Building a Bridge to Understanding: Utilizing Professional Development to Enhance Teacher Self-Efficacy and Knowledge of Student Stress and Anxiety

by

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A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved October 2021 by the
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ARIZONA STATE UNIVERSITY

December 2021

ABSTRACT

Stress and anxiety are on the rise in children and adolescents, which may adversely impact their social and emotional development, learning, mental health, level of functioning, and educational success. Compounding this issue is that teachers often lack the preparation to best meet their students' mental health needs. These associated factors constitute the problem of practice that prompted this action research study, whose purpose is to examine the effectiveness of Stress on Students (SOS)—a series of professional development modules designed to educate teachers on student stress and anxiety. SOS was developed with input from teachers through previous cycles of action research. The modules focus on identifying stress and anxiety among students and intervention strategies to increase teachers' knowledge and perceived levels of self-efficacy. This study was grounded in the theoretical frameworks of andragogy and self-efficacy theory and employed a concurrent, mixed-methods design. Data were collected through a quantitative pre- and post-test survey instrument and qualitative semi-structured individual interviews. Analytic strategies included paired samples t-tests, descriptive statistics of the pre- and post-test, and multiple coding cycles of the individual interviews. Triangulation of the quantitative and qualitative data confirmed SOS' effectiveness on teacher participants (n = 6) and provided complementary evidence. Teachers showed an increase in their actual and perceived knowledge about student stress and anxiety post-SOS with similar results pertaining to their perceived levels of self-efficacy in working with students who exhibit stress and anxiety. Additionally, teachers fully participated in SOS and deemed the topic and content to be relevant and valuable.

DEDICATION

I hesitated for three years prior to starting my doctoral work. I told God that if I got through it, He would be the first that I would thank. Well, here I am. My faith has been a steadying, humbling force through the various trials and tribulations, thrills, and triumphs of this doctoral journey. More than my questions, doubts, and insecurities, there often existed this unexplainable hope, resilience, and determination for which I give thanks to God and to Whom I dedicate my work.

ACKNOWLEDGMENTS

Seldom, if ever, do we reach a particular point, achieve a set goal, or realize the fulfillment of a dream without the support of others—either directly or indirectly. The completion of this dissertation, bringing to conclusion a three-year academic journey, is no different.

To my committee chair, Dr. Gee, thank you for your patience, guidance, and wisdom in helping me navigate the dissertation process. Your thoughtful suggestions and edits throughout the formation of my study and numerous iterations of my drafts were invaluable. Additionally, I am grateful to my committee members, Dr. Oakes and Dr. Rotheram-Fuller, for your insights, support, and expert knowledge. You both said yes to an unknown doctoral student searching for a committee familiar with the subject matter herein—thank you.

To Chris, my good friend and "brother," you were a sounding board and critical eye when I was applying to doctoral programs and a listening ear over these past three years. Your friendship and relentless championing of me, particularly during moments where I was questioning myself and my direction, are things for which I will be forever grateful.

To my cohort members, LSC, and professors, I have learned so much from all of you, and it has been a privilege, and comfort, to travel this long, often windy road together.

To the participants of my study, you offered your time and lent your voice to my research. Your care for your students and diligence toward your craft as educators, were evident in doing so. Thank you. In particular, I want to acknowledge Tom, Wes, and

Nico, who went above and beyond in supporting my research efforts. I appreciate your collegiality and support.

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CHAPTER ONE

INTRODUCTION

"In times of stress, the best thing we can do for each other is to listen with our ears and our hearts and to be assured that our questions are just as important as our answers."

— Fred Rogers

My foray into education was a nontraditional one, as I began my career as a school social worker, where my role was to try and bridge the gap between a student's mental health issues and their potential as a scholar. A humbling task, to say the least, which often found me sitting on the floor with a student in the hallway listening to them describe their pain through tears, sadness, or anger while peppering them with just enough hope—and a bit of humor—so they could muster the courage to get back up and take another step forward. My students were extremely bright and talented; however, their persistent negative emotional state made tapping into their potential a daily game of chess. Unfortunately, they heard "checkmate" far too often, which perpetuated a damaging cycle of low self-esteem and self-defeating behaviors. Moreover, they often felt misunderstood and labeled—erroneously so—or perhaps the opposite would occur: They were brushed aside and told to "just do it" (whatever "it" was) because their pain was on the inside, hidden from the judging eyes of others. Unless their wounds were visible in the form of cut marks or tear-stained faces that alerted others that they were not ok, or their self-presentation deviated so far from what others would think was normal behavior, my students were often completely ignored.

I have worked with countless students who sat at home for months at a time because they were too anxious to go to school, fell behind in their classes because their unique needs were not being met, or simply slipped through the cracks because they got lost in the shuffle of the academic masses. However, I have also seen hope, beauty, and perseverance in the face of challenging times when students who were adequately supported socially, emotionally, and academically have thrived in the face of stress, anxiety, and other mental health issues. I remember talking a few years ago with one of my students who was in tears, struggling to bear the weight of her stress, anxiety, and burgeoning adulthood. Her thoughts kept telling her that she was not good enough, and they were joined by the voices of the critical adult influences in her life—whether they were inflexible in their approach, simply distant within regular interactions, or lacked understanding of how to help. However, sitting across from this student, I saw a gifted young woman with unmistakable talent and goodness that was clearly evident when one truly stopped for a moment and listened with their ears *and* heart. For this particular student, thankfully, others started paying attention. Over time, she learned to accurately discern her thoughts while updating the lens through which she viewed herself—less skewed, less critical, and more positive. Now, as she continues forward at a top university on the East Coast, she will hopefully be an empathic ear to others—and herself—while further finding her voice. As successful as this student has become, however, there are just as many, if not more, that remain mired in their struggles.

This humbling beginning to my educational career has undoubtedly shaped my current practice as a school leader, for I see an inextricable link between a student's social and emotional well-being and their academic performance. Educating the "whole

child" has become a motto for many schools; however, when there is only one school counselor for hundreds of students, and teachers are ill-equipped (through no fault of their own) to be both educator and therapist, something is amiss. As educators and leaders, we have an opportunity and duty to not just talk about the issues that our students are facing but also listen with our hearts and take action in helping to alleviate their struggles. In the literature on resilience, there is a recurring theme that a child who has experienced and overcome adversity in their life has had at least one adult from whom they could draw strength (Segal, 1998). This person is often known as a "charismatic adult" (Segal, 1988, p. 3) and is someone to whom a child can look for guidance, help, nurturance, support, or even a simple pep talk (Brooks & Goldstein, 2008). These people can be coaches, family friends, relatives, and most certainly, teachers. As educators, we all have an opportunity to be charismatic adults for our students and make an enormous impact on their lives; therefore, this is our charge.

Larger Context

Mental health issues among children and adolescents are highly prevalent in today's society. In the United States, one out of five adolescents experiences mental illness, with anxiety disorders ranking the highest (Merikangas et al., 2010). Worldwide, anxiety ranks as the ninth leading cause of disability and illness among adolescents (i.e., 15–19 years old) and sixth for preadolescents (i.e., 10–14 years old; World Health Organization, 2020). Moreover, suicide is the second leading cause of death among 10–24 years old, with a 56% increase between 2007 and 2017 (Youth, 2020). In Massachusetts, where this study took place, 17.5% of adolescents reported serious suicidal thoughts in 2019, a 5% increase from 2017 (Youth, 2020), which highlights the

seriousness of adolescent mental health issues in the state. Additionally, with teachers reporting working with students who suffer from emotional problems at an alarming rate (Reinke et al., 2011), earlier intervention is essential (Merikangas et al., 2010). Given the predominance of mental health issues among adolescents, it is important to understand this topic in the context of stress and anxiety.

In the mid-1990s, the Centers for Disease Control and Kaiser Permanente conducted the Adverse Childhood Experiences (ACE) Study, which surveyed over 17,000 patients regarding their current health in relation to experiences they had as a child. They assessed 10 types of childhood trauma (e.g., physical abuse, parental divorce) and found that most of the respondents had at least one ACE (Centers for Disease Control and Prevention [CDC], n.d.). As someone's ACE score rose, so did the likelihood of negative physical, social, and emotional outcomes later on in life, as such stressors tend to be chronic in nature (CDC, n.d.; Danese & McEwen, 2012; Hunt et al., 2017). Furthermore, in a 2016–2017 National Survey of Children's Health, it was reported that over 20% of those aged 3–17 had two or more adverse childhood experiences, and more than 211,657 children and adolescents in Massachusetts had similar results (over 20%; Child, n.d.). The ACE study and corresponding data present a foundational understanding of the potential implications of childhood stressors; moreover, the prevalence of stress and anxiety in children and adolescents remains a growing concern.

The American Psychological Association (APA; 2018) found that those aged 15–21 reported signs of poor mental health (e.g., anxiety) at a higher rate than previous generations. Teenagers also reported greater stress levels than adults and underrated its impact on their mental and physical well-being (APA, 2018). Furthermore, half of the

respondents acknowledged that they were not doing enough to cope with stress even if they reported it as increasing in their lives. A larger portion expressed that the emotional support they received was inadequate (APA, 2018). In Massachusetts alone, 45% of children and adolescents needing treatment for mental health reasons (e.g., anxiety or depression) did not receive proper care, which is slightly lower than the national average of 49% (Child, n.d.). Moreover, stressful life events can produce anxiety sensitivity in adolescents, which creates an even greater need for proactive treatment interventions (McLaughlin & Hatzenbuehler, 2009). Additionally, stress and anxiety can follow students right into college. According to a 2016 UCLA study of its incoming freshman class, over 30% of students admitted to regularly feeling anxious; however, this number more than doubled when a diagnosed psychological disorder was also present (Eagan et al., 2017). Given this information, the relevance of stress and anxiety among teenagers cannot be understated, nor can its potential impact on their academic, physical, and mental well-being.

The adverse effects of stress on students impact sleep, mood, and concentration levels and result in physical pain and symptoms of depression and anxiety (Feld & Shusterman, 2015). Students' psychosomatic complaints have also been linked to stress originating from the school environment (Murberg & Bru, 2004; Natvig et al., 1999). Moreover, stress affects educational progression, in addition to student success at the secondary level (Morazes, 2016), and is "positively associated with behavioral and emotional problems" (Eppelmann et al., 2016, p. 85). With the significant toll that stress can take on students, children's and adolescents' coping skills need to be enhanced and often require assistance from adults for further development (Bagdi & Pfister, 2006;

Sotardi, 2016), particularly when dealing with school-related stress (Wilhsson et al., 2017). Therefore, increasing coping skills may be part of an overall strategy to help students reduce stress, alongside early identification and source reduction measures. Accordingly, those charged with the care of students, such as administrators and teachers, should be well-informed about the damaging impact that stress and anxiety can have on the lives of students and able to intervene effectively with sound, research-based screening and practices (Reinke et al., 2011).

Since traumatic events, stress, and anxiety can result in ongoing issues for a child, their pervasiveness may adversely influence learning, social development, overall functioning, mental health, behaviors, and academic success in school (Eppelmann et al., 2016; Feld & Shusterman, 2015; Morazes, 2016). When a student's psychological needs are left unmet, their performance in the classroom may be affected (Koller & Bertel, 2006). Therefore, given that teachers face students who present with mental health issues and believe that schools should intervene on these matters, they should be equipped with the necessary skills to do so (Koller & Bertel, 2006; Reinke et al., 2011). Unfortunately, teachers often lack the preparation to best meet the mental health needs of students (Andrews et al., 2014; Koller & Bertel, 2006; Reinke et al., 2011; Rothi et al., 2008) despite schools being a point of care for many children (Weist et al., 2014). Furthermore, training programs aimed at developing mental health literacy in teachers often inadequately address their needs in an educational environment (Koller & Bertel, 2006; Moon & Mendenhall, 2017; Rothi et al., 2008). However, as educators acknowledge that students' mental health needs fall within their purview (Atkins & Rodger, 2016; Moon et al., 2017; Reinke et al., 2011; Rothi et al., 2008), a desire to further understand this topic,

along with ways to manage internalizing and externalizing behaviors, has often been cited by teachers as a top priority for any professional development that they receive (Moon et al., 2017; Rothi et al., 2008).

A review of the literature yielded nonspecific results regarding current models of professional development aimed at helping teachers address stress and anxiety among students. However, post-intervention surveys and interviews from existing studies suggest that professional development approaches generally seek to increase teachers' mental health literacy (Atkins & Rodger, 2016; Carr et al., 2018) and provide them with knowledge and interventions to better understand and work with students who present with emotional problems (Chao et al., 2017). However, as noted above, teachers consider current approaches to professional development to be inadequate in preparing them to meet the educational, social, and emotional needs of students who experience mental health issues.

Local Context

Overview

The setting for this action research study was The Academy (TA)[1]—a private special education day school located in a suburban city outside of Boston, Massachusetts. The school, which opened its doors in 2006, stands alone on its own campus and was designed with thoughtful touches, such as individual bathrooms, wide hallways, and counselors' offices interspersed on two floors to account for the therapeutic needs of the student body. TA enrolls 98 students in grades 6–12 and serves over 40 school districts in

[1] The Academy (TA) is a pseudonym to maintain the confidentiality of the school and participants.

Massachusetts and New Hampshire. The school provides college-prep academics and therapeutic supports to students who are not making effective progress in other educational settings (e.g., public or private school) due to their social and emotional disabilities. Moreover, in these public or private school settings, students have faced educational inequities related to not receiving adequate support and accommodations to fully access the curriculum or were placed in lower academic tracks despite their prowess in the classroom. Most students have at least one formal psychiatric diagnosis and an individualized education plan, which legally dictates the services that they receive. TA is staffed with teachers, clinicians, a full-time guidance director to assist with the college application process, and support personnel while offering small class sizes (8:1 student-teacher ratio), individual and group counseling, enrichment courses, and extra-curricular activities. However, even with all of the supports offered, TA students often miss school due to elevated levels of stress and anxiety or, at times, need a higher level of care (e.g., hospitalization).

Professional Role

As the former dean of students and associate director of TA, I was with the school since its inception, where I began as a school social worker. My role encompassed many of the workings at TA, from supervising teachers and clinicians to developing programming, overseeing the school's daily operations, and ensuring a robust collegial, academic, social, and therapeutic environment for students and staff. In working directly with teachers, clinicians, and students, I had a unique perspective on the professional development needs within the school and appropriate psychosocial interventions to alleviate a student's social and emotional distress (e.g., cognitive-behavioral approaches,

resilience development, mindfulness techniques, and positive disciplinary measures). Regarding the former, in 2018, I conducted a survey to identify teachers' professional development needs. Teachers were asked to report back three areas of interest, and 100% (n = 17) requested further training in better understanding students' mental health needs. In my time at TA, this was a recurring theme, especially as the population of students grew more clinically intense.

Researcher Role

When I started my doctoral journey three years ago and commenced my cycles of inquiry into my problem or practice, without realizing it, I also began to develop my position as a researcher. Here, my formation as a scholarly practitioner was burgeoning, and although I am now trained in multiple research methods, I have taken an action research approach to this study. As a researcher, I believe in praxis as a means of bridging the gap between theory and practice and the promotion of thinking critically about the environment in which one exists. This approach aims at making positive changes in a particular context versus reflection or theorizing alone (Mertler, 2017). As a reflective practitioner, I challenge myself to grow and expand beyond what I know or have experienced, as in each moment, there exists an opportunity for learning. Utilizing multiple methods of inquiry opens up numerous possibilities to understand a problem at its core, which allows solutions to be tailored to each specific context. Action research, therefore, provides flexibility in approach (e.g., methods), while its penchant for reflection and iteration enhances the research process and the level of specificity by which change can be made. As an educational leader, this method allows me to challenge the hegemonic power structures that create educational inequities, particularly among

students who suffer from emotional disabilities, and especially for those who lack the means (e.g., financial and educational) to advocate for their needs. Furthermore, it empowers me to work alongside my colleagues in creating real change for all students and the entire school community. Rather than producing generalizable knowledge, action research's aim is to provide context-specific solutions to problems that may be systemic in nature (Ivankova, 2015; Mertler, 2017).

Problem in Context

Students arrive at TA after a challenging experience at their former school or because they have been out of school (e.g., at home or in an alternative placement) due to the intensity of their social and emotional issues. In addition to a range of formal psychiatric diagnoses (e.g., anxiety or depression), students present with histories of trauma and demonstrate varying levels of stress related to school, home, friends, and personal struggles through their behaviors and discussions with staff. Students' experiences of being bullied, isolated, or misunderstood have negatively shaped their sense of self and belonging in the world. They often present with psychosomatic complaints, school and work avoidance, or self-injurious behaviors and often leave class to see a counselor because they feel overwhelmed by stress and anxiety. Students needing to take breaks or work independently are daily occurrences. In some instances, students are tardy or miss school altogether due to their anxiety and mental health status. When any of the aforementioned occurs, students may fall behind academically, or in extreme cases, need a higher level of care. In all of these situations, teachers often question their approach and seek guidance for appropriate interventions. With such outward

manifestations of the stress in their lives, students need safe, reliable adults who can understand them and model adaptive, positive, and growth-oriented coping methods.

Although the clinical staff is well-represented at TA, the needs of the students often spill into the classroom, where teachers become both educators and pseudo-therapists while lacking any formal training to provide effective therapy. Hence, teachers repeatedly ask for assistance in understanding a student's predisposition and how to manage them best when they struggle socially and emotionally. In meetings and one-to-one conversations with teachers, I observed that, although well-intentioned, their lack of education on how to best work with students overwhelmed with internal and external stressors caused them to either exacerbate the issue or simply miss an opportunity to intervene. Moreover, the balance between the academic and clinical needs of students is a hard-fought one and often produces a disconnect between teachers and clinicians, as they respectively have their own priorities. While the school seeks to integrate academics and social-emotional learning, this practice tends to operate in silos where specialists work with students to bridge gaps between the two rather than incorporating teachers for a more streamlined approach. Given that teachers have little to no formal preparation in working with students with stress and anxiety, the need to develop a process for them to be informed and equipped with practical school-based tools with which to intervene, is evident.

TA teachers all have graduate degrees, some in special education; however, during my conversations with teachers in previous research cycles (see Chapter Two for details), they reported receiving little, if any, prior education on issues related to mental health—specifically, stress and anxiety—in their graduate or undergraduate programs.

Moreover, any exposure to learning came from an occasional one-day conference, in-house presentation, or what was grasped over the years working at either TA or another school. As exhibited in the aforementioned 2018 professional development survey, the desire to learn more is not only present but needed. Teachers work on the front lines with students who present with stress, anxiety, and other social and emotional issues. They spend countless hours with them in the classroom and during extra-curricular activities in which they not only teach but also listen, talk, and, by association, offer counsel. Hence, they are first responders; accordingly, they need to be equipped with at least a more formal understanding of how stress and anxiety affect students, in addition to professional intervention measures.

Purpose of the Study and Intervention

The purpose of this study was to determine whether a set of professional development modules based on information dissemination and strategies of intervention would increase teachers' knowledge and perceived levels of self-efficacy in working with students who exhibit stress and anxiety. As established, there is a lack of formal preparation for teachers working with students who exhibit stress and anxiety. Due to the therapeutic nature of the care involved, teachers need to become more proficient in their knowledge and application of how to best understand and work with students who present with such complex dynamics.

In order to address the lack of teacher preparation in dealing with students who present with stress and anxiety in the classroom, I designed a set of multi-modal professional development modules called Stress on Students (SOS). These units address the prevalence and impact of stress and anxiety on students and provide salient

information on each one, in addition to adaptive models of intervention. Given my background in clinical social work and educational leadership, I was uniquely situated to oversee an intervention that entailed formulating and delivering learning content to teachers to facilitate their understanding and working with students who exhibit stress and anxiety.

Research Questions

The first two research questions (RQs) stemmed from the problem of practice and planned intervention and sought to determine the effectiveness of SOS on teachers in relation to their knowledge about stress and anxiety in students, as well as their perceived ability to work with such a population. Additionally, the third question focused on teachers' participation in SOS. Participation refers to the various ways teachers interacted with the learning modules, such as watching the presentations, taking notes, completing the role-playing simulator, and engaging in the group discussion.

RQ 1: How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?

RQ 2: How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?

RQ 3: To what extent did teachers participate in SOS?

Organization of the Dissertation

The chapters in this dissertation provide a descriptive analysis of a mixed-methods action research study designed to examine the impact of an innovative professional development program to educate teachers about student stress and anxiety.

Chapter One elucidates the problem of student stress and anxiety and addresses the lack of teacher preparation in this area, both in the immediate and larger context. Chapter Two describes the theoretical frameworks upon which this study is based, as well as associated supportive empirical literature. Chapter Three explains the research methodology, including setting, participants, innovation, quantitative and qualitative instruments, data collection, and analysis procedures. Chapter Four provides an in-depth presentation of the analysis and results from the quantitative and qualitative data collected throughout the implementation of the innovation—SOS. Chapter Five discusses findings, integration of the collected quantitative and qualitative data, theoretical frameworks and associated research, limitations, implications for practice and future research, and lessons learned.

CHAPTER TWO

THEORETICAL PERSPECTIVES AND RESEARCH GUIDING THE PROJECT

People's beliefs about their abilities have a profound effect on those abilities. Ability is not a fixed property; there is a huge variability in how you perform. People who have a sense of self-efficacy bounce back from failure; they approach things in terms of how to handle them rather than worrying about what can go wrong.

— Albert Bandura

As demonstrated in Chapter One, teachers do not feel adequately equipped to work with students experiencing stress and anxiety (Andrews et al., 2014; Reinke et al., 2011; Rothi et al., 2008); hence, given the proliferation of this population (APA, 2018; Merikangas et al., 2010; Morazes, 2016; Reinke et al., 2011), educators require—and request—professional development that furthers their understanding and provides appropriate modes of intervention (Moon & Mendenhall, 2017; Rothi et al., 2008). Given the aforementioned reality of student stress and anxiety and teachers' ill-preparedness to fully support students with emotional difficulties, this chapter focuses on the theoretical perspectives that guided this study: andragogy and self-efficacy theory. Specifically, I explore the theories of andragogy and self-efficacy that directed me in developing professional development modules to help teachers understand stress and anxiety and applicable intervention methods. First, I present conceptual elements of andragogy and related literature that supported and assisted me in designing professional development modules that target the needs of adult learners. Then, I discuss self-efficacy theory and associated research that provided me with valuable information regarding the process and

mechanisms of building teachers' competence and confidence in assisting students with stress and anxiety. In the last section, I present two previous research cycles and their findings that supported the formation of this study.

Andragogy

Andragogy is a theory of adult learning posited by Malcolm Knowles. The term *andragogy* was first used in the early 1800s by Alexander Kapp to denote the need for education in adults; however, it fell out of use until the early 1920s, when it was revived in Europe with the rise of adults heading into academia (Loeng, 2017). Widespread use of andragogy, however, did not take hold until Malcolm Knowles popularized it in the late 1960s and early 1970s as he brought the term from Europe to America while also concentrating its elements (e.g., six assumptions of adult learners) into an approach to adult education (Loeng, 2017; Forrest & Peterson, 2006; Taylor & Kroft, 2009). Knowles' work on andragogy can also find associations with tenets of humanistic psychology made popular by the likes of Carl Rogers, whereby this approach to adult education positions the learner at the center and the educator as more of a facilitator of information (Cranton, 2010; Loeng, 2018; Smith, 2002). Given the lineage of the term andragogy, although Knowles was not the first to use it in context, he is considered the foremost authority in bringing it into contemporary educational rhetoric through writing and speaking on the subject and formulating its use as a principled means to inform adult learning.

Six Assumptions of Adult Learners

Knowles advanced six assumptions regarding adult learners, which became the basis for andragogy: the need to know, the learner's self-concept, the role of the learner's

experiences, readiness to learn, orientation to learning, and motivation (Knowles et al., 2005).

The Need to Know

The first step in adult learning is for the facilitator to help the learner understand their "need to know"—that is, explain the reason for engaging in the learning process. This can be done via intellectual discourse or by exposing gaps in knowledge or experience that, when filled, may propel the learner forward. Once the value of learning is identified, the learner is assumed to exert significant personal resources (e.g., energy and time) into the process (Knowles et al., 2005).

The Learner's Self-Concept

This notion proposes that adults see themselves as self-directed learners instead of dependent ones, which more thoroughly permeated their identity as children. However, any association with such dependency as adults tends to cause tension within the person, which may spur avoidance or self-removal from the learning process. Therefore, one objective of the facilitator is to expose the adult learner to educational experiences that honor this self-concept and fosters their proclivity for self-directed learning (Knowles, 1972; Knowles et al., 2005).

The Role of the Learner's Experience

As a person matures, they collect more knowledge and experiences. In andragogy, these become resources and tools whereby the learning process is engaged and fostered. Facilitators may use techniques such as group discussions or case studies to evoke learning. However, experience may also lead to the hardening of beliefs, which may stunt growth; therefore, tools to help adults assess their potential biases may be used to create

space for new learning. Ultimately, andragogical thinking assumes the experiences of the adult to be a vast resource to facilitate learning (Knowles, 1972; Knowles et al., 2005).

Readiness to Learn

Adults advance in their readiness to learn as they pass through various developmental stages. Timing is a critical component for a person to be ready to learn something of direct importance (i.e., relevant). For example, a social-work student may be more apt to learn about social policy after they have had contact with clients because they see it as significantly more relevant. This readiness does not have to be a passive process, as it can be propelled by career counseling, mentorship, or the observing of models that spark interest (Knowles, 1972; Knowles et al., 2005).

Orientation to Learning

Learning for adults is geared toward direct applicability to their life, as the process helps them solve problems or perform certain tasks. Therefore, the facilitator should construct and direct learning activities with the learner's context in mind (Knowles, 1972; Knowles et al., 2005).

Motivation

Although adults respond to extrinsic motivators, such as seeking a promotion, or intrinsic ones, such as improved job satisfaction, efficacy and self-esteem, are more powerful and influential (Knowles, 1972). Providing opportunities for adults and helping them work through obstacles will facilitate greater access to this perceived sense of motivation (Knowles, 1972; Knowles et al., 2005).

Related Research

The andragogical model views adults as self-directed, intrinsically motivated, and

ready to learn, provided that the topic is within the realm of their personal or professional interest and that relevancy is established. They can tap into their accrued experiences, which facilitates their learning and engagement with the presented material (Gravani, 2007; Knowles, 1972; Knowles, 1990; Knowles et al., 2005). Multiple disciplines, such as education, business, medicine, and law enforcement advocate and use andragogical methods for professional development (Chan, 2010; Gravani, 2007, 2012). For example, Birzer (2003) found that an andragogical approach to police training was beneficial in helping officers improve relevant proficiencies that allowed them to be more proactive, self-directed problem-solvers in the field. Moreover, Forrest and Peterson (2006) demonstrated numerous applications of andragogical principles in business management training through methods such as reflection and role-play while building on the learner's experiences and focusing on the pertinent nature of the material. Gravani (2012) argued that, when educating teachers, the lack of andragogical elements negatively impacts adults' professional development if facilitators do not take their learning needs into account and proceed with more of a pedagogical approach by dictating the curriculum.

Andragogy and Pedagogy

Knowles' theory separates itself from pedagogy, as the latter is teacher-focused, while andragogy is learner-centered. For example, whereas a teacher takes a more primary instructive role with students who are dependent on them to learn, andragogy positions the educator more as a facilitator of knowledge and engages with the adult learner, who is portrayed as more capable and experienced. However, the two are not antithetical, as andragogy may subsume certain aspects of pedagogy where a learner may be initially dependent on the instructor because the information is new (Knowles, 1990;

Knowles et al., 2005). Even though andragogical practices have been found to be effective where pedagogical ones have predominated, the fundamental goals between the two still differ. Specifically, pedagogical expectations seek to maintain a students' dependence on the teacher, whereas andragogical ones aim to move the learner toward independence (Forrest & Peterson, 2006; Knowles, 1990; Knowles et al., 2005). According to Gravani (2012), "solid teacher development programs acknowledge that teachers are professionals and adult learners; therefore, to a great extent, their education should be informed by the andragogical rather than the pedagogical principles" (p. 420). In understanding an adult's learning needs via the aforementioned six assumptions, Knowles also suggested eight process elements of andragogy to help the learner acquire knowledge and proficiencies (Knowles et al., 2005).

Eight Process Elements of Andragogy

Preparing Learners

Due to andragogical styles of teaching differing from those of pedagogy, adults may need preparation in becoming self-directed learners, as their previous exposure to learning was more dependent on the teacher. For example, approaches such as frontloading information, engaging in proactive learning exercises, and "cueing" may help facilitate a smoother transition (Knowles et al., 2005).

Climate

In andragogy, climate is seen as a key element in creating a physically and psychologically conducive environment in which adults can learn (Knowles, 1972). Within such a model, the educational setting should be informal, warm, supportive, comfortable, open, collaborative, and built upon mutual respect and trust. For example, a

classroom may be well lit, with the desks arranged in a circle while the facilitator takes time to engage students, answer questions, and build relationships (Knowles, 1972; Knowles et al., 2005).

Planning

Operating from an applied behavioral science position—where the level of commitment to an activity tends to be proportional to the amount of input on its design—andragogy approaches content planning as mutually defined between the facilitator and the adult learner (Knowles, 1972; Knowles et al., 2005).

Diagnosis of Needs

In diagnosing the learner's needs, the facilitator examines a students' competencies and any gaps related to their current skill level and their stated objectives. The latter is mutually assessed between the learner and facilitator, and the knowledge gained is used to facilitate the delivery of applicable content (Knowles, 1972; Knowles et al., 2005).

Setting of Objectives

The objectives are largely taken from the diagnosis of needs and incorporated through mutual negotiation. An andragogical approach acknowledges both the students' goals and what the teacher deems to be important—lest the latter be negligent in their duties as an educator (Knowles, 1972; Knowles et al., 2005).

Designing Learning Plans

Andragogical approaches to designing learning plans comprise formats (e.g., individual or group experiential activities) that best fit the learner's problems or objectives and sequence them according to their readiness (Knowles et al., 2005).

Learning Activities

Learning activities are experientially oriented and mutually developed and implemented. For example, students may engage in group discussions, role-playing, and case-study analysis, or they may choose a topic of interest and present it to the class. (Knowles, 1972).

Evaluation

As in other aspects of andragogy, evaluation is a mutual endeavor between the facilitator and learner. Data are gathered at various stages in relation to experience, content, learning, and pre-post measures of impact. Lastly, evaluation also considers how a learner will reexamine their initial competencies against new ones (Knowles, 1972; Knowles et al., 2005).

In discussing the andragogical process model for learning and drawing a distinction between more traditional approaches that are content-based, Knowles et al. (2005) stated that "the difference is that the content model is concerned with transmitting information and skills, whereas the process model is concerned with providing procedures and resources for helping learners acquire information and skills" (p. 115). This point underscores the focus on creating professional development modules that adhere to andragogical principles in making content accessible to teachers while including them in the process of their own education and growth. For this study, teachers shaped the innovation by providing insights into their learning needs, as outlined below in the previous research cycles' summaries.

Additional Studies Related to Andragogy

Although empirical studies on andragogy remain limited (Taylor & Kroft, 2009),

there is ample evidence for its effectiveness as a construct in educating adults (e.g., Carpenter-Aeby & Aeby, 2013; Gravani, 2007; Storey & Wang, 2016). Carpenter-Aeby and Aeby (2013) examined andragogical process elements in a graduate-level social work class. The course structure allowed for mutual engagement between the instructor and students, and the learners' experiences were utilized in the learning process, which helped facilitate a collegial atmosphere. In paying attention to andragogical principles, the classroom was designed to allow for a collaborative, informal learning atmosphere (e.g., desks were placed in a circle), planning time was built in so the learners and facilitator could collaborate on objectives, and lessons were intended to be instructive yet experiential by including, among others, case studies, group discussions, lectures with overheads, role-play, use of experience, and focus on direct application to problems. The results indicated that the students favored the class design, which allowed them to take more ownership of their learning.

Conversely, when elements of andragogy are not applied and facilitators exert full control over the direction of the learning process, the teachers' (i.e., the learners') experience declines (Gravani, 2007, 2012). According to Gravani (2007, 2012), teachers want to be included in deciding on the type of content they are learning and the delivery method, which is more pertinent to their work and interests, such as group discussions versus lectures. Additionally, teachers questioned and criticized climate factors, subpar resources, inadequate consideration for a conducive adult learning environment, and relationships with their instructors as being superficial and hierarchical (Gravani, 2007, 2012). Hence, a different approach to teaching adults is necessary. Specifically, andragogical principles should be attended to when seeking to facilitate adult learning, as

a focus on cultivating an educational climate based on inclusivity, collaboration, and relevancy is foundational in creating professional development modules for teachers seeking to increase their self-efficacy.

Andragogical Critique

Andragogy has come under scrutiny due to a lack of empirical evidence to support its use as an effective theoretical perspective (Loeng, 2018; McGrath, 2009; Merriam, 2001; Taylor & Kroft, 2009). Moreover, andragogy as a theory is questioned because it is often viewed more as a guide to proper practices that may help to inform adult learning; however, the associated assumptions are not widely seen as universal (McGrath, 2009; Merriam, 2001; Taylor & Kroft, 2009). For example, one premise of adult learners is that they are motivated to learn; however, it is not clear if this motivation is internal or external (McGrath, 2009; Merriam, 2001). Furthermore, some adults may prefer to have their educator take a more directive role in identifying learning objectives and content. However, although Knowles has acknowledged these shortcomings in his work, he believes that it is up to the teacher to guide the adult learner in this new way of learning. Additionally, even with its limitations, andragogy can draw adult learners into taking a more active role in their development and provide educators with viable alternative teaching methods (McGrath, 2009). Perhaps most importantly for this study, the principles of andragogy are well-suited to guide the design of learning experiences that promote self-efficacy.

Self-Efficacy Theory

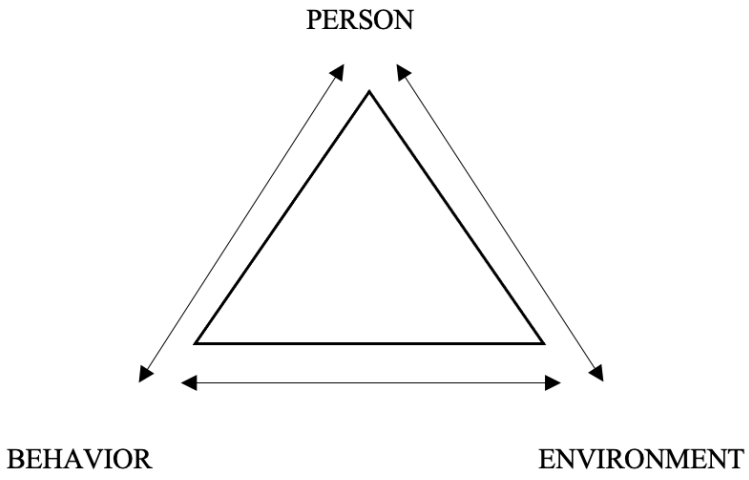
Triadic Reciprocality

The notion of self-efficacy exists within the broader social cognitive theory

developed by Albert Bandura (1986). In constructing his theory, Bandura pivoted away from the behaviorist view that people were controlled by their environment while also rejecting the psychoanalyst's perspectives that inner forces were solely responsible for a person's actions (Bandura, 1986). Instead, he posited that "behavior, cognitive and other personal factors, and environmental influences all operate interactively" in what he called *triadic reciprocality* (Bandura, 1986, p. 23). In this model (see Figure 1.), Bandura (1986) explained that any of these potential influences interrelate to affect a person's life; therefore, they should be considered as reciprocal rather than isolative. Moreover, people exact a level of authority over their thoughts and actions through self-regulatory and reflective processes and often in conjunction with other stimuli, which impact their behaviors (Bandura, 1986). One construct that plays an instrumental role in the latter is self-efficacy.

Figure 1

Bandura's Triadic Reciprocality



Self-Efficacy and Supporting Research

Self-efficacy is regarded as a belief in one's abilities, which is often a determining factor if someone is to persevere through challenges while pursuing goals and experiencing adversity (Bandura, 1982, 1986, 2001). More specifically, Bandura (1986) noted: "Perceived self-efficacy is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). As it relates to a teacher's ability to work effectively with students who exhibit stress and anxiety or learn new constructs to facilitate this, how a teacher perceives their proficiencies will influence performance. Therefore, the more teachers believe in their abilities, the more their sense of efficacy increases, as reflected in a study done by Yoo (2016), who found that teacher efficacy is positively influenced by professional development, particularly in the advancement of new knowledge.

Similarly, Ross and Bruce (2007) demonstrated how professional development could increase teachers' beliefs about their classroom management skills and that such a rise in self-efficacy coincides with a motivation to employ new strategies in the classroom. Since teachers in my study are engaged with students who exhibit internalizing and externalizing behaviors secondary to their stress and anxiety, professional development support must be provided to increase their sense of efficacy, especially early on in their preparation, to sustain gains (Spero & Woolfolk Hoy, 2005). In seeking to further understand what influences the development of self-efficacy, Bandura posited four informational sources, which are foundational to this construct: performance attainments, vicarious experience, verbal persuasion, and physiological states (Bandura, 1977, 1982, 1986).

Four Informational Sources of Self-Efficacy

Performance Attainments

In performance attainments, mastery experiences provide the person with a high sense of efficacy. Specifically, the more successful a person is, the higher their efficacy judgments and vice versa if they encounter failures; however, the latter will have less of an impact the stronger a person becomes in relation to their sense of self-efficacy. The notion of attaining mastery in a particular domain is important because a rise in one's self-efficacy can be generalized to other areas, including those where a person may see themselves as deficient (Bandura, 1977, 1982, 1986). In agreement with Bandura's assertion on the strength of mastery experiences, Tschannen-Moran and Woolfolk Hoy (2007), in their study of precursors of self-efficacy beliefs in teachers, stated that "mastery experiences made the strongest contribution to self-efficacy judgments for both beginning and career teachers" (p. 954).

Vicarious Experience

Vicarious experience involves learning from others by means of observation. Self-efficacy increases when the model performs successfully, as the observer begins to believe that they, too, can attain comparable mastery; however, similar to performance attainments, the opposite can happen if failure is perceived. Although not as strong as direct experiences, when done well, vicarious learnings can bolster a person's sense of efficacy, especially in conjunction with the other informational sources (Bandura, 1977, 1982, 1986).

Verbal Persuasion

As a contributing source of self-efficacy, verbal persuasion, when presented

within the realm of possibility, may propel others to endure challenges and maintain their efforts in the pursuit of mastery. This approach is best aligned with performance attainments and vicarious experiences in promoting more direct experiences to increase one's self-efficacy while also providing verbal encouragement to persevere when difficulties arise. Here, the potential for persuasion is enhanced by the credibility of the person delivering the message (Bandura, 1977, 1982, 1986). Moreover, verbal persuasion from various factions within and outside the school contributes to a new teachers' sense of efficacy (Tschannen-Moran & Woolfolk Hoy, 2007).

Physiological States

When a person assesses their perceived level of self-efficacy, their physiological state acts as an informational source. If someone experiences emotional or somatic arousal (e.g., when experiencing fear or tension), that may signal vulnerability regarding a particular situation, which will likely decrease their sense of efficacy. Conversely, an absence of negative feelings or thoughts will provide the person with a stronger sense of self-efficacy; therefore, personal appraisals should be monitored and attended to in order to maximize the potential for positive outcomes (Bandura, 1977, 1982, 1986).

Additional Studies Related to Self-Efficacy

In considering these four informational sources, there is ample evidence to suggest that effective professional development for teachers improves their sense of self-efficacy (e.g., Chao et al., 2017; Malinauskas, 2017; Ross & Bruce, 2007; Spero & Woolfolk Hoy, 2005; Yoo, 2016). Moreover, higher levels of self-efficacy have been associated with a teachers' effort, goal setting, organization and planning, presentation in the classroom, openness to innovation, and higher student outcomes (Tschannen-Moran

& Woolfolk Hoy, 2001). Professional development for teachers can be organized around mastery experiences, vicarious experiences (e.g., modeling), verbal persuasion (e.g., support, guidance), and physiological states (e.g., confidence, safety) to increase their self-efficacy. Malinauskas (2017) studied teacher education students and found significant gains in their sense of self-efficacy after they received training that included modeling by others with more knowledge, attempts at mastery (e.g., practice), feedback that was socially incentivizing (i.e., positively framed, encouraging), and strengthening of learned skills by applying them in different settings.

Similarly, teachers' efficacy was improved after a one-week course that provided practical knowledge and interventions in working with students in special education (Chao et al., 2017). The training allowed teachers to engage in group discussions, share insights and techniques, and hear from a variety of experts that were local to them about content germane to their needs. Overall, teachers expressed higher rates of self-efficacy related to teaching and learning and classroom management in working with an increasingly challenging population of students (Chao et al., 2017). These findings are noteworthy in seeking to increase a teachers' sense of self-efficacy through appropriately designed professional development and mirror the learner-centered focus of andragogy.

When examining these studies more closely, there are parallels that can be drawn to the tenets of andragogy, even though other researchers did not specifically investigate such an approach. For example, Chao et al. (2017) illustrate numerous connections to andragogical principles concerning experts who facilitated professional development for educators. Teachers' "need to know" and the "diagnosing of needs," in addition to the "setting of objectives" and "designing learning plans," are essential aspects of andragogy

that were satisfied by facilitators' decision to include topical information that they deemed necessary for participants to learn. Discussions, too, tapped into the "role of the learner's experience" as teachers engaged in pertinent conversations about the material. Additionally, as Malinauskas (2017) argued, learning activities allow participants to engage more experientially with the material (e.g., modeling and attempts at mastery). Moreover, with both studies including assessments to gauge the effectiveness of the interventions, "evaluation," which plays a pivotal role in gathering data in andragogy, allowed researchers to measure impact and gain valuable information that could inform both the facilitator and learner, thus driving future professional development endeavors.

Self-Efficacy Critique

Formal critiques of self-efficacy theory are not robust; however, where they exist, they point to questions regarding the environmental impact on behavior change versus a person's sense of self-efficacy. For example, Tryon (1981) was concerned about Bandura's methodology, as Bandura seemingly did not consider or ignored the context of behavior change (i.e., the impact of social contingencies). Additionally, not discounting the vast amount of empirical data supporting self-efficacy theory, Biglan (1987) examined how variables in the environment could account for a behavior change that was not merely due to a person's scores related to their self-efficacy ratings. Moreover, in examining teacher self-efficacy studies over 12 years, Klassen et al. (2011) highlighted numerous critiques emanating from the research. The authors illustrated a lack of specificity in measuring Bandura's four sources of self-efficacy—mastery experience, verbal persuasion, vicarious experience, and physiological arousal—as research is limited in this respect. Specific research would provide further information about the

development of self-efficacy in teachers and which sources of self-efficacy are more advantageous in practice (Klassen et al., 2011). Klassen et al. (2011) also noted the conflict between the domain specificity of self-efficacy research (i.e., being limited to a specific context) and its usefulness in practice. Specifically, the more narrowly this kind of research is defined, the more its potential for generalizability decreases. Lastly, questions have been raised regarding how to properly measure self-efficacy and ensure that the concept is accurately defined while also precisely assessing teachers' capability rather than erring on the side of focusing on their locus of control (Klassen et al., 2011).

This study's design considered these limitations by ensuring appropriate adherence to sound action research methodology and staying consistent with the tenets of self-efficacy theory. For example, given that this study was action-research oriented, any lack of generalizability was understood in its design. Moreover, in creating the measurement tool, I utilized terms such as *can* rather than *will* to focus on teachers' capabilities instead of intentions or outcomes (Klassen et al., 2011). Additionally, in conducting the study, I sought to limit potential threats (e.g., environmental factors), as discussed in Chapter Three.

Previous Cycles of Action Research

The design of this research study was influenced by two previous cycles of action research, both of which are outlined below. Cycle 0 took place in the spring semester of 2019 and Cycle 1 in the fall semester of 2019.

Cycle 0

In Cycle 0, to begin formulating my innovation and provide data supporting its need, I sought to ascertain teachers' (n = 4) knowledge regarding stress and anxiety in

students and their thoughts about professional development. The following RQs guided Cycle 0.

RQ 1: What knowledge do teachers have about student anxiety and stress?

RQ 2: What knowledge do teachers have about dealing with student anxiety and stress?

RQ 3: What kind of professional development might be useful to help teachers work more effectively with students who exhibit anxiety and stress?

Discussion of Cycle 0

The findings from the semi-structured, individual interviews with teachers suggested that they lacked formal preparation in understanding and working with students who exhibited stress and anxiety. Through no fault of their own, teachers' master's programs and previous professional training did not focus on explaining stress and anxiety or provide evidence-based practices that teachers could use with students to help them cope. The significance of these results lies in the acknowledgment from teachers of the high prevalence of stress and anxiety in the students with whom they worked. Given that all four teachers confirmed working with students who exhibited stress and anxiety, having difficulty in distinguishing the two, and lacking formal training, the need for increased levels of professional development on these topics was clear. The results echoed similar published studies wherein teachers reported working with students who exhibited mental health issues but felt ill-prepared to work with them effectively (Moon et al., 2017; Reinke et al., 2011; Rothi et al., 2008). Additionally, teachers requested practical information on identifying students' signs and symptoms of

stress and anxiety and ways to help them cope. Overall, these findings related directly to the RQs.

Concerning RQ 1, teachers exhibited informal, experiential, and personal knowledge about student anxiety and stress. Similarly, they expressed a rudimentary understanding of how to best deal with students who showed stress and anxiety, which answered RQ 2. These findings supported the need for a more formalized approach to professional development for teachers. Regarding RQ 3, teachers had clear ideas on what types of training they would prefer. For example, teachers requested more practical knowledge on understanding stress and anxiety and appropriate ways to support students in the classroom. The findings from Cycle 0 informed Cycle 1 as I endeavored to formulate the professional development modules for teachers.

Cycle 1

For my Cycle 1 action research study, I sought to further inform the construction of my innovation—professional development for teachers regarding students who exhibit stress and anxiety. Participants included three teachers (n = 3), two of whom were male, and the other female, with experience in education ranging from 6–12 years. Two RQs guided this study, which were formulated after Cycle 0 results, as indicated above. RQ 1 sought to determine if an online role-playing simulator (i.e., Kognito) should be included in future iterations of the innovation, whereas RQ 2 functioned as a means to understand teachers' needs regarding the overall content of the modules on stress and anxiety and their preferred delivery method of the professional development sessions (e.g., face-to-face, asynchronous, hybrid). I gathered both quantitative and qualitative data to answer

the RQs, and the findings, discussed in the next section, assisted in the development of the full innovation.

RQ 1: To what extent does Kognito increase teachers' understanding of working with students who demonstrate stress and anxiety?

RQ 2: What kind of professional development content might be useful to help teachers work more effectively with students who exhibit stress and anxiety?

Discussion of Cycle 1

Findings from Cycle 1 supported the overall intent of my research, which was to inform the construction of my innovation, thus providing me with a foundation from which to approach my dissertation action research study. Prior to Cycle 1, I had limited information about the type of content teachers preferred related to stress and anxiety and the appropriate format for delivery. In addition to gathering this information, I also sought to establish the usefulness of adding a role-playing simulator to the training that teachers would complete asynchronously. As one of my theoretical frameworks was andragogy, it was important for me to include teachers in the process of developing the modules, as their experience as adult learners and co-contributors would, ideally, enrich the overall training. Therefore, incorporating teachers in content formation was instrumental to the research process.

Overall, teachers expressed a desire for further education on stress and anxiety, how to differentiate between the two, and applicable, realistic modes of intervention. For example, regarding differentiation, one teacher expressed the value of knowing "what's healthy legitimate stress and anxiety and what's what we need to tend to, and being able to differentiate between those two." Additionally, a theme emerged around using

scenarios to help work through the content, which fit well with self-efficacy theory because vicarious learnings can bolster a person's sense of efficacy (Bandura, 1986). As one teacher noted, "exposure to a variety of scenarios, you know, it's like touching on a bunch of different situations with different kids so you can get used to not only dealing with the textbook definition of an anxious kid."

Regarding format, teachers identified a combination of asynchronous (e.g., simulator, online presentations) and group discussions to enhance learning. Teachers noted how a straight lecture presentation caused them to "zone out," and in support of more engaging material, as well as an asynchronous format, one teacher stated: "Most times these professional developments are done after teachers have taught for a day and we are at our wits end, and the idea of listening to another professional lecture at us…I just don't think that that's effective." Lastly, teachers found the role-playing simulator to be quite useful in helping them to understand how to talk with students who struggle with anxiety and stress. As one teacher noted, "In terms of the simulation, like having them give you some feedback of what you pick and why that was good or bad…those are mistakes that I'm sure I've made countless of times in talking to kids." Moreover, they appreciated the direct engagement with the material that the format provided. For example, one teacher expressed how "it was certainly more efficient than most trainings (laughs). I'd rather do a half-hour simulator than read a 200-page book. It's way more efficient. For sure, it, like, stuck with me a little bit more." Overall, teachers supported the simulator as content for the professional development trainings, which, as illustrated above, factored into their penchant toward more asynchronous material.

Summary

This study aimed to increase teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety through professional development focused on knowledge building and the use of practical interventions. Theories of andragogy and self-efficacy, as well as related research, informed the design and delivery method of the innovation. Furthermore, using self-efficacy to measure the impact that the professional development modules had on teachers helped assess its effectiveness and can drive future iterations of this research. In relation to this study, fusing elements of andragogy with professional development, particularly in an educational setting, can positively impact empowering teachers to harness their skills and experiences in a more self-directed fashion. Given that teachers are not thoroughly trained to work with students who exhibit mental health issues (Weist & Paternite, 2006), the focus of this research was necessary, timely, and well supported by theories of andragogy and self-efficacy. It can be hypothesized that teachers who engage in professional development, such as SOS, will increase their perceived sense of self-efficacy, which will allow them to be more confident in their dealings with students who exhibit stress and anxiety.

CHAPTER THREE

METHOD

There will never be a right time to do a great thing. You have to create that time. You have to create that opportunity.

— Eric Thomas

In this chapter, I explain the methodology driving this study's data collection and analysis. First, I describe the setting, participants, and role of the researcher. Second, I detail the innovation with a specific focus on its design and rationale, including supporting research for the content of SOS. Then, I illustrate the data collection instruments, followed by the study's procedures and timeline. Lastly, I present the approach to data analysis, address potential threats to validity, and discuss trustworthiness related to the data.

Setting

The setting for this action research study was a private special education day school located in a suburban city outside of Boston, Massachusetts, where I formerly served as dean of students and associate director. TA, which opened in 2006, offers college-preparatory academics with embedded therapeutic supports. The school enrolls 98 students in grades 6–12 from over 40 districts in Massachusetts and New Hampshire. Students attend TA because they were not making effective progress in their previous school setting due to their social and emotional disabilities. Most students have at least one formal psychiatric diagnosis and are on an individualized education plan, which legally dictates the services that they receive. TA is staffed with teachers, clinicians, a

full-time guidance director, and support personnel. The school offers small class sizes (8:1 student-teacher ratio), individual and group counseling, enrichment courses, and extra-curricular activities.

Participants

The participants for this action research study included teachers at TA (n = 6), four of whom identified as male and two as female, with experience in education ranging from 3–16 years. I utilized homogeneous purposive sampling to select participants, as the intent of the research was to elucidate the impact of the innovation on teachers with similar attributes from the same organizational context. According to Creswell and Guetterman (2019), "In homogeneous sampling, the researcher purposefully samples individuals or sites based on membership in a subgroup that has defining characteristics" (p. 208). Specifically, criteria for participation included teachers who worked with students in grades 6–12, were willing and interested in participating, and subjectively deemed themselves to be limited in their knowledge of working with students who exhibited stress and anxiety. In recruiting teachers, I sent an invitation e-mail explaining the study, its major components and timeline, and the benchmarks for inclusion. See Appendix A for the invitation e-mail. Additionally, a consent form was inserted at the beginning of the pre-test for enrolled teachers, signifying their agreed involvement in the study. See Appendix B for the consent form.

Role of the Researcher

In this action research study, I took on the roles of researcher and practitioner in both designing and delivering the content of the professional development modules (i.e., the innovation), as well as collecting data. By overseeing this process and facilitating the

group discussion, my role was that of a participant observer: "As a participant, you assume the role of an 'inside' observer who actually engages in activities at the study" (Creswell & Guetterman, 2019, p. 214). As an action researcher, I recruited and secured participants, administered the pre- and post-innovation survey instruments, and conducted individual interviews with all teachers involved in the study. Given the duality of my positions (i.e., researcher and practitioner), I was mindful of participant and researcher bias, which I address below when discussing potential threats to this study. Additionally, as noted above, in my practitioner role, I created and led the professional development sessions, which were, in part, based on teacher feedback from earlier research cycles. Moreover, my background as a clinical social worker provided an opportunity to inform content development and guide the presentation of the modules as a knowledgeable insider.

Innovation

Design

The innovation, SOS, was designed to address the lack of teacher efficacy in understanding and working with students who exhibit stress and anxiety. Professional development modules comprised the means by which teachers were trained to increase their knowledge and skills. Modules were designed with andragogical principles in mind to best cater to the teachers as adult learners. For example, ideas for content stemmed from teachers' feedback and an assessment of their needs via previous research cycles (e.g., planning, diagnosis of needs, setting of objectives—elements of andragogy; Knowles et al., 2005). Moreover, the four informational sources of self-efficacy (Bandura, 1986) further guided structural aspects of the sessions (e.g., vicarious

experiences). Delivery of the modules encompassed presentations, discussion, scenarios, and modeling, all of which sought to support teachers as professionals with various levels of experience in seeking to increase their sense of self-efficacy. Prior to the first module, I provided teachers with an overview of SOS and the expectations therein.

Based on previous research cycles, teachers cited time as a crucial factor in their pursuit of professional development, in addition to wanting material that was salient, informative, and focused on different modes of intervention. In building off of this information, I created five modules in total, lasting approximately 40–60 minutes apiece—four asynchronous sessions and one synchronous. Each module contained specific content designed to educate teachers on stress and anxiety and various means by which they could intervene with students. Moreover, the material within SOS was scaffolded for teachers to provide a cumulative learning effect, culminating in the synchronous discussion module. Additionally, due to the nature of this study and the short duration of SOS, the emphasis was on education and self-efficacy rather than the application of learned information, which is reflected in RQs 1 and 2.

Due to the COVID-19 pandemic during the implementation of SOS and data collection, I shifted the modules from in-person to virtual delivery, which led to many of the sessions being asynchronous. Although the latter let teachers complete the professional development sessions at their own pace and spend more time with the material, it did not allow them to dialogue about the content in real-time; therefore, a synchronous group discussion module was created to enable such sharing. Moreover, the placement of the discussion module after content delivery meshed with the scaffolded approach of SOS.

SOS Content and Related Literature

As noted above, in addition to providing teachers with salient information regarding stress and anxiety (e.g., definitions, physiological impact, differences between the two, how each may present in students), SOS was designed to introduce teachers to an array of approaches to working with students who exhibit stress and anxiety. The core elements of SOS, in this respect, focused on pertinent aspects of resilience development training, cognitive behavioral therapy, mindfulness-based practices, classroom management considerations and techniques, and an online role-playing simulator—Kognito. These specific areas, drawn from the literature, were chosen for their efficacy related to stress and anxiety and applicability in an educational environment.

Research on resilience has explored many internal and external factors that may counteract the impact of chronic stress, such as self-efficacy, growth mindset, self-regulation, social, adult, and community support, and problem-solving skills (Fergus & Zimmerman, 2005; Haimovitz & Dweck, 2017; Sciaraffa et al., 2018; VicHealth, 2015; Yeager & Dweck, 2012). Moreover, cognitive behavioral therapy is universally regarded as one of the foremost clinical approaches to working with people who experience anxiety and is considered an effective tool for treating anxiety-related issues in schools (Drmic et al., 2017; Mychailyszyn et al., 2011; VicHealth, 2015). Additionally, mindfulness-based practices have been demonstrated as an efficacious means to combat the adverse effects of stress and anxiety, with increasing evidence to support school-based viability and adoption (Bostic et al., 2015; Fuchs et al., 2017; Kuyken et al., 2013; Schonert-Reichl & Lawlor, 2010). Lastly, Kognito, a role-playing simulator geared toward teachers' attitudes and helping behaviors related to students who present with

mental health concerns (e.g., anxiety), was demonstrated to be advantageous in increasing their mental health gatekeeper skills (Long et al., 2018). See Table 1 for an outline of SOS and Appendices C, D, and E for a detailed description of the content covered in the first three modules.

Table 1

SOS Outline

Module	Content	Delivery
Module One	Understanding Stress and Anxiety: Differences, Definitions, Presentation, and Impact	- Asynchronous - 40 Minutes
Module Two	Resilience Development: Mindset; Coping; Effective Listening and Communication; Discipline; Fostering Competence; Building Confidence; Establishing Connection	- Asynchronous - 40 Minutes
Module Three	Interventions: Cognitive Behavioral Therapy; Mindfulness, Classroom Management Considerations and Techniques	- Asynchronous - 60 Minutes
Module Four	Kognito – Role-Playing Simulator	- Asynchronous - 60 Minutes
Module Five	Discussion: Scenarios and Q & A	- Synchronous - 40–60 Minutes

Rationale

Chapter One illustrated the staggering statistics on the prevalence of mental illness in adolescents in the United States (e.g., Merikangas et al., 2010) and how their stress and anxiety levels are on the rise (e.g., APA, 2018). Furthermore, teachers report a lack of training in working with students who have mental health issues (Reinke et al., 2011; Rothi et al., 2008). In my 12-years of experience at TA, students presented with various mental health issues; however, nearly all exhibited some level of stress and anxiety in their lives. Moreover, even though the mission of TA is to accommodate students with social and emotional disabilities, previous research cycles illustrated how teachers reported having little to no formal training in working with such students, particularly in the areas of stress and anxiety. Given the state of the larger and local context, the innovation of SOS was needed. Additionally, professional development such as SOS has been shown to increase mental health literacy in teachers (Carr et al., 2018) and raise their self-efficacy (Chao et al., 2017; Yoo, 2016), and the use of andragogical principles in shaping the modules to apply to teachers as adult learners is effective in developing a more learner-centered experience (Carpenter-Aeby & Aeby, 2013; Gravani, 2007, 2012).

Instruments

In order to gather information on the innovation's effectiveness on teachers, a concurrent mixed-methods research design was applied to examine the following RQs, as noted in Chapter One:

> RQ 1: How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?

RQ 2: How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?

RQ 3: To what extent did teachers participate in SOS?

The use of a concurrent mixed-methods approach allowed for the gathering of comprehensive information by utilizing both quantitative and qualitative data with equal weight given to each one (Creswell & Guetterman, 2019; Ivankova, 2015). As noted by Creswell and Guetterman (2019), "you conduct a mixed methods study when you have both quantitative and qualitative data, and these types of data, together, provide a better understanding of your research problem than either type by itself" (p. 545). This study employed a pre- and post-test quantitative survey instrument in addition to qualitative semi-structured individual interviews. Table 2 includes an inventory of both instruments utilized in this study.

Table 2

Quantitative and Qualitative Instruments

Method	Instrument	Detail
Quantitative	Teacher Self-Efficacy Instrument	- Pre- and Post-innovation - 6-Point Likert scale - 4 Constructs (5 questions per construct) - 39 Items on the pre-test - 44 Items on the post-test
Qualitative	Individual Interviews	- Post innovation - 19 Questions - All participants - Semi-structured

Teacher Self-Efficacy Instrument

In developing the Teacher Self-Efficacy Instrument (the TSEI), I consulted the work of Bandura (2006) for proper guidance. Due to the specificity of the RQs, the survey instrument consisted of researcher-generated items. According to Bandura (2006), "Scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest" (pp. 307-308). Constructs were generated to assess teachers in four areas—*knowledge on stress*, *knowledge on anxiety*, *working with students who exhibit stress*, and *working with students who exhibit anxiety*—and the innovation's effectiveness, which aligned with RQs 1 and 2. As noted by Bandura (2006), "Knowledge of the activity domain specifies which aspects of personal efficacy should be measured" (p. 310). Therefore, the four constructs and the items therein sought to measure teachers' perceived levels of self-efficacy in a topical and specific manner. Moreover, given that perceived self-efficacy is an assessment of one's capability, items were phrased to reflect what teachers felt they could do versus their future intent (Bandura, 2006).

To gather data to test the scale's reliability, I piloted the TSEI with teachers of varying experience within this study's context. Prior to pilot testing, I made revisions to the TSEI based on peer and professor feedback and then administered the instrument electronically via Survey Monkey. A total of 10 teachers participated in the pilot study (n = 10). Once participants completed the TSEI, I exported the data from Survey Monkey into Microsoft Excel for organizational purposes and then imported the information into SPSS to test the survey instrument's reliability. According to Field (2018), "Reliability means that a measure…should consistently reflect the construct that it is measuring" (p.

602). In this reliability analysis, I measured the internal consistency of my constructs using Cronbach's alpha, which is generally viewed as the preferred means to calculate instrument reliability (Field, 2018). Within this measure, as noted by Plano Clark and Creswell (2015), "The scores for all questions should relate to each other at a positive, high level (Cronbach's alpha = .7–1.0)" (p. 242). In the results of my analysis, illustrated in Table 3 below, scores ranged from $\alpha = .87$ to $\alpha = .95$ for the constructs. In relation to the overall survey instrument, excluding demographics, knowledge questions, and the four questions pertaining to previous training and teachers' ability to differentiate between stress and anxiety, $\alpha = .94$.

Table 3

Cronbach Alpha Scores for the Teacher Self-Efficacy Instrument (Pilot) (n = 10)

Construct	Within Construct Items	Coefficient Alpha Estimate of Reliability
Knowledge of Anxiety	Items 1, 2, 3, 4, 5	.93
Knowledge of Stress	Items 6, 7, 8, 9, 10	.87
Working with Students Who Exhibit Anxiety	Items 11, 12, 13, 14, 15	.90
Working with Students Who Exhibit Stress	Items 16, 17, 18, 19, 20	.95
Overall Alpha	Items 1-20	.94

Prior to beginning the intervention, teachers filled out a pre-test survey instrument gauging their perceived levels of self-efficacy on the four constructs listed above. Each construct had five items. There were also five demographic questions, four additional items pertaining to previous training and teachers' ability to differentiate between stress

and anxiety, and 10 knowledge-based queries developed to measure actual rather than perceived knowledge. Example items for each of the four constructs are provided to illustrate the intent of the survey instrument.

- Knowledge of stress: "I am confident in my understanding of stress in students."
- Knowledge of anxiety: "I can accurately explain to others how anxiety impacts students."
- Working with students who exhibit stress: "I can intervene with evidence-based tools to help a student through their stress."
- Working with students who exhibit anxiety: "I am confident in my ability to work effectively with students who exhibit anxiety."

The TSEI utilized a 6-point Likert scale with response selections ranging from *Strongly Disagree* to *Strongly Agree*. Once the innovation was completed, teachers filled out a post-test, which included the same items as the pre-test, minus the demographic questions. The post-test also had nine retrospective questions to further elicit information from teachers on the effectiveness of SOS. For example, teachers were asked about their knowledge, ability to support students, level of engagement with the modules, willingness to recommend SOS to their colleagues, and the social validity of the topic of stress and anxiety. The pre- and post-test were used to answer RQs 1 and 2, and the post-test also facilitated gathering data for RQ 3. Regarding RQ 3, teachers were directly asked about the various ways they participated in the learning modules. See Appendix F for the pre-TSEI and Appendix G for the post-TSEI.

Individual Interviews

Once teachers completed the innovation, I met with each participant via the Zoom

video platform for individual interviews. According to Ivankova (2015), an individual interview "is a one-on-one conversation between an interviewee and an interviewer to collect rich in-depth information about an interviewee's experiences with and views on the studied issue" (p. 201). Although individual interviews are more time consuming than a focus group, one advantage is that they take potential power structures within a group setting away and allow participants to express their thoughts in an unfettered manner (Ivankova, 2015). The purpose of the interviews was to understand the impact of SOS on teachers more deeply, and the findings were triangulated with data received from the quantitative survey instrument. The investigated constructs were related to RQs 1 and 2, which explored teachers' perceived levels of self-efficacy in the following areas: *knowledge on stress*, *knowledge on anxiety*, *working with students who exhibit stress*, and *working with students who exhibit anxiety*. I developed 19 questions in advance and utilized a semi-structured interview protocol (Brinkman & Kvale, 2015; Creswell & Guetterman, 2019; Ivankova, 2015), which allowed for both specific questions and follow-up ones, as needed. As noted by Brinkman and Kvale (2015), "The art of posing second questions can hardly be specified in advance but requires a flexible on-the-spot follow-up on subjects' answers, with consideration of the research questions of the interview inquiry" (p. 166). This approach permitted me to dive more deeply into participants' responses and gain greater insight into the RQs.

Additionally, I employed open-ended questions, which, as Creswell and Guetterman (2019) noted, are utilized "so that the participants can best voice their experiences unconstrained by any perspectives of the researcher or past research findings" (p. 208). The following two questions provide examples of what was asked

during the interview: “How confident are you in identifying stress and anxiety in your students now compared to before the professional development modules?” and “How did SOS influence your knowledge of student anxiety?” Moreover, to help answer RQ 3, teachers were asked to describe their participation in SOS, which included how they spent their time with each module and the activities therein. See Appendix H for the complete list of individual interview questions. Lastly, the interviews were audio-recorded and then transcribed verbatim to ensure accuracy (Ivankova, 2015).

Procedure

Prior to implementing SOS, I created the professional development modules using evidence-based practices to best align with the intent of the innovation, which was to increase teachers’ self-efficacy in understanding and working with students who exhibit stress and anxiety. I formulated the presentations using Microsoft PowerPoint and recorded them with Screencast-O-Matic. Then, I set up online access for teachers to engage in the role-playing simulator. Once completed, the modules were made accessible to teacher participants via the online learning management system, Canvas, which provided them with direct access to the content therein. See Appendix I for a screenshot of the modules in Canvas. Additionally, I held and facilitated a virtual meeting via the Zoom video platform for the discussion-based module in which teachers asked questions, shared information and experiences, and reviewed their learnings from SOS.

The research dissertation cycle ran from January 2021 to June 2021. In January, as outlined in the above section on participants, I recruited teachers for the study, which entailed drafting and sending out the participant interest e-mail. Once the participants were selected, I held a virtual meeting in January to review the innovation, establish a

timeline, gather further input from teachers, and administer the pre-TSEI. The innovation and data collection began in February and went through April. After completion of the last module, I administered the post-TSEI and conducted the individual interviews. Analysis of the quantitative and qualitative data took place in May and June. Table 4 illustrates the timeline and procedures of this study.

Table 4

Timeline and Procedures of the Study

Time-Frame	Actions	Procedures
September–December	Created, recorded, and uploaded PowerPoint presentations	- Researched information and interventions for the modules
	Submitted proposal to ASU's IRB	- Crafted IRB proposal
	Selected and set up an online delivery system for SOS in Canvas	- Investigated a virtual platform for the content of SOS
January	Recruited participants	- Drafted and sent out participant recruitment e-mail - Selected participants
January	Uploaded the TSEI into Survey Monkey	- Finalized quantitative survey instrument items
	Onboarded participants	- Held virtual meeting with participants over Zoom - Reviewed innovation and timeline - Enrolled participants in the study
February	Pre-innovation data collection	- Administered the pre-TSEI
February–March	Implemented innovation	- Monitored SOS via Canvas - 4 asynchronous modules - 1 synchronous module
April	Post-innovation data collection	- Administered the post-TSEI - Individual interviews
May–June	Data Analysis	- Quantitative analysis - Organized and imported data into SPSS - Qualitative analysis - Transcribed and imported interviews into Dedoose
July–September	Completed Ch.'s 4 and 5; Revised Ch.'s 1-3	- Wrote, reviewed, reflected, and revised

Data Analysis

To effectively answer RQs 1, 2, and 3, I utilized a mixed-methods data analysis approach, as illustrated in Table 5. Once collected, I analyzed both the quantitative and qualitative data and triangulated the findings to best formulate an in-depth, comprehensive understanding of the gathered information. The use of triangulation in data analysis allows the researcher to "improve their inquiries by collecting and combining (integrating) different kinds of data bearing on the same phenomenon" (Creswell & Guetterman, 2019, p. 546) while also enhancing the credibility of the findings (Mertler, 2017).

Table 5

Data Analysis Approach

Research Questions	Data Collection Sources	Data Analysis Procedures
RQ 1, RQ 2, & RQ 3	Pre- and Post-Test	- Paired samples t-test - Descriptive Statistics
RQ 1, RQ 2, & RQ 3	Semi-Structured Individual Interviews	- Cycle Coding – Structural and Focused (Saldana, 2016)

Quantitative Analysis

As noted above, I employed a pre- and post-test to gauge the effectiveness of SOS. I imported the collected data into SPSS and conducted paired samples t-tests (Field, 2018; Ivankova, 2015), in addition to running descriptive statistics (Plano Clark & Creswell, 2015), to ascertain the level of change in teachers' perceived levels of self-efficacy related to their knowledge of stress and anxiety and ability to work with students

who present with such, pre- and post-innovation. I used paired samples t-tests to determine the significance of changes in participants' pre- and post-scores on the four constructs: *knowledge on stress*, *knowledge on anxiety*, *working with students who exhibit stress*, and *working with students who exhibit anxiety*. Additionally, the frequency and percentage of correct responses to 10 actual knowledge-based questions on stress and anxiety, pre- and post-SOS, were calculated to determine what, if any, changes occurred. Lastly, post-test data in the form of retrospective questions allowed for further insight into the overall effectiveness of SOS, level of engagement with it, and teachers' perceived sense of self-efficacy regarding stress and anxiety.

Qualitative Analysis

Teacher participant responses from semi-structured individual interviews comprised the qualitative data, which, along with the quantitative data, facilitated answering all three RQs. After transcribing the individual interviews, I imported the data into Dedoose—an online qualitative analysis program. In analyzing the data, I employed two coding cycles with a transitional phase as outlined in Saldana, 2016.

For cycle-one coding, I utilized structural coding (Saldana, 2016) to break down the individual interviews. The detail of this approach allowed me to familiarize myself with the large amount of collected interview data and begin seeing similarities and potential themes. As Saldana (2016) noted, "Structural Coding applies a content-based or conceptual phrase representing a topic of inquiry to a segment of data that relates to a specific research question used to frame the interview" (p. 98). In applying this approach, which aligned well with the coordinated nature of my interview and RQs, I coded data in segments to begin my analysis and then proceeded to a second round of coding within

this frame. Regarding the latter, I subcoded the primary codes to enhance the original items, bring more specificity to the generalized nature of structural coding, and allow for further data categorization (Saldana, 2016). In total, cycle-one coding yielded 72 primary codes and subcodes.

In building off of structural coding, I wanted to reduce the initial codes generated from this coding cycle. To do this, I drew on the iterative analysis of code mapping (Saldana, 2016), where I first listed out the 72 codes from cycle one and began studying their connections to one another. Then, after becoming more familiar with the codes, I organized them into categories, which allowed me to start identifying emerging themes. By engaging in this transitional cycle, I gained a firmer grasp of the data as I proceeded to a second coding cycle while also generating focused codes from which to work.

Second-cycle coding entailed focused coding (Saldana, 2016), which I used to further hone my interview data after the transitional phase of code mapping. According to Saldana (2016), "Focused Coding searches for the most frequent or significant codes to develop the most salient categories in the data corpus" (p. 239). From my earlier rounds of coding, I developed nine focused codes, which I applied to the interview data, and analyzed for themes related to the RQs. I discuss themes and assertions linked to the qualitative data in the next chapter.

Threats to Validity

In assessing potential threats to this study, I considered numerous possibilities; however, five stood out as most viable: history, maturation, test sensitization, experimenter effect, and instrumentation. Moreover, the focus herein is on internal validity versus external, as I am not seeking to generalize my results to a larger

population. According to Plano Clark and Creswell (2015), "Internal validity is the extent to which a researcher can claim that the independent variable caused an effect in the dependent variable at the end of the study" (p. 246). Specific to this study, the independent variable is SOS, while the dependent variable is teacher self-efficacy.

History

The threat of history involves potential events that transpire while changes are observed in the dependent variable that are not related to the independent variable (Smith & Glass, 1987). The possibility that teachers may have learned about the topic of stress and anxiety in students through means other than SOS (e.g., conferences, self-learning, peer conversations) was a potential threat to validity; however, I sought to control for this in two different ways. First, SOS's short implementation period provided less time for teachers to attend other conferences or professional development sessions. Second, I asked teachers a question during the post-innovation interview that assessed other learnings on stress and anxiety beyond SOS.

Maturation

The threat of maturation speaks to any development within the sphere of the participants (e.g., psychologically or physically) that can account for any change in the dependent variable (Smith & Glass, 1987). Within my study, it was plausible that teachers could naturally become more adept at working with students who exhibit stress and anxiety by virtue of their growing skills as professionals and developing better relationships with students as time passed. Here, similar to history, though, the short duration of SOS provided some logical protection from the threat of maturation.

Testing and Pretest Sensitization

According to Smith and Glass (1987), "Pretests, particularly of attitude or personality measures, can alert the subjects to the content of the treatment and possibly to the hypothesis of the study" (p. 152). This "practice effect" (Smith & Glass, 1987, p. 128) may impact the dependent variable alongside the independent variable or act alone as the chief catalyst of change. I employed a pre- and post-test in my study; therefore, pre-test sensitization was a legitimate threat to validity. To counter this potential threat, I asked retrospective questions on the post-test that spoke specifically to the innovation's effectiveness, thus focusing on the professional development modules rather than the pre-test.

Experimenter Effect

The experimenter effect arises when the experimenter's presentation and exuberance exceed that of the researcher's intention, which may encourage participants to perform at higher levels than they may otherwise (Smith & Glass, 1987). This potential threat to validity could have impacted my study due to my former administrative status at TA, whereby participants might have wanted to please me or avoid any outward display of displeasure with SOS. Additionally, being both researcher and practitioner created a possible dynamic for the experimenter effect to occur. Hence, I controlled for this potential threat by ensuring that scores on the pre- and post-test were anonymous and specifying such in the survey instrument. Moreover, I provided verbal reassurance of my objective involvement and sought not to provide additional training assistance beyond the scope of the innovation, thus keeping to the standardized nature of the study.

Instrumentation

To further reduce internal threats of validity associated with the survey instrument, the four constructs tested and the items therein were the same for the pre- and post-test. Moreover, I utilized standardized procedures throughout the quantitative data collection phase (e.g., the same online delivery system for the pre- and post-test; Creswell & Guetterman, 2019).

Additional Validity Measures

To promote the trustworthiness, validity, and credibility of the data, I engaged in researcher reflexivity and employed member checking (Creswell & Guetterman, 2019; Mertler, 2017) in addition to triangulation and other measures noted above. Throughout implementing SOS and data analysis, I engaged in ongoing self-reflection and utilized standardized procedures to check for and mitigate potential biases (e.g., using open-ended questions, iteratively reviewing the data). Moreover, I reflected on my previous collegial and administrative relationship with the participants and followed a systematized approach to recruitment and data collection (see also section "Experimenter Effect" above). Additionally, once I developed themes from the qualitative analysis, I shared them with individual participants to check the accuracy of my interpretations against their answers and intentions. Lastly, to allow for transferability (Ivankova, 2015; Mertler, 2017), I provided a rich, detailed description of this study's context, participants, innovation, and research methods.

Summary

In this chapter, I provided a detailed description of the approach to data collection and analysis that facilitated answering this study's RQs. Moreover, I addressed

trustworthiness and potential threats to validity and explained the rationale and design of SOS while rooting its foundational elements in the literature. Overall, the methods described herein adhered to a mixed-methods approach to data collection and analysis, the outcomes of which are discussed in the next chapter.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

You may never know what results come from your action.

But if you do nothing, there will be no result.

— Mahatma Gandhi

The purpose of this study was to examine the effectiveness of Stress on Students (SOS)—a series of professional development modules designed to educate teachers on student stress and anxiety. Three RQs guided the inquiry into the impact of this innovation.

RQ 1: How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?

RQ 2: How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?

RQ 3: To what extent did teachers participate in SOS?

Results from this study are presented in two sections—quantitative and qualitative. The first section includes results from the quantitative data in the form of paired samples t-tests and descriptive statistics. In the second section, I detail the results from the qualitative data, which followed a rigorous multi-cycle coding process that yielded four assertions specific to the RQs. Before presenting the results, I briefly review the data sources and collection procedures explained in Chapter Three.

Review of the Data Sources and Collection Procedures

Quantitative and qualitative results stemmed from data collected and analyzed

from participant teachers (n = 6). As noted in Chapter Three, the reliability of the four constructs was measured using Cronbach's alpha. Scores for this reliability analysis yielded high levels of internal consistency of the constructs ranging from $\alpha = .87$ to $\alpha = .95$. For the quantitative data, teachers completed a pre- and post-test. The TSEI consisted of four constructs that measured teachers' self-perceptions related to knowledge of stress and anxiety and their ability to work with students who present with stress and anxiety. Teachers were also asked to answer 10 questions that assessed their actual knowledge and to self-assess their ability to differentiate between stress and anxiety. Additionally, the post-test included several retrospective questions to gauge SOS's impact on teachers. Quantitative data from the TSEI were analyzed by running descriptive statistics and paired samples t-tests in SPSS on the four constructs and specific items related to differentiating between stress and anxiety. The retrospective items and 10 actual knowledge-based questions were investigated descriptively.

Qualitative data included semi-structured individual interviews of teacher participants (n = 6). As detailed in Chapter Three, the interviews were transcribed, entered into the online qualitative analysis program Dedoose, and examined via a two-cycle coding scheme—structural and focused (Saldana, 2016). The latter also included a transitional coding phase—code mapping—that placed the structural codes into categories, which led to the formation of focused codes (Saldana, 2016). I analyzed the resulting data for themes, which stemmed from theme-related components, and then developed assertions that were supported by participant quotes from the original interviews.

Results

Quantitative Data Results

Quantitative data results are provided in four sections. First, I present descriptive statistics on the four constructs and teachers' perceived ability to differentiate between stress and anxiety. Then, I describe the results of the paired samples t-tests, followed by participant answers to 10 actual knowledge-specific questions, pre- and post-SOS. Lastly, I detail responses to the retrospective items on the post-test encompassing teachers' experience with SOS.

Descriptive Statistics

I utilized SPSS to determine the mean and standard deviation of the teacher participants' pre- and post-test responses to the 6-point Likert scale items related to the four constructs—*knowledge of anxiety*, *knowledge of stress*, *working with students who exhibit anxiety*, and *working with students who exhibit stress*—and their perceived ability to differentiate between stress and anxiety. As displayed in Table 6, teachers scored higher on the post-test than in the pre-test across all items. Furthermore, low standard deviations indicated consistency in participant responses, as they were clustered around the mean. Overall, scores related to the four constructs rose from an aggregate mean of 3.18 on the pre-test to 5.63 on the post-test, representing more than a two-point increase in teachers' perceived knowledge of stress and anxiety and ability to work with students who exhibit such. Moreover, teachers' scores improved more than three points in their perceived ability to differentiate between stress and anxiety, climbing from a pre-test mean of 2.60 to 5.83 on the post-test.

Table 6

Pre- and Post-Instrument Scores on Five Constructs of the Teacher Self-Efficacy Instrument (n = 6)

Construct	Pre-Test Mean	Standard Deviation	Post-Test Mean	Standard Deviation
Knowledge of Anxiety	3.10	1.00	5.60	0.38
Knowledge of Stress	3.13	0.93	5.60	0.31
Working with Students Who Exhibit Anxiety	3.17	1.00	5.63	0.34
Working with Students Who Exhibit Stress	3.33	1.10	5.70	0.40
Differentiating Between Stress and Anxiety	2.60	0.92	5.83	0.41

Paired Samples T-Tests

Using SPSS, I conducted paired samples t-tests at $\alpha = .05$ to compare pre- and post-intervention scores and determine both the significance of differences in the four constructs included in the TSEI and teachers' perceived ability to differentiate between stress and anxiety. As established by the descriptive statistics discussed above, there were numerical increases in teacher participant mean scores for all of the items measured from the pre-test to the post-test. Results from the paired samples t-tests shown in Table 7 indicated that these changes were statistically significant. With *p*-values ranging from <.001 to .008 and less than the established .05 significance level, the null hypothesis is rejected in favor of the alternative. Therefore, it can be concluded that there is a 95% chance that the increases in participant scores did not happen by coincidence and that the

higher levels of perceived self-efficacy in teachers' knowledge of stress and anxiety and ability to work with students who exhibit such are associated with participation in SOS.

Table 7

Paired Samples T-Test for Computed Means of Instrument Constructs (n = 6)

		Paired Differences							
					95% Confidence Interval				
		Mean	Std. Dev.	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Knowledge of Anxiety	Pre-Test Post-Test	-2.50	1.24	0.51	-3.81	-1.20	-4.95	5	.004*
Knowledge of Stress	Pre-Test Post-Test	-2.51	1.20	0.51	-3.71	-1.24	-5.20	5	.004*
Working With Anxiety	Pre-Test Post-Test	-2.51	1.24	0.51	-3.80	-1.20	-4.91	5	.005*
Working With Stress	Pre-Test Post-Test	-2.41	1.35	0.55	-3.80	-1.00	-4.30	5	.008*
Differentiate Stress and Anxiety	Pre-Test Post-Test	-3.30	1.10	-.44	-4.40	-2.11	-7.34	5	<.001*

Note. * $p < .05$

Knowledge Specific Questions

Participant teachers were asked to respond to 10 knowledge-based items from the material covered in SOS on the pre- and post-test to ascertain any changes in their actual understanding of stress and anxiety rather than their perceptions. Overall, as displayed in Table 8, teachers' combined scores rose from 67% correct on the pre-test to 97% correct on the post-test, with 18 more accurate answers and a near-perfect mark following participation in SOS. Moreover, the data signified that teachers retained their previous knowledge and demonstrated gains in areas where they may have been deficient. For

example, only two teachers correctly defined stress in the pre-test, but all six did so on the post-test. Similarly, correct answers to items related to generalized anxiety went from 50% to 100% before and after SOS, respectively.

Table 8

Pre- and Post-Test Stress and Anxiety Knowledge Scores (n = 6)

Knowledge Items	Pre-Test Total Number Correct	Percentage	Post-Test Total Number Correct	Percentage
Generalized anxiety usually arises from being burned out by stressful events	3	50	6	100
The following define anxiety correctly	5	83	6	100
Panic attacks that occur as part of a Panic Disorder typically come "out of the blue"	4	67	5	83
How long do symptoms of generalized anxiety need to persist before a diagnosis is made	3	50	6	100
The following define stress correctly	2	33	6	100
Stress is ongoing worry about the future	5	83	6	100
Please choose which grouping requires the least to most clinical intervention	4	67	5	83
School-based accommodations for a student with anxiety should be designed to help the student avoid their anxiety	5	83	6	100
Examination anxiety is a real response from a student who is stressed about taking a test	4	67	6	100
People with social anxiety have an excessive and irrational fear that they will act in a way that will be humiliating or embarrassing	5	83	6	100
Overall	40	67	58	97

Note. Scores are combined for all participants. Total possible correct = 6.

Retrospective Items

Table 9 represents teacher participant answers to seven retrospective items on the

post-test related to their experience with SOS. Response selections went from *Strongly Disagree* to *Strongly Agree* on the 6-point Likert scale. Participant mean scores for all seven items were in the *Agree* to *Strongly Agree* range. Related to indicators of self-efficacy, teachers reported having more knowledge on stress and anxiety ($M = 6.00$) and a greater understanding of how to best work with students who exhibit stress and anxiety ($M = 5.83$) while also feeling better equipped to do so ($M = 6.00$). Moreover, mean scores revealed that teachers fully engaged with the learning modules ($M = 6.00$), felt that the time spent on SOS was reasonable ($M = 5.83$), and that the topic of stress and anxiety warranted increased professional development ($M = 6.00$). Lastly, all six participants strongly agreed ($M = 6.00$) that they would recommend SOS to their colleagues.

Table 9

Post-Test Retrospective Items (n = 6)

Retrospective Items	Mean	Standard Deviation	Agree/Strongly Agree - %
After completing SOS, I have more knowledge regarding stress and anxiety in students	6.00	.00	100
After completing SOS, I have a greater understanding of how to best support students who demonstrate stress and anxiety	5.83	.41	100
I engaged fully with SOS by completing each module and performing all associated tasks	6.00	.00	100
I would recommend SOS to my colleagues	6.00	.00	100
The issues of stress and anxiety among students are of sufficient concern to warrant increased professional development for teachers in the form of SOS	6.00	.00	100
The time spent on SOS was reasonable	5.83	.41	100
After SOS, I believe that I am more equipped to work with students who demonstrate stress and anxiety	6.00	.00	100

Qualitative Data Results

Qualitative data results are provided in three sections. First, I describe the data sources which informed the findings related to the RQs. Then, I present the themes, theme-related components, and assertions. Third, I support the themes and assertions generated from the multiple coding cycles with direct participant quotes from the interview data.

Data Sources

In this mixed-methods study, qualitative data were collected to facilitate answering the three RQs. I conducted semi-structured individual interviews with the teacher participants (n = 6) to elicit information regarding the impact of SOS with a specific focus on knowledge, engagement, and perceived levels of self-efficacy. See Appendix H for the complete list of individual interview questions. The interviews, which were recorded and transcribed, yielded two hours and 56 minutes of audio files and approximately 20,000 words of text. Table 10 illustrates the richness of the qualitative data.

Table 10

Description of Qualitative Data Sources

Data Source	Word Count	Minutes
Teacher 1 Interview	3,997	46:31
Teacher 2 Interview	5,322	39:37
Teacher 3 Interview	2,071	21:35
Teacher 4 Interview	3,387	26:52
Teacher 5 Interview	2,203	17:24
Teacher 6 Interview	3,285	25:48
Totals	20,265	176:27

Themes, Theme-Related Components, and Assertions

In analyzing the qualitative data sources, I endeavored a multi-step coding process, where the first cycle, structural coding (Saldana, 2016), yielded 72 codes, including both primary codes and subcodes. These codes were grouped into categories through the iterative process of code mapping (Saldana, 2016) and then combined into focused codes, which guided the second coding cycle. For example, first-cycle codes such as "recognizing stress and anxiety" and "differentiating between stress and anxiety" were brought together to form the focused code of "learning new knowledge." See Appendix J for an illustration of the mapped codes. Focused codes were then applied to the data corpus. The resulting data from this coding process were analyzed for themes and then developed into assertions. The four themes were: (a) gaining new knowledge of stress and anxiety, (b) learning new intervention strategies, (c) enhancing teacher self-

efficacy, and (d) teachers engaging with SOS. Table 11 provides an overview of the themes, theme-related components, and assertions.

Table 11

Themes, Theme-Related Components, and Assertions

Themes	Theme-Related Components	Assertions
Gaining new knowledge of stress and anxiety	1. Teachers learned new information about stress and anxiety. 2. Teachers learned how to differentiate between stress and anxiety. 3. Teachers learned how to recognize stress and anxiety in students better.	Teachers perceivably gained an enhanced working knowledge of stress and anxiety by viewing and engaging with the contents of the learning modules in SOS and being exposed to new information.
Learning new intervention strategies	1. Teachers learned about new strategies to work with students who exhibit stress and anxiety. 2. Teachers articulated an understanding of when and how to apply learned strategies with students who have stress and anxiety. 3. Teachers appreciated the accessibility and practicality of the strategies in SOS.	Teachers perceivably learned about new pragmatic ways to intervene with students who exhibit stress and anxiety by viewing and engaging with the contents of the learning modules in SOS, participating in role-playing situations via Kognito, and talking through scenarios in the group discussion.
Enhancing teacher self-efficacy	1. Teachers grew more confident in working with students who demonstrate stress and anxiety. 2. Teachers felt more equipped with knowledge and strategies to work with students who have stress and anxiety after completing the learning modules in SOS.	Teachers perceivably grew more self-efficacious by viewing and engaging with the contents of the learning modules in SOS, gaining new knowledge on stress and anxiety, and learning new ways to intervene with students.
Teachers engaging with SOS	1. Teachers actively engaged with SOS and completed all module components. 2. SOS promoted deeper self-learning among teachers.	Teachers demonstrated high levels of engagement with SOS and its components by actively watching the presentations, engaging with the role-playing simulator, and participating in the group discussion.

Narrative Description of Findings

The following section presents pertinent quotes from teacher participants to substantiate the themes, theme-related components, and assertions. Each theme and the accompanying information provide salient data to answer this study's three RQs. See Table 12 for the alignment of themes and RQs.

Table 12

Alignment of Themes and Research Questions

Theme	Research Question(s)
Gaining new knowledge of stress and anxiety	RQ 1 – How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?
Learning new intervention strategies	RQ 2 – How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?
Enhancing teacher self-efficacy	RQ 1 – How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety? RQ 2 – How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?
Teachers engaging with SOS	RQ 3 – To what extend did teachers participate in SOS?

Gaining new knowledge of stress and anxiety. Assertion 1—*Teachers perceivably gained an enhanced working knowledge of stress and anxiety by viewing and engaging with the contents of the learning modules in SOS and being exposed to new information.* Three theme-related components comprised the theme that led to the first assertion: (a) teachers learned new information about stress and anxiety; (b) teachers

learned how to differentiate between stress and anxiety; (c) teachers learned how to recognize stress and anxiety in students better.

Teachers learned new information about stress and anxiety. The professional development modules—SOS—provided teachers with salient information on stress and anxiety in an effort to increase their knowledge and enhance their understanding. The significance of this approach was that prior to SOS, teachers reported not having specific training or professional development on stress and anxiety. For example, when asked about prior training on stress and anxiety, Teacher 4 stated, "And that's frustrating, I mean. No, nothing really. I mean, in, like, my graduate school program, like I said, we briefly talked about anxiety disorders within the special needs umbrella, but no specific trainings." Teacher 2 echoed similarly with "None. I would say I had no professional development day in regards to stress and anxiety."

During the post-SOS interviews, teachers across the board reported new learning resulting from their engagement with SOS. Teacher 1 illustrated a more comprehensive view of their learning by stating:

> Well, it has opened up, first, more of an awareness of the differences between stress anxiety, but also how it manifests in students and how it plays out in class in the classroom and how you see it, and then, more importantly, or just as importantly, the different ways that you can address when you see anxiety or stress.

Teacher 4 noted how SOS broadened their awareness of anxiety:

> I didn't really understand, like, the clinical treatments for anxiety, other than, like, medication. Stuff like CBT, various clinical interventions and treatments,

> rewiring of the brain, perspective-taking, and all that kind of stuff, yeah, I never understood any of that before.

Similarly, Teacher 6 expressed how "this training kind of hammered it home that anxiety can present itself [in] a lot of different ways in terms of, like, being agitated or just being hyper and just generally unfocused." In discussing one of their key points of learning, Teacher 5 commented how hearing from students what they would want their teachers to know about their struggles with stress and anxiety opened up a different level of understanding:

> The sticky notes in the presentation about, like, hey, "I'm not actually lazy, I just have a lot of anxiety," and kind of going over the different examples and different misperceptions that teachers can have, the labels teachers can put on a student that are false and not actually indicative of what's going on with the student, and how there might be a lot more than what we see in their behavior.

Teacher 4 echoed a similar point in describing the following:

> I did not understand what [was] going on from their perspective; so, just learning about what an anxiety disorder feels like to them, how they would describe it, I didn't really understand stuff like panic attacks. I mean: Obviously, I knew the term, but I didn't understand how they could be or what would cause a panic attack or, like you said, coming-out-of-the-blue kind of panic attack.

Teachers learned how to differentiate between stress and anxiety. When discussing new areas of learning, teachers reported gained knowledge in distinguishing between stress and anxiety as a critical point of advancement. As Teacher 2 noted, "being

a part of this professional development, you know, I really learned the difference between anxiety and stress." In examining their learning from SOS, Teacher 3 stated:

> I definitely gained a clearer definition of each where they are so close; they might overlap a little bit that it is difficult to pinpoint each one definitely, but after, especially, I think it was the first module, it was a lot easier to identify stress versus anxiety, and it laid it out very clearly.

Furthermore, Teacher 4 highlighted a fundamental reason why learning to differentiate between stress and anxiety was a point of emphasis of SOS:

> I guess I just never really took the time to think too deeply about the distinction between the two. I probably just grouped stress and anxiety and their symptoms, treatments, and their presentations all as one. So, yeah, I mean, having, like, a clear-cut distinction between the two is super helpful, and I feel kind of dumb in retrospect, never stopping to think about it.

That same teacher went on to add how it "was helpful, in that regard, to draw further comparisons and contrasts between the two."

In addition to learning to distinguish between stress and anxiety, teachers went beyond this gained knowledge and pondered potential action steps. For example, Teacher 5 affirmed:

> Being able to really distinguish between the two is, I guess, like, the big thing for me. If I can identify a kid who is stressed out, then maybe I can talk to him for a couple of minutes, figure out what the problem is, and, like, bring the levels down a little bit.

Moreover, Teacher 1 expressed the following occurring after SOS:

> I can not only distinguish the two, but, you know, being able to pick out what's happening with the child and then, in some cases, matching a strategy to the specific manifestation that you see in the child.

Teachers learned how to recognize stress and anxiety in students better. In conjunction with the aforementioned learnings, teachers discussed applying their knowledge to identify students with stress and anxiety better. As Teacher 1 noted, "So, definitely, this program, this approach, I'd be able to pick out a child who is experiencing stress and feel comfortable knowing that I should take this approach and it is stress, as opposed to something else that's going on." Comparably, Teacher 2 highlighted their confidence in using their knowledge to proactively identify students with stress and anxiety: "Oh, extremely confident. I'm able to, you know, just thinking during this, wow, this relates to this child or this situation." This teacher further noted how "after these modules, I can see, okay, like thinking in my head, this one's always reassuring seeking and asking how they did, a sign of anxiety, and then, you can see there's a pattern."

Learning new intervention strategies. Assertion 2—*Teachers perceivably learned about new pragmatic ways to intervene with students who exhibit stress and anxiety by viewing and engaging with the contents of the learning modules in SOS, participating in role-playing situations via Kognito, and talking through scenarios in the group discussion.* The following theme-related components substantiated the second assertion: (a) teachers learned new strategies to work with students who exhibit stress and anxiety; (b) teachers demonstrated an understanding of when and how to apply learned

strategies with students who have stress and anxiety; (c) teachers appreciated the accessibility and practicality of the strategies in SOS.

Teachers learned about new strategies to work with students who exhibit stress and anxiety. Throughout the post-SOS interviews, teachers discussed learning new strategies that they could utilize in the classroom with their students, such as mindfulness, approaches to classroom set-up, cognitive-based interventions, resilience, and relationship building. When asked about the impact of SOS in providing applicable tools to implement with stressed and anxious students, Teacher 1 claimed the following:

> In general, yes, much more information than what I had before, much more to work with. You know, from being mindful to how the classroom is set up, to how to establish a better connection with a student, how to use discipline, mindfulness, and cognitive-behavioral approaches. So, it really does put a lot more in your arsenal when you're dealing with kids with different, you know, ranging from just anxiety all the way up to anxiety disorders.

When considering learned strategies, Teacher 6 similarly stated:

> The coping skills and strategies that you can use, whether it be through mindfulness, taking a look at the classroom, or just getting more knowledge on resilience and building resilience in general, as a proactive way for kids to be able to…to kind of cope and deal with stress and anxiety.

Additionally, Teacher 3 highlighted some of their key learnings by sharing that SOS provided "just some great techniques. I felt like what I learned, I think, specifically, it was the third module, were just some things that, you know, tactics we can use, such as mindfulness, which was one of my favorite ones." Referring to a cognitive-based

approach that was illustrated in module three of SOS, this same teacher referenced how "the recognize, reframe, and re-engage, I thought, also was cool. Those are some of the nuggets that definitely stood out to me that I think will be helpful right now to reframe my own strategies." Teacher 4 commented in general terms on the action-oriented focus of SOS in providing teachers with usable tools:

> I just feel like it was productive. I feel like too many of the trainings we get as teachers are, like, meant to inform but not be put into action, which is just frustrating. It's great to be informed and educated about something, but, like, you're still not left with the tools to bring it in the classroom on a day-to-day basis; so, the fact that SOS was pretty action-based I found to kind of be refreshing.

Teachers articulated an understanding of when and how to apply learned strategies with students who have stress and anxiety. As teachers discussed the accumulation of new knowledge and strategies, they also exhibited an understanding of how to apply what they learned. Teacher 1 highlighted their gain in clarity in addressing students by declaring:

> I can, at this point, I can engage the students in a more meaningful way and address the challenge more specifically. Whereas before, you know, maybe it's stress, maybe it's anxiety, maybe it's something else and, you know, you may not know how to deal with that.

For example, this teacher reported using the learned strategy of mindfulness as a means to work with a student who may be anxious by stating, "mindfulness, you know, using the techniques, where you can stop the snowballing effect of anxiety, kind of bring it

back down to a level, just so that you can again engage and kind of be present; the student being present." Teacher 3 also shared some specific measures that they could implement in the classroom:

> Having a list of options and things they could do on the wall, I think, would be extremely helpful. So, I can see myself doing that, and you know, pointing to the wall and say, you know, "have you thought about any of these things that might help you right now?" and then deal with it that way. I'm also very intrigued by the meditation aspect and mindfulness and breathing and thinking about doing something group oriented where people might not be singled out and giving it as an option, you know, pretest, for example, and, like, having everybody participate as one for, like, two minutes in it, and if they don't, they could study; so, that's something definitely I took from that, I think, would change the way I would deal with that in the future.

Teachers also recognized the importance of being proactive and talking with a student to gain a better understanding of their needs, as Teacher 5 averred:

> I think the teacher can also play a role in trying to get to the bottom of the anxiety as well, and ask some questions that might illuminate a little bit more of where the students coming from, in addition, of course, to creating a concrete approach to how they can complete the task at hand…coupling those two things together might be more effective than just going strictly to the plan.

Teacher 4 expressed a similar sentiment:

> With stress, I would try and catch them at a moment where I could talk to them individually; yeah, just kind of let them know that I recognize the stress, try and

> get them to at least call out what the problem is. Try and like, you know, put them at ease a little bit, like, I understand, and here's a plan we could make to kind of conquer this.

In being able to practice different strategies and ways of talking with students who may be stressed or anxious, teachers highlighted the use of the role-playing simulator as a helpful learning tool. For example, when referring to different techniques presented in SOS, Teacher 2 talked about the value of the simulator by asserting, "to apply it with the simulation, too, because I could use what I learned and apply it, which I haven't seen before." Teacher 1 corroborated this latter point by sharing: "The role-playing module was good, as well, because it gave you the chance to make some decisions on your own and use some of what you had discussed in the previous modules." This same teacher went on to say of this experience: "That builds confidence and empowers a teacher."

Teachers appreciated the accessibility and practicality of the strategies in SOS. From a pertinency standpoint, teachers observed how accessible and practical the strategies were to their work. When discussing the learning modules, Teacher 6 stated, "I think [they] went into depth and gave practical advice." Teacher 5 commented further by illustrating SOS' widespread applicability:

> It's super valuable information, whether you're working with students with special needs or not. I also coach. Predominantly, students that I coach do not have special needs or classify as that, and it's, like, this information is equally as valuable for dealing with them as it is with dealing with the kids that I teach.

Teacher 4, too, noted how SOS bridged the gap between theory and practice by providing practical strategies:

> Yeah, and then there was just, like, the practical classroom stuff. Because there's always, like, and that was at the end of one of the modules, because there's always just this disconnect between the textbook kind of academic world of, like, these various disorders and anxiety and then the reality of being a teacher, and it's a pretty big gap to bridge.

Moreover, when referencing classroom-based strategies in SOS, the teacher added:

> I think too often it's like this whatever slideshow or class or textbook about hey, here are all these disorders and here are all these treatments and the teachers are just, like, you know you're not getting what teaching a class full of kids is like. That's all well and good, but that's not how it plays out, and being a little more reasonable, kind of using common sense, like, what are some really quick things you can do in the classroom to identify and treat the kids, help the kids out. That stuff was helpful; I just felt it was very reasonable stuff.

Enhancing teacher self-efficacy. Assertion 3—*Teachers perceivably grew more self-efficacious by viewing and engaging with the contents of the learning modules in SOS, gaining new knowledge on stress and anxiety, and learning new ways to intervene with students.* The subsequent theme-related components supported the third assertion: (a) teachers grew more confident in working with students who demonstrate stress and anxiety; (b) teachers felt more equipped with knowledge and strategies to work with students who have stress and anxiety after completing the learning modules in SOS.

Teachers grew more confident in working with students who demonstrate stress and anxiety. Teacher participants expressed feeling more confident working with students who exhibit stress and anxiety. Illustrating this point, Teacher 1, when explaining their experience with the modules and integrating their learning, said, "it helped me to feel more confident and not feel overwhelmed that um, 'wow, how am I going to figure out what's wrong with this kid and what am I going to do about it?'" Correspondingly, Teacher 4 stated how they feel "definitely more confident with anxiety and the various ways it can present itself." Teacher 2 added: "Oh, definitely more confident just because of the information I gathered through the modules; I had a deeper understanding of the differences, the similarities, what strategies and techniques there are that I can incorporate or use." One teacher (i.e., number 4) reported the immediate gains from SOS and their increased confidence but acknowledged how it was up to them to implement what they had learned:

> Yeah, definitely more confident. Again, I think it's definitely good information. It's now up to up to me to keep it fresh and keep reminding myself of it and adopting these things and not fall back to, like, I'll do it, and then never end up doing it; so, at the moment, [I] definitely feel like it's something that will benefit me tremendously in the classroom, but I just have to follow through.

Additionally, Teacher 6 shared about their increase in confidence by stating: "Even with some foundational information on board, I'm certainly more confident in identifying stress and anxiety, as well as intervening with certain tools like mindfulness, reframing, breathing techniques, and just helping to build resilience."

Even with demonstrable gains in confidence, teachers also recognized their limits. For example, Teacher 5 acknowledged that if a student presented with "things going on socially emotionally outside of the classroom, that's more of where I would want to refer that student to their counselor to process." Similarly, when discussing a potential situation with a student experiencing high levels of anxiety, Teacher 4 shared how they would recognize their disposition and show empathy but also "try and get them to see their counselor, somebody who's a little better trained than I am."

Teachers felt more equipped with knowledge and strategies to work with students who have stress and anxiety after completing the learning modules in SOS. When it came to feeling more equipped to work with students with stress and anxiety, teachers reported being more prepared than before participating in SOS. Teacher 1 discussed their comprehensive gains by declaring the following:

> Going through this SOS program really enlightened me so that you just have more tools in the toolbox to be able to deal with the underlying issues that are creating these behaviors and being able to pinpoint them and having different strategies and different philosophies to kind of work from.

Teacher 5 shared in general terms how they "just feel better equipped and a little more confident," whereas other teachers were more detailed. For example, Teacher 4 noted the following: "I feel like I'm more equipped to kind of, like, quickly recognize—Oh, this is not just a kid who's stressed about tomorrow's test, this is an anxious kid," and Teacher 3 reported how going through SOS "definitely gives me more confidence in how to deal with such students and taking a better technique, so I feel like a little bit more equipped

than I was before." In highlighting reasons why they felt more prepared to work with students who may present with stress and anxiety, Teacher 6 affirmed:

> After SOS, I believe that I am able to look at things related to stress and anxiety differently, more clearly, whereas before, I may have either missed something altogether or attributed a students' presentation to something else. This, along with having more tools to know how to intervene with a student if they are struggling, is helpful and gives me more confidence in the classroom.

Teachers engaging with SOS. Assertion 4—*Teachers demonstrated high levels of engagement with SOS and its components by actively watching the presentations, engaging with the role-playing simulator, and participating in the group discussion.* The following theme-related components corroborated the fourth assertion: (a) teachers actively engaged with SOS and completed all module components; (b) SOS promoted deeper self-learning among teachers.

Teachers actively engaged with SOS and completed all module components. Throughout SOS, teachers engaged with the modules in diverse ways. Teacher 1, for example, engaged by taking notes and reflecting while also using the videos to entrench their learning. Teacher 1 affirmed the following:

> With the modules, I did a lot of pausing just to take notes, and then I would do some pausing just to absorb some of what was said, and then I may look something up, you know, pause and look something up that was discussed just to see something a little bit deeper. The videos that were presented in some of the modules were very helpful as to, you know, showing examples and, kind of, backing up what was discussed, or how it might look being used in the classroom.

Teacher 2 took a different approach by incorporating reflection and reported the following: “Doing it at my own timing, I thought, was way more beneficial just because as students learn different ways, we learn differently, too, and I learn by grouping information and then thinking about it and reflecting.” Taking an active approach, Teacher 3 utilized note-taking as a means to engage with the material in SOS:

> The modules themselves…it definitely helped to, like, jot down some things. I feel like in the first module, I definitely was jotting down a bunch of stuff. The third module, similarly, just jotting down some of those good techniques that I thought would be beneficial.

Teachers also commented on their interaction with the role-playing simulator, which offered an opportunity to practice learned skills. Teacher 1 noted how “the role-playing simulator gives you, you know, kind of a virtual chance to practice some of the things that were discussed in the previous modules.” Teacher 4 stated, “I like the simulator. I did so bad the first time, and I had to play it through a couple of times. I really liked the simulator. I found it to be pretty realistic.” Similarly, Teacher 5 reported:

> I watched each of the modules and spent some time thinking about them. [I] interacted with the simulator, which was cool. I didn’t always pick the right option, but sometimes I felt like what I clicked on, I was like, the guy would sometimes ask it in a way better way than I probably would have asked it, and sometimes the guy would ask it in a way, like, I think I would have been slightly more direct there. So, overall, it’s a good way to see how a student would react to those situations brought up; so, I thought that was great, as well.

Teacher 3 similarly noted:

> The role-playing Kognito thing. Yeah, it's just kind of fun, a little bit more fun to do, I guess, as you can actually make the choices, and, you know, just put a little more pressure on you to be in the moment; it feels a little more real.

SOS promoted deeper self-learning among teachers. As highlighted above, teachers not only engaged with SOS, but they also went deeper with the content therein. In going beyond the modules, Teacher 4 "did a little bit of like googling and a little bit of reading here and there" to reinforce the material they were learning. Additionally, Teacher 6 affirmed the following:

> I definitely took time to think about the material that we were learning, which also prompted me to research some of the topics more in-depth. I found myself writing things down, reflecting on the information and tactics; for example, how I could apply each one, and prepped for the discussion, too, where we got to process the content more deeply.

Moreover, Teacher 1 shared how they spent extra time with the modules and benefitted from the discussion portion of SOS:

> I found myself spending more time just simply because I wanted to absorb and think about some of the things that were said on it, and the follow-up discussion, you know, where you can ask questions and things were very helpful because you get this live discussion about some of the concepts and just clarification.

Additional Findings

In analyzing both the quantitative and qualitative data, I identified an additional finding that was not directly related to the RQs: Teachers found SOS to be an effective

professional development program. On the post-test, teachers were asked if they would recommend SOS to their colleagues, and 100% answered affirmatively ($M = 6.00$). Qualitatively, this was a recurring theme across all interviews, as well. In general, teachers expressed that the content in SOS was in-depth, empowering, and exceeded their expectations. For example, Teacher 5 discussed how they thought SOS "went into depth and gave practical advice" and provided content that "was very valuable." Furthermore, Teacher 1 noted the following:

> SOS exceeded what I expected. I figured it would be rehashing some things I heard. I figured it'd be very heavy on discipline in the sense of dealing with acting out behaviors and de-escalation and so forth, which was a lot of my experience in other types of professional development and workshops, but it exceeded what I was expecting to get out of it.

Similarly, Teacher 3 conveyed the following:

> [SOS] was more in-depth, especially through the three modules really breaking down each section. I thought it was more than I expected. I suppose I didn't think there was, like, that much to break down, but I thought it did a good job of doing that.

During the individual interviews, teachers expressed that the presentation of SOS was positively different from other forms of professional development and appreciated the scaffolding of information. Teacher 1, for instance, claimed the following:

> The way it was set up, it was very informative, very structured, and it made sense on how it progressed through the different modules and scaffold and built you up to a point where some of the stuff that you were talking about in the end made

> sense because you've already built up and informed folks about what you were going to talk about.

Highlighting differences between SOS and other professional development experiences, Teacher 2 stated: "It was enough research information that I understood it, it wasn't overloaded. A lot of times you go to these professional development days, then you learn nothing because they just throw you facts from their own book or document." Teacher 5 expressed how they found the modules helpful: "I thought the graphics within the modules were helpful and the videos within the modules were helpful." Speaking about the delivery of SOS, Teacher 3 shared their appreciation for how the modules' content was broken down into steps:

> I feel like it was cool to be able to say, you know, it's not all in one. Having the first module, you'll, like, specifically learn about these two things; the second module is specifically, like, the next step, and the third module is basically learning how to do the next step. So, it's cool to be able to break it down versus, like, all in one, where it feels a little bit more difficult to dive in.

Echoing a similar point, Teacher 1 described how "the presentation of SOS or the construct of the modules—specifically, the way it was set up—was very helpful because it kind of lays out a lot of different things."

One additional finding from the qualitative data that aligned with teachers touting the effectiveness of SOS was their recommendation of its use as a training tool for educators, particularly those new to the field. For example, in talking about SOS, Teacher 2 stated: "This is really like no other professional development, which I believe should be implemented more, especially during the beginning of the school year or offered for

trainings for individuals who want to learn more information." Moreover, Teacher 1 spoke of the potential benefits of SOS as a professional development program:

> I do think that this would be something really useful, whether it be part of a teacher's formal training, some type of course, or if at the very least, it was or it could be revisited again as professional development for teachers who have already started teaching. It is very practical, it is very useful, and it speaks to the core of many of the problems that teachers will face in the classroom. I think it's worthwhile to get this out to the masses, you know, to the educators. It's definitely a huge issue, it already has been, and it will become more so, I believe, because it's growing, anxiety and stress, and this is a very comprehensive approach which addresses the core of many kids' problems.

Summary of Results

Quantitative Summary

Quantitative results from paired samples t-tests and descriptive statistics illustrated statistically significant changes in pre- and post-scores of the teacher participants ($n = 6$) regarding knowledge of stress and anxiety and working with students who exhibit stress and anxiety. Relatedly, mean scores rose more than two points across all measured constructs—*knowledge of anxiety*, *knowledge of stress*, *working with students who exhibit anxiety*, and *working with students who exhibit stress*—and three points concerning teachers' ability to differentiate between stress and anxiety. Additionally, teachers showed a demonstrable increase in post-SOS quiz scores related to their knowledge of stress and anxiety. Lastly, answers to multiple retrospective questions

provided additional data related to teachers' experience with SOS and complemented these findings.

Qualitative Summary

I analyzed the qualitative data utilizing a rigorous, multi-cycle coding process of the individual teacher interviews (n = 6), which yielded four assertions specific to the RQs that were derived from themes and theme-related components and supported by participant quotes. Assertions from the qualitative data suggested that teachers gained an enhanced working knowledge of stress and anxiety and learned how to better intervene with students who exhibit such. Additionally, qualitative assertions indicated that SOS positively impacted teachers' perceived levels of self-efficacy, and that participants fully engaged with the learning modules. In the next chapter, I discuss the significance of these results by triangulating the quantitative and qualitative data and answer this study's three RQs.

CHAPTER FIVE

DISCUSSION

The aim of argument, or of discussion, should not be victory, but progress.

— Joseph Joubert

The narrow-gauge mindset of the past is insufficient for today's wicked problems. We can no longer play the music as written. Instead, we have to invent a whole new scale.

— Marty Neumeier

Too many professional development initiatives are done to teachers—not for, with or by them.

— Andy Hargreaves

This mixed-methods action research study examined the effects of an innovation designed to advance teacher knowledge and perceived levels of self-efficacy in working with students who exhibit stress and anxiety through the medium of professional development. The problem of practice that precipitated this study was the prevalence of stress and anxiety in students and the predominance of inadequately trained teachers in my local context, which was also reflected nationally, as demonstrated in Chapter One. To bridge the theory and practice gap evident in the literature and previous action research cycles, I developed SOS. This innovation addresses the prevalence and impact of stress and anxiety on students and delivers salient information on each one, in addition to adaptive modes of intervention. Grounding this study were the theoretical frameworks of self-efficacy theory (Bandura, 1977) and andragogy (Knowles, 1972), with the former guiding the formation of the quantitative pre- and post-test—the TSEI—and both

influencing the development of the innovation. Three RQs directed the investigation into the effectiveness of SOS:

RQ 1: How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?

RQ 2: How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?

RQ 3: To what extent did teachers participate in SOS?

In this chapter, I discuss the results of this study and share my reflections as an action researcher. First, I present the integrated findings of the collected quantitative and qualitative data and answer the RQs. Second, I consider these findings in relation to the existing literature and theoretical frameworks that guided this study. Then, I explicate the limitations of this study, which are followed by implications for practice and future research. Lastly, I conclude with lessons learned and my reflections as a scholarly practitioner.

Triangulation of the Data and Answering the Research Questions

For this action research study, I employed a concurrent mixed-methods research design and collected quantitative and qualitative data. To facilitate answering the three RQs, I analyzed the data through a process of triangulation (Creswell & Guetterman, 2019; Ivankova, 2015; Mertler, 2017), whereby I reviewed the RQs, examined the results of my data analysis, and integrated the quantitative and qualitative findings concurrently. This approach allowed for increased credibility of the results due to the convergence of the quantitative and qualitative data upon the same RQs (Ivankova, 2015; Mertler, 2017).

Research Question 1

RQ 1 asked: *How and to what extent does participation in SOS affect teachers' actual and perceived knowledge about student stress and anxiety?* Quantitative and qualitative data indicated that teachers' actual and perceived knowledge about student stress and anxiety increased as a result of participation in SOS.

Pertinent Quantitative Results

As noted above, the TSEI scores related to knowledge of stress and anxiety rose more than two points from a combined pre-test mean of 3.12 to a post-test mean of 5.60 on the 6-point Likert scale, indicating an upward shift in teachers' confidence levels regarding stress and anxiety. Moreover, changes in these scores were statistically significant at the $p < .05$ level—*knowledge of anxiety* at .004 and *knowledge of stress* at .004. Teachers also gained in their perceived knowledge in differentiating between stress and anxiety, where the pre-test mean of 2.60 increased to 5.83 on the post-test—a change that was also statistically significant at .001. This result signified that teachers strongly agreed that they were able to differentiate between stress and anxiety, whereas prior to SOS, they disagreed.

Teachers also completed a 10-question knowledge quiz on the pre- and post-test that focused on their actual understanding of stress and anxiety. Results demonstrated a mean increase of 30% on the post-test score over the pre-test, with teachers answering 58 out of 60 questions correctly. Additionally, when asked retrospectively about their knowledge regarding stress and anxiety on the post-test, 100% of teachers strongly agreed that they possessed more knowledge after completing the learning modules in SOS.

Pertinent Qualitative Results

The first assertion that teachers gained new knowledge of stress and anxiety through their engagement with SOS exemplified support for the findings related to RQ 1. Specifically, teachers reported learning new information about stress and anxiety and ways to better recognize and differentiate between the two. Moreover, the third assertion regarding teachers' increased levels of self-efficacy tied their gains in working knowledge of stress and anxiety together with applicable tools to do so confidently. For example, as previously noted, Teacher 1 expressed: "[SOS] helped me to feel more confident and not feel overwhelmed that um, 'wow, how am I going to figure out what's wrong with this kid and what am I going to do about it?'" Together, these two assertions, and the data that supported them, facilitated answering RQ 1 affirmatively—namely, that participation in SOS increased teachers' perceived knowledge about stress and anxiety.

Research Question 2

RQ 2 asked: *How and to what extent does participation in SOS affect teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety?* Quantitative and qualitative data showed that teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety rose after participation in SOS.

Pertinent Quantitative Results

Descriptive statistics related to the constructs of *working with students who exhibit anxiety* and *working with students who exhibit stress* showed a more than two-point increase in teachers' confidence levels with a combined mean score of 3.25 on the pre-test and 5.71 on the post-test. These changes in scores were statistically significant at the $p < .05$ level—*working with students who exhibit anxiety* at .005 and *working with*

students who exhibit stress at .008—indicating a shift from teachers slightly disagreeing that they were confident in working with students who exhibit stress and anxiety to strongly agreeing that they felt capable to do so. Additionally, post-SOS, teachers strongly agreed that they had a greater understanding of how to best support students with stress and anxiety ($M = 5.83$) while also believing that they were more equipped to do so ($M = 6.00$).

Pertinent Qualitative Results

Assertions two and three supported a post-SOS increase in teachers' perceived levels of self-efficacy in working with students who exhibit stress and anxiety. Assertion number two indicated that teachers learned how to better intervene with students with stress and anxiety by engaging with SOS. Specifically, teachers discussed learning about new strategies while also articulating an understanding of their use. For example, as stated above, Teacher 1 reported how they gained "much more information than what I had before, much more to work with" and that SOS puts "a lot more in your arsenal when you're dealing with kids." Teacher 3, too, expressed learning "some great techniques" that they found "helpful right now to reframe my own strategies." Moreover, in describing the utilization of a new strategy, Teacher 3, as previously noted, talked about incorporating mindfulness into the classroom and "doing something group oriented where people might not be singled out and giving it as an option, you know, pretest, for example, and like having everybody participate as one for, like, two minutes."

The third assertion further corroborated the above finding that participation in SOS increased teachers' perceived levels of self-efficacy. Relatedly, teachers grew more confident in working with students who exhibit stress and anxiety and felt more equipped

to do so after completing the learning modules in SOS. An example is provided by Teacher 2, who, as reported previously, stated how they felt "more confident just because of the information I gathered through the modules; I had a deeper understanding of the differences, the similarities, what strategies and techniques there are that I can incorporate or use." Furthermore, Teacher 5 shared how they "just feel better equipped and a little more confident" while Teacher 4 noted, "I feel like I'm more equipped to kind of like quickly recognize—Oh, this is not just a kid who's stressed about tomorrow's test, this is an anxious kid." Teacher 3, too, as reported previously, stated that going through SOS definitely gave them "more confidence in how to deal with such students and taking a better technique," and added: "So, I feel like a little bit more equipped than I was before."

Research Question 3

RQ 3 asked: *To what extent did teachers participate in SOS?* Quantitative and qualitative data suggested that teachers fully participated in SOS.

Pertinent Quantitative Results

When asked retrospectively on the post-test, teachers strongly agreed ($M = 6.00$) that they fully engaged with SOS and completed all associated tasks. Of note, teachers also collectively agreed or strongly agreed that the time spent on SOS was reasonable ($M = 5.83$), with 100% of them strongly agreeing that the issues of stress and anxiety among students warranted increased professional development in the form of SOS ($M = 6.00$).

Pertinent Qualitative Results

Assertion four supported teachers' full participation in SOS. Notably, teachers highlighted their active engagement with the learning modules while also going deeper

with the material. For example, teachers discussed their engagement with SOS by "pausing just to take notes," "jotting down some of those good techniques that I thought would be beneficial," watching "each of the modules," and spending "some time thinking about them." Additionally, teachers interacted with the role-playing simulator, which allowed them to put into action what they learned through the first three modules of SOS. For example, Teacher 1, as reported previously, noted: "The role-playing simulator gives you, you know, kind of a virtual chance to practice some of the things that were discussed in the previous modules. That builds confidence and empowers a teacher." Moreover, teachers engaged with SOS beyond its components. For example, Teacher 4, as noted previously, stated that they "did a little bit of like googling and a little bit of reading here and there." Similarly, Teacher 6 found that the material in SOS "prompted me to research some of the topics more in-depth," and Teacher 1 "found myself spending more time just simply because I wanted to absorb and think about some of the things that were said."

Summary of the Triangulated Data

Triangulation of the quantitative and qualitative data confirmed SOS' effectiveness across all three RQs and provided complementary evidence. Moreover, the qualitative data offered depth and further insight into the quantitative statistics. As illustrated above, teachers (n = 6) showed a demonstrable increase in their actual and perceived knowledge about student stress and anxiety post-SOS, with similar results pertaining to their perceived levels of self-efficacy in working with students who exhibit stress and anxiety. Additionally, teachers fully engaged with SOS and deemed the topic of student stress and anxiety and the content of the modules to be relevant and valuable.

The following section considers these findings in relation to the theoretical frameworks and previous research that guided and substantiated this study.

Alignment of Findings to Theory and Previous Research

Theoretical Frameworks

As discussed previously, I utilized self-efficacy theory (Bandura, 1977) and andragogy (Knowles, 1972) to frame this study. In Chapter Two, I presented the core tenets of each framework in designing learning opportunities for adults and cultivating measures to increase self-efficacy. Andragogy posited six assumptions of adult learners, in addition to eight process elements (Knowles et al., 2005), salient aspects of which were followed in the design of SOS while also being exemplified in the findings. Self-efficacy theory offered four sources of information that are instrumental to increasing one's perceptions of their capabilities (i.e., self-efficacy; Bandura, 1986) and were also incorporated into SOS. Illustrative of the findings in this study, teachers displayed higher levels of perceived self-efficacy after participating in SOS.

In adhering to the theoretical frameworks, I worked collaboratively with educators in previous research cycles by gathering data from them regarding the content and delivery of SOS. As I developed the latter, I incorporated key elements of andragogy, such as orientation to learning, planning, diagnosing of needs, setting objectives, designing lesson plans, and learning activities (Knowles et al., 2005). Additionally, aspects of self-efficacy theory—performance attainments, vicarious experience, and verbal persuasion (Bandura, 1986)—further influenced SOS. Together, these aspects of andragogy and self-efficacy theory provided the foundation for a contextualized,

decidedly specific set of learning modules to facilitate higher levels of self-efficacy in teachers.

In the design of SOS, I scaffolded the content, beginning with establishing the teachers' need to know, which is a pivotal first step in establishing value, thus engendering the adult learner to marshal the personal resources to engage in the learning process (Knowles et al., 2005). Accordingly, 100% of teachers on the post-test agreed that the issue of stress and anxiety among students was of sufficient concern to warrant increased professional development. Hence, I utilized teacher feedback to plan and orient their learning to address gaps related to knowledge of stress and anxiety in students and understanding of evidence-based strategies with which to intervene. As discussed in the findings, teachers took note of this scaffolded approach. Teacher 1, as reported previously, exemplified the latter by affirming:

> The way it was set up, it was very informative, very structured, and it made sense on how it progressed through the different modules and scaffold and built you up to a point where some of the stuff that you were talking about in the end made sense because you've already built up and informed folks about what you were going to talk about.

Moreover, teachers expressed how the content of SOS was "in-depth," "valuable," and "exceeded" their expectations regarding the knowledge they gained from the modules. These findings further demonstrated the use of andragogical principles by understanding the needs of teachers and tailoring their learning accordingly.

As referenced in Chapter Two, the notion of self-efficacy is centered around a person's belief in their abilities, which translates into determining future performance

(Bandura, 1986). Although this study was not designed to measure performance but self-efficacy, the results aligned with teachers feeling more confident in their knowledge and ability to work with students who exhibit stress and anxiety. Teachers, in both the quantitative and qualitative data, illustrated increased levels of perceived self-efficacy post-SOS. According to Bandura (1986), performance attainments, and, more specifically, experiences that allow for mastery, significantly contribute to a person's sense of self-efficacy, as does the use of vicarious experiences through the practice of modeling (i.e., learning from others through observation).

In addition to providing teachers with information on stress and anxiety, SOS also incorporated a role-playing simulator (i.e., Kognito) and group discussion (i.e., module five), which provided teachers with the opportunity to experience their learning through attempts at mastery and observation. Teacher comments in the individual interviews suggested that both Kognito and the group discussion advanced their knowledge in the same ways that Bandura identified. For example, teachers shared the following about the simulator: "[With it,] you can actually make the choices"; "I could use what I learned and apply it"; and "I didn't always pick the right option, but sometimes I felt like what I clicked on I was, like, the guy would sometimes ask it in a way better way than I probably would have asked it." These examples illustrate the applied learning and role-modeling aspects of SOS, which were similar to the group discussions, as noted by Teacher 1 who stated: "The discussion portion, too, where you can ask questions and things were very helpful because you get this live discussion about some of the concepts and just clarification." The discussion, as well as the other modules, included verbal persuasion in the form of encouragement and support, which, as Bandura (1986)

suggested, is a contributing source of self-efficacy, particularly when combined with performance attainments and vicarious experience. In sum, the results of this study aligned with the theoretical frameworks upon which it was constructed while also emulating analogous research.

Previous Research

Findings from this study are representative of related research on adult learning and self-efficacy. Regarding andragogy, the instructive and experiential nature of SOS, including elements such as imparting topical information, discussion, questions and answers, and role-playing, which teachers experienced as favorable and effective, mirrored comparative findings from Carpenter-Aeby & Aeby (2013), who found similar positive reactions in their work with adult learners. Moreover, Gravani (2007, 2012) demonstrated that the absence of content relevance and teacher input into the design of a professional development workshop contributes to a decline in teachers' overall experience. The significance of this finding reinforces the results of this study where participants expressed support for SOS while contributing to the development of the modules and acknowledging the applicability of the information presented. In addition to previously cited research on andragogy corroborating this study's findings, ample confirmatory evidence exists in the literature on self-efficacy and professional development.

Previous studies on self-efficacy and professional development have shown positive effects in the improvement of teachers' sense of self-efficacy (Chao et al., 2017; Malinauskas, 2017; Ross & Bruce, 2007; Spero & Woolfolk Hoy, 2005; Yoo, 2016), particularly when employing modeling, mastery experiences, positive feedback, group

discussions, and dissemination of topical content (Chao et al., 2017; Malinauskas, 2017; Tschannen-Moran & Woolfolk Hoy, 2007). These previously measured approaches to professional development, including those of andragogy, were foundational in the implementation of SOS that teachers of this study also found to be effective. Teachers' post-test scores, as demonstrated above, exemplified their shift toward higher levels of perceived self-efficacy, which was corroborated by the individual interviews. For example, in the post-intervention interviews, teachers explained how SOS helped them feel "more confident," which mirrored the post-TSEI scores related to perceived levels of self-efficacy. Overall, as we see in the results of these studies and SOS, there is harmony among andragogical principles and self-efficacy in promoting effective professional development for teachers.

Limitations

As with most research studies, there are factors that present as potential limitations. Although I addressed threats to validity in Chapter Three, certain limitations of this study bear noting. The results of this study indicate that teachers' perceived levels of self-efficacy rose after participation in SOS. As discussed in Chapter Three, the experimenter effect (Smith & Glass, 1987) remains a valid point of question, particularly since many action research projects are practitioner-driven (Mertler, 2017). Despite efforts to offset the experimenter effect (e.g., use of an anonymous pre- and post-test, verbal reassurance of my objective involvement, lack of additional training assistance, researcher reflexivity), my former administrative status within the school and my role as lead researcher may have influenced teacher outcomes related to SOS.

Moreover, although there were a few ways teachers could have offered dissenting opinions of their experience with SOS (e.g., on the post-test by not recommending SOS or stating that the time spent on the learning modules was not useful; in the interview by expressing that SOS did not meet their expectations or that the information presented was not helpful), the quantitative and qualitative data, as noted in the results section, illustrate that teachers found the learning modules to be effective, beneficial, and worthy of their time. Nevertheless, teachers' positive responses regarding SOS need to be viewed critically with respect to the potential for bias due to the experimenter effect, as discussed above, in addition to the use of self-report. While the quantitative and qualitative findings were congruent, thus acting as a measure to provide further credibility to the study's results, the use of self-report could have introduced bias in participants' responses, as teachers may have been overly positive or inflated their gains (Creswell & Guetterman, 2019).

Additionally, the small number of participants in this study ($n = 6$) and the use of homogenous purposive sampling limit the results' generalizability. This limitation is an expectation of action research given its context-specific approach; however, transferability remains an option for both the adoption of the innovation and the replicability of the study due to the extent of detail provided on the setting, problem of practice, innovation, and research methods (Ivankova, 2015). Furthermore, because the focus of this study was on perceived levels of self-efficacy and not the application of learned information, the long-term impact of SOS and maintenance of gains therein serve as points of additional research. I address each of these limitations in the forthcoming section on implications for future research; nevertheless, to better understand the

potential of SOS to positively affect teachers' perceived levels of self-efficacy related to student stress and anxiety, further examination is warranted.

Implications for Practice

Given the current upward trend of anxiety and stress in students and the potential impact each has on their education and overall sense of well-being, it is imperative that teachers be provided with professional development in this area. Findings from this study demonstrate that it would be advantageous to fully offer SOS at TA as a framework to train all faculty and staff, thus allowing for a common language to be used across disciplines to understand and meet students' needs. Regarding the latter point, although teachers may be better equipped to intervene with students who are struggling with stress and anxiety post-SOS, they are not trained counselors, nor is it the aim of SOS for them to become so. However, as demonstrated in Chapter One, student mental health issues fall within teachers' purview. With this in mind, it is incumbent upon educators to arm themselves with the knowledge and tools needed to readily recognize the signs and symptoms of stress and anxiety and better understand a students' disposition with which to mediate as they see fit or defer to a counselor.

Furthermore, this study establishes that teachers with varying backgrounds and levels of experience benefited from the content of the professional development modules; therefore, SOS may be used beyond the context of this study as a training model for other educators and teacher-preparation programs. Moreover, what became evident in the individual interviews was, perhaps, an unintended consequence of this study—teachers may have benefited from SOS in relation to their professional and personal experiences with stress and anxiety. Hence, a tailored version of SOS could be implemented to

address teacher stress and anxiety. Lastly, the teachers in this study spoke of less-than-optimal previous professional development experiences, lamenting the lack of time and useable information. SOS can be delivered both in-person and virtually through asynchronous presentation, thus providing teachers with a flexible professional development program with which to engage.

Implications for Future Research

Action research is an iterative process (Mertler, 2017); therefore, results from previous research cycles may suggest future areas of consideration. The results from this study imply four areas to direct prospective research. First, my innovation was implemented virtually and mostly asynchronously due to the COVID-19 pandemic that disrupted educational and societal norms. Nonetheless, the asynchronous nature of SOS was well-received; therefore, I propose looking more deeply into different delivery systems for SOS by offering it both in its current form, in-person, and as a hybrid version (i.e., asynchronous content and in-person discussion). Second, the results of this study were drawn from a single context and a small number of participants. To better determine the efficacy of SOS, I suggest offering it in different schools with a larger number of participants, as this would address some of the previously stated limitations while also allowing for the gathering of more data.

A third implication for future research involves a longitudinal study of SOS. Since I studied perceived levels of self-efficacy, the focus was on teachers' confidence levels and judgments of their capabilities. In building upon the results of this study, I propose focusing on the use and application of the learned material by following up at different time-related intervals post-SOS. This approach would provide long-term data to

determine if higher levels of self-efficacy hold over time and translate into actual change in teachers' practice. Lastly, since students do not solely own the problem of stress and anxiety exclusively, I would recommend adapting SOS to focus on the needs of educators. In conjunction with teachers of this study speaking to their personal and professional dealings with stress and anxiety, the latter are on the rise in educators (McCarthy, 2019; Smiley, 2020), revealing a pattern similar to that of the students they aim to serve. To this point, grounding future professional development for teachers regarding their own mental health needs in survey and interview data to include prevalence and identification of preferred content would be an ideal first step.

Lessons Learned as an Action Researcher

Throughout my studies and the research process, I have learned a great deal about being an action researcher and scholarly practitioner. For this study, I utilized a mixed-methods approach to data collection and analysis. Although quantitative and qualitative research styles each have their strengths, I realized early on in my study that one method of inquiry alone would not have garnered me the richness of data that I sought or collected. Moreover, the complementary nature of both quantitative and qualitative data in triangulating them for analysis afforded me more profound insights into the effectiveness of SOS.

Additionally, by grounding my research in self-efficacy theory and andragogy, I was able to frame my study through these conceptual lenses, which informed SOS and the self-constructed TSEI. Through the process of iteration and conducting multiple cycles of inquiry, I gathered key information from teachers and consulted the literature on stress, anxiety, and professional development, as I built the learning modules for SOS and

properly created and validated my survey instrument. These pivotal aspects of my study brought together salient features of action research, andragogy, and self-efficacy theory, which allowed me to root my work from an authoritative position. Stepping forward as a researcher, scholarly practitioner, and leader, and owning my newfound skills in these areas, I now have a solid foundation from which to reflect on my work, inquire with boldness and thoughtfulness, endeavor positive change, and be a part of the bridge that shortens the gap between theory and practice.

Lessons Learned via Implementation

Through implementing my innovation, reading through the literature on teacher professional development, stress, and anxiety, and hearing directly from participants about their experiences, it became abundantly clear that teachers, whether or not they are prepared, will have students with mental health issues. Furthermore, teachers crave informative and actionable professional development. Extrapolating from this is the notion that as an educational leader and scholarly practitioner, it is incumbent upon me to keep abreast of current trends in education, utilize research to support my decisions and implementation of change initiatives, and be inclusive of teachers in their professional development.

SOS was derived from a growing problem that transcends education, but it was created with the input of teachers. When possible, as was done in this study with the use of andragogical approaches to professional development, it would be beneficial to include teachers in the process of their learning. That said, even with an approach to adult learning such as andragogy, there is still room for leaders to exercise their knowledge of what *should* be learned. In the latter instance, pairing the *why* of what teachers would be

learning with sound research is necessary to engender buy-in. This was the case with SOS, as I conducted a needs analysis with teachers and gathered baseline information and feedback from them in developing the learning modules. Prior to this program of study, however, I may have done some of the aforementioned, but certainly not all, nor in such a systematic fashion. Nonetheless, this has changed, as has so much pertaining to who I am as a researcher, leader, and scholar that the three are no longer distinct from one another but integral parts of my professional persona. The latter is ever-evolving, though, similar to the iterative cycles of action research, where my formation into a reflection-oriented change agent continues. With that, the Leadership and Innovation Doctoral Program has solidified the knowledge and practice base from which I now step forward and will forever serve as a foundation to where I will return.

Concluding Reflection

Mental health issues are not exclusive to education, as they are prevalent across all aspects of society; however, one cannot escape the impact that stress, anxiety, and other related problems have on students. The collection of statistics on stress and anxiety in students presented in Chapter One, which illustrate a stark rise in their pervasiveness, began prior to the COVID-19 pandemic that has gripped the world and were already at historic levels. The latter reality presents a fundamental truth that bears noting: a growing problem exists in society that may only become more complicated. From an educational standpoint, coupling this with the equally alarming information on teacher preparedness related to understanding and working with students who exhibit stress and anxiety leads to a similar realization: a growing problem exists in schools that may only become more complicated. Stress, anxiety, and other mental health issues do not discriminate. They are

present in all schools and within every socio-economic sphere. Moreover, the stigma associated with mental health issues only drives a greater wedge between the problem and a potential solution. As I contemplate this educational and societal issue, I am reminded of the concept of wicked problems, which essentially frames social issues as deeply layered and intractable, effectively rendering them unsolvable (Rittel & Webber, 1973). This is not to infer that we should give up; quite the contrary. Here, I draw on the notion of small wins (Weick, 1984).

Seeing how social problems are intractable, particularly those in education, they quickly become overwhelming, eluding agreed-upon definitions and stymieing attempts to form solutions. However, by reducing these problems into smaller, more manageable ones and describing them as such, momentum may be gained as resolutions multiply. Here, one can see how a small win can become demonstrable evidence of progress, which has the potential to reduce tension and spur further action (Weick, 1984). In looking at this study's problem of practice through the lens of small wins, I see hope in being able to change the educational landscape in which mental health issues in students exist while providing a means for teachers to become more self-efficacious, thus allowing for the actuality of small wins. To combat wicked problems, we need wicked solutions (Rittel & Webber, 1973) while tapping into educational innovations that are disruptive to the status quo (Bentley, 2009). Moreover, by using an action-research framework, innovations such as SOS can be iteratively studied on a smaller scale to allow for continued refinement of both the problem and the solution and then disseminated for more prominent contextual use. This study is, perhaps, the beginning of a wicked, disruptive solution.

Findings from this study suggest that SOS may be an effective means of professional development to train teachers on stress and anxiety in students. Yes, further evaluation is required and expected, but this research also represents a humble step toward a small win in the face of a wicked problem. As an educator and clinical social worker, I chose this topic of study to connect two passions—leadership and mental well-being. Moreover, I developed SOS to support teachers in doing what they do best—educating students and facilitating their ascension toward becoming the greatest version of themselves. The latter two elements are not mutually exclusive but very much entwined with one another. As educators, we play many roles in the lives of our students. Still, perhaps one of the most important ones is being a charismatic adult—someone who believes that students are more than the sum of their problems, sees potential in every child, creates an environment where they can thrive, and recognizes their own capacity to change the status quo by choosing alternative solutions to intractable problems, however simple or grand.

As I reflect more deeply on my research and the dissertation process, I am humbled by the effort herein, encouraged with the results, and energized for what lies ahead. Becoming an Ed.D. is another step forward, a hard-earned goal achieved, for which I am grateful. It also signals a new beginning and a responsibility to steward well my newfound knowledge and skills. As educators and leaders, we are, after all, purveyors of hope and agents of change, should we choose to accept this charge. I opened each chapter with a quote befitting of the contents therein, and I now close with an encapsulation of them all; marching orders, if you will: Let us listen with our ears *and* hearts, instill in others a sense of belief in their capabilities and resilience to overcome

challenges, create opportunities for change, take action, even if we may never know the results, and engage in inclusive, progressive dialogue geared toward innovation.

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APPENDIX A

INVITATION E-MAIL

Mary Lou Fulton Teachers College
ARIZONA STATE UNIVERSITY

Dear Colleagues,

My name is Brian Jukins and I am a doctoral candidate in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU). I am working under the direction of Dr. Elisabeth Gee, a faculty member in MLFTC. We are conducting a research study on teacher preparation as it relates to working with students who exhibit heightened emotionality and are looking for participants who fit the following criteria: teachers who work with students in grades 6-12, are willing and interested in participating, and subjectively deem themselves to be limited in their knowledge of working with students who exhibit stress and anxiety.

Attached to this e-mail is the consent form, which outlines the major components of your involvement in this study. The study is set to begin on February 1st, 2021, and will last six weeks in total, requiring approximately one hour per week of your time.

Upon reviewing this information, please e-mail me directly by January 13, 2021 about your willingness to participate in the study. Once the participants are enrolled, there will be an informational meeting via the Zoom video platform in January (date TBD), to outline the research timeline and procedures.

If you have any questions concerning the research study, please contact the research team – Brian Jukins at bjukins@asu.edu or (978) 314-4653 or Elisabeth Gee at elisabeth.gee@asu.edu or (480) 965-4284.

Thank you,

Brian Jukins, Doctoral Candidate
Elisabeth Gee, Professor

APPENDIX B

CONSENT FORM

Mary Lou Fulton Teachers College
ARIZONA STATE UNIVERSITY

Dear Colleague:

You are invited to participate in Closing the Gap: Teacher Professional Development and Student Mental Health, a research study conducted by Brian Jukins, a doctoral candidate in the Mary Lou Fulton Teachers College (MLFTC) at Arizona State University (ASU) under the direction of Dr. Elisabeth Gee, a professor in MLFTC. This research study is to explore teacher preparation as it relates to working with students who exhibit heightened emotionality. Specifically, we seek to understand how educators' perceived knowledge and efficacy in supporting these students shifts as they participate in targeted professional learning.

We are asking you to do the following activities.

1) Complete a 39-item pre-test (prior to beginning the professional development modules) and 44-item post-test (following completion of the professional development modules) concerning your knowledge, experiences, attitudes, and beliefs about working with students who exhibit stress and anxiety. We anticipate each survey to take 10-15 minutes in total.

2) *Participate by completing five online professional development modules – 1 synchronous and four asynchronous (40 – 60 min each).

3) Participate in an interview concerning your knowledge, experiences, attitudes, and beliefs about working with students who exhibit stress and anxiety, in addition to your experience engaging in the professional development modules. We anticipate this interview to take 30 minutes in total.

I will audio record the interview for transcription, which will be conducted via the Zoom video platform. You may skip any question with which you are not comfortable and end the interview at any time. Please let me know if you do not want the interview to be recorded; you also can change your mind after the interview starts, just let me know.

Your participation in this study is voluntary. If you choose not to participate or withdraw from the study at any time, there will be no penalty whatsoever. You must be 18 years of age or older to participate. Your responses will be confidential. For the pre- and post-test,

you will choose a unique identifier known only to you to link each test. Results from this study may be used in reports, presentations, or publications, but your name will not be mentioned, nor will any identifying characteristics. Effectively, any reference to you and your interview will be labeled as "Teacher" and the number associated with the timing of your interview (e.g., the first teacher interviewed will be named "Teacher 1").

The benefit to participation is free-access to professional development on the topic of study. Your survey instrument and interview responses may also inform future iterations of the stated professional development modules. There are no foreseeable risks or discomforts to your participation other than the loss of time to participate in study procedures.

If you have any questions concerning the research study, please contact the research team – Brian Jukins at bjukins@asu.edu or (978) 314-4653 or Elisabeth Gee at elisabeth.gee@asu.edu or (480) 965-4284.

Thank you,

Brian Jukins, Doctoral Candidate
Elisabeth Gee, Professor

If you have any questions about your rights as a participant in this research, or if you feel you have been placed at risk, you can contact Elisabeth Gee at (480) 965-4284 or the Chair of Human Subjects Institutional Review Board through the ASU Office of Research Integrity and Assurance at (480) 965-6788.

* Disclaimer: The information in this professional development program is based on findings from published research; however, while promising, the specific strategies are not uniformly established as "evidence-based." Moreover, the content within the modules is meant to inform; therefore, successful completion of the training does not mean that you will be able to effectively reduce anxiety in students. If you suspect that a student might be suffering from anxiety, refer the student for evidence-based services offered by a trained mental health provider (e.g., school counselor).

By continuing forward with this pre-test, you are agreeing to be a part of the study, as outlined above.

APPENDIX C

DESCRIPTION OF SOS: MODULE ONE

SLIDE 1: Cover

SLIDE 2: Objectives

- The data on stress and anxiety and teacher professional development – an overview
- Define stress and anxiety and the differences therein
- Stress – More in-depth
- Anxiety – More in-depth
- Recognizing anxiety in students

SLIDE 3: The Why - data on mental health issues in adolescents.

SLIDE 4: The Why - research on mental health issues in adolescents in the context of education, specifically, teachers and professional development.

SLIDE 5: Introduction to the different states of mental health.

SLIDE 6: You can think about the different states of mental health in terms of a hierarchy, or a pyramid, with mental health as the foundational base and mental disorder/illness at the top. Here, though, the top signifies the highest level of issue regarding one's mental health.

- Mental health is a state of successful performance of mental function resulting in productive activities, fulfilling relationships with people, and the ability to change and cope with adversity.
- Mental distress is the inner signal of anxiety or stress that a person has when something in their environment is demanding that they adapt to a challenge, e.g., writing a paper, giving a presentation in front of the class, asking a person to go out on a date, etc.
- Mental health problems may arise when a person is faced with a much larger stressor than usual. These occur as an expected part of normal life and are not mental illnesses.
- A mental disorder is very different from mental distress and a mental health problem. It arises from a complex interplay between a person's genetic makeup and the environment in which they live or have been exposed to at different times in their lives. A person with a mental disorder will experience significant substantial and persistent challenges in many different areas of their life, e.g., emotionally, cognitively, behaviorally, and physically.

SLIDE 7: Introduction to the similarities and differences between stress and anxiety.

SLIDE 8: Stress and anxiety – similarities and where they differ from one another.

SLIDE 9: Stress and anxiety – differences and formal definitions.

SLIDE 10: In-depth differences between stress and anxiety.

SLIDE 11: In-depth differences between stress and anxiety continued.

SLIDE 12: Video depicting how stress and anxiety differ from one another.

SLIDE 13: Introduction to stress.

SLIDE 14: Introduction to three types of stress – positive, tolerable, and toxic stress.

SLIDE 15: Positive stress – not all stress is bad. Appropriate amounts of stress can be healthy, as it can propel someone to achieve higher results or energize them to try something new.

SLIDE 16: Tolerable stress – tolerable stress can turn into toxic stress if left unchecked; however, it is usually time-limited, and any negative effects are limited by the temporary nature of the stressor and by having supportive relationships and coping mechanisms in place.

SLIDE 17: Toxic stress – too much ongoing stress can wreak havoc on a child – mentally, physically, socially, emotionally, and academically. With toxic stress, the adversity is frequent and prolonged – e.g., abuse, having a parent with an addiction, exposure to violence, etc. Toxic stress disrupts brain formation and may lead to lifelong learning, behavior, physical, and mental health problems.

SLIDE 18: The cycle of stress and anxiety – a visual depiction and verbal description of what happens in a person's body when the stress response is activated (e.g., fight, flight, or freeze) and how a student might react when faced with overwhelming stress or anxiety.

SLIDE 19: Introduction to anxiety disorders.

SLIDE 20: Physical manifestations of anxiety.

SLIDE 21: Common types of anxiety disorders.
- Generalized Anxiety
- Separation Anxiety

SLIDE 22: Common types of anxiety disorders continued.
- Social Anxiety
- Panic Disorder

SLIDE 23: Common types of anxiety disorders continued.
- Obsessive Compulsive Disorder (no longer classified as an anxiety disorder but shares commonalities with such)
- Selective Mutism
- Agoraphobia

- Specific Phobia
- Acute Stress Disorder
- Post-Traumatic Stress Disorder

SLIDE 24: A short video of what it is like to have anxiety from a first-person point of view.

SLIDE 25: Introduction to recognizing anxiety in students - a look at the various ways teachers can recognize anxiety in students, i.e., how an anxious student may present in class.

SLIDE 26: Recognizing anxiety in students continued.

SLIDE 27: Recognizing anxiety in students continued.

SLIDE 28: Video about the things that students with anxiety wished their teachers understood.

SLIDE 29: Wrap-up and a lead into the next module.

APPENDIX D

DESCRIPTION OF SOS: MODULE TWO

SLIDE 1: Cover

SLIDE 2: Objectives
- Understand resilience
- How to develop resilience in students

SLIDE 3: Introduction to the "why" of resilience – hopes and dreams that adults have for children and adolescents.

SLIDE 4: Introduction to the "why" of resilience continued – potential for children and adolescents to experience hurt, sadness, loss, stress, anxiety, and trauma.

SLIDE 5: Defining resilience – components of resilience.
- Possessing capacity and inner strength
- The ability to regroup and cope
- Overcoming versus being consumed
- A positive mindset
- Re-framing and navigating life from a strengths-based perspective

SLIDE 6: Defining resilience continued – analogy of a channel marker.

SLIDE 7: Importance of hope in building resilience.

SLIDE 8: Introduction to mindsets.

SLIDE 9: Growth versus fixed mindset.

SLIDE 10: Growth versus fixed mindset continued – scenario of how a student with a fixed versus growth mindset might handle a failing grade.

SLIDE 11: Groundwork to begin changing mindsets.
- Building trust with students
- Patience and re-writing old, faulty, maladaptive scripts that have built up for years and creating new pathways

SLIDE 12: The mindset of a resilient child and adolescent.

SLIDE 13: The mindset of a resilient child and adolescent continued.
- Attitude
- Faces challenges
- Believes in themselves
- Goal oriented – set realistic and attainable goals and re-work these, as needed
- Self-aware and not seeing themselves as a "fixed" entity
- Adaptive

- Understanding of themselves, their needs, and what is in their control and what is not
- Positive self-talk
- Seeks to navigate through and ultimately thrive in the face of adversity
- Keeping resilience in perspective – i.e., a child does not need to possess every quality to be considered resilient

SLIDE 14: Review of the cycle of stress and anxiety from Module One.

SLIDE 15: Adaptive means of coping with stress and anxiety to help build resilience.

SLIDE 16: Specific ways to foster adaptive coping skills in children and adolescents.
- Positive (adaptive) versus maladaptive coping
- Resilient = positive coping strategies
- Proactive – encourage the development of coping strategies at a time when the stressor is not present

SLIDE 17: Adult mindset as it relates to developing resilience in children and adolescents.
- Seeks to understand and accept
- Demonstrates love and acceptance
- Is reflective
- Models positive behavior
- Works collaboratively with the student on developing goals and expectations
- Sets the environment - i.e., allows for independence, growth, appropriate stress, decision-making, opportunity, support, etc. – and attempts to embody the spirit and various aspects of resilience by acting as a role model

SLIDE 18: Introduction to effective listening and communication and potential issues that may impede proper communication.

SLIDE 19: Effective listening and communication continued.
- Actively listen – ask questions, validate, summarize, and read the situation before responding
- Choose to be empathic
- Be direct and reciprocal in conversation
- Avoid negative communication – e.g., interrupting, using absolutes (e.g., always and never), and engaging in power struggles
- Present the best options first
- Be the example

SLIDE 20: Introduction to discipline.

SLIDE 21: Good disciplinary practices, particularly those that promote resilience.

- Discipline essentially means to teach, but it is often linked, erroneously, with punishment, which is more reactionary
- Creating a safe and consistent environment
- When consequences are required, they should be natural and relatable to the behavior, as again, research shows that typical approaches such as detention and suspension are not effective in curbing negative behavior
- Be consistent and keep your head – remember, you are seeking to build your student up and not break them down – it is not about you

SLIDE 22: Good disciplinary practices continued.
- Person-centered – it has to be about the student and not making your life easier
- Proactive – engage in a discussion about expectations ahead of time and be clear about what may happen if they are not met
- Preserving of a child's dignity – e.g., speak with them in private, find subtle ways to correct them, etc.
- Process oriented – help them to learn from the experience – e.g., what contributed to them acting the way they did? What can they do differently next time?
- Positive – more focused on restorative measures than punitive ones

SLIDE 23: Introduction to fostering competence.

SLIDE 24: Fostering competence continued – ways that adults can promote competence in children and adolescents.
- Recognize strengths and build on them
- Allow for ownership and individual decisions to be made
- Give opportunity to self-correct mistakes
- Mistakes will happen – avoid absolutes and focus on what can be done differently
- Be patient
- Nurture interests and give them time to develop

SLIDE 25: Introduction to building confidence.

SLIDE: 26: Building confidence continued – ways that adults can help build confidence in children and adolescents.
- Cultivate confidence
- Focus on qualities over achievements
- Give authentic praise (think about mindsets – i.e., cultivating a growth mindset versus fixed)
- Set realistic goals
- Allow for involvement – e.g., get students involved, ask their opinion, etc.
- Snowballing confidence – confidence will build overtime with the right nurturance

SLIDE: 27: Allowing for healthy stress by "getting out of the way."

SLIDE 28: Introduction to establishing a greater connection.

SLIDE 29: Establishing a greater connection continued – ways that adults can support children and adolescents to form deeper connections.

- Create deeper connections
- Build support systems
- Teach and encourage – e.g., model how to reach out and show empathy and forgiveness
- Charismatic adult
- Student quotes
- Emotional bank account – invest time in building relationships (i.e., making "deposits" into students)

SLIDE 30: Wrap-up and a lead into the next module.

- Winnie the Pooh: Braver, Stronger, Smarter

APPENDIX E

DESCRIPTION OF SOS: MODULE THREE

SLIDE 1: Cover

SLIDE 2: Objectives
- Means to Intervene – The Teacher Slant
- Understanding Cognitive Behavioral Therapy and its applications
- Mindfulness
- Classroom Considerations

SLIDE 3: Introduction to CBT – CBT is arguably the most often used clinical approach to combat anxiety. At its most basic level, cognitive therapy is based on the concept that an individual's perceptions shape their behavior and emotional experience. In other words, it is not necessarily the events in an individual's life that affect behavior and moods, but rather how the individual perceives the events.
- Evidence-based treatment for a number of psychological disorders, particularly anxiety
- Cognitive – thought patterns
- Behavior – actions

SLIDE 4: Explaining the cognitive model.
- Event – what happened
- Thought/Image – what automatically came to mind
- Emotion – what was felt at the time of the automatic thought/image
- Behavior – what was the response

SLIDE 5: Introduction to cognitive distortions - students with anxiety tend to experience cognitive distortions, which are skewed perceptions of reality.

SLIDE 6: Cognitive distortions continued – emotional reasoning.

SLIDE 7: Cognitive distortions continued – should statements.

SLIDE 8: Cognitive distortions continued – mental filter.

SLIDE 9: Cognitive distortions continued – disqualifying the positive.

SLIDE 10: Cognitive distortions continued – magnification and minimization.

SLIDE 11: Cognitive distortions continued – all-or-nothing.

SLIDE 12: Cognitive distortions continued – overgeneralization.

SLIDE 13: Cognitive distortions continued – jumping to conclusions.

SLIDE 14: Cognitive distortions continued – labeling and mislabeling.

SLIDE 15: Cognitive distortions continued – personalization.

SLIDE 16: A more exhaustive list of cognitive distortions (also uploaded as a handout).

SLIDE 17: Helping students challenge their cognitive distortions.

- Assist with naming cognitive distortions when they arise
- What evidence do you have to support such a thought or belief? Vice-versa, what evidence is there to think otherwise?
- What would you say to a friend who was thinking the same about themselves?

SLIDE 18: The negative snowball effect of anxiety and how using a CBT-based approach can help students avoid a downward spiral with their thinking.

SLIDE 19 & 20: Ways to address cognitive distortions and negative thought patterns – recognize, reframe, and re-engage.

- Recognize – recognize the automatic thought and begin looking at what is driving this pattern of thinking

SLIDE 21: Ways to address cognitive distortions and negative thought patterns continued – recognize, reframe, and re-engage.

- Reframe – the next step is to reframe. Reframing gives us an opportunity to look at a situation from a different lens and perspective versus the automatic skewed one that comes up so quickly

SLIDE 22: Ways to address cognitive distortions and negative thought patterns continued – recognize, reframe, and re-engage.

- Re-engage - in this third step, we do not want to reframe forever as that can get someone caught up in perseverative thinking. So, we reframe and move on by re-engaging with the moment. We want to exit the anxiety loop with our thinking and reconnect with the present

SLIDE 23: Other cognitive (behavioral tips).

- Socratic questioning – using questions to help students spot cognitive distortions

SLIDE 24: Other cognitive (behavioral tips) continued.

- Exposure - the goal of exposure work is for the person to face their fears and not perform compulsions or engage in avoidant behaviors to make themselves feel better while at the same time naturally feeling less anxious. This work is highly collaborative, though, and not forced, and often led by a trained professional. You may be made aware that a student is working on something related to this, so having a familiarity with this process will allow you to better support the student. We want to be thoughtful about not enabling the student, so accommodations, as noted, should be a bridge and not an end in themselves
- Be patient – thought processes, particularly ones that have been built up for years, take time to change

SLIDE 25: Introduction to mindfulness and an explanation of what it is and how it can be helpful with stress and anxiety.

SLIDE 26: Video from Dr. Jon Kabat-Zinn explaining mindfulness.

SLIDE: 27: Video illustrating the application of mindfulness in a school setting.

SLIDE: 28: Mindfulness techniques - a few examples of different mindfulness techniques that teachers can use with students who are experiencing high levels of stress or anxiety.

- Grounding oneself in the moment (e.g., feeling the weight of the chair beneath you, the sun on your face, noticing surrounding sounds)
- Body scan – taking a moment to scan your body to see how you are feeling and if there are any points of tension or particular emotions present. If so, just observe, do not judge, perhaps try to settle that particular area, and then bring yourself back to the present moment by focusing on your breath
- Progressive muscle relaxation – if you are noticing tension in your body, this is a great way to release it. You can start at the toes and work your way up by tightening a particular body part for 5-10 seconds and then releasing for 15-30 seconds
- Counting (e.g., breaths) – simply counting backwards from 100 or doing so by 3's can help focus one in the moment
- Mindful Breathing – taking purposeful breaths with your focus on the rise and fall of your breath

SLIDE 29: Mindfulness techniques continued.

- 5, 4, 3, 2, 1 – a popular grounding technique where you name 5 things you can see, 4 that you can feel, 3 that you can hear, 2 that you can smell (or like to smell), and 1 that you can taste (or like to taste)
- Another technique is to name 3 items in your presence with a deep breath followed by each one

SLIDE 30: Breathwork – drawing oneself into the present while offsetting the stress and anxiety response in the body.

- Belly breathing is essentially breathing from your stomach and diaphragm area versus your upper chest. When people are anxious, they tend to either hold their breath or breathe in a shallow manner, which exacerbates the stress response in the body, which can cause more anxiety. Here, you take a deep breath in through the nose and then exhale out of the mouth, which is repeated, slowly (the focus is on the exhale), for about 5-10 reps
- Box breathing is essentially breathing in for four seconds, holding it for four, breathing out for 4, and then holding it for 4. You can imagine going in a box shape as you do this. Repeat for a couple of minutes. This is often used by Navy Seals to help them settle their minds and bodies
- 4-7-8 – is another variation of box breathing where you breathe in for 4 seconds, hold it for 7, and then slowly exhale for 8

SLIDE 31: Video illustrating and explaining box breathing.

SLIDE 32: Introduction to classroom considerations – there are a number of ways to support students with stress and anxiety. The goal herein is to be broad in your overall approach while also individualizing based on a students' need. Also, when in doubt, collaborate with your fellow teachers, the school counselor, and most importantly, the students themselves.

SLIDE 33: Classroom considerations continued – how to support students with stress and anxiety in the classroom.

- Accommodations should be applied with the goal of helping the student improve their functioning and better access the material and not avoid
- Be proactive
- Take time to let your students know that you are open to discussing any issues that may arise for them

SLIDE 34: Classroom considerations continued – how to support students with stress and anxiety in the classroom.

- Have students fill out a questionnaire/form to get to know them better
- Talk about classroom set-up
- Name helpful techniques in the moment

SLIDE 35: Classroom considerations continued – how to support students with stress and anxiety in the classroom.

- Prior to a test, allow students a few minutes to gather themselves and incorporate some mindful moments
- Some students may experience a higher stress response before a test, particularly those with an anxiety disorder; however, "examination anxiety" is not an actual disorder
- Set the scene – is your classroom too busy, noisy, or filled with distractions?
- Post a daily agenda and give notice of any changes to routine

SLIDE 36: Classroom considerations continued – how to support students with stress and anxiety in the classroom.

- Scaffold assignments for students who may be avoidant or presenting with anxiety to the point where they cannot even get started
- Take the lead – recognize class stressors and initiate classroom-based measures to help everyone transition and settle
- Look out for end of the quarter spikes in anxiety

SLIDE 37: Classroom considerations continued – how to support students with stress and anxiety in the classroom.

- Make a chart – e.g., green, yellow, red and put things students can do at each one (e.g., green – resilience – so here, you work with a student to push through; yellow – take a walk, deep breathing, or a brief check-in with you; red – see a counselor)

- Do not avoid things simply because it may spark anxiety; however, you may want to preview with students who you know to be anxious or modify/scaffold the assignment
- Talk positively and realistically
- Mindful-based decision making

SLIDE 38: Classroom considerations continued – how to support students with stress and anxiety in the classroom.
- Be empathic – you can validate and be supportive and encouraging – e.g., I know that you are anxious or stressed over this project but I will be here to guide and help you get through it
- Ask open-ended questions versus those that are leading or closed – e.g., instead of are you anxious about the assignment, say, how are you feeling about the assignment?
- Talk through situations with students and hear them out when they are explaining themselves or have an idea
- Engage in collaborative problem-solving

SLIDE 39: Classroom considerations continued – how to support students with stress and anxiety in the classroom.
- It's all about the relationship!
- Allow manipulators such as stress-balls or something non-invasive (i.e., that does not make noise)
- Make visible a list of things that students can do if they are feeling anxious or stressed – make this list with students and put it up somewhere in your classroom. If you have class-sanctioned activities that are agreed upon ahead of time, this will help alleviate power struggles and reduce stigma
- Apps

SLIDE 40: Classroom considerations continued – how to support students with stress and anxiety in the classroom.
- Maslow's Hierarchy of Needs – if a student does not feel safe, or their basic needs are not being met, they are less likely to access higher levels of functioning; therefore, they will be less available for class

SLIDE 41: Classroom considerations continued – how to support students with stress and anxiety in the classroom.
- Video illustrating various ways that teachers can support students in the classroom

SLIDE 42: Wrap-up – Let's. Be. Real.
- Stress and Anxiety are on the rise
- We are not going to "cure" student stress and anxiety but ***we can*** help students cope, face, and overcome
- What we are discussing herein is akin to a menu of options that you have at your disposal – means to better understand and intervene. It is about building a bigger and better toolbox to help students; however, when in doubt – refer out

APPENDIX F

PRE-TEACHER SELF-EFFICACY INSTRUMENT

Mary Lou Fulton Teachers College

ARIZONA STATE UNIVERSITY

Teacher Self-Efficacy Instrument - SOS Pre-Test

Dear Teacher:

Thank you for completing this survey. Your answers will help provide valuable information toward building a stronger professional development program for teachers, while also offering greater support to students.

This survey is designed to help us gain a better sense of teacher professional development related to understanding and working with students who demonstrate stress and anxiety and will take approximately 10-15 minutes to complete. Please answer all questions, as stated, even if they appear similar. All responses will be confidential and used solely for this research study. No personally-identifying information will attach you with the survey.

In answering the following, please think about your professional training (e.g., graduate program, professional development) up to this point, and select the degree to which you either disagree or agree with each statement. 0

*** 1. Knowledge of Anxiety:** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my understanding of anxiety disorders in students.	○	○	○	○	○	○
I can correctly identify the signs and symptoms of anxiety in students.	○	○	○	○	○	○
I can accurately explain to others how anxiety impacts students.	○	○	○	○	○	○
I am confident that my prior training has prepared me to properly understand anxiety in students.	○	○	○	○	○	○
I have a fully developed understanding of anxiety in students.	○	○	○	○	○	○

*** 2. Knowledge of Stress** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my understanding of stress in students.	○	○	○	○	○	○
I can correctly identify the signs and symptoms of stress in students.	○	○	○	○	○	○
I can accurately explain to others how stress impacts students.	○	○	○	○	○	○
I am confident that my prior training has prepared me to properly understand stress in students.	○	○	○	○	○	○
I have a fully developed understanding of stress in students.	○	○	○	○	○	○

*** 3. Working With Students Who Demonstrate Anxiety** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to work effectively with students who demonstrate anxiety.	○	○	○	○	○	○
I can intervene with evidence-based tools to help a student through their anxiety.	○	○	○	○	○	○
I can accurately explain to others how to best work with a student who is exhibiting anxiety.	○	○	○	○	○	○
I can talk knowledgeably about anxiety with a student who is experiencing anxiety.	○	○	○	○	○	○
I am able to offer practical advice to a student who is experiencing anxiety.	○	○	○	○	○	○

*** 4. Working With Students Who Demonstrate Stress** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to work effectively with students who demonstrate stress.	○	○	○	○	○	○
I can intervene with evidence-based tools to help a student through their stress.	○	○	○	○	○	○
I can accurately explain to others how to best work with a student who is exhibiting stress.	○	○	○	○	○	○
I can talk knowledgeably about stress with a student who is experiencing stress.	○	○	○	○	○	○
I am able to offer practical advice to a student who is experiencing stress.	○	○	○	○	○	○

*** 5. Prior Training** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I have had formal preparatory training regarding stress (e.g., graduate program or professional development that specifically focused on stress) to work with students who demonstrate stress.	○	○	○	○	○	○
I have had formal preparatory training regarding anxiety (e.g., graduate program or professional development that specifically focused on anxiety) to work with students who demonstrate anxiety.	○	○	○	○	○	○

*** 6. Differentiate Between Stress and Anxiety** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to accurately differentiate between stress and anxiety.	○	○	○	○	○	○
I am able to accurately explain to others the difference between stress and anxiety.	○	○	○	○	○	○

*** 7. Generalized anxiety usually arises from being burned out by stressful events?** 0

- ◯ True
- ◯ False

*** 8. The following define anxiety correctly:** 0

- ◯ Short-term, future-oriented, internally generated
- ◯ Long-term, doesn't go away when the threat is over, anticipatory in nature
- ◯ Short-term, present-oriented, focused on a real demand
- ◯ Short-term, internally generated, present-oriented
- ◯ Long-term, externally generated, present-oriented

*** 9. Panic attacks that occur as part of a Panic Disorder typically come "out of the blue?"** 0

- ◯ True
- ◯ False

*** 10. How long do symptoms of generalized anxiety need to persist before a diagnosis is made?** 0

- ◯ Three Months
- ◯ Six Months
- ◯ Nine Months
- ◯ Twelve Months

*** 11. The following define stress correctly:** 0

- ◯ Short-term, future-oriented, internally generated
- ◯ Long-term, doesn't go away when the threat is over, anticipatory in nature
- ◯ Short-term, present-oriented, focused on a real demand
- ◯ Short-term, internally generated, present-oriented
- ◯ Long-term, externally generated, present-oriented

*** 12. Stress is ongoing worry about the future?** 0

- ◯ True
- ◯ False

*** 13. Please choose which grouping requires the least to most amount of clinical intervention:** 0

- ◯ Mental Health Problems, Mental Distress, Mental Disorders
- ◯ Mental Distress, Mental Health Problems, Mental Disorders
- ◯ Mental Disorders, Mental Health Problems, Mental Distress
- ◯ Mental Distress, Mental Disorders, Mental Health Problems

*** 14. School-based accommodations for a student with anxiety should be designed to help the student avoid what is making them anxious?** 0

- ◯ True
- ◯ False

*** 15. Examination anxiety is a disorder referring to a person who experiences stress about taking a test?** 0

- ◯ True
- ◯ False

*** 16. People with social anxiety have an excessive and irrational fear that they will act in a way that will be humiliating or embarrassing?** 0

- ◯ True
- ◯ False

Now I would like to ask you a few questions to help me describe my participants. Again, no identifying information will attach you to this survey, as these are strictly demographic questions. 0

* 17. How old are you? 0

* 18. What best describes your gender? 0

* 19. How many years have you been teaching? 0

* 20. What is your highest degree earned? 0

In what subject area is your highest degree earned?

* 21. Please create a unique identifying code by writing in the box below the first three letters of your grandmother's name and the number of the month you were born (e.g., MAR2). This will be used for data analysis and will ensure your anonymity. 0

Thank you for your time in taking this survey. If you have any questions, please contact Brian Jukins at bjukins@asu.edu. Please click "Done" to submit your survey. Thank you! 0

APPENDIX G

POST-TEACHER SELF-EFFICACY INSTRUMENT

Teacher Self-Efficacy Instrument - SOS Post-Test

Dear Teacher:

Thank you for completing this survey. Your answers will help provide valuable information toward building a stronger professional development program for teachers, while also offering greater support to students.

This survey is designed to help us gain a better sense of teacher professional development related to understanding and working with students who demonstrate stress and anxiety and will take approximately 10-15 minutes to complete. Please answer all questions, as stated, even if they appear similar. All responses will be confidential and used solely for this research study. No personally-identifying information will attach you with the survey.

In answering the following, please think about your professional training (e.g., graduate program, professional development) up to this point, including your experience with SOS, and select the degree to which you either disagree or agree with each statement.

*** 1. Knowledge of Anxiety:** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my understanding of anxiety disorders in students.	○	○	○	○	○	○
I can correctly identify the signs and symptoms of anxiety in students.	○	○	○	○	○	○
I can accurately explain to others how anxiety impacts students.	○	○	○	○	○	○
I am confident that my prior training has prepared me to properly understand anxiety in students.	○	○	○	○	○	○
I have a fully developed understanding of anxiety in students.	○	○	○	○	○	○

*** 2. Knowledge of Stress** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my understanding of stress in students.	○	○	○	○	○	○
I can correctly identify the signs and symptoms of stress in students.	○	○	○	○	○	○
I can accurately explain to others how stress impacts students.	○	○	○	○	○	○
I am confident that my prior training has prepared me to properly understand stress in students.	○	○	○	○	○	○
I have a fully developed understanding of stress in students.	○	○	○	○	○	○

*** 3. Working With Students Who Demonstrate Anxiety** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to work effectively with students who demonstrate anxiety.	○	○	○	○	○	○
I can intervene with evidence-based tools to help a student through their anxiety.	○	○	○	○	○	○
I can accurately explain to others how to best work with a student who is exhibiting anxiety.	○	○	○	○	○	○
I can talk knowledgeably about anxiety with a student who is experiencing anxiety.	○	○	○	○	○	○
I am able to offer practical advice to a student who is experiencing anxiety.	○	○	○	○	○	○

*** 4. Working With Students Who Demonstrate Stress** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to work effectively with students who demonstrate stress.	○	○	○	○	○	○
I can intervene with evidence-based tools to help a student through their stress.	○	○	○	○	○	○
I can accurately explain to others how to best work with a student who is exhibiting stress.	○	○	○	○	○	○
I can talk knowledgeably about stress with a student who is experiencing stress.	○	○	○	○	○	○
I am able to offer practical advice to a student who is experiencing stress.	○	○	○	○	○	○

*** 5. Prior Training** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I have had formal preparatory training regarding stress (e.g., graduate program or professional development that specifically focused on stress) to work with students who demonstrate stress.	○	○	○	○	○	○
I have had formal preparatory training regarding anxiety (e.g., graduate program or professional development that specifically focused on anxiety) to work with students who demonstrate anxiety.	○	○	○	○	○	○

*** 6. Differentiate Between Stress and Anxiety** 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
I am confident in my ability to accurately differentiate between stress and anxiety.	○	○	○	○	○	○
I am able to accurately explain to others the difference between stress and anxiety.	○	○	○	○	○	○

*** 7. Generalized anxiety usually arises from being burned out by stressful events?** 0

- ◯ True
- ◯ False

*** 8. The following define anxiety correctly:** 0

- ◯ Short-term, future-oriented, internally generated
- ◯ Long-term, doesn't go away when the threat is over, anticipatory in nature
- ◯ Short-term, present-oriented, focused on a real demand
- ◯ Short-term, internally generated, present-oriented
- ◯ Long-term, externally generated, present-oriented

*** 9. Panic attacks that occur as part of a Panic Disorder typically come "out of the blue?"** 0

- ◯ True
- ◯ False

*** 10. How long do symptoms of generalized anxiety need to persist before a diagnosis is made?** 0

- ◯ Three Months
- ◯ Six Months
- ◯ Nine Months
- ◯ Twelve Months

*** 11. The following define stress correctly:** 0

- ◯ Short-term, future-oriented, internally generated
- ◯ Long-term, doesn't go away when the threat is over, anticipatory in nature
- ◯ Short-term, present-oriented, focused on a real demand
- ◯ Short-term, internally generated, present-oriented
- ◯ Long-term, externally generated, present-oriented

*** 12. Stress is ongoing worry about the future?** 0

- ◯ True
- ◯ False

*** 13. Please choose which grouping requires the least to most amount of clinical intervention:** 0

- ◯ Mental Health Problems, Mental Distress, Mental Disorders
- ◯ Mental Distress, Mental Health Problems, Mental Disorders
- ◯ Mental Disorders, Mental Health Problems, Mental Distress
- ◯ Mental Distress, Mental Disorders, Mental Health Problems

*** 14. School-based accommodations for a student with anxiety should be designed to help the student avoid what is making them anxious?** 0

- ◯ True
- ◯ False

*** 15. Examination anxiety is a disorder referring to a person who experiences stress about taking a test?** 0

- ◯ True
- ◯ False

*** 16. People with social anxiety have an excessive and irrational fear that they will act in a way that will be humiliating or embarrassing?** 0

- ◯ True
- ◯ False

17. Retrospective Questions 0

	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
After completing the professional development modules, I have more knowledge regarding stress and anxiety in students.	○	○	○	○	○	○
After completing the professional development modules, I have a greater understanding of how to best support students who demonstrate stress and anxiety.	○	○	○	○	○	○
I engaged fully with the professional development modules by completing each one and performing all associated tasks.	○	○	○	○	○	○
I would recommend the professional development modules, SOS, to my colleagues.	○	○	○	○	○	○
The issues of stress and anxiety among students are of sufficient concern to warrant increased professional development for teachers in the form of SOS.	○	○	○	○	○	○
The time spent on SOS was reasonable.	○	○	○	○	○	○
After SOS, I believe that I am more equipped to work with students who demonstrate stress and anxiety.	○	○	○	○	○	○

18. After completing SOS, I believe that I ranked my pretest knowledge of stress: 0

- ○ **Too high - i.e., I overrated my knowledge**
- ○ **Just right**
- ○ **Too low - i.e., I underrated my knowledge**

19. After completing SOS, I believe that I ranked my pretest knowledge of anxiety: 0

- ○ **Too high - i.e., I overrated my knowledge**
- ○ **Just right**
- ○ **Too low - i.e., I underrated my knowledge**

20. Please include your unique identifying code in the box below that you created during the pre-test. Hint: The first three letters of your grandmother's name and your favorite number (e.g., MAR12). This will be used for data analysis and will ensure your anonymity. 0

Thank you for your time in taking this survey. If you have any questions, please contact Brian Jukins at bjukins@asu.edu. Please click "Done" to submit your survey. Thank you! 0

APPENDIX H

INTERVIEW QUESTIONS

Individual Interview Questions – Semi-Structured Interview Protocol

I'd like to start the interview with some general questions about your prior teaching experience. Would you tell me how many years you've been teaching in K-12, and what subjects and grade levels?
What grade level and subject are you currently teaching?
What has been your prior or current experience working with students who present with stress and anxiety? Follow-up: Would you share some specific examples of how these students' stress and anxiety became apparent, and how you responded?
What formal training have you had on student stress and anxiety prior to SOS?
After completing the learning modules in SOS, what has changed regarding your understanding of student stress and anxiety? Follow-up—What has changed regarding how you might intervene with students who are struggling with stress and anxiety?
Scenario question – I'm interested in learning more about how you'd approach an anxious or stressed student now compared to before the professional development you received via SOS. Thinking of your past experiences with anxious and/or stressed students, would you respond to these students differently now in any way? Follow-up: If a student in your class tomorrow showed signs of significant stress or anxiety, what would you do?
What did you find most helpful in the professional development modules?
How did SOS influence your knowledge of student stress?
How did SOS influence your knowledge of student anxiety?
How has SOS impacted your ability to work with students who exhibit stress?
How has SOS impacted your ability to work with students who exhibit anxiety?
How confident are you in identifying stress and anxiety in your students now compared to before the professional development modules?
How confident are you in your ability to work with students who exhibit stress and anxiety now compared to before the professional development modules?
Will you describe your level of engagement with the modules? For example, please talk about how you spent your time with each module and the activities therein.
How do you think SOS addressed your initial expectations of what you would be learning?
Did you engage in any other PD regarding stress or anxiety during this time?

APPENDIX I

SOS MODULES IN CANVAS

- Introduction
  - SOS Introduction.mp4
- SOS Pre-Test
  - Pre-Test
- Module One: Stress and Anxiety - An Overview
  - Module 1 Link - 40 Minutes
- Module Two: Stress and Anxiety - Resilience Development
  - Module 2 Link - 40 Minutes
- Module Three: Steps and Anxiety - Interventions
  - Module 3 Link - 60 Minutes
  - Screen Shot 2021-01-31 at 3.06.30 PM.png
  - Screen Shot 2021-01-31 at 3.07.09 PM.png
- Module Four: Stress and Anxiety - Kognito Role-Playing Simulator
  - Kognito
- Module Five: Stress and Anxiety - Group Discussion
- SOS Post-Test
  - Post-Test

APPENDIX J

CODE MAPPING

First Cycle - Primary Structural Codes and Subcodes		
Areas of learning	Presentation of SOS	Prior training
Demonstrating knowledge	Course or workshop	Formal prior training
Differentiate between stress and anxiety	Discussion helpful	Informal prior training
Discussing new learned techniques/strategies	Kognito realistic	No other PD
Kognito as helpful	Providing in-depth information	No prior training
Need to intervene	Research/statistics helpful	Secondary learning
New learning on stress and anxiety	Role-model experience with Kognito	Self-efficacy levels
Recognizing stress and anxiety	Scaffolding helpful	Having more knowledge
Scaffolded approach with students	SOS as a teacher training tool	Having more strategies/techniques
Understanding stress/anxiety from student perspective	SOS different from other types of PD	Less confidence with anxiety
Using new learned techniques/strategies	SOS empowering	Less confidence with stress
Knowledge anxiety	SOS exceeded expectations	Showing more confidence
Questionable pre-knowledge	SOS helpful	Working with anxiety and stress
Knowledge stress	Teachers benefitting from SOS	Approach student differently
Participation levels	Teachers going at their pace	Better with stressed students
Deeper self-learning	Videos and graphics helpful to support content	Building relationships
Engaged longer with modules	Wide applicability	Feeling more equipped
Engaging the modules to suit their learning style	Prior Experience	Following through
Engaging with the material to learn more	Trouble differentiating between stress and anxiety	Getting to know fellow staff
Teacher reflecting on learned material	Worked with stressed and anxious students	Having little pre-knowledge on anxiety
		Helping student to relax
		Label stress/anxiety
		Modeling for students
		Presentation of students
		Reactive vs. proactive
		Refer student to counselor
		Seeking to understand underlying issues
		Staff not working together
		Stress/anxiety on rise
		Using learned strategies
		Using strategies to empower students
		Wanting to be proactive

Transition Cycle - Categorization of Subcodes to Focused Codes		
Learning new knowledge	Seeing SOS as helpful	Lacking prior training
Demonstrating knowledge	Seeing SOS as a course or workshop	Formal prior training
Differentiating between stress and anxiety	Discussion helpful	Informal prior training
New learning on stress and anxiety	Providing in-depth information	No prior training
Recognizing stress and anxiety	Research/statistics helpful	Secondary learning
Learning new strategies	Scaffolding helpful	Trouble differentiating between stress and anxiety
Discussing new learned techniques/strategies	SOS as a teacher training tool	Having little pre-knowledge on anxiety
Using new learned techniques/strategies	SOS different from other types of PD	Better with stressed students
Using learned strategies	SOS empowering	Questionable pre-knowledge
Engaging with SOS	SOS exceeded expectations	Illustrating self-efficacy
Deeper self-learning	SOS helpful	Having more knowledge
Engaging longer with modules	Teachers benefitting from SOS	Having more strategies/techniques
Engaging the modules to suit their learning style	Videos and graphics helpful to support content	Less confidence with anxiety
Engaging with the material to learn more	Wide applicability	Less confidence with stress
Teacher reflecting on learned material	Kognito as helpful	Showing more confidence
Teachers going at their own pace	Kognito realistic	Approach student differently
Demonstrating grasp of strategies	Role-model experience with Kognito	Feeling more equipped
Building relationships	Expressing thoughts on stress and anxiety	Following through
Helping student to relax	Worked with stressed and anxious students	No engagement with other PD during SOS
Label stress/anxiety	Presentation of students	No other PD
Modeling for students	Stress/anxiety on rise	
Refer student to counselor	Need to intervene	
Seeking to understand underlying issues	Staff not working together	
Using strategies to empower students	Getting to know fellow staff	
Wanting to be proactive		
Scaffolded approach with students		
Understanding stress/anxiety from student perspective		
Reactive vs. proactive		

APPENDIX K

IRB APPROVAL

APPROVAL: EXPEDITED REVIEW

Elisabeth Gee
Division of Educational Leadership and Innovation - Tempe
480/965-4284
Elisabeth.Gee@asu.edu

Dear Elisabeth Gee:

On 1/15/2021 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Closing the Gap: Teacher Professional Development and Student Mental Health
Investigator:	Elisabeth Gee
IRB ID:	STUDY00013055
Category of review:	
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Consent Form, Category: Consent Form; • IRB Form, Category: IRB Protocol; • Professional Development Modules (SOS) Citations_1-4-21.pdf, Category: Other; • Recruitment Email, Category: Recruitment Materials; • Supporting Documents, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB approved the protocol from 1/15/2021 to 1/14/2024 inclusive. Three weeks before 1/14/2024 you are to submit a completed Continuing Review application and required attachments to request continuing approval or closure.

If continuing review approval is not granted before the expiration date of 1/14/2024 approval of this protocol expires on that date. When consent is appropriate, you must use final, watermarked versions available under the "Documents" tab in ERA-IRB.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Brian Jukins
Brian Jukins