7.13 (1.05)	6.78 (1.04)	.60
			(Instructional strategies)			
			Pre	6.84 (1.15)	7.18 (1.14)	
			Post**	7.35 (1.06)	7.01 (1.07)	.59

(Classroom management)					
Pre	6.74	(1.32)	6.98	(1.28)	
Post	7.07	(1.34)	6.90	(1.23)	.24
(Student engagement)					
Pre	6.54	(1.11)	6.60	(1.28)	
Post**	6.97	(1.08)	6.44	(1.18)	.56
<i>MBI</i>					
(Emotional exhaustion)					
Pre	3.30	(1.09)	3.36	(1.33)	
Post	3.43	(1.10)	3.49	(1.32)	.04
(Depersonalization)					
Pre	1.69	(1.06)	2.07	(1.38)	
Post	2.02	(1.30)	2.24	(1.34)	.06
(Personal accomplishment)					
Pre	4.54	(.76)	4.68	(.83)	
Post †	4.76	(.62)	4.53	(.76)	.40
<i>TUS</i>					
(Speech patterns)					
Pre	3.26	(.78)	3.30	(.75)	
Post	3.00	(.70)	3.32	(.76)	.24
(Eating behavior)					
Pre	3.25	(1.16)	2.96	(1.10)	
Post	3.05	(1.10)	3.07	(1.17)	.23
(Competitiveness)					
Pre	3.74	(.48)	3.90	(.66)	
Post	3.67	(.65)	3.86	(.57)	.10
(Task-related hurry)					
Pre	4.11	(.72)	3.87	(.79)	
Post	3.86	(.61)	3.98	(.73)	.32

			(General hurry)			
			Pre	3.59	(.65)	3.57 (.53)
			Post*	3.38	(.68)	3.62 (.47)
			<i>FFMQ</i>			
			(Observe)			
			Pre	2.88	(.83)	3.08 (.74)
			Post**	3.55	(.69)	3.13 (.66)
			(Describe)			
			Pre	3.44	(.84)	3.74 (.65)
			Post	3.65	(.78)	3.67 (.60)
			(Awareness)			
			Pre	3.49	(.72)	3.11 (.69)
			Post	3.35	(.70)	3.17 (.64)
			(Nonjudgment)			
			Pre	3.75	(.75)	3.41 (.75)
			Post	3.77	(.59)	3.51 (.85)
			(Nonreactive)			
			Pre	2.91	(.58)	2.89 (.70)
			Post**	3.25	(.68)	2.82 (.62)
Jennings, Snowberg, Coccia, & Greenberg (2011)	<i>N</i> = 31 (elementary teachers and staff); Northeast (urban and high-poverty); mindfulness training; mixed-methods design (quasi-experimental group [no	Cultivating Awareness and Resilience in Education (CARE): 2 weekend retreats one month apart, phone-based coaching in between retreats (30 hours total); professional development program combines emotion skills instruction, mindful awareness practices and compassion building activities	<i>PANAS</i>			
			(Positive affect)			
			Pre	3.40	(.78)	
			Post	3.56	(.58)	
			(Negative affect)			
			Pre	1.95	(.62)	
			Post	1.81	(.66)	
			<i>CES-D</i>			
			(Depression)			
			Pre	10.89	(7.36)	
			Post	9.12	(8.21)	
			<i>TUS</i>			
			(Task-related hurry)			
			Pre	3.71	(1.00)	
						.42
						.69
						.32
						.13
						.12
						.73
						.21
						.23
						.24

control] plus
qualitative)

Post*	3.47 (.91)	.24
(General hurry)		
Pre	3.50 (.56)	
Post†	3.35 (.63)	.27
<i>DPS</i>		
(Physical distress)		
Pre	25.26(30.18)	
Post	28.28(31.26)	.10
<i>PIS</i>		
(Student autonomy support)		
Pre	1.74 (2.61)	
Post	1.77 (3.83)	.01
<i>TSES^b</i>		
(Student engagement)		
Pre	6.66 (1.12)	
Post	6.85 (1.16)	.17
(Instructional practices)		
Pre	7.15 (1.18)	
Post	7.60 (.84)	.38
(Classroom management)		
Pre	7.06 (1.22)	
Post	7.44 (.98)	.31
<i>FFMQ</i>		
(Observe)	2.95 (.67)	
Pre	3.58 (.54)	.94
Post**		
(Describe)	3.46 (.77)	
Pre	3.71 (.69)	.32
Post**		

			(Awareness)	3.31	(.78)			
			Pre	3.47	(.70)			.21
			Post					
			(Nonjudgment)	3.55	(.98)			
			Pre	3.93	(.71)			.36
			Post†					
			(Nonreactive)					
			Pre	2.83	(.68)			
			Post**	3.36	(.50)			.78
			<i>IMT</i>					
			(Interpersonal mindfulness)					
			Pre	3.51	(.46)			
			Post*	3.73	(.30)			.48
Jennings, Snowberg, Coccia, & Greenberg (2011)	<i>N</i> = 43 (33 PK-12 pre-service teachers and 10 mentor teachers); Northeast (semi-rural and suburban); mindfulness training; mixed-methods design (quasi-experimental group plus qualitative)	Cultivating Awareness and Resilience in Education (CARE): 2 weekend retreats one month apart, phone-based coaching in between retreats (30 hours total); professional development program combines emotion skills instruction, mindful awareness practices and compassion building activities	<i>PANAS</i> (Positive affect)					
			Pre					
			Post	3.70		3.65		.11
			(Negative affect)					
			Pre					
			Post	7.78		1.96		.43
			<i>CES-D</i> (Depression)					
			Pre					
			Post	9.99		10.74		.09
			<i>TUS</i> (Task-related hurry)					
			Pre					
			Post	3.85		3.84		.02
			(General hurry)					
			Pre					
			Post	3.27		3.37		.27
			<i>DPS</i>					

(Physical distress)			
Pre			
Post	14.90	14.17	.05
<i>PIS</i>			
(Student autonomy support)			
Pre			
Post†	2.71	1.72	.63
<i>TSES^b</i>			
(Student engagement)			
Pre			
Post	6.81	6.89	.07
(Instructional strategies)			
Pre			
Post	7.32	7.04	.26
(Classroom management)			
Pre			
Post	7.08	7.24	.19
<i>FFMQ</i>			
(Observe)			
Pre			
Post	3.25	3.12	.19
(Describe)			
Pre			
Post	3.55	3.49	.11
(Awareness)			
Pre			
Post	3.46	3.58	.21
(Nonjudgment)			
Pre			

			Post (Nonreactive)	3.61	3.54	.09
			Pre			
			Post	3.10	3.14	.08
Jennings et al. (2017)	<i>N</i> = 224 (primary-level teachers); large Northeastern city (high-poverty area); mindfulness training; experimental group	Cultivating Awareness and Resilience in Education (CARE): 2-day weekend session (12 hours), 1-day session 2 weeks later, 1-day session 2 weeks after the third session, 1-day session a month after the fourth session, phone-based coaching between sessions (30 hours total); professional development program combines emotion skills instruction, mindful awareness practices and compassion building activities	<i>ERQ</i> (Adaptive emotion regulation)** <i>TSES^b</i> (Teaching efficacy) <i>FFMQ</i> (Mindfulness)** <i>PSS</i> (Psychological distress)* <i>TUS</i> (Time urgency)* <i>DPS</i> (Ache-related symptoms) (Gastrointestinal symptoms) (Medication use) <i>CLASS</i> (Emotional support) † (Classroom organization) (Instructional support)			.35 .07 .28 -0.18 -0.20 ^d 19.5 ^d 39.6 ^d 13.4 .22 .19 .00
Kaspereen (2012)	<i>N</i> = 54 (high school teachers and staff); inner-	Relaxation therapy (RT): 4 weeks, one 30–45 minutes session per week (2-3 hours)	<i>PSS</i> (Psychological distress) Pre Post**	17.30 (5.91) 10.44 (4.88)	16.26 (5.36) 16.85 (7.17)	1.05

	city high school (location not specified); relaxation therapy (guided imagery); experimental group	total); guided facilitation of script while playing soothing music	<i>PLSS</i> (Occupational stress)	Pre	15.19 (5.24)	13.59 (6.00)	
				Post**	9.67 (5.60)	15.00 (7.76)	.79
			<i>SWLS</i> (Life satisfaction)	Pre	27.07 (4.57)	25.44 (5.67)	
				Post**	28.93 (4.31)	23.19 (7.43)	.95
Kemeny et al. (2011)	<i>N</i> = 82 (PK-12 teachers); California; mindfulness meditation and emotion skills instruction; experimental group	Contemplative and emotion skills training: 8 weeks, 4 day-long sessions, 4 evening sessions (42 hours total); presentations, practice related to meditation and to emotional awareness/understanding	<i>BDI</i> (Depression)	Pre			.81
				Post**			.91
			<i>TAI</i> (Anxiety)	Follow-up**			
				Pre			
				Post**			
				Follow-up**			
			<i>PANAS</i> (Positive affect)	Pre			
				Post*			
				Follow-up			
			(Negative affect)	Pre			
				Post**			
				Follow-up**			
			<i>MAAS</i> (Mindful awareness)	Pre			
				Post*			
				Follow-up*			

			<i>RRQ</i> (Rumination)		
			Pre		
			Post**		
			Follow-up**		
			Diastolic BP		
			Pre		
			Post		
			Follow-up		
			Systolic BP		
			Pre		
			Post		
			Follow-up		
			<i>METT</i> (Attention task)		
			Pre		
			Post*		
Reiser, Murphy, & McCarthy (2016)	<i>N</i> = 15 (PK-12 public charter school teachers); Southwest; Mindfulness training; group quasi- experimental group	Stress Prevention and Mindfulness (SPAM): 6 weeks, One 60 minutes session per week (6 hours total) that covered physiology of stress, research on stress in educational settings, stress and cognition, mindfulness for stress reduction, and mindful communication	<i>CARD</i> (Teacher demands and resources)	Pre Post	
			<i>JSS</i> (Job satisfaction)	Pre Post	81.57 (6.53) 88.57 (4.04)
			<i>FFMQ</i> (Mindfulness)	Pre Post	
Roeser et al. (2013)	<i>N</i> = 113 (U.S. primary- and secondary-	SMART-in-Education (Stress Management and Relaxation Techniques): 5-week program,	<i>STAI</i> (Anxiety)	Pre	44.93(13.66) 47.74(10.28)

level teachers, $n = 55$; Canadian teachers, $n = 58$; Northwest; Mindfulness training; group quasi- experimental group	nine 2.5-hour sessions and two 7- hour day-long sessions (36.5 hours total); approximately 70% of the same components and practices as the Mindfulness- Based Stress Reduction (MBSR; Kabat-Zinn, 1994) and includes additional content focused on emotion theory and regulation, forgiveness, kindness and compassion, and the application of mindfulness to parenting and teaching	Post**	38.78(12.84)	47.02(10.77)	.71
		Follow-up**	34.68 (8.79)	46.71(13.27)	1.10
	<i>BDI</i> (Depression)	Pre	27.24 (7.15)	30.57 (5.22)	
		Post**	22.93 (5.21)	29.22 (6.77)	1.06
		Follow-up**	21.09 (4.32)	28.43 (5.28)	1.56

Singh, Lancioni, Winton, Karazsia, & Singh (2013). N = 3 (PK SETs); location not specified; Mindfulness training; single-case design (multiple baseline across participants)	Individualized mindfulness training: 8 weeks, One 2-hr mindfulness training session each week with licensed therapist (16 hours total), independent mindfulness practice for 16 weeks	€ (Observed student maladaptive behaviors)	f	f	f		
		Baseline	5.0	7.8	4.8		
		Intervention**	3.0	7.1	2.8		
			Maintenance**	1.0	1.5	0.9	°.920
			€ (Observed compliance with teacher requests)				
			Baseline	56.0%	35.5%	43.3%	
			Intervention**	74.6%	45.5%	66.9%	
			Maintenance**	85.8%	73.0%	86.1%	°1.00
			€ (Positive student social interactions)				
			Baseline	32.0%	30.0%	39.0%	
			Intervention	32.5%	32.5%	38.5%	
			Maintenance	33.0%	35.0%	38.0%	°0.044
			€ (Negative student social interactions)				
			Baseline	30.0%	49.0%	25.0%	
			Intervention**	28.0%	40.0%	22.5%	
		Maintenance**	18.5%	29.5%	18.0%	°0.761	
		€ (Neutral student social interactions)					
		Baseline	38.0%	21.0%	36.0%		
		Intervention**	39.5%	27.5%	39.0%		
		Maintenance**	48.5%	35.5%	44.0%	°0.841	

Note. Information missing from table was not reported in the studies; *N* = number of participants in study; *n* = number of participants in group; *M* = mean; *SD* = standard deviation; *ES* = effect size (All effect sizes were calculated as *d* except where indicated otherwise); † $p < .10$; * $p < .05$; ** $p < .01$; ‡ For this measure, educator data was displayed separate from parents; € = unnamed self-report instrument; *TSI* = *Teacher Stress Inventory* (Fimian, 1988); *MBI* = *Maslach Burnout Inventory* (Maslach, Jackson, & Leiter, 1996); *STAI* = *State-Trait Anxiety Scale* (Kendall, Finch, Auerbach, Hooke, & Mikulka, 1976); *ERWSES* = *Emotion Regulation at Work Self-Efficacy Scale* (Roeser et al., 2011); S = Strength; F = Frequency; ° = Effect sizes calculated for treatment and control

outcomes; *JSSS* = *Job Stress in the School Setting* (Pettegrew & Wolf, 1982); *TAOS* = *Teacher Anxiety Observation Schedule* (Coates & Anton, 1975); *PSS* = *Perceived Stress Scale* (Cohen, Kamarck, & Mermelstein, 1983); *TSES* = *Teacher Self-Efficacy Scale* (Schwarzer, Schmitz, & Daytner, 1999); *SWWS* = *The Satisfaction with Work Scale* (Blais, Lachance, Forget, Richer, & Dulude, 1991); *MIUS* = *Modified Intentions to Use Scale* (Kortteisto, Kaila, Komulainen, Mantyranta, & Rissanen, 2010); *EBP* = Evidence-based practice; *MSQ* = *Minnesota Satisfaction Questionnaire* (Weiss, Dawis, England, & Lofquist, 1967); *OCQ* = *Organizational Commitment Questionnaire* (Porter, Steers, Mowday, & Boulian, 1974); ^a = η^2 used to calculate effect size; *SCL-90R* = *Symptom Checklist 90-R* (Derogatis, 1994); *FFMQ* = *Five Factor Mindfulness Questionnaire* (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006); *SCS* = *Self-Compassion Scale* (Neff, 2003) *CLASS* = *The Classroom Assessment Scoring System* (LaParo, Pianta, & Stuhlman, 2004); *CANTAB* = *The Cambridge Neuropsychological Test Automated Battery* (1999); *ERQ* = *Emotion Regulation Questionnaire* (Gross & John, 2003); *PANAS* = *Positive and Negative Affect Schedule* (Watson, Clark, & Tellegen, 1988); *DTS* = *The Distress Tolerance Scale* (Simons & Gaher 2005); *TTRT* = *Teacher-Teacher Relational Trust* (Bryk and Schneider 2002); *TSES^b* = *Teachers' Sense of Efficacy Scale* (Tschannen-Moran and Hoy 2001); *DPS* = *The Daily Physical Symptoms Checklist* (Larsen & Kasimatis 1991); *PROMIS* = *PROMIS Sleep-Related Impairment scale* (Buysse et al. 2010); *BP* = Blood pressure; *GHQ* = *General Health Questionnaire* (Goldberg & Williams, 1988); *DASS-21* = *Depression and Anxiety Stress Scales* (Lovibond & Lovibond, 1995); *CES-D* = *Center for Epidemiological Studies Depression Scale* (Radloff, 1977); *PIS* = *Problems in Schools Questionnaire* (Deci, Schwartz, Sheinman, & Ryan, 1981); *IMT* = *The Interpersonal Mindfulness in Teaching Questionnaire* (Greenberg, Jennings, & Goodman, 2010); ^d = Effect size measured as percentage change in expected count and calculated by subtracting 1 from incident rate ratio estimates and multiplying 100; *CLASS* = *Classroom Assessment Scoring System* (Pianta, La Paro, Hamre, 2008); *TAI* = *Trait Anxiety Inventory* (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1977); *MAAS* = *Mindful Attention Awareness Scale* (Brown & Ryan, 2003); *RRQ* = *Rumination and Reflection Questionnaire* (Trapnell & Campbell, 1999); *METT* = *Micro-Expression Training Tool* (Ekman, 2004); ^e = Effect sizes were calculated using the phi measure. ^f = Frequency and percentage means listed for three teachers who participated in the study using a single-case design.

Table 1.4

Magnitude of Effects for Post-Intervention Outcomes

Intervention	Study	Outcomes by Effect Size			
		Large Effects	Medium Effects	Small Effects	No Effects
Acceptance and Commitment Therapy (self-help workbook)	Jeffcoat & Hayes (2012)	None	General health Depression Anxiety Psychological distress	None	None
ACHIEVER Resilience Curriculum (ARC)	Cook et al. (2017)	None	Psychological distress Teacher efficacy Job satisfaction Intentions to implement evidence-based practices	None	None
Community Approach to Learning Mindfully (CALM)	Harris et al. (2015)	Distress tolerance	Mindfulness (observe) Positive affect Teacher efficacy (classroom management) Physical distress Diastolic blood pressure (Phys) Cortisol awakening response (Phys)	Mindfulness (awareness, nonjudgment) Emotion suppression Psychological distress Time urgency Burnout (emotional exhaustion, depersonalization, personal accomplishment) Sleep-related impairment	Mindfulness (describe, nonreactive) Emotion reappraisal Negative affect Teacher efficacy (student engagement, instructional practice)

Contemplative and Emotion Skills Training	Kemeny et al. (2011) ¹	Depression	1	Systolic blood pressure (Phys)	1	1
Cultivating Awareness and Resilience in Education (CARE)	Jennings et al. (2011a)	Mindfulness (observe)	Mindfulness (nonreactive)	Depression Task-related hurry General hurry Teacher efficacy (instructional practices and classroom management) Mindfulness (describe, awareness, nonjudgment) Interpersonal mindfulness		Physical distress Teacher efficacy (student engagement)
	Jennings et al. (2011b)	None	None	Teacher efficacy (instructional practices) Mindfulness (awareness)		Depression Physical distress Teacher efficacy (student engagement, classroom management) Mindfulness (observe, describe, nonjudgment, nonreactive)

	Jennings et al. (2013)	Emotion reappraisal	Teacher efficacy (total, instructional practices, student engagement) Mindfulness (observe, nonreactive)	Emotion suppression Depression Physical distress Teacher efficacy (classroom management) Burnout (personal accomplishment) Mindfulness (describe)	Burnout (emotional exhaustion, depersonalization) Mindfulness (awareness, nonjudgment)
	Jennings et al. (2017)	None	None	Adaptive emotion regulation Mindfulness Gastrointestinal symptoms Emotional support (Obs)	Teacher efficacy Psychological distress Ache-related symptoms Medication use Classroom organization (Obs) Instructional support (Obs) None
Individualized mindfulness training	Singh et al. (2013)	Student maladaptive behaviors (Obs) Student compliance with teacher requests (Obs) Negative student social interactions (Obs) Neutral student social interactions (Obs)	Positive student social interactions (Obs)	None	None
Modified Mindfulness Based Stress	Flook et al. (2013)	Self-compassion Burnout (personal accomplishment)	Psychological distress Mindfulness (nonreactive)	Mindfulness (observe, describe, awareness)	Mindfulness (nonjudgment)

Reduction (mMBSR)			Morning cortisol (Phys)	Burnout (emotional exhaustion) Emotional support (Obs) Classroom organization (Obs) Affective bias (Att)	Burnout (depersonalization) Instructional support (Obs) Sustained attention (Att)
Relaxation Therapy	Kaspereen (2012)	Psychological distress Occupational stress Life satisfaction	None	None	None
SMART-in-Education (Stress Management and Relaxation Techniques)	Benn et al. (2012)	None	Emotion regulation self-efficacy	Teacher efficacy	None
	Roeser et al. (2013)	Anxiety Depression	None	None	None
Standardized meditation	Anderson et al. (1999)	State anxiety	Trait anxiety	Stress	None
Stress inoculation	Cecil & Forman (1990) ²	Anxiety manifestations (Obs; speech disfluencies)	Teacher stress (discipline and motivation) Job stress (peer support) Coping skills	Teacher stress (personal/professional stressors, professional distress, emotional manifestations)	Job stress (task-based stress, role overload, job satisfaction)

			Anxiety manifestations (Obs; body touches, clears throat)	Job stress (school stress) Anxiety manifestations (Obs; moistens lips, flips/plays with objects)	
Stress management + peer- collaboration training	Cooley & Yovanoff (1996)	None	Burnout (emotional exhaustion, personal accomplishment) Job satisfaction	Burnout (depersonalization) Job commitment	None
Yoga and mindfulness training	Ancona & Mendelson (2014)	None	Stress	Burnout (emotional exhaustion)	None

Note. Outcome measures were self-reports except where otherwise indicated (Obs = observational measure; Att= attention-based task; Phys = physiological measure). ¹Depression was the only outcome in this study with sufficient data for calculating effect size. ²Effect sizes based on intervention and control groups. Comparison group, which did not differ significantly from control group, not included in effect size calculations.

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2 A PILOT STUDY OF AN ONLINE STRESS INTERVENTION FOR P-12 TEACHERS AND CLASSROOM PERSONNEL

Teacher and Classroom Personnel Job Design

General education teachers (GETs) in pre-kindergarten through 12th grade (P-12) classrooms in the United States have demanding job responsibilities that involve high-stakes testing, rigid accountability methods, and heavy workloads (Hughes, 2012; Jennings & Greenberg, 2009; Richards, 2012). Special education teachers (SETs) perform functions similar to GETs and also serve as case managers of students with disabilities (SWDs; Billingsley, 2004; Brownell, Sindelar, Kiely, & Danielson, 2010; Robinson, Bridges, & Rollins, 2017). SETs and GETs both serve students who require additional support, including SWDs and others at-risk for school failure due to poverty, adverse experiences, or other obstacles to learning (Greenberg, Brown, & Abenavoli, 2016; Simon & Johnson, 2015). As such, their job design requires them to: (a) plan and prepare high quality lesson plans; (b) deliver instruction that accommodates the learning needs of every student; (c) address a variety of student behavior issues; (d) collaborate with parents and other school personnel; (e) maintain mandatory paperwork; (g) and ensure they are in compliance with each student's Individual Education Program (IEP), 504 Plan, or tiered support plan (Brownell et al., 2010; Brunsting, Sreckovic, & Lane, 2014; Greenberg et al., 2016; Jennings & Greenberg, 2009). In some classrooms, paraeducators assist teachers with instruction, behavior management, and collaboration with other personnel (Fisher & Pleasants, 2012). Student teachers and pre-service teacher interns may also help carry out classroom functions under the supervision of teachers.

Teacher Stress and Burnout

Teachers have intense job demands and are subject to high levels of stress (Brunsting et al., 2014; Greenberg et al., 2016). According to the transactional model of stress (Lazarus & Folkman, 1987), individuals experience stress when there is a gap between their demands and resources for meeting said demands. Stress is a natural phenomenon that manifests through physical, mental, and emotional responses to a demand (Schneiderman, Ironson, & Siegel, 2005; Selye, 1946). Teachers must possess coping skills that empower them to maintain much physical, mental, and emotional stamina as resources for effectively addressing the multiple demands of their jobs (Beltman, Mansfield, & Price, 2011; Bureau of Labor Statistics, 2017; Jennings et al., 2009).

Daily exposure to stress places teachers at risk of burnout characterized by: (a) emotional exhaustion, or a depletion of psychological energy; (b) depersonalization, or cynicism toward work and consumers of one's work; and (c) a lack of personal achievement (Maslach, Jackson, & Leiter, 1996). Systematic literature reviews (e.g., Billingsley, 2004; Brunsting et al., 2014), comprehensive reports (e.g., Cohen & Geier, 2010; Greenberg et al., 2016; Kolbe & Tirozzi, 2011), and meta-analyses (e.g., Montgomery & Rupp, 2005) suggest that burnout is harmful to: (a) teachers; (b) the education workforce; and (c) students.

Harm to teachers. Personal and professional harm begins with teachers' physical and mental health symptoms (e.g., elevated stress hormones, sleep disturbance, anxiety and depression) associated with chronic stress and burnout (Kolbe & Tirozzi, 2011; Greenberg et al., 2016). As such, teachers miss more days of work, which disrupts the flow of their instruction (Greenberg et al., 2016). In addition, burnout is associated with deleterious effects on teacher job performance. A synthesis of 40 years of research (Zee & Koomen, 2016) reported that high

teacher burnout has been consistently associated with low teacher efficacy. Teacher efficacy refers to teachers' perceptions of their abilities to produce desired outcomes of student engagement and learning (Bandura, 1977). In addition to lowered teacher efficacy, those experiencing emotional exhaustion may lack the energy necessary to plan and instruct high-quality and engaging lessons (Jennings & Greenberg, 2009). Furthermore, burnout has demonstrated inverse correlations with implementation of evidence-based practices (Cook et al., 2017; Oakes, Lane, Jenkins, & Booker, 2013) and the quality of IEPs for SWDs (Ruble & McGrew, 2013). Teacher burnout is also associated with poor relationship quality with students, parents, and colleagues (Brunsting et al., 2014; Jennings & Greenberg, 2009; Montgomery & Rupp, 2005).

Harm to the teacher workforce. The personal and professional harm caused by teacher burnout has been associated with job dissatisfaction, negative school climate, and ultimately higher teacher turnover (Berkowitz, Moore, Astor, & Benbenishty, 2016; Brunsting et al., 2014; Robinson et al., 2017). This requires school leaders to devote much time and financial resources to filling vacancies. A report by the National Commission on Teaching and America's Future (NCTAF; Barnes, Crowe, & Schaefer, 2007) estimated that in the United States, teacher turnover costs more than \$7.3 billion per year. The cost to replace each teacher was estimated from \$4,000 in rural areas to \$17,000 in urban districts (Barnes et al., 2007). Moreover, the burnout-attrition cycle appears to be worst in places that need quality teachers the most. Teacher turnover is disproportionately higher in high-need settings (e.g., special education, high-poverty areas) and further exacerbates instability in relationships between teachers, students, and parents in these school communities (Beteille, Kalogrides, & Loeb, 2012).

Harm to students. In addition to personal health consequences, job performance problems, and workforce instability, findings based on extensive literature reviews (Berkowitz et al., 2016; Brunsting et al., 2014; Jennings & Greenberg, 2009; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013) suggest teacher burnout ultimately hurts student progress. Teacher burnout has been found to be inversely related to task performance and Individualized Education Program (IEP) goal achievement for SWDs (Brunsting et al., 2014; Ruble & McGrew, 2013; Wong et al., 2017). In addition, teacher burnout and negative school climate was associated with student behavior problems and lower academic achievement (Berkowitz et al., 2016; Herman, Hickmon-Rosa, & Reinke, 2018; Shen et al., 2015; Thapa et al., 2013). The connection between teacher burnout and student achievement likely reflects a lack of teacher effectiveness in implementing quality instructional and behavior management practices, whether due to a lack of relevant skills (e.g., Brunsting et al., 2014) or a diminished capacity to meet multiple job demands (e.g., Jennings & Greenberg, 2009).

Other P-12 classroom personnel. Teacher stress is arguably a critical issue that needs more attention and efforts. In addition to teachers, paraeducators may be subject to high levels of stress and at risk for burnout (Garwood, Van Loan, & Wertz, 2017). However, little research attention is available regarding paraeducators needs (Garwood et al., 2017). As paraeducators and other classroom personnel (e.g., student teachers, pre-service interns) comprise aspects of the teaching staff and affect the climate of the learning environment (Carter et al., 2009; Fisher & Pleasants, 2012; Garwood et al., 2017), their needs should be considered when studying topics relevant to teacher stress.

Addressing Teacher Stress and Burnout

Systemic. Teacher stress is an issue that can be addressed at the systemic level, such as federal and state departments of education, because this is where the power is held in determining policies that influence demands of the profession (Greenberg et al., 2016; Maslach et al., 1996). The rationale for systemic action is that policies and practices influence personnel responses (Cox, Rickard, & Tamkin, 2012). Issues associated with the causes of teacher stress, such as standardized testing, accountability measures, and compensation are typically determined by systemic level policy (Owens, 2015; Richards, 2012). Changing policies that ease the demands on teachers could plausibly reduce their stress levels and as a result, they would be less at risk for burnout (Maslach et al., 1996). Though teachers and education advocates often identify policy changes (e.g., more compensation, smaller class sizes) that may improve their working conditions (Owens, 2015; Richards, 2012), there is limited research to demonstrate its effectiveness in improving teacher stress and reducing burnout (Greenberg et al., 2016).

School. School building- or program-level actions may address factors related to teacher working conditions, job demands, and therefore, their stress (Bettini, Crockett, Brownell, & Merrill, 2016; Billingsley, 2010; Brunsting et al., 2014). Researchers suggest this begins with school leadership, as administrative support has a strong association with teachers' job satisfaction, teacher efficacy, occupational stress, and burnout (Ansley, Houchins, & Varjas, in press; Lambersky et al., 2016; Robinson et al., 2017; Simon & Johnson, 2015; Stewart-Banks et al., 2015). In addition to supporting teachers through communication, resources, and encouragement, school leadership sets the tone for school climate (e.g., collegial atmosphere, community partnerships, student expectations), which is associated with teacher and student outcomes (Cohen & Geier, 2010; Thapa et al., 2013). Administrative and collegial support

influences teacher perceptions of working conditions, job satisfaction, efficacy, and burnout, all of which have been associated with teachers' decisions to remain at their schools, transfer elsewhere, or leave the profession altogether (Grayson & Alvarez, 2008; Greenlee & Brown, 2009; Simon & Johnson, 2015). Recent research (e.g., Haynes, 2014; Merrill & Sloane, 2014) illustrates how school-level initiatives have led to improvements in variables relevant to teacher stress, such as job dissatisfaction, teacher turnover, health concerns, and student behavior problems. These initiatives include: (a) formal induction programs; (b) worksite-based wellness promotion; and (c) student behavior and social-emotional supports.

Formal induction programs. One example of school-level initiatives involves formal induction programs for new teachers (Haynes, 2014; Ingersoll, 2012; Silva, McKie, & Gleason, 2015; Vittek, 2015). Given the high rate of teacher attrition within the first five years of teaching (Billingsley, 2004; Owens, 2015), there is a critical need to provide leadership, instructional, and social support to beginning teachers (Billingsley, 2010; Vittek, 2015). Induction typically consists of new teacher orientation, structured guidance, and mentorship between veteran and novice teachers (Ingersoll, 2012; Silva et al., 2015; Vittek, 2015). Studies examining induction programs (e.g., Ingersoll, 2012; Silva et al., 2015) have demonstrated promising results that include: (a) higher job satisfaction; (b) improved retention; and (c) proficient instructional practices in new teachers.

Worksite-based wellness initiatives. Some schools have implemented worksite-based wellness initiatives for their personnel (Greenberg et al., 2016; Kolbe & Tirozzi, 2011). Such programs target lifestyle changes, through health-risk assessments, nutrition guidance, weight-management support, and physical activity promotion with goals to reduce school system costs that result from illness (e.g., sick leave, substitute teachers, disability). Worksite-based wellness

initiatives have been associated with improved health measures (e.g., body mass index, blood pressure, perceptions of well-being) and reduced teacher absences (Centers for Disease Control & Prevention, 2015; Merrill & Sloane, 2014; Merrill & LeCheminant, 2016). Furthermore, health improvements may extend to stress management and coping, as there is a direct correlation between stress levels and health measures (Kolbe & Tirozzi, 2011; Schneiderman et al., 2005).

Student behavior and social-emotional supports. Initiatives ultimately targeting student improvements may also benefit teachers. Schoolwide positive behavior supports (PBS) and SEL programs not only have been associated with student achievement gains (Allen, Pianta, Gregory, Mikami, & Lun, 2011; Thapa et al., 2013), but have also contributed to improvements in teacher working conditions and quality of work experience (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Domitrovich et al., 2016). Working conditions (e.g., availability of resources, administrative and collegial support) and quality of work experiences (e.g., job satisfaction, teacher efficacy) have been associated with perceptions of occupational stress (Ansley et al., in press). Schoolwide programs that provide mental and emotional support to students likewise cultivate environments that foster support among the adults in the school building (Grayson & Alvarez, 2008; Thapa et al., 2013) and therefore, foster ideal working conditions that reduce the risk of burnout (Simon & Johnson, 2015).

Individual. Another approach to addressing teacher stress and burnout is at the individual level. A major argument for training teachers to develop effective stress management and coping skills is because individual teachers have more control over their responses to stress than they do over their stressful working conditions (Ansley, Houchins, & Varjas, 2016). However, while education is recognized as a high-stress profession (e.g., Greenberg et al., 2016),

stress management skills and coping strategies are not often included in teacher preparation programs (Beltman et al., 2011; Richards, Levesque-Bristol, Templin, & Graber, 2016). Prior studies have suggested that at the individual level, teachers can prevent burnout by (a) improving job-specific skills (e.g., Brunsting et al., 2014); (b) building resilience to stress through healthy self-care and coping skills (e.g., Herman et al., 2018); and (c) demonstrating social-emotional competence (SEC) through compassion for others, positive relationships, and de-escalation of high-stress conditions (e.g., Jennings & Greenberg, 2009).

Skills training. Additional training for job-specific skills could better prepare teachers for their positions, empower their continuous development, improve their job performance, and potentially prevent burnout. For example, Ruble, Usher, & McGrew (2011) found an inverse correlation between burnout and efficacy for classroom management among teachers of students with autism spectrum disorders in self-contained settings. Thus, teachers more confident in their classroom management skills were less likely to experience burnout. In addition to teacher efficacy, burnout has been associated with a lack of intervention integrity among teachers. An inverse correlation was found between teachers' emotional exhaustion and adherence to an intervention targeting IEP quality (Ruble & McGrew, 2013). Similarly, in a study examining teacher implementation of a three-tier student learning and behavior support program, treatment integrity was inversely correlated with depersonalization and directly correlated with personal accomplishment (Oakes et al., 2013). Furthermore, a study examining the impact of burnout on teaching quality, engagement, and student outcomes found an inverse correlation between personal accomplishment and student IEP outcomes (Wong, Ruble, Yu, & McGrew, 2017). Thus, increasing efforts to address specific job-related skills, such as instructional

implementation, strategy execution, and behavior management, may improve teacher job performance and student outcomes while reducing stress and burnout associated with their jobs.

Resilience to stress. Even with the best working conditions and job-related skills, teachers are exposed to high levels of stress associated with intense job demands (Ansley et al., 2016; Jennings & Greenberg, 2009). A study with 121 elementary school teachers as participants assessed their levels of stress, burnout, and coping (Herman et al., 2018). Among the teachers who reported high levels of stress, coping was inversely related to burnout, which suggested that effective coping can prevent burnout amid high-stress conditions (Herman et al., 2018). Coping skills empower one to build resilience, or the ability to manage and persevere through stress, and therefore prevent teacher burnout (Roeser, 2014; Steinhardt & Dolbier, 2008). Individual strategies are often taught by physicians, psychologists, counselors, or coaches with training specific to stress management and resilience (Ansley et al., 2016; Greenberg et al., 2016; Kabat-Zinn, 2003). Individuals sometimes learn about coping strategies on their own through self-help books, videos, or programs (Cuijpers & Schuurmans, 2007). Coping skills may be developed to promote wellness, or they may complement other medical or psychological treatments. Self-care and coping may be taught individually or facilitated to groups. For teachers, resilience-building programs can also be implemented through schools or self-directed by individuals managing stress on their own (Ansley et al., 2016; Greenberg et al., 2016).

While there may be numerous ways individuals can apply coping skills, stress intervention programs offered to teachers should focus on scientifically supported strategies. The highest levels of scientific support for interventions are found in systematic literature reviews or meta-analyses of studies of a specific type of coping strategy (Glover, Izzo, Odat, & Wang, 2014). Thus, an interventionist can determine contents of a stress management program by

including those strategies with favorable results reported by meta-analyses and systematic reviews. Table 2.1 provides a description of such coping strategies with supporting meta-analyses and systematic reviews

Social-emotional competence. The Collaborative for Academic, Social, and Emotional Learning (CASEL) defines social-emotional competence (SEC) as a set of prosocial personal characteristics that include self-awareness, social awareness, responsible decision making, self-management, and relationship management as it pertains to their role (CASEL, 2017). These are qualities that empower teachers to effectively communicate through verbal and nonverbal methods while engaging in job-related tasks, such as collaboration, SEL implementation, and high-quality instruction (Jennings & Greenberg, 2009). Teacher SEC has been associated with healthy relationships with students and other school personnel (Hen & Goroshit, 2016; Jennings & Greenberg, 2009; Thapa et al., 2013), promotion of SEL and positive behavior supports (Jennings & Greenberg, 2009; Merritt, Wanless, Rimm-Kaufman, Cameron, & Peugh, 2012), and implementation of evidence-based instructional strategies (Greenberg et al., 2016; Guo & Higgins-D'Alessandro, 2011). According to the model for a prosocial classroom (Jennings & Greenberg, 2009), resilience to stress is a prerequisite to teacher capacity to demonstrate SEC. As such, these competencies may potentially be developed in conjunction with stress management instruction to improve the learning environment and outcomes for students (Brunsting et al., 2014; Greenberg et al., 2016; Jennings & Greenberg, 2009; Thapa et al., 2013; Wong et al., 2017).

Individual Stress Interventions for Teachers

Though numerous researchers have suggested a need for stress interventions for P-12 teachers in the United States (Brunsting et al., 2014; Cunningham, 1983; Goodman, 1980;

Greenberg et al., 2016; Jennings & Greenberg, 2009; Montgomery & Rupp, 2005; Weiskopf, 1980; Wisniewski & Gargiulo, 1997; Zabel & Zabel, 1982), a dearth of published studies currently exists in the academic literature. Very few studies (Benn, Akiva, Arel, & Roeser, 2012; Cooley & Yovanoff, 1996; Singh, Lancioni, Winton, Karazsia, & Singh, 2013) examined stress interventions with SETs. There has been one such study that targeted GETs (Cecil & Forman, 1990). A few more studies (Ancona & Mendelson, 2014; Anderson, Levinson, Barker, & Kiewra, (1999); Cook et al., 2017; Flook, Goldberg, Pinger, Bonus, & Davidson, 2013; Harris, Jennings, Katz, Abenavoli, & Greenberg, 2015; Jeffcoat & Hayes, 2012; Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013; Jennings, Snowberg, Coccia, & Greenberg, 2011; Jennings et al., 2017; Kaspereen, 2012; Kemeny et al., 2011; Reiser, Murphy, & McCarthy, 2016; Roeser et al., 2013) have presumably included both SETs and GETs as participants. Intervention components have included: (a) mindfulness; (b) relaxation response activation; (c) cognitive restructuring; (d) collegial support; and (e) job-related applications.

Mindfulness. Mindfulness is a habit-of-mind that involves personal and social awareness, attention to details, presence in the here-and-now, nonjudgmental observations, self-compassion, and compassion for others (Flook, Goldberg, Pinger, & Davidson, 2015, Kabat-Zinn, 2003). As a construct, mindfulness has consistently demonstrated inverse relationships with the dimensions of burnout such as: (a) emotional exhaustion; (b) depersonalization; and (c) lack of personal accomplishment (Abenavoli, Jennings, Greenberg, Harris, & Katz, 2013). Mindfulness-based interventions (MBIs) utilize a variety of mental exercises and activities that promote mindful habits in participants. Studies with P-12 teachers as participants suggest that MBIs are associated with self-reported decreases in: (a) occupational stress (Ancona & Mendelson, 2014; Cook et al., 2017; Harris et al., 2015; Jennings et al., 2013; Roeser et al.,

2013); (b) psychological distress, such as mood swings, irritability, nervousness (Benn et al., 2012; Flook et al., 2013; Jeffcoat & Hayes, 2012; Jennings et al., 2014; Jennings et al., 2017; Kemeny et al., 2011; Roeser et al., 2013); and (c) physiological symptoms, such as sleep disruptions, pain, fatigue (Harris et al., 2015). Likewise, MBIs are also associated with self-reported increases in: (a) general wellness (Harris et al., 2015; Jennings et al., 2014); (b) job satisfaction (Cook et al., 2017; Reiser, Murphy, & McCarthy, 2016); (c) role efficacy (Harris et al., 2015; Jennings, Frank, Snowberg, Coccia, & Greenberg, 2013); and (d) perceptions of job performance (Cook et al., 2017; Flook et al., 2013; Jennings et al., 2017; Singh et al., 2013). Going beyond self-reported measures, observational measures of job performance (Flook et al., 2013; Jennings et al., 2017) and student behaviors (Singh et al., 2013) demonstrated improvements related to teacher mindfulness training as did physiological measures of blood pressure and cortisol levels (Harris et al., 2015; Kemeny et al., 2011).

Relaxation response activation. Several studies (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012) tested stress interventions that involved relaxation response activation (RRA). Individuals can learn to trigger their physical, mental, and emotional relaxation response through specific breathing exercises, progressive muscle relaxation, or guided meditations (Van Dixhoorn & White, 2005). Two of the interventions were based solely upon RRA (Anderson et al., 1999; Kaspereen, 2012). Anderson et al. (1999) examined the impact of a standardized meditation program on primary- and secondary-level teachers from three states. The program included an introduction to meditation, breathing techniques, progressive muscle relaxation, interactive group discussions between the facilitator and participants, and applications to life as a teacher. Participation in the program was associated with self-reported decreases in stress, burnout, and anxiety (Anderson et al., 1999).

Kaspereen (2012) tested the efficacy of a facilitator-guided script with musical accompaniment with high school teachers. Participants who received this intervention reported decreased life and occupational stress as well as increased life satisfaction (Kaspereen, 2012). Additionally, two other interventions included RRA among other stress management strategies (Cecil & Forman, 1990; Cooley & Yovanoff, 1996). Given the multiple intervention components, it is difficult to establish a causal connection between their results specifically to RRA. Neither study reported participant perspectives of the intervention components or which components were associated with specific benefits. However, for both studies, participants who received their intervention reported decreased life and occupational stress and increased teacher efficacy and job satisfaction (Cecil & Forman, 1990; Cooley & Yovanoff, 1996). Other components of the two packaged interventions are described in the next two sections.

Cognitive restructuring. Cognitions are thoughts and beliefs about one's self and the world (Beck, 1970; Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). Cognitive restructuring is a strategy that helps participants identify and reduce negative cognitions that perpetuate stressful experiences and increase neutral or positive cognitions that reduce stress levels (Butler, Chapman, Forman, & Beck, 2006). Recurring often subconscious patterns of thoughts and beliefs are habits of mind that trigger physiological and psychological responses (Nummenmaa, Glerean, Hari, Hietanen, 2013). Studies in neuroscience have confirmed that cognitive patterns can be altered, and therefore, physiological and psychological responses can adapt, most notably as they related to stress, due to the brain's neuroplasticity (Schwartz, Stapp, & Beauregard, 2005). Negative cognitions associated with chronic stress and illness-related symptoms include rumination (repetitive reflection on negative events or aspects of an undesirable situation; Joormann, Levens, & Gotlib, 2011), rigidity (inflexible, unwilling to see other perspectives;

Schwabe & Wolf, 2013), and a lack of control over stress (Ng, Sorensen, Eby, 2006). In contrast, thought patterns that reflect savoring (attention and reflection on desirable events or circumstances; Bryant & Veroff, 2007), gratitude (appreciation for possessions, relationships, circumstances; Wood, Froh, & Geraghty, 2010), and focusing on the present moment (Killingsworth & Gilbert, 2010) are associated with lower stress levels, stable moods, and increased life satisfaction. Cognitive restructuring can be accomplished through various strategies. Ultimately, the process involves directing participants to identify negative cognitions and reappraise them. Cognitive restructuring was included in a stress intervention for elementary and middle school GETs (Cecil & Forman, 1990) and in another stress intervention for P-12 SETs (Cooley & Yovanoff, 1996). Cecil and Forman's (1996) intervention included a component where participants identified negative cognitions and were taught a five-step process to evaluate whether or not these cognitions were rational. Cooley & Yovanoff (1996) included a component where participants identified problems that were causing them stress and determined which aspects of the problem were controllable. Then, they drafted solutions to identified problems with efforts focused on what they can control.

Collegial support. Cooley and Yovanoff (1996) included peer collaboration training as a component of their packaged stress intervention. Five out of 10 weeks of their intervention was devoted to teaching participants communication skills that help improve collegial relationships, such as clarifying, summarizing, intervention and prediction, and evaluation. Considering half of the intervention focused on collegial support (Cooley & Yovanoff, 1996), this component arguably played a role in the participants' outcomes (i.e., decreased emotional exhaustion, increased personal accomplishment, job satisfaction, and organizational commitment). In contrast, Cecil and Forman (1990) used a coworker support group as a comparison intervention

to their package of stress management strategies. A trained facilitator led the group by applying the following strategies: (a) sharing their problems, (b) giving reassurance and support, (c) sharing successful coping strategies, and (d) listening empathetically. Unlike their counterparts who received instruction in specific coping techniques, the coworker support group reported no significant changes related to stress, with outcomes similar to the control condition (Cecil & Forman, 1990).

Job-related applications of stress management strategies. For professional learning to be effective with teachers, it must be meaningful to the participant and relevant to their job-related tasks (Desimone & Garet, 2015; McLeskey, 2011). Most teacher stress interventions have included components specifically connecting the intervention contents with the participants' job functions. For example, some interventions (e.g., Jeffcoat & Hayes, 2012) included direct instruction about teacher stress and burnout and risks to personal health and professional performance. There have also been MBIs (e.g., Benn et al., 2012) that applied components (e.g., emotion regulation, empathy, self-compassion) to typical work-related stressors (e.g., frustrations with students, disagreements with colleagues) and involved practice of mindful responses over stressful reactions. Other studies (e.g., Cooley & Yovanoff, 1996) have practiced coping strategies in conjunction with in vivo exposure to typical teacher stressors. Considering the best practices for professional learning, stress management programs would likely be more effective when components are connected directly to their professional tasks (Desimone & Garet, 2015; McLeskey, 2011).

Gaps in the research specific to teacher stress interventions. Among the more recent studies (e.g., Cook et al., 2017; Jennings et al., 2017; Kemeny et al., 2011), MBIs dominate the literature regarding teacher stress and burnout interventions. However, as relatively few studies

have been conducted with teachers as participants, scientific support of MBIs is still emerging (Jennings, 2016). Another consideration is that other intervention components (e.g., RRA, cognitive restructuring, collaboration training) also were associated with reduced stress and burnout-related experiences (Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996; Kaspereen, 2012). Currently, the relatively small research base limits conclusions regarding the superiority of specific stress interventions. However, results have suggested a variety of interventions were associated with beneficial outcomes, and participant buy-in impacted results (e.g., Kemeny et al., 2011). P-12 teachers may benefit by receiving training for a variety of scientifically supported coping strategies and having options to choose which methods to use. While packaged interventions may limit the ability to determine which components result in the most benefits, having options to select strategies may help increase the accessibility of coping techniques among all teachers. To address this limitation, researchers can assess participant perceptions of each intervention component as well as the strategies they select while completing the intervention.

Online Interventions

Among the most common stressors identified by teachers is having heavy workloads with a dearth of time for planning, preparation, and professional learning (Emery & Vandenberg, 2010; Richards, 2012). Teachers have often expressed that professional learning is an imposition that adds to their heavy job duties (Blinder, Ansley, Varjas, Benson, & Ogletree, 2017). One option that may possibly increase flexibility and perhaps buy-in among participants is to offer support through internet-based platforms. Asynchronous online interventions that allow flexible scheduling and convenience of participation from any location may help increase access to stress management programs, even for those who have commitments (e.g., coaching, tutoring,

dropping off or picking up a child) that may interfere with face-to-face worksite-based group participation (Yukselturk & Yildirim, 2008).

To date, there are no known studies that tested asynchronous online stress interventions for teachers. There are, however, a couple of known studies that explored online stress interventions for college students (Chiauzzi, Brevard, Thum, Decembrele, Lord, 2008; Hintz, Frazier, & Meredith, 2015). Chiauzzi et al. (2008) developed an online intervention, MyStudentBody-Stress, and tested its efficacy for increasing stress management and health-promoting behaviors among students from six colleges in the U.S. Results indicated that intervention group participants were more likely to increase weekly physical activity, use specific stress management strategies, and report decreased anxiety and family problems. Hintz and colleagues (2015) designed an online stress intervention and explored its effects on undergraduate students at one university in the U.S. First, they assessed students to measure their perceptions of present control over stress. Selecting only students with low present control scores, the researchers (Hintz et al., 2015) then randomly assigned them into one of three groups: the online intervention; the online intervention plus feedback; stress information only. Results at post-test and the three-week follow-up demonstrated the two intervention groups had lower levels of stress, depression, and anxiety symptoms in comparison to the stress information only group.

Davies, Morriss, and Glazebrook (2014) performed a systematic review and meta-analysis on studies that tested online and other computer-based interventions for college students. Studies in their review were identified as interventions aimed at reducing symptoms related to the study aimed to improve symptoms relating to depression, anxiety, psychological distress, and stress (Davies et al., 2014). Results of their meta-analysis suggest that, when

compared to control groups, online and computer-based interventions may help alleviate symptoms related to depression, anxiety, and stress.

In addition to online interventions showing promise toward managing stress and stress-related mental health issues (e.g., Davies et al., 2014), results of a systematic review and meta-analysis (Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014) suggest that online interventions may be just as effective as traditional face-to-face formats. Andersson and colleagues (2014) reviewed studies using randomized trials to investigate the efficacy of guided internet-based cognitive behavior therapy interventions as compared to face-to-face cognitive behavior therapy. Results indicated an overall effect for main outcomes close to zero, which suggests both formats are equally effective in the treatment of psychiatric and somatic disorders (Andersson et al., 2014). They did not, however, address participant retention and attrition in these studies. This is a consideration, as teachers must be engaged in their professional learning in order to benefit (Boston Consulting Group, 2014). In designing online interventions, however, it is important to ensure they are feasible and user-friendly so that participants will buy in and fully engage in the online program (Yukselturk & Yildirim, 2008).

Purpose

The purpose of this study was to assess the feasibility and preliminary efficacy of Mindfulness and More for School Personnel (MMSP), an online version of a stress intervention for P-12 teachers and other classroom personnel, such as paraeducators and pre-service teachers. MMSP was developed with the goals of: (a) instructing healthy coping resources that empower teachers to manage their stress effectively and prevent burnout (Herman et al., 2018; Lazarus & Folkman, 1987); (b) extending stress management principles to the workplace, where teachers must maintain their physical, mental, and emotional capacity to perform the various functions of

their jobs (Herman et al., 2018; Greenberg et al., 2016; Jennings & Greenberg, 2009; Richards et al., 2016; Wong et al., 2017). The research questions (RQs) were as follows:

- RQ1: Is Mindfulness and More for School Personnel (MMSP), an online stress intervention, feasible as a professional development program for P-12 teachers and classroom personnel?
- RQ2: Is participation in Mindfulness and More for School Personnel (MMSP), an online stress intervention, associated with increased time spent engaging in coping strategies?
- RQ3: Is participation in Mindfulness and More for School Personnel (MMSP), an online stress intervention, associated with reduced burnout (i.e., emotional exhaustion, depersonalization, lack of personal achievement) among P-12 teachers and classroom personnel?
- RQ4: Is participation in Mindfulness and More for School Personnel (MMSP), an online stress intervention, associated with increased teacher efficacy?
- RQ5: Is participation in Mindfulness and More for School Personnel (MMSP), an online stress intervention, associated with increased mindfulness?

Method

Participants

A recruitment flyer (see Appendix A) was shared via email with 584 teachers, paraeducators, and pre-service teachers. The recruitment flyer directed interested participants to an online information form. Sixty-seven individuals signed up for the study and provided their consent (Appendix B). In the order that participant enrollments were received, a random number generator (i.e., 1 = control; 2 = intervention) was used to assign participants to one of two treatment conditions. Fifty-nine participants then completed the pre-intervention assessments,

including 29 assigned to the intervention group and 30 to the control group. Twenty-eight of the 29 intervention group participants enrolled in Mindfulness and More for School Personnel (MMSP). Of the 28 participants enrolled in the course, 25 completed the entire program and one participant completed 75% of the program and was therefore eligible to continue participation. For reasons unknown, one participant dropped out after completing one module. Another enrolled participant who completed no part of MMSP expressed intentions to complete the program and cited major life events as hinderances. After completing post-intervention assessments, there were 26 participants from the intervention group and 25 participants from the control group completed the post-intervention assessments. Thus, 51 participants completed all requirements for this study. Table 2.2 details demographics and characteristics of study participants. Participants were compensated with an Amazon.com gift card in values that ranged from \$10 - \$60 dependent on the level of study participation (see Appendix C).

Research Design

MMSP was tested using a group experimental design (Campbell & Stanley, 1963) that included random assignment of participants to one of two conditions: (a) intervention group or (b) control group. Pre- and post-intervention data was collected from participants in both groups concurrently and then analyzed to compare results from each group.

Measures

Intervention feasibility. Intervention feasibility was measured in terms of program practicality and treatment acceptability. Practicality was based on the MMSP completion rate (Ancona & Mendelson, 2014). According to Ancona and Mendelson (2014), a program is considered practical if a majority of participants (80% or more) completed the program. Completion was defined as completing 75% of MMSP modules (Ancona & Mendelson, 2014).

Treatment acceptability was assessed by researcher-developed formative and summative measures (see Appendices D-F). Participants provided feedback of their experiences through a 7-point Likert type scale, ranging from strongly disagree to strongly agree, with options for open-ended responses (e.g., Intervention Rating Profile; Martens, Witt, Elliott, & Darveaux, 1985). Program-specific feedback items inquired about participant satisfaction with MMSP, how the intervention was used, and the degree to which they would recommend it to others in similar positions (Doyle, Jennings, DeWeese, & Frank, 2014; Jennings et al., 2017). Items were reviewed by individuals with experience as teachers (e.g., current and former teachers) and were not affiliated with the study. MMSP participants were solicited for such feedback at the end of modules 1-7, the beginning of modules 5 and 7, and at post-intervention.

Time engaged in coping strategies. At pre- and post-intervention, participants reported the amount of time they engaged in coping strategies for the purpose of managing their stress (see Appendix G). For practical applications, engagement in a specific strategy, such as physical exercise (e.g., Haskell, Lee, Pate, Powell, & Blair, 2007) or meditation (e.g., Moore, Gruber, Derose, & Malinowski, 2012), is typically measured by the number of minutes an individual actively devotes to active participation in that strategy each week. As such, participants were asked to consider a typical week and to report the number of minutes in which they engaged in each strategy listed each week. The number of minutes reported for each strategy ranged from 0-180. The upper parameter was set to 180 minutes or three hours per week. Participants were not given a specific target or ideal for coping engagement. The purpose of the outcome was to compare differences in coping engagement before and after participating in MMSP. The measure was developed specifically for this study and reviewed by two individuals familiar with stress and coping. One is a state-certified school psychologist and the other is a school psychology

graduate student. Both have professional experience facilitating stress management professional development sessions to educators at all levels (P-20). The questionnaire included a list of scientifically-supported coping strategies taught within the intervention, based on the findings of systematic reviews (e.g., Richardson & Rothstein, 2008), meta-analyses (e.g., Cavanagh et al., 2014), and other research-based reports (e.g., Bryant & Veroff, 2007). The strategies fall under one of five categories: (a) physical exercise; (b) mindfulness exercise; (c) relaxation response activation; (d) cognitive restructuring/mindset; (e) social-emotional support. In addition, participants could report other strategies not listed. The total coping engagement outcome reflected the summation of weekly minutes for all strategies reported.

Occupational burnout. Occupational burnout was measured at pre-intervention and post-intervention using the Maslach Burnout Inventory-Educator Survey (MBI-ES; Maslach, Jackson, & Schwab, 1996), which is based on the original MBI (Maslach, Jackson, & Leiter, 1996), with items adapted specifically for educators (see Appendix H). Participants responded to 22 statements about job-related feelings using a 7-point Likert-type scale. The MBI-ES is scored based on three subscales that represent the dimensions of burnout: (a) emotional exhaustion measures feelings of overexertion and psychological fatigue (range = 0-54); (b) depersonalization measures cynicism toward students or student outcomes (range = 0-30); and (c) personal accomplishment measures feelings of competence and productivity at work (range 0-48). Higher scores on each subscale indicate a higher amount of the given construct (e.g., more emotional exhaustion, greater feelings of personal accomplishment). There is no total burnout score calculated from the MBI-ES (Maslach et al., 1996). Thus, reductions in burnout are indicated when emotional exhaustion and depersonalization scores decrease and personal accomplishment scores increase.

Psychometric properties indicate the MBI-ES (Maslach et al., 1996) is a reliable and valid measure. Studies by Iwanicki and Schwab (1981) and Gold (1984) supported reliability of the three-factor structure and internal reliability. Cronbach's alpha ratings ranged from 0.88-0.90 for Emotional Exhaustion, 0.74-0.76 for Depersonalization, and 0.72-0.76 for Personal Accomplishment. Adequate convergent and discriminant validity of the original MBI was established as the measure was developed (Maslach et al., 1996).

Teacher efficacy. Participant perceptions of their role efficacy was assessed pre- and post-intervention with a subset of items rated on a 9-point scale (1=nothing; 9=a great deal) from the Teachers' Sense of Efficacy Scale-Short Form (TSES-SF; Tschannen-Moran & Hoy, 2001; see Appendix I). Total TSES-SF scores were used. TSES-SF scores are a summation of three subscales: (a) instructional practices; (b) student engagement; and (c) classroom management. Participants' perceptions of their ability to use a variety of effective teaching methods was assessed with four items from the instructional practices subscale (e.g., "To what extent can you craft good questions for your students?"), which has demonstrated good internal consistency ($\alpha=0.86$). The classroom management subscale ($\alpha = 0.86$) includes four items that assess participants' ability to prevent and manage disruptive behavior in the classroom (e.g., "How much can you do to control disruptive behavior in the classroom?"). Finally, the student engagement subscale ($\alpha=0.81$) includes four items that measure participants' ability to motivate and involve students in their learning (e.g., "How much can you do to get students to believe they can do well in school work?"). Total TSES-SF scores may range from 12-108.

Mindfulness. Mindfulness was assessed pre- and post-intervention using a 24-item version of the Five-Facet Mindfulness Questionnaire-Short Form (FFMQ-SF; Bohlmeijer et al, 2011; see Appendix J). Participants responded to items through a 5-point Likert-type scale

ranging from 1 = “never or very rarely true” to 5 = “very often or always true.” The FFMQ-SF measures five dimensions of mindfulness: (1) observing; (2) describing; (3) acting with awareness; (4) nonjudging; and (5) nonreactivity to intrapersonal experiences. Total FFMQ-SF scores (range = 24-120) were used to measure participant mindfulness. Coefficient alphas for the subscales ranged as follows: observing = .83–.85; describing = .89–.91; acting with awareness = .89–.91; nonjudgmental = .85–.92; and nonreactive = .74–.77.

The Intervention: Mindfulness and More for School Personnel

MMSP is based on the premise that individual self-care is the foundation of healthy coping habits that promote resilience (Cavanagh et al., 2014; Richardson & Rothstein, 2008). The quality of workplace relationships (e.g., with students, other staff, administrators) are inversely related to teachers’ occupational burnout (Borman & Dowling, 2008). Positive and supportive relationships may serve as a buffer to occupational stress and burnout (Doney, 2013). Positive relationships require teacher SEC and cultivate the climate and interactions necessary for students to feel physically, mentally, and emotionally safe (Hen & Goroshit, 2016; Jennings & Greenberg, 2009; Thapa et al., 2013). Teacher SEC is also relevant to the final de-escalation component of the intervention. De-escalation begins with a foundation of self-care and resilience, positive workplace relationships, and the SEC to recognize stress in others (Doney, 2013; Jennings & Greenberg, 2009). De-escalation is a skill essential to crisis management, especially when teaching students who need support for externalizing behaviors (Brunsting et al., 2014; Ruble & McGrew, 2013). Moreover, de-escalation requires healthy coping skills and strong self-care, so the educator can manage their own stress while simultaneously de-escalating others (Jennings & Greenberg, 2009).

The primary goals of MMSP are to: (a) instruct healthy coping resources that empower teachers to manage their stress effectively and prevent burnout (Herman et al., 2018; Lazarus & Folkman, 1987); and (b) extend stress management principles to the workplace, where teachers must maintain their physical, mental, and emotional capacity to perform the various functions of their jobs (Herman et al., 2018; Greenberg et al., 2016; Jennings & Greenberg, 2009; Richards et al., 2016; Wong et al., 2017). MMSP was based on the premise that its primary goals could be achieved through a foundation of adequate self-care, building and maintaining positive relationships on the job, and de-escalating high-stress situations as they are encountered. Figure 2.1 illustrates a model for the rationale and content of the program.

Program features. MMSP is organized into eight modules: (1) Introduction to Program & Background on Educator Stress; (2) Basic Self-Care; (3) Mindfulness; (4) Relaxation Response Activation and Mindful Habits; (5) Routines and Relationships at Work; (6) De-escalation; (7) Maintaining Your Progress; and (8) Wrapping it Up. The program was self-paced with the recommendation of completing two modules per week for four weeks. Each module requires approximately 30 minutes each of participants' time. The time requirement for independent practice between modules varied and depended on participant decisions regarding their stress management. Table 2.3 summarizes the content, citations that support content, activities, and independent practice associated with each module. The following sections describe the essential components of the intervention.

Self-care strategies for resilience to stress. The foundation of MMSP instructs participants on strategies for building personal resilience to stress. Following previous research on stress interventions for teachers (e.g., Cook et al., 2017; Jennings et al., 2017; Roeser et al., 2013), MMSP includes mindfulness training and applications (Cavanagh, Strauss, Forder, &

Jones, 2014). Extending beyond mindfulness training, to provide participants options, there were presentations of other scientifically-supported relaxation-response training strategies that included: (a) diaphragmatic breathing techniques; (b) progressive muscle relaxation; and (c) guided imagery (Richardson & Rothstein, 2008). Participants were presented with strategies and activities to address cognitions (Bryant & Veroff, 2007; Wood et al., 2010). The premise was that self-care habits empower individuals to manage their stress and reduce stress-related physical and mental symptoms associated with burnout (Cavanagh et al., 2014; Greenberg et al., 2016; Jennings & Greenberg, 2009; Kolbe & Tirozzi, 2011; Richardson & Rothstein, 2008).

Communication and self-management strategies for social-emotional competence.

Teacher stress reduction and burnout prevention is associated with supportive learning environments and positive working conditions (Greenberg et al., 2016; Jennings & Greenberg, 2009). Essentially, self-care and resilience are requisite to SEC, because teachers must have the physical, mental, and emotional stamina to demonstrate SEC in spite of the stressful nature of their jobs (Jennings & Greenberg, 2009). The teacher SEC aspects of the intervention focuses on building and maintaining positive workplace relationships through: (a) mindful interactions with students; (b) mindful interactions with other adults; (c) creating safe classrooms; and (d) emotion self-regulation (Aldao et al., 2010; Hen & Goroshit, 2016; Jennings & Greenberg, 2009).

Furthermore, the intervention's SEC training also includes de-escalation techniques for times of heightened stress on the job. The de-escalation component includes applications of mindfulness and relaxation practice when stress levels surge (Cavanagh et al., 2014; Richardson & Rothstein, 2008) as well as de-escalation strategies associated with the SECs (Richmond et al., 2012). For example, participants were instructed to identify personal triggers of stress or emotional reactivity (e.g., students off-task, tension during faculty meeting) and then create a response plan

that reflects mindful interactions (e.g., maintain personal space, avoid judgmental statements) and emotion self-regulation (e.g., maintain calm demeanor, avoid yelling).

Connections to job responsibilities. To maximize the relevance of the intervention (Desimone & Garet, 2015; McLeskey, 2011), the MMSP components are directly aligned with typical teacher job-related functions. These include: (a) managing student behaviors; (b) interacting with parents; (c) collaborating with other school personnel; (d) managing a demanding workload; and (e) maintaining work-life balance (Brunsting et al., 2014). Further details of these applications are available in the intervention description as well as Table 2.1.

Making the plan work. Throughout the program, MMSP incorporated research-based suggestions intended to increase the likelihood of participants adhering to their personalized stress management plans and reaching their desired goals. The personalized stress management plan allows participants to have flexibility in strategy-selection, scheduling, and execution of their plan (Ansley et al., 2016). Participants were encouraged to view this process as a means to forming new habits that promote a healthy lifestyle rather than taking temporary actions to address specific problems. Based on a literature review of studies on habit-formation (Gardner, Lally, & Wardle, 2012), participants were encouraged to select one or two of the presented coping strategies, begin with small changes, and practice consistently. Upon selecting coping strategies, participants were instructed to form implementation intentions that identified when, where, and how the strategies would be carried out. A meta-analysis on studies of goal attainment (Gollwitzer & Sheeran, 2006) determined that implementation intentions had a medium-to-large effect on initiation, adherence, and maintenance of goal-oriented plans. Finally, after receiving instruction that included strategy demonstrations, examples of work-related

applications, and structured guidance in developing their personalized plans, participants received instructions for modifying and maintaining their plans to adapt to their changing needs.

Program Platform. The MMSP intervention was provided asynchronously using the online Open Learning platform (<http://openlearning.com>). Eight standards for online professional learning programs (Quality Matters, 2015) were used to develop intervention content. These standards were: (1) The overall design of the course is made clear to the learner at the beginning of the course; (2) Learning objectives or competencies describe what learners will be able to do upon completion of the course; (3) Assessment strategies are integral to the learning process and are designed to evaluate learner progress in achieving the stated learning objectives or mastering the competencies; (4) Instructional materials enable learners to achieve stated learning objectives or competencies; (5) Course activities facilitate and support learner interaction and engagement; (6) Course technologies support learners' achievement of course objectives or competencies; (7) The course facilitates learner access to support services essential to learner success; and (8) The course design reflects a commitment to accessibility and usability for all learners.

Procedures

Institutional Review Board approval. All procedures were approved by the Georgia State University Institutional Review Board.

Recruitment. The entire study, including recruitment communications, intervention implementation, and data collection, was conducted online. P-12 teachers and other classroom personnel were recruited through a flyer with information for volunteering for the study. First, the flyer was shared through an emailed message with individuals who could forward the details to prospective participants (see Appendix K). This included: (a) professors and program supervisors from undergraduate and graduate teacher certification programs at a large urban

university; (b) administrators from a local P-12 public special education school that provides therapeutic supports for students with severe emotional behavior disorders; and (c) administrators who attended a workshop on self-care and SEC at a national conference for special educators. These individuals were asked to share the recruitment flyer with their students and supervisees. In addition, prospective participants who received the flyer or otherwise learned of the study were asked to pass along information to other P-12 classroom personnel.

Fidelity. The researcher developed a fidelity checklist (see Appendix L) to confirm that MMSP: (a) was designed consistently with best practices for online professional development courses; and (b) included scientifically-supported content relevant to stress management programs. Using the fidelity checklist, two independent reviewers with experience facilitating stress management workshops evaluated MMSP and confirmed the program included scientifically-supported content and met guidelines for online courses according to Quality Matters (2015), a non-profit organization dedicated to guaranteeing the quality of online learning programs. After completing their checklists, interrater reliability was calculated by dividing the number of agreements by the total number of items and multiplying by 100%.

Pre-intervention. After signing up and providing informed consent, participants were randomly assigned to either the intervention group or control group. They were emailed their group assignment, participant identification number and the web address to access a survey (See Appendices M-N). The survey contained a combination of the following assessments: (a) the form to report the extent of use of coping strategies; (b) MBI-ES (Maslach et al., 1996); (c) TSES (Tschannen-Moran & Hoy, 2001); (d) FFMQ (Bohlmeijer et al., 2011); and (e) items regarding teacher demographics. After 48 hours, a reminder message was emailed to participants who had not yet completed the pre-intervention assessments (see Appendices O-P). If necessary,

this process was repeated 48 hours later. After two reminders, participants who did not complete the assessments within 48 hours of the last reminder were withdrawn from the study.

Intervention. Using the email addresses provided by participants, control group participants, who did not participate in the intervention, were emailed a brief thank you message with notification to expect an invitation to complete another survey in approximately five weeks (see Appendix Q). Intervention group participants were sent a link with a message inviting them to join Mindfulness and More for School Personnel through Open Learning (<http://openlearning.com>; see Appendix R). The invitation message was sent to participants every 48 hours to remind them to enroll. After two reminder messages, participants were withdrawn from the study. Within 24 hours of enrollment, the student investigator sent a brief welcome message to the participant (see Appendix S). Attached to the message was a course pacing guide (see Appendix T) and an activity document that facilitated participation in the program (see Appendix U). Based on the date of enrollment, participants were also provided a course schedule, which was described as a suggested pacing guide that encouraged participants to complete MMSP at a rate of two modules per week for four weeks. Once a week, all participants received an emailed weekly update with a reminder about the course pacing (see Appendix V). Also once a week, participants who had fallen behind the pace of completing two modules per week received an individual message to remind them to complete their modules (see Appendix W). Participants completed the modules at a pace of their choice. They were allotted five weeks, the intended four-week time frame plus seven additional days, to complete the program.

Post-intervention. Five weeks after completing the pre-intervention survey, control group participants and intervention group participants who completed at least 75% of the

modules were emailed a message with information about accessing the post-intervention survey through Qualtrics (see Appendix X). The survey contained the same assessments as the pre-intervention survey (i.e., form for reporting use of coping strategies, MBI-ES; TSES-SF; FFMQ) minus the items inquiring about participant demographics. In addition, the post-intervention survey contained the treatment acceptability items as described above (see Measures, Intervention feasibility). Reminder messages to complete the post-intervention assessments were issued every 48 hours (see Appendix Y). Compensation was distributed to each participant within fourteen days of submitting the post-intervention survey.

Results

Fidelity

Two independent reviewers had 100% interrater reliability in their evaluation of the features and components of MMSP. One hundred percent of the quality indicators for an online professional development course as well as the presence of program content were endorsed.

Intervention Feasibility

Given that 25 of 28 participants completed 100% of modules and an additional participant completed 75% of modules, the intervention retention rate was 92.8%. Thus, MMSP was considered feasible as an intervention. Surveys completed within the modules suggested the audiovisual quality of the programming was acceptable and the contents were relevant. Furthermore, participant ratings of MMSP suggest the intervention was practical and acceptable. Table 2.4 details participant responses to items regarding their perceptions of MMSP. Each of the 26 participants who completed MMSP agreed or strongly agreed the online program was easy to use. Twenty-two participants (84.7%) agreed or strongly agreed the online format more easily fit their schedules over face-to-face meetings and 21 participants (80.8%) agreed or

strongly agreed they preferred the online format. In addition, 22 participants (84.7%) agreed or strongly agreed that as a result of participating in MMSP, they made changes to their thoughts, behaviors, or habits at work, while 21 participants (80.8%) agreed or strongly agreed they made such changes outside their jobs. Twenty-three participants (88.6%) agreed or strongly agreed they would recommend MMSP to other school personnel. Overall, participant responses suggest MMSP was well-received and appropriate for use as a stress intervention for P-12 teachers and other classroom staff. In most open-ended statements, participants reported benefits attributed to MMSP. Critical comments were primarily aimed at the program format (e.g., lengthy videos, lack of engaging features). Details regarding participant feedback are reported in Table 2.5.

Preliminary Efficacy

Means and standard deviations were calculated for all dependent variables and their dimensions for pre-intervention, post-intervention, and pre-to-post intervention change scores (see Table 2.6). Differences in pre- and post-intervention outcomes were reported as change scores to provide a reliable and unbiased estimate of change (Rogosa, 1988). Change scores reflected the expected direction of change for the intervention group for each outcome and were analyzed to detect significance and effect sizes based on the treatment condition.

A multivariate analysis of covariance (MANCOVA; Cramer & Bock, 1966) was performed to measure the effect of MMSP on measured outcomes. The MANCOVA examined participant demographics as covariates (i.e., role, experience, employment setting, age, gender, race). The total change scores for teacher efficacy, mindfulness, and coping engagement were included as dependent variables along with the three dimensions of burnout (i.e., emotional exhaustion, depersonalization, personal accomplishment). The treatment condition (i.e., control, intervention) was the independent variable. Prior to performing a MANCOVA, a Box's M test

was performed to confirm the covariance matrices of the dependent variables were equal across groups (O'Brien & Kaiser, 1985). Due to the sensitivity of Box's M, a low alpha level ($p < .001$) is customary (Huberty & Petoskey, 2000). The Box's M value of 46.37 was associated with a p value of .007 and interpreted as non-significant. Thus, the covariance matrices between the groups were assumed to be equal for the purposes of the MANCOVA. Given the smaller sample size, a significance level of $p < .10$ was selected to reduce the probability of Type II error and increase the power of the MANCOVA. As expected, a statistically significant MANCOVA effect was obtained for the independent variable, Wilks' Lambda = .709, $F(1, 49) = 2.60$, $p = .033$, with a large effect size ($\eta_p^2 = .291$) at .877 power. The MANCOVA detected no statistically significant effects for any of the covariates.

Table 2.6 also included follow-up ANOVAs conducted for each change score to determine if there were significant group differences based on the condition. Prior to performing the ANOVAs, Levene's F tests were conducted for all six change scores and none were statistically significant ($p > .05$). Therefore, the homogeneity of variance assumptions was confirmed. Results from ANOVAs and descriptive analyses are described for each dependent variable below.

Engagement in coping strategies. Engagement in coping strategies was measured by the total number of minutes participants reported engaging in all strategies combined for a typical week. The control group reported decreased coping engagement while the intervention group, as expected, reported increased engagement in coping strategies. As such, a significant difference, $F(1,43) = 4.187$, $p = .047$, and medium effect size, $\eta_p^2 = .089$, was found for coping engagement change scores. More specifically, further investigation of each categories' change scores

indicated the intervention group substantially increased their use of mindfulness, relaxation, and cognitive restructuring strategies (see Table 2.6).

Teacher burnout. Reductions in teacher burnout were defined by decreased subscale scores for emotional exhaustion and depersonalization and increased subscale scores for personal accomplishment (Maslach et al., 1996). Change scores indicated reductions in emotional exhaustion for both the intervention and control groups, with the intervention group demonstrating a significantly greater reduction, $F(1,43) = 4.019, p = .051$. In addition, a medium effect was detected ($\eta_p^2 = .085$). A significant difference and small effect size was found for depersonalization, $F(1,43) = 3.431, p = .071, \eta_p^2 = .074$, in which the control group demonstrated a slight increase after the program phase while the intervention group, as expected, showed a reduction. The opposite trend was found for pre- to post-intervention changes in personal accomplishment. While the intervention group increased as expected, the change scores were not significant between groups, $F(1,43) = 2.381, p = .130$. However, a small effect ($\eta_p^2 = .052$) was detected.

Teacher efficacy. Increased teacher efficacy was defined by higher post-intervention scores on the TSES-SF (Tschannen-Moran and Hoy, 2001). Both groups demonstrated increased teacher efficacy in their change scores. However, the change score was significantly larger for the intervention group, $F(1,43) = 3.850, p = .056$, with a medium effect size ($\eta_p^2 = .082$).

Mindfulness. Increased mindfulness was defined by higher post-intervention scores on the FFMQ-SF (Bohlmeijer, 2011). Change scores for both groups indicated minimal gains in mindfulness. Change scores for the intervention group was not significantly greater than the change scores for the control group, $F(1,43) = .021, p = .885$, and there was no effect ($\eta_p^2 = .000$).

Discussion

Teacher burnout has been identified in the literature as a concern for P-12 teachers for nearly four decades (e.g., Herman et al., 2018; Wisniewski & Gargiulo, 1997; Montgomery & Rupp, 2005; Zabel & Zabel, 1982). Relatively few studies have explored interventions for teacher stress and burnout (e.g., Cook et al., 2017; Jennings et al., 2017; Roeser et al., 2013). With rare exception (i.e., Anderson et al., 1999; Cecil & Forman, 1990; Cooley & Yovanoff, 1996), these studies have been published within recent years (Jennings, 2015), thereby suggesting increased demand for stress management opportunities for teachers. Findings from the current study contributed to the growing literature base of stress intervention studies. The overall large positive effect suggested MMSP may benefit P-12 teachers and other personnel.

Feasibility of MMSP

MMSP participant ratings and open-ended feedback suggested that MMSP was largely accepted by participants and viewed favorably. Furthermore, it was important to determine if MMSP was feasible for its intended purpose for use as a professional development program to instruct coping strategies to P-12 teachers and other classroom personnel. For professional development to be effective, it must engage participants who consider the content as relevant to their work (Boston Consulting Group, 2014; Desimone & Garet, 2015; McLeskey, 2011). Otherwise, participants would not benefit from the program. For each module, at least 95% of participants agreed or strongly agreed the content was relevant.

The present study was the first known study to test a stress intervention for P-12 teachers that was implemented completely through electronic means. All study procedures were conducted strictly through web-based means (e.g., email, online learning platform). Only two MMSP participants indicated a preference for face-to-face formats. Open-ended feedback

suggested some participants liked the flexibility of the asynchronous self-paced program while others preferred specific schedules and face-to-face interactions. For example, one participant stated, “I liked that I could do it at my own pace and in my own time frame,” and another, while alluding to the online format, said “I think this program is better when the user gets to participate when they feel ready. It didn't feel like an obligation.” Another benefit of the online format was the ability to revisit the instruction. One participant stated “The self-paced program allowed me to easily access the tools as I needed them.” In the future, if a school elects to use MMSP as a professional development program for faculty, scheduling can be structured as rigid or flexible as desired. Faculty and staff groups can also be arranged to add an additional layer of interaction and social support.

Another issue in professional development involves finding time in the midst of teachers' busy schedules. Previously, P-12 teachers have also expressed concerns that they lack adequate time to routinely attend to their self-care and stress management (Blinder et al., 2017). Thus, it was important to create a program that could afford flexibility in scheduling. Though participants were recommended to complete MMSP at the rate of two modules per week over four weeks, participants had the option to go at a pace of their own choosing. Though intended as a four-week intervention, participants were allowed an extra week before the program closed. Only four participants needed an extra week for completion. Only two participants failed to complete MMSP. One participant, a preservice teacher, cited a lack of time due to major life events, and the other did not respond to reminders to complete the program. Most participants (92.8%), however, did complete the program; 100% indicated MMSP was easy to use; and 85% of participants stated the online program fit their schedules better than face-to-face formats. Thus,

participant feedback suggested MMSP is practical as a professional development program for P-12 teachers and classroom personnel.

MMSP and Participant Engagement in Coping Strategies

MMSP was developed with the intent of serving as a professional development program that schools can deliver to their P-12 teachers and other classroom personnel. MMSP was based on the transactional model of stress (Lazarus & Folkman, 1987), which posited that stress occurs when there is a gap between an individual's demands and coping resources. As such, MMSP included explicit instruction of scientifically-supported stress management strategies that teachers could use as coping resources. Therefore, the investigator wanted to know if MMSP would impact the amount of time participants devoted to stress management. Results suggested that participation in MMSP was associated with increased use of coping resources, particularly with the strategies directly taught and demonstrated (i.e., mindfulness exercises, relaxation techniques, cognitive restructuring strategies). The other categories of strategies (i.e., physical exercise, social-emotional support) were mentioned during MMSP, but were not directly demonstrated. Results directly reflected the content of the program, as MMSP participants reported increases in their use of mindfulness exercises, relaxation techniques, and cognitive restructuring strategies but decreases in physical exercise and social-emotional support. For overall minutes of engagement in coping strategies, a significant increase for the mean change score and a medium effect size was detected between groups, thereby suggesting the program influenced participant engagement in coping strategies.

MMSP and Teacher Burnout

Findings suggested that MMSP participants reduced their levels of burnout in comparison to control participants. The difference in emotional exhaustion was most salient, as there was a

significant difference between groups as well as a medium effect size. It is noteworthy that MMSP was a relatively brief program (i.e., four hours total across four weeks) in comparison to other interventions with the goal of reducing teachers' emotional exhaustion. For example, a stress management and peer collaboration training program for special educators required 20 hours total across 10 weeks and also resulted in a medium effect size for emotional exhaustion (Cooley & Yovanoff, 1996). A small effect on emotional exhaustion was detected for Modified Mindfulness Based Stress Reduction (e.g., Flook et al., 2013), which required participants to devote 16 hours over the course of eight weeks. Thus, findings suggest it is possible to influence emotional exhaustion with less time required in session.

For the other teacher burnout outcomes, depersonalization and personal accomplishment, the effect sizes were small. It is noteworthy that pre-intervention means for both groups were low for depersonalization (i.e., control $\bar{x} = 5.20$; intervention $\bar{x} = 4.58$) and high for personal accomplishment (i.e., control $\bar{x} = 40.92$; intervention $\bar{x} = 38.15$). Despite pre-intervention means that suggested little room for improvement, small effects were detected, as MMSP participants reported slight decreases in depersonalization and slight increases in personal accomplishment. Thus, MMSP may benefit teachers' level of engagement in their work and their students while promoting their sense of accomplishment as teachers under high-stress circumstances. Teacher engagement and sense of accomplishment is requisite to implementing effective instructional and behavior management practices (Cook et al., 2017; Oakes et al., 2013), building positive teacher-student relationships (Berkowitz et al., 2016), both of which influence student outcomes (Herman et al., 2018).

MMSP and Teacher Efficacy

Prior research (e.g., Cook et al., 2017; Zee & Koomen, 2016) has suggested that teachers' perceptions of their capabilities related to their job functions, or teacher efficacy, is strongly associated with school climate, job performance, and student outcomes. In addition, prior studies suggested teacher burnout and teacher efficacy are inversely related (Brunsting et al., 2014; Cook et al., 2017; Zee & Koomen, 2016). Therefore, a secondary goal of the study was to test the impact of MMSP on teacher efficacy. Findings, as illustrated by a significant group difference and medium effect size on the TSES, suggested that just as MMSP may inspire teachers to cope with stress effectively and prevent burnout, another benefit involves teacher efficacy.

There is potentially a cyclical relationship between teacher burnout and teacher efficacy. Some researchers (e.g., Brunsting et al., 2014) have suggested that a lack of teacher efficacy leads to burnout. Other researchers (e.g., Jennings & Greenberg, 2009) have suggested the opposite. That is, burnout reduces teachers' capacity to perform their best and therefore, lowers their sense of efficacy. The results from this study are encouraging, as they suggest MMSP may lead to improvements in both burnout and efficacy.

MMSP and Mindfulness

Previous researchers (e.g., Jennings & Greenberg, 2009) suggested mindfulness may be associated with resilience to the harmful effects of stress and higher quality teaching practices. Furthermore, previous studies found an association between participation in a mindfulness-based intervention and intentions to implement evidence-based practices (Cook et al., 2017) as well as increased observations of emotional support for students (Flook et al., 2013; Jennings et al., 2013). Thus, another secondary goal of the study was to test the effect of MMSP on participant

mindfulness. The intervention and control groups demonstrated slight gains with no significant difference or effect detected between groups.

The outcomes for mindfulness were inconsistent with the results showing that MMSP participants reportedly increased their use of mindfulness strategies by an average of nearly an hour each week. This was in comparison to the control group, who reported an average increase of less than a minute per week. Thus, it seems logical that such a substantial increase in mindfulness practices would lead to greater gains in mindfulness, particularly in comparison to the control group. However, this was not the case. Program content may have influenced these outcomes. Though MMSP had an entire module devoted to mindfulness as well as subsequent modules with content reflecting mindful habits (e.g., compassion, nonreactivity), this was not a mindfulness-based intervention. Rather it was an intervention that included mindfulness among the strategies taught. Mindfulness-based interventions, such as CARE (e.g., Jennings et al., 2017) and mMBSR (Flook et al., 2013), devote the entire intervention to mindfulness. MMSP, however, provides entry-level examples of mindfulness and mindfulness-related activities as well as resources for individuals interested in learning more for the purpose of developing their own mindfulness practices. In subsequent modules that addressed mindful habits, mindfulness meditation exercises were not specifically connected. Furthermore, participant feedback included a suggestion to begin each module with a mindfulness meditation exercise. As MMSP is further developed, the addition of brief mindfulness meditations may help reinforce mindful habits.

Limitations and Future Directions

This pilot study is merely the beginning to the development and applications of MMSP. Therefore, further research yielding similar and consistent outcomes are necessary before findings can be generalized to other P-12 teachers. Thus, future directions should expand the

initial findings and consider current study limitations. Limitations and recommendations for future research directions are described in the following sections.

Study Volunteers and Mandated Professional Development

MMSP is currently under development for potential use as a professional development program. However, this study relied on volunteer participants who chose to complete the program. There may be differences in outcomes between those with interest in stress interventions and those mandated to participate in such. Research volunteers are presumably open to the intervention tested and may expect to benefit (Dollinger & Leong, 1993). While program completion only required four total hours of online modules, MMSP participants reported devoting approximately eight hours each week to actively using coping strategies. It is not known how P-12 faculty and staff mandated to participate in MMSP would respond to the program or if they would enthusiastically use the coping strategies.

Larger Participant Sample Size

The current study had an adequate sample size for the statistical analyses performed. However, there are other possibilities that could not be explored in the pilot study. For example, the sample was too small to include participant demographics as additional independent variables. Though they were included as covariates, with the MANOVA confirming they could be excluded from the follow-up univariate analyses, it is not known if the same results would hold true with stronger representations across different categories. For example, the sample consisted mostly of early career GETs and SETs. Thus, it was not possible in the current study to compare: (a) teachers vs. paraeducators; (b) early career vs. mid-career teachers; (c) in-service teachers vs. pre-service teachers; or (d) special educators vs. general educators. Larger participant samples with adequate representation among demographic groups may or may not

reveal differences in stress, burnout, coping, and perceptions of MMSP. The same possibilities could apply to different groups by age, gender, or ethnicity. However, this information remains unknown until larger samples with adequate representation are used.

Use of Objective Measures

This study relied completely on self-reports. The lack of objective measures is a limitation of the study. Self-reports are based on participant perceptions (Austin, Deary, Gibson, McGregor, & Dent, 1998). While some of the study outcomes are largely defined by perception (i.e., teacher burnout, teacher efficacy, mindfulness), objective outcomes would expand the level of evidence. For example, observational measures completed by observers blind to the study's purpose could minimize biases resulting from expected benefits (Holman, Head, Lanfear, & Jennions, 2015). Specific to MMSP, measured outcomes could include observations of teacher behaviors during various stages of the program. In addition, outcomes measured objectively in other teacher stress intervention studies included salivary cortisol (Flook et al., 2013) and blood pressure (Kemeny et al., 2012), both of which are physiological indicators of stress. Future studies of MMSP could include measures such as these to potentially increase support for the efficacy and eventually, the effectiveness, of MMSP.

Timing within Context of School Year

The pre-intervention data collection, intervention period, and post-intervention data collection occurred during the last five weeks of school for the teacher and paraeducator participants. Pre-service teachers completed their training and graduated from their teacher preparation program within the first two weeks of the intervention. Thus, there were concerns that burnout may decrease as a result of the school year ending. The investigator attempted to address this concern by including a control group and using random assignment. Significant

differences were found between the MMSP group and control group despite the school year ending. However, future studies may test the impact of MMSP at other points during the school year.

Another limitation is the lack of follow-up data (Salkind, 2010). Participant use of coping strategies, adherence to their self-care programs, or awareness to stress and burnout may differ without active use of MMSP. Among the open-ended feedback were statements about MMSP increasing their self-awareness. In addition, participants reportedly increased the amount of time they actively cope with stress. It is not known if participants will maintain their awareness of stress and use of coping strategies in the long term. Thus, future studies should collect follow-up data to assess the long-term efficacy of MMSP.

Program Upgrades

The initial version of MMSP tested in the pilot study was created with a low budget and limited time. The Open Learning platform was free to use. Graphics and strategy demonstrations were free and publicly available. Instructional videos were created through facilitator-narrated PowerPoint slideshows. Some participants offered feedback that suggested parts of the program lacked engaging features, such as animations, a visible facilitator, and upbeat audio accompaniment. To maximize the experience for participants, it is necessary for online programs to include engaging audiovisual features of professional quality (Quality Matters, 2015). Though budgetary limitations did not appear to impact the results, future iterations of the program should reflect increased financial and time-based resources that will allow for improvements. In addition to increased audiovisual quality, upgrades may include facilitator-led strategy demonstrations with human participants in school-based settings.

Alternative Program Formats

The initial version of MMSP is implemented completely through an internet-enabled device. Given the nature of this study, that is not a limitation. However, for the sake of professional development and appealing to various preferences (Boston Consulting Group, 2014; Desimone & Garet, 2015), MMSP should potentially be expanded to include alternative formats. These may include completely face-to-face programs with trained facilitators. Other considerations involve hybrid formats that include a mix of online and face-to-face sessions. Regardless of electronic or in-person facilitation, MMSP could potentially include a component for group work. Professional development participants are often more engaged in the process when collaboratively learning with colleagues (Desimone & Garet, 2015; McLeskey, 2011). Several participants expressed the desire to interact with others in the program. Thus, after building more evidence to support the completely online package, research should explore and compare the efficacy of other formats.

Connections to Student Outcomes

Ultimately, the need to address teacher burnout and other workforce-related concerns is because teachers play a critical role in shaping student academic, behavior, and social-emotional outcomes (Greenberg et al., 2016). Effective teachers have greater impact when working with youth at risk for school failure (e.g., disabilities, poverty; Berkowitz et al., 2016). While this pilot study concentrated on the most direct outcomes (e.g., coping engagement, teacher burnout), future research should eventually explore the degree to which MMSP impacts student outcomes.

Conclusion

Teachers routinely experience high levels of stress associated with their job demands (Brunsting et al., 2014; Garwood et al., 2017; Greenberg et al., 2016). Frequent exposure to

stress leaves teachers prone to burnout (Maslach et al., 1996), which adversely affects teachers' wellness, job performance, job commitment and workplace relationships (Greenberg et al., 2016). The good news is that teachers who manage their stress effectively may avoid escalating to the level of burnout and enjoy positive personal and professional outcomes (Greenberg et al., 2016; Herman et al., 2018).

This study's findings suggest that MMSP is a feasible professional development program that may generate strong teacher buy-in. In comparison to a control group, participants randomly assigned to MMSP increased their use of healthy coping strategies. Furthermore, study results suggest MMSP is efficacious in reducing teacher burnout and increasing teacher efficacy. Continued research and development of MMSP may expand support for its use as a professional development program targeting teacher stress.

Table 2.1

*Scientifically Supported Stress Management Strategies**

Type and Description of Strategy	Strategies	Examples of Ways to Apply Strategies	Associated Benefits	Supporting Meta-analyses, Systematic Reviews, and Scholarly Reports	Studies Featuring P-12 Teachers
<u>Mindfulness</u>					
The mental habit of noticing details external and internal to self without high stress reactivity and with acceptance, compassion, and nonjudgment	<u>Mindfulness meditation or training</u> A secular form of meditation designed to develop the skill of paying attention to overt sensory details and internal thoughts with acceptance and compassion and without labeling or judging the experience; may be facilitated by live individual or recording or self-facilitated	Sitting meditation Active meditation Yoga with meditation Journaling Coloring	Reduced stress, depression, anxiety, blood pressure, stress-related hormones, bodily pain; improved mood, focus, perceptions of relationships	Cavanagh et al. (2014) Goyal et al. (2014) Khoury et al. (2015) Richardson & Rothstein (2008)	Ancona & Mendelson (2014) Benn et al. (2012) Cook et al. (2017) Flook et al. (2013) Harris et al. (2015) Jeffcoat & Hayes (2012) Jennings et al. (2011a, 2011b, 2013, 2017) Kemeny et al. (2011) Reiser et al. (2016) Roeser et al. (2013)

Singh et al.
(2013)

Earthing or nature immersion

The act of making direct contact with natural elements of earth in absence of electronic devices or communications

Sitting on the ground
Walking barefoot
Swimming
Immersion in natural environment with minimal urban indicators (e.g., traffic, airplanes)

Reduced negative affect (e.g., despondent, apparent fatigue); increased positive affect (e.g., alert, upbeat)

McMahon & Estes (2015)

Relaxation

response activation

Intentional activation of relaxation response to oppose the stress response; differs from mindfulness as these strategies seek to invoke a response versus processing experiences as they are

Breathing technique

Intentional breathing exercises that counter the stress response by activating the relaxation response

Square breathing
Triangle breathing
Other slow and controlled breathing

Reduced stress, anxiety, blood pressure, bodily pain; improved mood, ability to maintain calm demeanor

Richardson & Rothstein (2008)
Manzoni et al. (2008)

Anderson et al. (1999)
Cecil & Forman (1990)
Cooley & Yovanoff (1996)

Progressive muscle relaxation

Series of exercises that involve intentional tension of muscle groups followed by intentional release; produces mild stress

Make a fist, notice uncomfortable tension, release, and

Reduced stress, anxiety, blood pressure;

Richardson & Rothstein (2008)
Manzoni et al. (2008)

	response immediately followed by relaxation response	notice sensation, repeat with other muscle groups (e.g., raise shoulders, flex and point ankles)	improved sleep quality		
	<u>Guided or intentional meditation</u> Meditation with intentional purpose for activating relaxation response; differs from mindfulness as mindfulness promotes acceptance of actual experience while relaxation meditations intentionally activate a response	Visualizing pleasant scene or scenario	Reduced stress and anxiety	Richardson & Rothstein (2008) Manzoni et al. (2008)	Kaspereen (2012)
<u>Cognitive restructuring</u> Focuses on healthy thought processes, emotions, and behaviors that promote well-being; reframing mind-set and adopting new mental habits and behaviors; differs from mindfulness as these strategies seek to label	<u>Positive thoughts and beliefs</u> Seeking reduction of stress-provoking thoughts and beliefs by replacing with a positive alternative that alleviates stress	Savoring Gratitude Focusing on present moment	Correlated to happiness; reduced stress	Bryant & Veroff (2007) Seligman et al. (2005) Wood et al. (2010)	Anderson et al. (1999) Cecil & Forman (1990) Cooley & Yovanoff (1996)
	<u>Solutions-based problem solving</u> Considerations for what an individual actually controls versus lacks control; developing solutions based on factors the individual actually controls	Evaluation of personal control and non-control Basing thoughts and actions	Reduced stress, depression, anxiety	Butler, Chapman, Forman, & Beck (2006) Hofmann, Asnaani, Vonk, Sawyer, & Fang (2012)	Anderson et al. (1999) Cecil & Forman (1990)

thoughts, beliefs, and behaviors and change them as necessary		according to actual control			Cooley & Yovanoff (1996)
<u>Social support</u> The perception and presence of others who are caring and connected to self; being part of a supportive social n etwork (e.g., family, friends)	No specific strategies studied	Spending time with others by choice Communication by choice with preferred others face-to- face, by phone, or electronically	Lessens impact of work stress	Viswesvaran et al. (1999)	Cecil & Forman (1990) Cooley & Yovanoff (1996)

Note. * All strategies may be facilitated in-person by an individual, with an audio/video recorded facilitation, or through self-facilitation

Table 2.2

Participant Demographic Information

	Treatment (<i>n</i> = 26, 51 %)	Control (<i>n</i> = 25, 49%)	Total (<i>N</i> = 51)
P-12 Role			
Special education teacher	6 (23.1%)	9 (36.0%)	15 (29.4%)
English as a second language teacher	0 (00.0%)	1 (04.0%)	1 (02.0%)
General education teacher	12 (46.2%)	9 (36.0%)	21 (41.2%)
Special education paraeducator	3 (11.5%)	2 (08.0%)	5 (09.8%)
General education paraeducator	2 (08.0%)	0 (00.0%)	2 (03.9%)
Preservice teacher	3 (11.5%)	4 (16.0%)	7 (13.7%)
Years of experience			
Pre-service	3 (11.5%)	4 (16.0%)	7 (13.7%)
0-5	17 (65.4%)	18 (72.0%)	35 (68.6%)
6-10	3 (11.5%)	3 (12.0%)	6 (11.8%)
11-15	2 (07.7%)	0 (00.0%)	2 (03.9%)
16-20	1 (03.8%)	0 (00.0%)	1 (02.0%)
21 or more	0 (00.0%)	0 (00.0%)	0 (00.0%)
Gender			
Male	5 (19.2%)	5 (20.0%)	10 (19.6%)
Female	21 (80.8%)	20 (80.0%)	41 (80.4%)
Other	0 (00.0%)	0 (00.0%)	0 (00.0%)
Race/ethnicity			
Non-Hispanic White or Euro-American	13 (50.0%)	13 (52.0%)	26 (51.0%)
Black, Afro-Caribbean, or African-American	10 (38.5%)	9 (36.0%)	19 (37.3%)
Latino or Hispanic-American	0 (00.0%)	2 (08.0%)	2 (03.9%)
East Asian or Asian-American	2 (07.7%)	0 (00.0%)	2 (03.9%)
South Asian or Indian-American	1 (03.8%)	1 (04.0%)	2 (03.9%)
Middle Eastern or Arab American	0 (00.0%)	0 (00.0%)	0 (00.0%)
Native American or Alaskan Native	0 (00.0%)	0 (00.0%)	0 (00.0%)
Other/Multiethnic	0 (00.0%)	0 (00.0%)	0 (00.0%)
Age			
24 and under	5 (19.2%)	11 (44.0%)	16 (31.4%)
25-34	15 (57.7%)	10 (40.0%)	25 (49.0%)
35-44	3 (11.5%)	2 (08.0%)	5 (09.8%)
35-54	2 (07.7%)	1 (04.0%)	3 (05.9%)
55-64	1 (03.8%)	0 (00.0%)	1 (02.0%)
65 and over	0 (00.0%)	1 (04.0%)	1 (02.0%)
Type of school			
Traditional public	18 (69.2%)	21 (84.0%)	39 (76.5%)

Public charter	3 (11.5%)	0 (00.0%)	3 (05.9%)
Private	0 (00.0%)	1 (04.0%)	1 (02.0%)
Special education	5 (19.2%)	3 (12.0%)	8 (15.7%)
Alternative (disciplinary)	0 (00.0%)	0 (00.0%)	0 (00.0%)
Alternative (credit recovery)	0 (00.0%)	0 (00.0%)	0 (00.0%)
Juvenile justice facility	0 (00.0%)	0 (00.0%)	0 (00.0%)
Residential treatment facility	0 (00.0%)	0 (00.0%)	0 (00.0%)
Other	0 (00.0%)	0 (00.0%)	0 (00.0%)

Table 2.3
Components of the Mindfulness and More for School Personnel Online Professional Learning Program

Modules	Topic and Description	Supporting Literature Reviews, Meta-Analyses, and Research-Based Reports	Activities	Independent Practice
1	<p>Introduction to Program & Background on Educator Stress</p> <ul style="list-style-type: none"> • Health • Job satisfaction and commitment • Job Performance • Workplace relationships • Work context, learning environment, and student outcomes • Science-based benefits of wellness and coping skills 	<p>Beltman et al. (2011) Bettini et al. (2016) Brunsting et al. (2014) Greenberg et al. (2016) Jennings & Greenberg (2009) Kolbe & Tirozzi (2011) Thapa et al. (2013) Zee & Koomen (2016)</p>	<p>Connections between role and stress Stress management pyramid Identifying barriers and facilitators to self-care End-of-module survey</p>	<p>Update list of barriers and facilitators to self-care if any new ideas come up between modules.</p>
2	<p>Basic Self-Care</p> <ul style="list-style-type: none"> • Attaining goals by making a plan • Begin developing self-care plan • Basic self-care (i.e., exercise, consumption, sleep) 	<p>Gardner et al. (2012) Gollwitzer & Sheeran (2006)</p>	<p>Complete portion of self-care plan (strategy selection and planning) End-of-module survey</p>	<p>Implement self-care strategies based on plan</p>

Modules	Topic and Description	Supporting Literature Reviews, Meta-Analyses, and Research- Based Reports	Activities	Independent Practice
3	<p>Mindfulness Exercises</p> <ul style="list-style-type: none"> • Mindfulness exercises description • Example of mindfulness in schools • Guided practice • Examples of other mindfulness activities 	<p>Cavanagh et al. (2014) Goyal et al. (2014) Khouri et al. (2015) Richardson & Rothstein (2008)</p>	<p>Review progress on self-care plan and update as necessary.</p> <p>Demonstration and practice of mindfulness meditation, active mindfulness exercises, and mindfulness-based activities</p> <p>Complete portion of self-care plan (strategy selection and planning)</p> <p>End-of-module survey</p>	<p>Continue to implement self-care strategies based on plan</p>
4	<p>Relaxation and Mindful Habits</p> <ul style="list-style-type: none"> • Explanation how relaxation strategies work • Relaxation response activation strategies • Guided practice • Mindful habits and how to build them 	<p>Aldao et al. (2010) Bryant & Veroff (2007) Richardson & Rothstein (2008) Seligman et al. (2005) Wood et al. (2010)</p>	<p>Review progress on self-care plan and update as necessary.</p> <p>Demonstration and practice of breathing techniques, progressive muscle relaxation, and cognitive restructuring strategies</p> <p>Complete portion of self-care plan (strategy selection and planning)</p> <p>End-of-module survey</p>	<p>Continue to implement self-care strategies based on plan</p>

Modules	Topic and Description	Supporting Literature Reviews, Meta-Analyses, and Research- Based Reports	Activities	Independent Practice
5	Routines and Relationships at Work <ul style="list-style-type: none"> • Work-related routines that may prevent stress • How positive behavior supports help your classroom climate, your students, and yourself • Making the most of your workplace relationships • Preventing stress through mindful interactions at work 	Aldao et al. (2010) Bettini et al. (2016) Gardner et al. (2012) Gollwitzer & Sheeran (2006) Simon & Johnson (2015) Thapa et al. (2013) Zee & Koomen (2016)	Review progress on self-care plan and update as necessary. Identifying helpful routines specific to role Effective communication Complete next portion of self-care plan: Reflection and planning for mindful interactions at work End-of-module survey	Continue to implement self-care strategies based on plan
6	De-escalation <ul style="list-style-type: none"> • De-escalation: Mindful response to stress—how self-care and relationships help you de-escalate in times of high stress • De-escalation of self and others 	Aldao et al. (2010) Gardner et al. (2012) Gollwitzer & Sheeran (2006) Richmond et al. (2012) Thapa et al. (2013) Zee & Koomen (2016)	Review progress on self-care plan and update as necessary. Distinguishing response escalators and de-escalators Complete next portion of self-care plan: De-escalation plan End-of-module survey	Continue to implement self-care strategies based on plan

Modules	Topic and Description	Supporting Literature Reviews, Meta-Analyses, and Research- Based Reports	Activities	Independent Practice
7	Maintaining Your Progress <ul style="list-style-type: none"> • Update self-care plan • Pro tips for successful self-care • Continuing the journey on your own 	Gardner et al. (2012) Gollwitzer & Sheeran (2006)	Review progress on self-care plan and update as necessary. End-of-module survey	Continue to implement self-care strategies based on plan
8	The Wrap-Up <ul style="list-style-type: none"> • Demonstrating understanding • Providing program feedback 		Brief quiz Treatment acceptability survey	Continue implementation of self-care strategies independently

Table 2.4

Participant Treatment Acceptability Ratings (n = 26)

Items	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
This program was easy to use.	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	6 (23.08%)	20 (76.92%)
The online program more easily fit my schedule than a traditional face-to-face meeting.	1 (3.85%)	0 (0.00%)	0 (0.00%)	2 (7.69%)	1 (3.85%)	3 (11.54%)	19 (73.08%)
I prefer the online professional learning format over traditional face-to-face meetings.	1 (3.85%)	1 (3.85%)	0 (0.00%)	4 (15.38%)	1 (3.85%)	7 (26.92%)	12 (46.15%)
As a result of my participation in this program, I made (or will make, if on break from school) positive changes to my thoughts, behaviors, and habits at work.	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (3.85%)	3 (11.54%)	10 (38.46%)	12 (46.15%)

As a result of my participation in this program, I made positive changes to my thoughts, behaviors, and habits outside of work.	0 (0.00%)	0 (0.00%)	0 (0.00%)	3 (11.54%)	4 (15.38%)	7 (26.92%)	12 (46.15%)
I used the optional activity pack (workbook) to help facilitate my participation in this program.	0 (0.00%)	2 (7.69%)	0 (0.00%)	5 (19.23%)	3 (11.54%)	6 (23.08%)	10 (38.46%)
I would recommend this program to other school personnel.	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (3.85%)	2 (7.69%)	10 (38.46%)	13 (50.00%)

Table 2.5

Open-Ended Feedback from Participants of Mindfulness and More for School Personnel (MMSP)

Most Helpful Features of Program	Least Helpful Features of Program	Changes Made as a Result of Participation in MMSP	Other Feedback
The practice videos, activity book change of behavior plan	I prefer learning things face to face, but i would not identify this as a weakness of the course.	I have started thinking about my "thinking" patterns more regularly, and tried strategies to relieve the stresses in my life.	Although I did not complete the course, I did enjoy it. I think being that I attempted to complete it at a busy time it did not fit perfectly into my schedule, but at no fault of the design of the course. Thank you for the opportunity!
Putting words to the stresses and difficulties of my environment!	Being on a schedule. Even though flexible, I would forget then felt slightly rushed to finish within the time.	Being more aware of my surroundings at any given moment is a characteristic I've picked up on as well, which I enjoy.	I enjoyed the program.
It answered the how as well as the why of self-care	Sometimes the videos seemed a little lengthy so I started to get distracted.	I take more deep breaths and try to spend time with friends and family more to forget about the stress of the day.	Great job
The different strategies for managing stress.	Though the videos were very detailed, there were times when I felt like I didn't need 3 in-depth examples to understand how to update my meditation plan, but I felt obligated to finish the videos without skipping content.	I have made better external choices to better my internal thoughts; I have increased my physical activity outside of school/work and have certainly noticed a change!	Wellness for teachers is so important, I'm glad programs like this are being developed!
I liked that everything was explained in detail and that I was provided with many options when it came to meditation techniques.	The summative videos at the beginning	I like how I now have worksheets to use in the future. These should help me organize my thoughts, feelings, plans of action. I'll continue to use these,	Best of luck!
The activity packet will be good to reference, although I did not always use it for this program.	I did not find anything to be unhelpful.		Everyone needs to participate in this
The videos clearly explained strategies.			
The workbook helped me keep everything organized, and I appreciated the connection to			

resources to help us continue on our journey.

I liked having the videos of different exercise examples that I could practice with to see how they were for me. They also helped me begin my search for other options to help build mindful skills.

In organizing my thoughts and time for myself, regardless of what I need to do at any moment. Strategy suggestions on savoring, gratitude, specific breath work, self-care, need for sleep, acknowledgement of perfectionism of teachers.

Understanding what mindfulness is and different ways I can deescalate stress.

As I have stated many times before, I am a lover of the new frame of mind of changing slowly or in small baby steps with JUST 10 MINUTES of change! Be it meditating or listening calmly to sounds, walking further, getting up earlier ...the 10 minute thing really worked for me.

Renewing &/or learning new relaxation techniques, with muscles,

The activity book.

Just be mindful of the imagery.

Not sure there is one.

Some of the videos were a little longer than they needed to be, and did not always answer questions in the way they could be addressed in a face-to-face class. There was also less accountability than there would have been in a face-to-face class, which I would have liked to help with my wellness program.

It didn't factor in people around us and life circumstances prevent us from effectively using mindfulness practices.

Some parts felt over simplified. I cannot remember which specifically. Perhaps on eating right and exercise? Sometimes facilitator was too familiar in tone and word choice.

they should help me organize myself outside of my own head. It helps to get things on paper. Continuing to devote time to self-assessment should help my personal and professional life in the future.

I changed my thoughts of what I can control and what I need to put my efforts into.

I added mindfulness exercises a few times a week. Being able to communicate with others in the class would be useful, especially in helping each other towards our wellness plan goals. I felt self-conscious about posting in the forum on the website.

It was nice to have different examples of mindful exercises. So I think that it could be helpful to have a consistent mindful exercise video available at the beginning of each module. I think this would help people get into the right mindset and motivate them to extend that routine into their normal daily lives.

program, it doesn't matter what field they are in. We are so much on the go that we just burn ourselves out eventually and we can really save ourselves the mental frustration that eventually becomes physical, emotional, etc. if we practiced the methods taught in the program.

I loved it. Thank you for picking me. That really is about it, to be honest. I wish you all the luck in the world Dear! Now cross your fingers for me in the Doc Program starting 8a.m. Monday morning... Goodbye sleep :-) ~

listening, meditating and visualizing, helped out A LOT too. Visualizing where I was on my stress meter seemed to help calm me down when class was still in as well. Journaling all of the comments to you was also quite cathartic :-)

I liked the meditation module best. It helped me learn how to tangibly decompress and I could feel the results immediately. I plan on doing this daily.

The tips for how to relax! I loved having the visuals and planning materials. They were a big help. Also the variety of mindfulness activities is awesome. There's enough there for you to change things up when you need to.

Videos with specific mindfulness techniques I appreciate the different resources that were provided and variety of strategy help me tailor a habits that were unique

I liked that I could do it at my own pace and in my own time frame. The content was very easy to understand and I learned a lot of new things that

I am so very visual that I sometimes got a little lost whilst watching the videos. It isn't a "least helpful" aspect as much as a tweaking I think of more illustrations or animations of what it is you are discussing, ...just to deepen the overall impact.

Brandi often talked very slow and monotone, and that resulted in my lack of paying attention during the modules.

I personally prefer face to face interactions, so I felt like I wasn't engaged as I had wished through the online videos

I did not like having to watch through all the videos when I prefer to read through transcriptions on my own. But other than that everything was helpful.

The breathing and mindfulness exercises

Creating an 1 hour block of time a day for just me.

I have a positive outlook on work and in life in general. I have made life style changes with working out and eating healthy. I've also had a chance for me time.

I am way more aware of myself, (and this is coming from a Piscean Rooster/Ex-Comedienne/Theatre-Dance Chik who is Uber hppy-dippy in tune to herself!!...) but this is a "deeper aware" than earlier. I CANNOT control others, only myself. There, I SAID IT ALOUD AS I WROTE IT. I cannot control others feelings or responses just my own. I meditate more. I am trying to be more open to my coworkers' ideas and ways of handling stress. I feel as though I am more empathetic.

Being consistent in my meditations!

have helped me emotionally deal with the day to day stresses of work.

The self paced program allowed me to easily access the tools as I needed them. I took something beneficial away every week. Some things will be used later, but many techniques were used right away (meditating, coloring pages, control vs non control).

The features that were most helpful to me were the techniques that I learned to help me become more mindful and aware of myself and my surroundings. The techniques help not only me but my students. I also thoroughly enjoyed the activity pack. It helped my actively and physically note my learning.

I appreciated that there were so many examples of how to write things down/plan with the packet, how to incorporate the methods taught, how to actually do the exercises, etc. There were so many methods that you could use that you didn't feel like you were forced to do just one thing in particular. I also really liked that towards the end we focused on the fact that you can control everything in your life, these methods taught help

Added to and modified my existing practices...

Trying to stop and smell the roses and take more care of myself. Everything is not all about work.

Internally I spend time thinking about my thinking and the things that I can control. Externally, I communicate, exercise, color and meditate more often.

Through the program, I have changed the way I viewed the challenges and struggles that I face. It helps me think more calmly and clearly about my actions. I have developed habits that focus my breathing and thoughts. Through this, I have appreciated relationships, nature, and the complexity of life. I can clearly communicate how I feel and how to resolve the situation. I have worked on self-care. This time spent on self-care has helped my refuel myself. When I am energized, I feel that I am happier and more excited about my job. I spend time engaging in alternative behaviors and

you cope and figure things out but having the idea that we can't control everything helped me and I'm sure it helped other people. Another feature I liked was that it showed how we can incorporate methods learned in this program with our future students. For a lot of us we are going into classrooms with students who have difficult days because sometimes school is the best part of their day because they are taken care of. Students come in to school with a whole other environment they encountered and if it wasn't good then it reflects on them. We need to be able to help them find ways to calm themselves down, or breathe and think through situations, instead of sending them to the office or calling home because they aren't participating. This program helps you get to the root of issues or at least figure out ways to get there eventually and all of these features in this program just helps us as individuals help ourselves and help other. I also liked that it was self-paced. I think this program is better when the user gets to participate when they feel ready. It didn't feel like an obligation. After getting into the first couple weeks I was like "oh this is class like but I can do things the way I

activities, such as taking a walk, focus on my breathing, writing, journaling, and talking to someone.

Overall this helped me with self-reflection. I'm very cautious about my external behaviors, I try to make sure that I do not do things to intentionally throw someone else's energy off. This program helped more internally for me which made me realize that what I do in my external world works for me. I realized I do some of the methods and strategies already. But what I changed was accepting that I am anxious and breathing through things in a more calculated way to help my brain. For example I use to get nervous and tell myself it's okay to be nervous and to calm down but I didn't do much to help myself calm down but with the square breathing and other methods I am able to stabilize myself and get through it. I also am able to wind down after a stressful event, usually I get stressed and then I lose all my motivation until I'm ready to pick back up. But trying most of

want to". I think overall this is a program everyone needs to participate in and I'm glad I did.

the methods helped me step back for a little, figure out what it is that is stressing me then pick it back up sooner than I would have before.

Table 2.6

Study Outcomes by Treatment Group

Measure	MMSP		Control		<i>F</i>	<i>p</i>	η_p^2
	\bar{x}	$\sigma_{\bar{x}}$	\bar{x}	$\sigma_{\bar{x}}$			
MBI-ES (Emotional Exhaustion)							
Pre	23.31	9.92	22.52	13.45			
Post	18.42	10.01	21.88	12.58			
Change	-4.88	6.59	-0.64	7.05	4.019	.051	.09
MBI-ES (Depersonalization)							
Pre	4.58	4.37	5.20	5.55			
Post	3.73	4.30	5.76	5.43			
Change	-.85	3.12	0.56	3.91	3.431	.071	.07
MBI-ES (Personal Accomplishment)							
Pre	38.15	7.37	40.92	5.32			
Post	39.73	7.26	40.60	6.03			
Change	1.58	5.28	-0.32	5.44	2.381	.130	.05
TSES-SF (Total)							
Pre	86.96	13.89	87.16	11.39			
Post	92.08	11.58	87.88	12.83			
Change	5.12	7.54	0.72	7.82	3.850	.056	.08
TSES-SF (Student Engagement)							
Pre	27.07	5.61	28.24	4.44			
Post	29.27	4.81	28.72	4.46			
Change	2.20	0.88	0.20	0.75			
TSES-SF (Instructional Practice)							
Pre	30.38	4.64	29.24	4.50			
Post	32.23	3.83	29.32	4.67			
Change	1.85	0.60	0.10	0.67			
TSES-SF (Classroom Management)							
Pre	29.50	4.92	29.68	3.92			
Post	30.58	4.18	29.84	4.58			
Change	1.08	0.88	0.13	0.90			

FFMQ-SF (Total)								
	Pre	78.77	15.19	79.68	12.13			
	Post	83.88	11.97	82.72	11.49			
	Change	5.12	11.57	3.04	8.43	0.021	.885	.00
FFMQ-SF (Observing)								
	Pre	14.00	4.23	13.28	2.81			
	Post	15.15	3.96	14.16	3.78			
	Change	1.15	1.95	0.88	2.35			
FFMQ-SF (Describing)								
	Pre	18.08	3.98	17.64	3.73			
	Post	17.88	3.41	17.88	3.36			
	Change	-0.19	4.05	0.24	3.50			
FFMQ-SF (Acting with Awareness)								
	Pre	16.85	4.00	17.04	3.06			
	Post	18.04	3.67	17.16	4.77			
	Change	1.19	3.29	0.12	3.50			
FFMQ-SF (Nonreactivity)								
	Pre	14.35	3.79	16.28	4.22			
	Post	16.31	3.23	17.04	3.73			
	Change	1.96	3.47	0.76	3.32			
FFMQ-SF (Nonjudgment)								
	Pre	15.50	4.35	15.44	3.91			
	Post	16.50	2.57	16.48	3.18			
	Change	1.00	4.19	1.04	3.46			
Weekly minutes of coping engagement (Total)								
	Pre	436.15	221.96	360.40	151.89			
	Post	525.77	280.15	331.60	175.28			
	Change	89.62	235.81	-28.80	157.41	4.187	.047	.09
Weekly minutes of coping engagement (Physical exercise)								
	Pre	150.38	103.44	112.80	66.30			
	Post	132.31	68.136	104.00	69.76			

Change	-18.08	70.94	-8.80	51.83
Weekly minutes of coping engagement (Mindfulness exercise)				
Pre	31.15	41.70	32.40	36.09
Post	89.23	71.49	33.20	41.81
Change	58.08	66.33	0.80	47.95
Weekly minutes of coping engagement (Relaxation techniques)				
Pre	21.54	50.49	15.60	32.67
Post	46.54	49.47	9.20	24.14
Change	25.00	54.64	-6.40	27.52
Weekly minutes of coping engagement (Cognitive restructuring activities)				
Pre	36.54	48.74	34.80	56.50
Post	58.46	74.17	30.80	44.45
Change	21.92	72.55	-4.00	39.79
Weekly minutes of coping engagement (Social-emotional strategies)				
Pre	190.00	86.86	158.40	70.46
Post	184.23	95.55	146.40	80.67
Change	-5.77	90.07	-12.00	100.46

Note. \bar{x} = sample mean; $\sigma_{\bar{x}}$ = standard deviation of sample; $p < .10$ indicates significant differences in change scores; η_p^2 = partial eta squared (effect sizes small [.01-.08], medium [.09-.24], large [.25+]); MBI-ES = Maslach Burnout Inventory-Educators Survey (Maslach, Leiter, & Schwab, 1996); TSES-SF = Teacher Sense of Efficacy Scale-Short Form (Tschannen-Moran & Hoy, 2006); FFMQ = Five Facet Mindfulness Questionnaire (Bohlmeijer, 2011); **Bold text** = measure included in MANCOVA and tested for significance level and effect size.

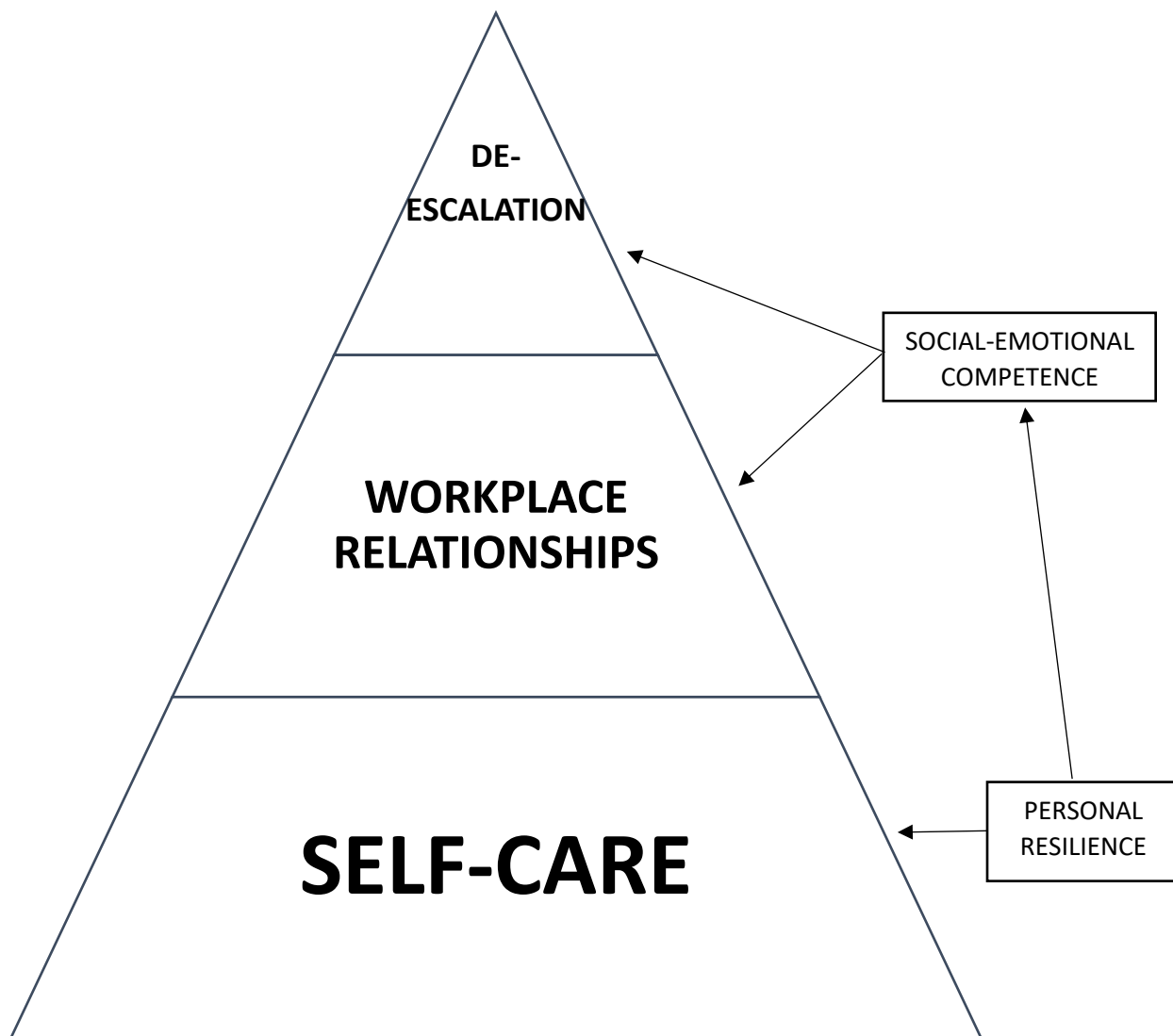


Figure 2.1 Content model for Mindfulness and More for School Personnel. This is an illustration that places self-care, which promotes personal resilience, at the foundation for effective stress management. Healthy self-care practices are foundational to positive workplace relationships, as educators need to be in a capacity to form positive relationships with students, parents, administrators, and other school personnel. Self-care and positive relationships make successful de-escalation of high-stress situations more likely. Workplace relationships and de-escalation require educators to demonstrate social-emotional competence (e.g., emotion regulation, empathy, self-awareness).

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Appendix A

Announcement Flyer



COLLEGE OF
EDUCATION
& HUMAN
DEVELOPMENT

Department of
Educational Psychology,
Special Education, &
Communication Disorders

OPPORTUNITY TO PARTICIPATE IN SELF-CARE PROGRAM

PreK-12 classroom personnel (e.g., teachers, paraprofessionals, interns) are invited to participate in a study of a new online self-care program. The information and activities from this program may help participants manage stress on and off the job by learning mindfulness exercises and other strategies associated with less stress, reduced burnout, and improved job satisfaction. The program is 100% online and divided into eight brief (approximately 30 mins each) instructional modules that include videos and activities. Participant feedback may also help improve the program and its potential to help other school personnel avoid burnout.

Those who volunteer for this study will either be placed in a group that receives the program or a control group. All participants, regardless of assignment, will be asked to complete surveys (estimated to require no more than 10 minutes of your time) at two different points. Comparing responses will help the researcher better understand the effects of the program. Below is the anticipated timeline for this opportunity.

Step 1	Go to https://gsu.qualtrics.com/jfe/form/SV_0Hs1lh0svY1mOC9 for further study details. When you sign up, please be sure to provide a valid email address for correspondence during the study.
Step 2	Within 48 hours, receive an email with your participant ID#, group assignment, and link to a survey. Take the 10-minute survey and submit it.
Step 3	<u>Program group:</u> You will receive an email inviting you to enroll in the free online self-care course. Enroll in the course. <u>Control group:</u> You will receive email asking you to look out for an invitation to complete the second survey in approximately 5 weeks.
Step 4	You will receive an email with link to complete the second survey. Please take the 10-minute survey and submit it.
Step 5	You will receive an email with link to an Amazon.com gift card (valued at \$20-\$60, based on level of participation).

Questions and concerns may be directed to the student investigator, Brandi Ansley, at bansley1@student.gsu.edu.

Appendix B

Consent Form

Georgia State University

Department of Educational Psychology, Special Education, & Communication Disorders

Informed Consent

Title: A Pilot Study of an Online Stress Management Intervention for School Personnel

Principal Investigator: David E. Houchins

Co-Investigator: Kris Varjas

Student Principal Investigator: Brandis M. Ansley

Purpose

You are invited to participate in a research study. The purpose of the study is to investigate an online professional development program for school personnel and explore its impact on stress. You are invited to participate because you are either a: (a) PreK-12 classroom teacher; (b) PreK-12 classroom paraprofessional; or (c) graduate student enrolled in a PreK-12 teacher certification program. A total of 120 participants will be recruited for this study.

Procedures

If you decide to participate:

- A message will be sent to the email address you provide on the study sign-up form. The message will inform you of your participant ID number, group assignment (program group or control group), projected timeline for the study, and compensation structure associated with your level of participation. The email will also contain a link to access a survey regarding perceptions of job-related stress and burnout and your role in the classroom. This survey is estimated to take no more than 10 minutes of your time.
- Within 24-48 hours of survey completion, you will receive another message through email. If you are a program group participant, the email will contain instructions for creating an Open Learning account and enrolling in an online course. This is the platform for which the online professional development program will be delivered. If you are a control group participant, your email will alert you to expect to be contacted again in approximately 5-6 weeks.
- The online stress management program is a new experimental program. Every Monday and Thursday, for four weeks, an online module, requiring 30 minutes of your time, will be available. Thus, the time required for the program phase is approximately one hour per week,

over four weeks, for a total of four hours. You will receive email notification each time a new module opens. You can complete the module at any time from any internet-enabled device. To maintain the pace of the course materials, you will need to complete each module within five days of opening. If the module has not been completed by the fifth day of opening, you will receive an email message reminding you to complete the module. Modules should be completed consecutively (e.g., Module 1, then Module 2, and so on). Program activities involve watching instructional videos, reading brief selections, and developing your own self-care plan, and providing feedback on the program.

- Within a week of completing the final module, the student investigator will email you another message that includes access to a second survey. Once accessed, this survey should require no more than 10 minutes of your time.
- For the duration of the 6-week study, your total expected time commitment is up to 20 minutes for the control group (10 minutes per survey) and 4 hours and 20 minutes for those selected to receive the program (10 minutes per survey and 30 minutes per online module). All phases of the study, including the surveys, may be completed through any internet-enabled device.
- Within two weeks of the second survey administration, participant compensation (see Compensation below) will be delivered in an electronic format to your email address.

Future Research

Researchers will remove information that may identify you and may use your data for future research. If we do this, we will not ask for any additional consent for you.

Risks

In this study, you will not have any more risks than you would in a normal day of life.

Benefits

Participation in this study is designed to benefit you personally. Participants who receive the stress management program may gain more knowledge and self-awareness regarding their self-care and may therefore improve their practices, well-being, and overall experiences on the job. Furthermore, participants may help inform education researchers and leaders about ways to create future professional learning opportunities that support them and their work. Overall, we hope to gain information about the acceptability of online professional learning, programs specifically addressing educator self-care, and any outcomes associated with participation in such.

Alternatives

The alternative to participating in this study is to not participate in this study.

Compensation

Participants will receive compensation for participating in this study. You will electronically receive an Amazon.com gift card at the end of the study. The gift card will be sent to the email address you provide. The value of the gift card is based on your level of survey completion. Control group participants may receive a gift card valued at up to \$20. Program group participants will receive a gift card valued at up to \$60.

Voluntary Participation and Withdrawal

Participation in research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may withdraw from the study by either: (a) instructing the student investigator to cease all study-related communications; or (b) abstaining from further participation without notice. You also may skip questions on the surveys or skip any portion of the program. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

Confidentiality

We will keep your records private to the extent allowed by law. The research team will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP)). We will use a number code rather than your name on study records. The information you provide will be stored in a locked file cabinet and on a password- and firewall-protected computer. Your name and other facts that might point to you will not appear when we present this study or publish its results. The findings will be summarized and reported in group form. You will not be identified personally.

Contact Information

Contact Brandi Ansley at 770-688-7393, bansley1@student.gsu.edu, Dr. David Houchins at 404-413-8338, dhouchins@gsu.edu, or Dr. Kris Varjas at 404-413-8190, kvarjas@gsu.edu

- If you have questions about the study or your part in it
- If you have questions, concerns, or complaints about the study

Contact the GSU Office of Human Research Protections at 404-413-3500 or irb@gsu.edu

- if you have questions about your rights as a research participant

- if you have questions, concerns, or complaints about the research

Consent

You may print or save a copy of this consent form for your records.

If you are willing to volunteer for this research, please indicate by checking one of the following choices:

- I give my consent to participate in this study and agree to receive study-related communications at the email address I provide.
- I do not give my consent to participate in this study.

Appendix C

Participant Compensation Structure

Program Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention Survey PLUS half of the program modules (4 out of 8) PLUS Post-Intervention Survey	\$30
Completion of Pre-Intervention Survey PLUS three-fourths of the program modules (6 out of 8) PLUS Post-Intervention Survey	\$40
Completion of Pre-Intervention Survey PLUS all of the program modules (8 out of 8) PLUS Post-Intervention Survey	\$60

Control Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention AND Post-Intervention Survey	\$20

Appendix D

Treatment Acceptability Survey for Intervention Group Participants Formative-End of Modules 1-7

Rate your experience of this week's module by indicating the extent to which you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
	0	1	2	3	4	5	6
The technical quality of the module (e.g., format, ease of navigation, audio, video) was acceptable.							
Information presented this week was easy to understand.							
The content was relevant to my job.							
I intend to use the information I learned this week to improve the quality of my life or work experience.							

In your own words, please describe what you liked **best** about this module.

In your own words, please describe what you liked **least** about this module.

In your own words, please use the space below to provide details about your responses or to provide suggestions for improving this module.

Appendix E

Treatment Acceptability Survey for Intervention Group Participants Formative-Beginning of Modules 5 and 7

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
	0	1	2	3	4	5	6
Over the past week, I made changes in my thoughts, behaviors, or habits at work based on the information I learned from this program.							
Over the past week, I made changes in my thoughts, behaviors, or habits outside of work based on the information I learned from this program.							

In your own words, please describe any changes you made in the past week based on the information you learned in this program.

Appendix F

Treatment Acceptability Survey for Intervention Group Participants Summative-After Completion of Intervention

Rate your experience of *Mindfulness and More for School Personnel* by indicating the extent to which you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
	0	1	2	3	4	5	6
This program was easy to use.							
The online program more easily fit my schedule than a traditional face-to-face meeting.							
I prefer the online professional learning format over traditional face-to-face meetings.							
As a result of my participation in this program, I made positive changes to my thoughts, behaviors, and habits at work .							
As a result of my participation in this program, I made positive changes to my thoughts, behaviors, and habits outside of work .							
I would recommend this							

program to other school personnel.							
--	--	--	--	--	--	--	--

In your own words, please describe what you liked **best** about the program.

--

In your own words, please describe what you liked **least** about the program.

--

In your own words, please provide suggestions for improving the program.

--

Appendix G

Coping Strategies Selection and Usage

Consider your approach to stress management **over the past week**. Please indicate how many *minutes* you engaged in the following activities (e.g., 1 hour = 60 minutes; 1.5 hours = 90 minutes; 2 hours = 120 minutes; 2.5 hours = 150 minutes; 3 hours = 180 minutes)

Coping Strategies	Approximately how many minutes per week (enter number)?
Physical exercise	
Walking	
Running	
Weightlifting	
Cycling	
Fitness class	
Other physical exercise (please identify)	
Mindfulness exercise	
Sitting meditation	
Active mindfulness	
Coloring pages	
Other mindfulness exercise (please identify)	
Relaxation response activation	
Controlled breathing technique	
Progressive muscle relaxation	
Guided imagery	
Other relaxation response training (please identify)	
Building mindful habits	
Focus on control vs. not control	
Savoring inventory	
Gratitude inventory	
Other cognitive restructuring strategy (please identify)	
Social-emotional strategies	
Discuss stress with another adult	
Spend time alone on purpose	
Spend time with friends and family	
Other social-emotional support (please identify)	
Others not identified above	
Please identify	
Please identify	
Please identify	

Appendix H

Maslach Burnout Inventory-Educator Survey

Measurement Protocol for Maslach Burnout Inventory – Educators Survey.

Using the scale below (0-6), please indicate how often you experience the conditions listed below.

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month	A few times a month	Once a week	A few times a week	Every day

Note: Due to the copyright agreement, the terms of the license allow sharing of the following sample items:

I feel emotionally drained from my work.

I have accomplished many worthwhile things in this job.

I don't really care what happens to some students.

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Appendix I

Teachers' Sense of Efficacy Scale¹ (short form)

Teacher Beliefs		How much can you do?									
<p>Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each of the statements below. Your answers are confidential.</p>		Nothing									A Great Deal
			Very Little				Some Influence			Quite A Bit	
1.	How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
2.	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
3.	How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
4.	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
5.	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
6.	How much can you do to get children to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
7.	How much can you do to calm a student who is disruptive or noisy?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
8.	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
9.	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
10.	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
11.	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
12.	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	

Appendix J

5 facet questionnaire: short form (ffmq-sf)

Below is a collection of statements about your everyday experience. Using the 1–5 scale below, please indicate, in the box to the right of each statement, how frequently or infrequently you have had each experience in the last month (or other agreed time period). Please answer according to what really reflects your experience rather than what you think your experience should be.

never or very rarely true *not often true* *sometimes true sometimes not true* *often true* *very often or always true*
1 **2** **3** **4** **5**

1	I'm good at finding the words to describe my feelings	<i>DS</i>	
2	I can easily put my beliefs, opinions, and expectations into words	<i>DS</i>	
3	I watch my feelings without getting carried away by them	<i>NR</i>	
4	I tell myself that I shouldn't be feeling the way I'm feeling	<i>/NJ</i>	
5	it's hard for me to find the words to describe what I'm thinking	<i>/DS</i>	
6	I pay attention to physical experiences, such as the wind in my hair or sun on my face	<i>OB</i>	
7	I make judgments about whether my thoughts are good or bad.	<i>/NJ</i>	
8	I find it difficult to stay focused on what's happening in the present moment	<i>/AA</i>	
9	when I have distressing thoughts or images, I don't let myself be carried away by them	<i>NR</i>	
10	generally, I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing	<i>OB</i>	
11	when I feel something in my body, it's hard for me to find the right words to describe it	<i>/DS</i>	
12	it seems I am "running on automatic" without much awareness of what I'm doing	<i>/AA</i>	
13	when I have distressing thoughts or images, I feel calm soon after	<i>NR</i>	
14	I tell myself I shouldn't be thinking the way I'm thinking	<i>/NJ</i>	
15	I notice the smells and aromas of things	<i>OB</i>	
16	even when I'm feeling terribly upset, I can find a way to put it into words	<i>DS</i>	
17	I rush through activities without being really attentive to them	<i>/AA</i>	
18	usually when I have distressing thoughts or images I can just notice them without reacting	<i>NR</i>	

	<i>never or very rarely true</i> 1	<i>not often true</i> 2	<i>sometimes true sometimes not true</i> 3	<i>often true</i> 4	<i>very often or always true</i> 5
19	I think some of my emotions are bad or inappropriate and I shouldn't feel them				/NJ
20	I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow				OB
21	when I have distressing thoughts or images, I just notice them and let them go				NR
22	I do jobs or tasks automatically without being aware of what I'm doing				/AA
23	I find myself doing things without paying attention				/AA
24	I disapprove of myself when I have illogical ideas				/NJ

correct scores for items preceded by a slash (/NJ, /AA, etc) by subtracting from 6

non react = ; observe = ; act aware = ; describe = ; non judge =

In the research study where the short form of the FFMQ was developed (see Bohlmeijer et al. below), most of the 376 participants were educated women with "clinically relevant symptoms of depression and anxiety". They were randomized to a nine week clinical intervention involving an *Acceptance & Commitment Therapy (ACT)* self-help book "*Living life to the full*", plus 10 to 15 minutes per day of *Mindfulness-Based Stress Reduction* meditation exercises, plus some email support. Mean (and Standard Deviation) scores pre- and post- intervention were:

	non react	observe	act aware	describe	non judge
<i>pre-mean (sd)</i>	13.47 (3.07)	13.86 (3.21)	13.19 (3.32)	16.28 (3.91)	14.09 (3.63)
~70%	10.4–16.5	10.6–17.0	9.9–16.6	12.4–20.2	10.5–17.7
~95%	7.3–19.6	7.4–20.3	6.5–19.8	8.5–24.1	6.8–21.3
<i>post-intervention</i>	16.90	15.22	15.98	18.46	18.14

Bohlmeijer, E., P. M. ten Klooster, et al. (2011). "Psychometric properties of the five facet mindfulness questionnaire in depressed adults and development of a short form." *Assessment* 18(3): 308-320. In recent years, there has been a growing interest in therapies that include the learning of mindfulness skills. The 39-item Five Facet Mindfulness Questionnaire (FFMQ) has been developed as a reliable and valid comprehensive instrument for assessing different aspects of mindfulness in community and student samples. In this study, the psychometric properties of the Dutch FFMQ were assessed in a sample of 376 adults with clinically relevant symptoms of depression and anxiety. Construct validity was examined with confirmatory factor analyses and by relating the FFMQ to measures of psychological symptoms, well-being, experiential avoidance, and the personality factors neuroticism and openness to experience. In addition, a 24-item short form of the FFMQ (FFMQ-SF) was developed and assessed in the same sample and cross-validated in an independent sample of patients with fibromyalgia. Confirmatory factor analyses showed acceptable model fit for a correlated five-factor structure of the FFMQ and good model fit for the structure of the FFMQ-SF. The replicability of the five-factor structure of the FFMQ-SF was confirmed in the fibromyalgia sample. Both instruments proved highly sensitive to change. It is concluded that both the FFMQ and the FFMQ-SF are reliable and valid instruments for use in adults with clinically relevant symptoms of depression and anxiety.

Appendix K

Emailed Message with Recruitment Flyer Attached

Good morning!

Hello. My name is Brandi Ansley, and I am currently a Ph.D candidate in the Education of Students with Exceptionalities program here at Georgia State University. You are receiving this email because you have been identified as: (a) an instructor and/or practicum supervisor in one of GSU's teacher certification programs; or (b) a school administrator from an existing university/school partnership. You are asked to share the following information with any current P-12 teachers, paraeducators, or pre-service teachers in your classes or under your supervision.

I have approval through the GSU IRB and my dissertation committee to recruit participants for my dissertation study. I am currently searching for P-12 teachers, paraeducators, or pre-service teachers to participate in an experimental online stress management program. It is completely voluntary and may be of interest to some of your students/supervisees. As such, I am asking that you forward this email with the attached flyer to them. Recipients of this flyer may also share it with any other P-12 classroom personnel. If you have any questions or concerns, please don't hesitate to contact me at bansley1@student.gsu.edu.

Sincerely,

Brandi Ansley, M.S., Ed.S
Ph.D Candidate
Graduate Research and Teaching Assistant

Appendix L

Mindfulness & More for School Personnel Online Program Checklist

Instructions: Please review *Mindfulness and More for School Personnel* and assess for the evidence of the following quality indicators for each standard for online continuing education courses (Quality Matters, 2015).

Standard/Indicators	Evidence of Indicator?	
	Yes	No
1. The overall design of the course is made clear to the learner at the beginning of the course.		
a) Instructions make clear how to get started and where to find various course components.		
b) Learners are introduced to the format of the class.		
2. Learning objectives or competencies describe what learners will be able to do upon completion of the course.		
a) Course outcomes are listed on the home page of the course.		
b) Objectives are listed in each module.		
3. Assessment strategies are integral to the learning process and are designed to evaluate learner progress in achieving the stated learning objectives or mastering the competencies.		
a) Surveys that solicit feedback regarding learner experiences are present at the end of each module.		
b) Surveys that solicit feedback regarding learner experiences are present at the beginning of modules 5 and 7.		
c) Pre- and post-intervention assessments measure outcomes associated with the program (i.e., burnout, teacher efficacy, mindfulness, use of coping strategies)		
4. Instructional materials enable learners to achieve stated learning objectives or competencies.		
a) Learners have access to paper-based activity packet to help organize and facilitate learning.		
b) Program instruction is primarily delivered through videos that learners can pause, replay, and review as needed to support individual needs for learning.		
5. Course activities facilitate and support learner interaction and engagement.		
a) Course facilitation guides participants through all steps of their in-module activities (e.g., video series, self-care plan)		

b) Video series demonstrates examples of self-care activities and/or facilitates guided practice.		
6. Course technologies support learners' achievement of course objectives or competencies.		
a) The tools used in the course support the learning objectives or competencies.		
b) Course tools promote learner engagement and active learning.		
7. The course facilitates learner access to support services essential to learner success.		
a) The course platform (Open Learning) has a link in which learners can access help for platform-related topics.		
b) Contact information for the course facilitator/administrator is listed in the welcome message, on the home page, and on all course documents.		
8. The course design reflects a commitment to accessibility and usability for all learners.		
a) Course navigation is easy to follow.		
b) Course material reflects accessibility for all learners (i.e., Audio facilitation is consistent with text presented during the videos.)		
c) Video quality was acceptable (i.e., visual and sound components were clear and intelligible).		

Mindfulness & More for School Personnel
Online Program Checklist

Instructions: Please review *Mindfulness and More for School Personnel* and assess for the evidence of the following content in each module.

Module/Content	Evidence of Content?	
	Yes	No
1. Introduction to Program & Background on Educator Stress		
a) Connection between job responsibilities, stress, and self-care		
b) Stress management pyramid presented and described		
c) Activity that addresses participant barriers and facilitators to self-care		
2. Basic Self-Care		
a) Connection between plans and goal-attainment		
b) Importance of basic self-care (i.e., consumption, exercise, sleep)		
c) Participants begin completing their self-care plan by adding a plan around basic self-care		
3. Mindfulness Exercises		
a) Mindfulness definition and description		
b) Example of mindfulness in schools		
c) Guided practice of mindfulness meditation		
d) Examples of other mindfulness activities (i.e., forest bathing, journaling, coloring)		
e) Participants add mindfulness to their self-care plan		
4. Relaxation and Mindful Habits		
a) Relaxation response definition and description		
b) Guided practice of progressive muscle relaxation		
c) Guided practice of breathing exercises		
d) Participants add relaxation response activation strategies to their self-care plans		
e) Description of mindful habits research		
f) Strategies for building mindful habits		
g) Mindful habits reflection activity		
5. Routines and Relationships at Work		
a) Connection between work-related routines and stress		
b) Using positive behavior supports to support classroom climate, students, and self		
c) Activity to identifying helpful routines specific to role		
d) Making the most of your workplace relationships		
e) Preventing stress through mindful interactions at work		
f) Reflection and planning for mindful interactions at work		

6. De-escalation		
a) How self-care and positive relationships make de-escalation more likely		
b) De-escalation of self and others		
c) Distinguishing response escalators and de-escalators		
d) Activity to create de-escalation plan		
7. Maintaining Your Progress		
a) Review and update self-care plan		
b) Pro tips for successful goal-attainment		
8. The Wrap-Up		
a) Cumulative quiz for understanding		

Appendix M

Message to Intervention Group Participants (Before Pre-Intervention Survey)

Hi (insert name here):

Thank you for signing up for my study about self-care and wellness for school personnel. You have been randomly assigned to the program group. Your Participant ID# is [000]. I appreciate your time, effort, and feedback. You will be compensated according to your level of participation (detailed below). An Amazon.com gift card will be sent to this email address after the completion of the study in 6-8 weeks.

You may begin your participation by completing the first survey, which can be accessed at the following link (https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel). Please complete this survey within 48 hours. It will likely take no more than 10 minutes of your time. Shortly after completing the survey, I will send you a message with information about accessing the self-care program. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Link to survey https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel

Program Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention Survey PLUS half of the program modules (4 out of 8) PLUS Post-Intervention Survey	\$30
Completion of Pre-Intervention Survey PLUS three-fourths of the program modules (6 out of 8) PLUS Post-Intervention Survey	\$40
Completion of Pre-Intervention Survey PLUS all of the program modules (8 out of 8) PLUS Post-Intervention Survey	\$60

Appendix N

Message to Control Group Participants (Before Pre-Intervention Survey)

Hi (insert name here):

Thank you for signing up for my study about self-care and wellness for school personnel. You have been randomly assigned to the control group. Your Participant ID# is 000. I appreciate your time, effort, and feedback. You will be compensated according to your level of participation (detailed below). An Amazon.com gift card will be sent to this email address after the completion of the study in 6-8 weeks.

You may begin your participation by completing the first survey, which can be accessed at the following link (https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel). Please complete this survey within 48 hours. It should take no more than 10 minutes of your time. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
 Georgia State University
 bansley1@student.gsu.edu
 770-688-7393

Link to survey https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel

Control Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention AND Post-Intervention Survey	\$20

Appendix O

Message to Intervention Group Participants (Reminder to Complete Pre-Intervention Survey)

Hi (insert name here):

Thank you for signing up for my study about self-care and wellness for school personnel. A few days ago, I sent you a message indicating you have been randomly assigned to the **program** group. Your Participant ID# is 000. You were provided access to the first survey, but I have not yet received your survey submission. If you are still interested in participating in the study, please complete the first survey, which can be accessed at the following link (https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel).

The survey will likely take no more than 10 minutes of your time. Your compensation according to your level of participation (detailed below) will be sent to this email address after the completion of the study in 6 weeks. Shortly after completing the survey, I will send you a message with information about accessing the self-care program. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Link to survey https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel

Program Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention Survey PLUS half of the program modules (4 out of 8) PLUS Post-Intervention Survey	\$30
Completion of Pre-Intervention Survey PLUS three-fourths of the program modules (6 out of 8) PLUS Post-Intervention Survey	\$40
Completion of Pre-Intervention Survey PLUS all of the program modules (8 out of 8) PLUS Post-Intervention Survey	\$60

Appendix P

Message to Control Group Participants (Reminder to Complete Pre-Intervention Survey)

Hi (insert name here):

Thank you for signing up for my study about self-care and wellness for school personnel. Recently, I sent you a message indicating you were randomly selected to the **control** group. Therefore, you will only need to complete two brief surveys 5 weeks apart. Your Participant ID# is 000. You were provided access to the first survey, but I have not yet received your survey submission. If you are still interested in participating in the study, please complete the first survey, which can be accessed at the following link (https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel).

The survey will likely take no more than 10 minutes of your time. Your compensation according to your level of participation (detailed below) will be sent to this email address after the completion of the study in 6-8 weeks. Shortly after completing the survey, I will send you a message with information about accessing the self-care program. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Link to survey https://gsu.qualtrics.com/jfe/form/SV_abfCU6nwr2r6bel

Control Group Participant Compensation Details

TASKS	AMAZON.COM GIFT CARD AMOUNT
Completion of Pre-Intervention Survey ONLY	\$10
Completion of Pre-Intervention AND Post-Intervention Survey	\$20

Appendix Q

Message to Control Group Participants (After Pre-Intervention Survey)

Hi (insert name here):

Thank you for completing the first survey. As you are assigned to the control group, you will receive another email from me in approximately 5-6 weeks with access to the second survey. In the meantime, if you have any questions or concerns, don't hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Appendix R

Message to Intervention Group Participants (After Pre-Intervention Survey)

Hello. You have been invited to join Mindfulness and More for School Personnel on OpenLearning by Brandi Ansley. Before you can join this course, you must have an OpenLearning account.

To create a new OpenLearning account, please click on the following link:

[Create a new OpenLearning Account](#)

If you already have an OpenLearning account, please click on the following link:

[Link your existing OpenLearning account](#)

To visit the course homepage, please click on the following link:

[Mindfulness and More for School Personnel Homepage](#)

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Trademarks property of their respective owners. Comments owned by the poster.*

Appendix S

Welcome Message (After Enrollment in Online Program)

Hi (Name)!

I received your enrollment in *Mindfulness and More for School Personnel*. I have attached a copy of the optional activity pack that corresponds with course content. I have also attached the course schedule, which differs slightly from the example used in the course's welcome message. You do not have to follow it exactly as stated. However, if you will complete each module no more than five days after the dates listed, that will help keep the research procedures on schedule. You may also work ahead, but it is recommended that you work at the pace of two modules a week.

If you run into any questions or concerns, please reach out to me. I typically respond within 24 hours or less.

Thanks!

Brandi Ansley
Georgia State University
(770) 688-7393

Appendix T

Example of Course Pacing Guide

COURSE SCHEDULE: MINDFULNESS AND MORE FOR SCHOOL PERSONNEL Pacing Guide

WEEK	DAY/DATE	MODULE NUMBER AND TITLE
1	Monday 4/30/18	1: Introduction
1	Thursday 5/3/18	2: Making Self-Care a Priority
2	Monday 5/7/18	3: Mindfulness
2	Thursday 5/10/18	4: Relaxation Training and Mindful Habits
3	Monday 5/14/18	5: Routines and Relationships
3	Thursday 5/17/18	6: De-escalation
4	Monday 5/21/18	7: Strategy Review and Practice
4	Thursday 5/24/18	8: Continuing Your Self-Care Journey

- Above is a recommended schedule for the course.
- You do not have to follow this schedule exactly.
- You may choose to complete the module anytime around the clock.
- You must complete each module in the order they are presented.
- If at any point you have questions or concerns, you may reach out to me, Brandi Ansley, at bansley1@student.gsu.edu or 770-688-7393.

Appendix U
Activity Pack

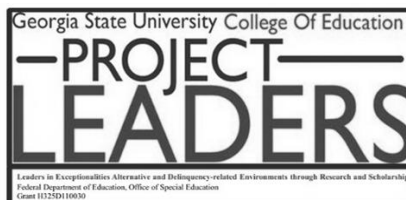
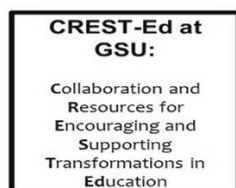


Mindfulness & More for School Personnel

Presented by:

Brandi Ansley, Ed.S, M.S.

Georgia State University, Atlanta, GA



MINDFULNESS AND MORE FOR SCHOOL PERSONNEL

We will use this activity packet to facilitate your learning and interaction with the online modules. To get the most out of this experience, please **DO NOT COMPLETE THIS PACKET AHEAD OF TIME**. The instructions for completing the packet are within the modules. Please do not share any information or details regarding this program until the completion of this study.

MODULE 1

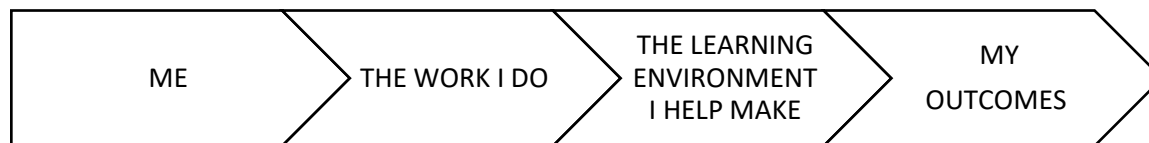
1. Describe your role in education.

Who are you? _____

What do you do? _____

With whom? _____

For whom? _____



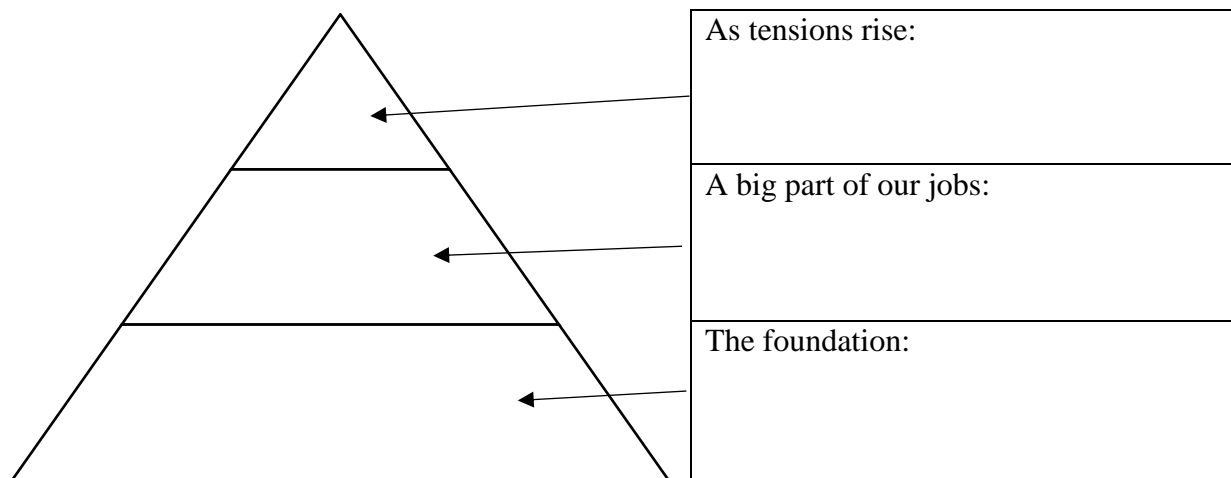
For which aspects of the learning environment are you responsible?

_____ and
 _____ has been known to negatively affect teachers and other school staff, their work, their learning environments, and their relationships.

The good news is:

Taking care of ourselves and taking care of others.

Using the information from the module, fill in the pyramid below.



This is easier said than done. What are some barriers to self-care?

Consider your top 2 barriers to your own self-care. For each one, identify at least 2 ways you may overcome these barriers.

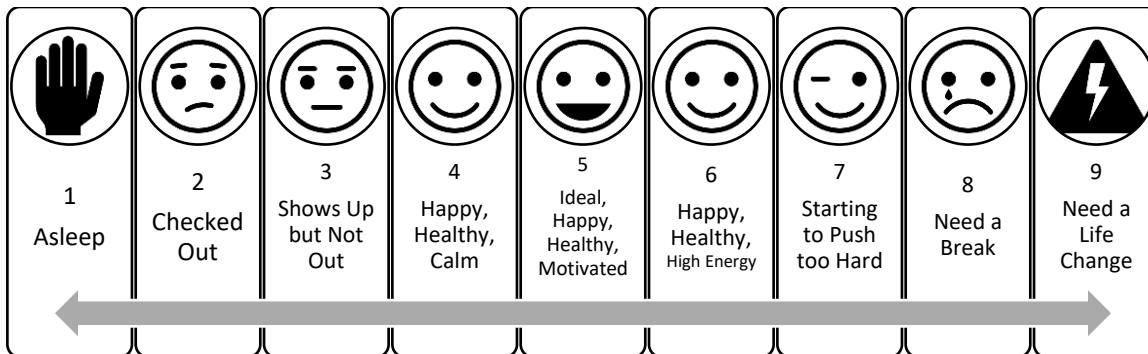
BARRIER		
WHAT MIGHT I DO TO OVERCOME THIS BARRIER?		
WHAT MIGHT I DO TO OVERCOME		

THIS BARRIER?		
------------------	--	--

MODULE 2

SELF-CARE

Self-assessment: Where do you fall on the Stress Spectrum right now?



The essentials

CONSUME <> EXERCISE <> SLEEP <> CONSUME

Identify one essential wellness-related behavior you would like to change.

Plan this change.

BEHAVIOR	What will you do differently?	
TIME	When will you devote time to this?	
MATERIALS	What materials do you need?	
SPACE	What details in your immediate space may help?	
OTHERS	To what extent are others involved?	

Begin implementation.

MODULE 3

Mindfulness exercises

- Anchored focus (Using our example or another one you obtain or find online)
- Real-talk writing
- Concentrated coloring

Identify one mindfulness exercise you would like to use.

Plan it.

BEHAVIOR	What will you do differently?	
TIME	When will you devote time to this?	
MATERIALS	What materials do you need?	
SPACE	What details in your immediate space may help?	
OTHERS	To what extent are others involved?	

Begin implementation.

MODULE 4

Relaxation response activation

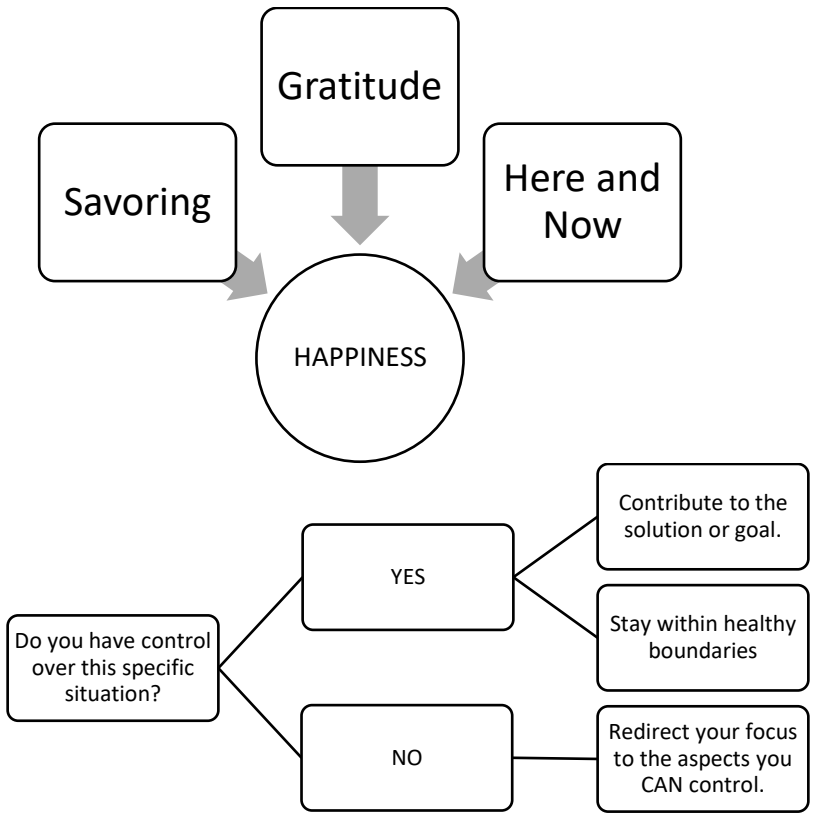
- Breathing technique
- Progressive muscle relaxation
- Guided imagery

Identify one relaxation response training technique you can use.

Plan it.

BEHAVIOR	What will you do differently?	
TIME	When will you devote time to this?	
MATERIALS	What materials do you need?	
SPACE	What details in your immediate space may help?	
OTHERS	To what extent are others involved?	

Mindful habits



Identify one habit of mind that may be an area of growth for you.

Identify a replacement habit.

Plan your habit change.

Instead of thinking like this...	I will accept that thought, and then actively think like this...

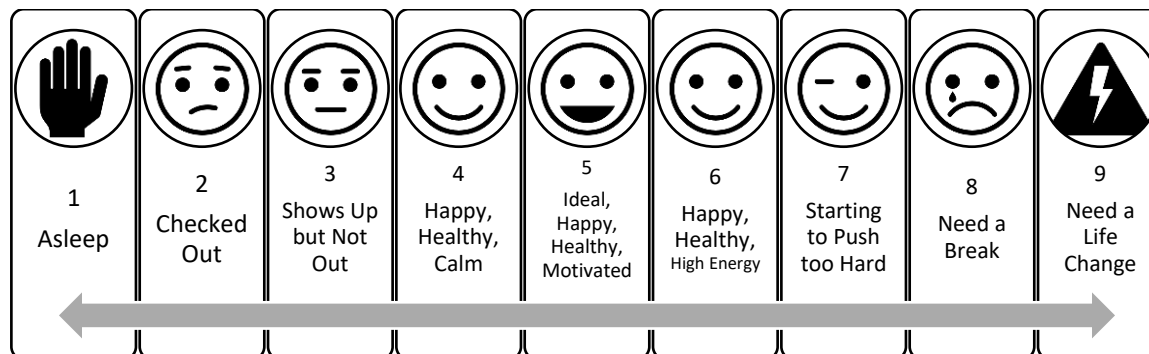
Begin implementation.

MODULE 5

Check in with Yourself.

At this time, you are to continue implementing your personalized plan. Information in the modules are designed to help support your efforts.

Self-assessment: Where do you fall on the Stress Spectrum right now?



So far, which strategies have you found are most relevant or most helpful to you?

So far, which strategies have you found to be least relevant or least helpful to you?

ROUTINES AND RELATIONSHIPS

What routines in your workday may help you manage stress by enhancing your learning environment and balancing your workload?

In the Classroom

SEATING ARRANGEMENTS	
TRANSITIONS	
POSITIVE BEHAVIOR SUPPORTS	
INSTRUCTION	
ASSESSMENT	

Your Workload

ORGANIZATION OF YOUR MATERIALS	
PACING YOURSELF	
SCHEDULING WORK OUTSIDE THE SCHOOL DAY	
SHARING WORK	

For each of the following workplace relationships, identify an area of growth. Then, plan a new approach you can use during the school day. Implement these as the opportunities arise.

With your students

AREA OF GROWTH	
NEW APPROACH	

With their parents/guardians/families

AREA OF GROWTH	
NEW APPROACH	

With your co-workers (e.g., other teachers, aides, related services providers)

AREA OF GROWTH	
NEW APPROACH	

With your administrators

AREA OF GROWTH	
NEW APPROACH	

Begin implementation.

MODULE 6

DE-ESCALATION

Immediate (On the Job)

Of self

Self-awareness → self-management → relationship skills

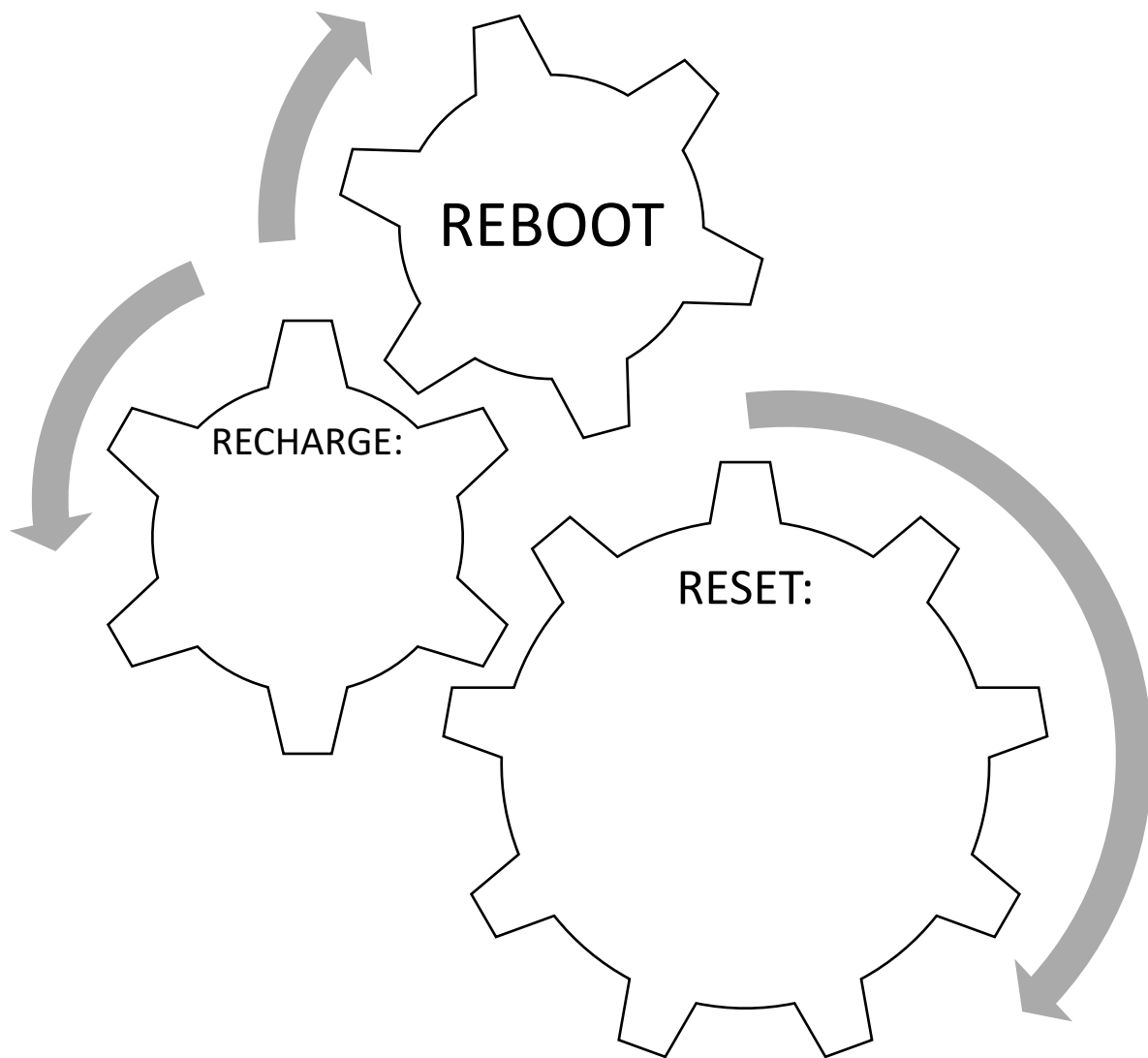
When I notice this...	I will do that...

Of others

Social awareness → self-management → responsible decision-making

When I notice this...	I will do that...

After leaving work



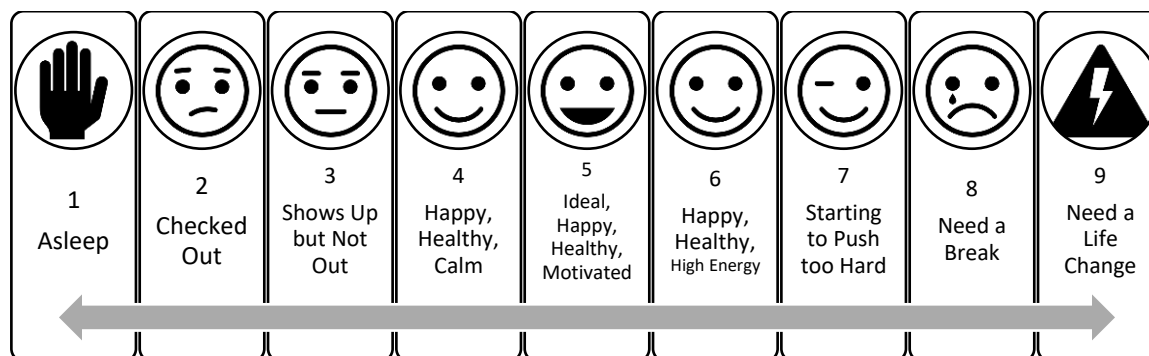
Begin implementation.

MODULE 7

Check in with Yourself.

At this time, you are to continue implementing your personalized plan. Information in the modules are designed to help support your efforts.

Self-assessment: Where do you fall on the Stress Spectrum right now?



So far, which strategies have you found are most relevant or most helpful to you?

So far, which strategies have you found to be least relevant or least helpful to you?

ADDITIONAL SELF-CARE RESOURCES

Helpful websites and smartphone apps (Most are free!)

<p>Essential wellness http://mapmywalk.com http://mapmyrun.com http://myfitnesspal.com https://sworkit.com/</p>
<p>Free ebook on mindfulness exercises for your employees or students https://positivepsychologyprogram.com/positive-psychology-tools.html</p>
<p>Mindfulness exercises for children and teens https://positivepsychologyprogram.com/mindfulness-for-children-kids-activities/#benefits-mindfulness-school</p>
<p>Mindfulness apps information website http://www.mindful.org/free-mindfulness-apps-worthy-of-your-attention/</p>
<p>Mindfulness training downloads http://marc.ucla.edu/body.cfm?id=22</p>
<p>Summary of research on mindfulness in schools http://greatergood.berkeley.edu/article/item/mindfulness_in_education_research_highlights</p>
<p>Benefits of nature and unplugging http://www.grounded.com/earthing-the-most-important-health-discovery-ever/earthing-book/</p>
<p>Summary of research on mindfulness in schools http://greatergood.berkeley.edu/article/item/mindfulness_in_education_research_highlights</p>
<p>Progressive muscle relaxation information and audio guide https://www.anxietybc.com/adults/how-do-progressive-muscle-relaxation</p>
<p>Breathing techniques information and video guides https://www.youtube.com/watch?v=mgzhKW08bMQ https://www.youtube.com/watch?v=Uxbdx-SeOOo https://www.youtube.com/watch?v=hFcQpNr_KA4</p>
<p>Smartphone Apps Essential wellness: Map My Walk, Sworkit, 7 Minute Workout, MyFitnessPal, Lifesum, Sleepo Mindfulness: Stop, Breathe, Think; Headspace; Happify Relaxation: Breathe2Relax, Meditation and Relaxation, Autogenic Training and PMR Mindset: i-Couch CBT, Moodspace, Moodpath</p>

Appendix V

Routine Email Updates to Intervention Group (BCC'ed to Participants)

Hello, Program Participants:

I hope you are enjoying *Mindfulness and More for School Personnel*. Your participation is much appreciated and vital to the development of this program. According to your course schedule, you are now entering Week # of the 4-week program. Per the course pacing guide, you will ideally be starting Module # within the next day or so. If you are behind this pace, I ask that you catch up the modules as soon as you can.

A few reminders:

- The activity pack is optional and there is no work for you to turn in.
- You must view all materials and submit any surveys in order to complete each module and open up the next one.
- While this is at your own pace, you will need to complete the entire program in 4 weeks (a pace of 2 modules per week).
- Some modules are shorter than others, but they all average around 30 minutes each.
- You do not need to complete each module in one session. You can log out and pick back up wherever you left off as needed.

If at any time you have any questions, concerns, or difficulties accessing the course, please do not hesitate to reach out to me.

Sincerely,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Appendix W

Reminder to Complete Module

Hi (insert name here):

I hope you are doing well and enjoying *Mindfulness and More for School Personnel*. This message is just a friendly reminder that you have not yet completed Module (insert module number here). To maintain pace with the program, I ask that you complete it as soon as possible. If you have any questions or need assistance, don't hesitate to reach out to me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Appendix X

Message to All Participants (Post-Intervention)

Hi (insert name here):

The program phase of the study is now complete. At this time, I ask that you complete the second survey, which can be accessed at the following link (insert link to survey here). Please complete this survey within 48 hours. It will likely take no more than 10 minutes of your time. Over the next two weeks, I will distribute the Amazon.com gift cards to study participants, with value based on level of participation as noted in the first email. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393

Appendix Y

Reminder Message to All Participants (Post-Intervention)

Hi (insert name here):

A few days ago, I sent you a message announcing the program phase of the study is now complete. At this time, I have not received your second survey. I ask that you complete the second survey, which can be accessed at the following link (insert link to survey here), within 48 hours. It will likely take no more than 10 minutes of your time. The study will completely close in a week. At that time, I will distribute the Amazon.com gift cards to study participants, with value based on level of participation as noted in the first email. In the meantime, if you have any questions or concerns, please do not hesitate to contact me.

Thank you,

Brandi Ansley
Georgia State University
bansley1@student.gsu.edu
770-688-7393