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Development and Initial Evaluation of a Mental Health Training for Pre-service Teachers

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by

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ABSTRACT

This study aimed to examine the initial pre-service teacher outcomes for a newly developed mental health training (i.e., *Training In Mental health for Educators - Pre-service Teachers* [TIME-PT]). For the development of the TIME-PT, an expert panel and a focus group with pre-service teachers were conducted to inform of any changes and improvements needed in the content of the training. In the initial evaluation of the TIME-PT, the training's factors of professional development were considered, including the training's understanding and feasibility, participants' willingness to change, their use of school-family collaboration, and their use of external supports. Initial evaluations of participants' knowledge, attitudes, and aspirations were examined for the initial preparedness of pre-service teachers to provide future mental health support. Additionally, this study aimed to initially evaluate differences in pre-service teachers' mental health stigma and biases. The author conducted a focus group with two pre-service teachers and a pilot study of 27 pre-service teachers in a southeastern state of the United States. A repeated measures ANOVA, independent *t-test*s, correlational analyses, and thematic analyses were conducted on the initial applicability and mental health educator outcomes. Overall, pre-service teachers identified the need for mental health trainings to understand their role and how to support student's mental health. Pre-service teachers had slight agreement to agreement of the understanding of the mental health support approach, feasibility to provide the approach, willingness to change their practices, and desire to participate in home-school collaboration and external supports. Most pre-service teachers had not previously received any mental health trainings in their teacher preparation program. While pre-service teachers' mental health stigma

and bias improved, participants described needing more application in incorporating de-stigma and de-bias strategies in practice.

CHAPTER I: INTRODUCTION

Statement of the Problem

There have been recent efforts to improve mental health awareness and supports in schools. Mental health problems are prevalent in youth, with about one in every three to four youth ages 5-17 years old having a psychiatric diagnosis (Costello et al., 2005; Merikangas et al., 2010). Since youth spend most of their childhood and adolescence in school settings (Costello et al., 2014), educators must have the tools to provide support for their students in the schools (Atkins et al., 2010; Domitrovich et al., 2010; Masten, 2003; Jorm et al., 2007). Thus, it is vital to consider the primary role of school personnel in identifying and providing mental health services to students.

With only 36% of youth receiving treatment for a mental health disorder, they are at further academic and social-emotional behavioral risk (Merikangas et al., 2011). Up to 63% of youth receive services for externalizing disorders (e.g., behavioral), while only up to 40% of youth receive services for internalizing disorders (e.g., anxiety; Merikangas et al., 2011). The COVID-19 pandemic has exacerbated mental health concerns in young people altering their experiences with receiving timely supports and services (Murthy, 2021). As a result of the lack of responsive services, most youth with mental health problems or challenges do not receive the mental health treatment they need (Costello et al., 2014). The wide gap in service delivery leads to decreases in student engagement, academic achievement, health, and later success in adulthood (Antaramian et al., 2010). Students with emotional and behavioral risk experience low academic achievement, social instability, and a higher likelihood to participate in criminal

actions throughout their lifetime (Chin et al., 2013). Not receiving suitable treatment can also lead to harmful outcomes, such as suicidal ideation (Chin et al., 2013).

Supporting mental health in education is essential for educational success (Moilanen et al., 2010) through a multi-tiered school-based approach (Radliff & Cooper, 2013). This multi-tiered approach supports all students based on their mental health needs to promote overall development (Dowdy et al., 2015). Professional development and professional learning activities in education typically address mental health by teaching educators mental health literacy. However, few professional development activities focus on pre-service teachers or students in teacher preparation programs (Oberle & Schonert-Reichl, 2016). The lack of professional development focused on pre-service teachers leads to in-service teachers having a lack of skills (Cunningham & Suldo, 2014) and tools (Bruhn et al., 2014) to effectively identify students with mental health needs. Online or virtual professional development has been more prevalent to adapt to current events (e.g., the COVID-19 pandemic) and increase the feasibility and continual learning for educators.

Trainings, such as Kognito (https://kognito.com/), are online-based mental health trainings to support learning the process of supporting youth receiving services. While there is only one mental health training created and designated for pre-service teachers (i.e., *Kognito At-Risk for K-12 Educators)*, there was a lack of feasibility to complete and no evidence to support improvements in their mental health knowledge (Greif et al., 2020). There is initial support through pilot data for Kognito with pre-service teachers in preparedness and self-efficacy in providing mental health support. However, the *Kognito At-Risk for K-12 Educators* does not address multiple important roles pre-service teachers should be prepared for when providing future student mental health support, such as their role in knowing different school-based mental

health professionals they can refer and consult with (e.g., school psychologists) and the effect of mental health stigma and bias on teachers' effectiveness in providing student support. A similar online mental health training, the *Notice. Talk. Act. (NTA) at School* program (APAF, 2020), also incorporates mental health information and resources for school staff. Preliminary data indicate most trained school staff find the program to be acceptable with high preparedness to connect students to mental health services and improved trends in student behavior 9 months post-training (APAF, 2020). Thus, *NTA at School* program only has initial data to support educator effectiveness regarding student mental health support and does not provide a focus for pre-service teachers. Initial data on effectiveness does not include data on educators' mental health attitudes, mental health stigma, and implicit biases from pre- to post-*NTA at School* training.

The Northwest Mental Health Technology Transfer Center (MHTTC) adapted to expand their professional development opportunities to virtual trainings on school mental health evidence-based practices, the impact of COVID-19 on services, implementation processes, and supporting families (Olson et al., 2021). Participants reported gains in mental health knowledge, perceptions of content mastery, and a high likelihood to perform helping behaviors. While participants indicated a high likelihood to support youth, they had low intentions to use training materials and resources from the online training, which can lead to ineffective implementation of supports, a lack of long-term supports to youth, and a lack of willingness to engage in ongoing professional learning. The preliminary data on the MHTTC online mental health trainings based on self-report without a focus on pre-service teachers necessitates a variety of data (e.g., quantitative and qualitative methodologies) on the applicability, acceptability, usefulness, and effectiveness for pre-service teachers. Overall, there are no other online mental health trainings

designated for pre-service teachers in the literature, indicating a need for the development of mental health interventions designed for pre-service teachers through evidence-based research.

Purpose of the Current Study

The primary purpose of this study is to address the need for teacher preparation in mental health support through the development and initial pilot of an online mental health training for pre-service teachers (i.e., *Training In Mental health for Educators - Pre-service Teachers* [TIME-PT]). Thus, the three main aims of this study are to: 1) examine pre-service teachers' understanding, feasibility, and applicability of the TIME-PT, 2) assess pre-service teachers' mental health knowledge, attitudes, and aspirations prior to and after completing the TIME-PT, and 3) measure pre-service teachers' mental health stigma and bias after the TIME-PT.

Definition of Key Terms

The *Training In Mental health for Educators - Pre-service Teachers* (TIME-PT) is an online, modularized training created by the author and a committee of experts (N = 10) in school psychology, education, mental health, stigma and bias, professional learning, instructional technology, and quantitative and qualitative research. The TIME-PT includes modules on common mental health signs, mental health stigma and bias, pre-service teachers' role in mental health services for their future students, and resources. **Common mental health signs** include common signs of mental health concerns or potential crises in children and adolescents (e.g., sudden change in student behavior) differentiated from common misconceptions of mental health (e.g., depression is another way to say someone is really sad). **Mental health stigma** focuses on the stigma associated with having mental health concerns or identified mental health diagnoses (e.g., everyone has anxiety, people with mental illness are dangerous and incompetent). **Implicit biases** are defined as automatic associations that affect behaviors (e.g., implicit bias with Black

students being more disruptive leads to higher rates of teacher referrals for Black students). The **teacher's role in student mental health** refers to the policies and processes teachers follow to ensure they identify and triage students to needed supports. Pre-service teachers were also engaged in additional professional learning activities, including vignettes and readings. Data collected from pre-service teachers also helped inform the TIME-PT.

The TIME-PT was provided through the university site's Canvas by Instructure (herein referred to as "Canvas") teaching software (https://www.instructure.com/canvas). Canvas is a teaching and learning software used by the university to provide university students with courses and communication between professors, teaching assistants, and students. Thus, Canvas provides content for courses or other learning activities to deliver to enrolled university students. Potential learning activities include assignments, quizzes, discussions, and video conferences. Canvas offers a direct messaging component that provides university students the ability to ask questions or bring up concerns to their professors and teaching assistants. The professor and/or teaching assistant who creates courses on Canvas also has access to standards-based grade books, viewing and tracking participant activity on the courses, and other integrated applications.

Canvas' capacity to integrate with outside applications allowed for the development and delivery of the TIME-PT to be originally on the Articulate Rise online system (https://rise.com/). Articulate Rise is an online training system that was created and designed for online trainings to be engaging, interactive, and adaptable on various electronic devices. Articulate Rise allows users to create online trainings where the content is explored and learned through a variety of features, including embedded videos, interactive graphics, interactive scenarios, flashcards, fill-in-the-blank, and matching (Rise 360, 2023). All parts of each module in the training can be reviewed by participants, thus, participants can learn at their own pace and review all materials

presented in each module. Through collaboration with the teacher preparation and the innovative education programs at the university, the use of Canvas to deliver the TIME-PT in Rise modules through an online training format provided participants the TIME-PT on a course system they have free access to through modules designed for their engagement in the material.

The PROMOTE Assessment of Y-MHFA (PAY) items measure domains that describe successful professional learning as "when educators are effectively engaged in professional work, interaction, and development" (p. xv; Killion, 2008). **Knowledge** is defined as a "conceptual understanding of information, theories, principles, and research" (Killion, 2008). Researchers interpreted differences in knowledge as content, concepts, and information used to identify and implement helping actions. **Attitude** is defined as "beliefs about the value of particular information or strategies" (Killion, 2008). Researchers identified educator attitudes as their beliefs about the value of mental health-related information, strategies, processes, or actions. **Aspiration** is described as "desires, or internal motivation, to engage in a particular practice" (Killion, 2008). Researchers interpreted differences in pre-service aspiration as the desire to engage in mental health behaviors and practices (see Appendix A). While educator skills are also an important domain to consider for educator professional development (Killion, 2008), for this pilot study on the development of a new intervention, the focus was on assessing and building pre-service teachers' knowledge, improving their attitudes toward mental health, and increasing their aspiration to provide mental health support.

Significance of the Study

This pilot study examined the applicability and outcomes of a new online training, TIME-PT, focused on pre-service teachers' mental health behaviors in schools. With rising trends of student mental health concerns prior to the COVID-19 pandemic (Merikangas et al., 2010) and

exacerbated by the pandemic (Murthy, 2021), early intervention and supports are critical for student success. Teachers are tasked with the need to support students in their classrooms and to refer students who might need further support. However, teachers are not sufficiently prepared to provide mental health support to students (Cunningham & Suldo, 2014; Bruhn et al., 2014).

Training in mental health supports is not explicitly addressed in teacher preparation programs (Council for Accreditation of Educator Preparation, 2015). Effective professional learning activities focus on ensuring applicability for teachers, adaptability to the education environment, and ongoing learning and follow-up opportunities as components for effective professional development (The New Teacher Project, 2015). Tailoring content to teachers, incorporating performance feedback and implementation fidelity, increasing opportunities for engagement and active learning, and content alignment with the teacher and state standards support the National Staff Development Council's (NSDC) guidelines for effective professional development (Croft et al., 2010; Kratochwill et al., 2007). However, most traditional professional development is provided as a one-time event, which does not promote continual learning and practice with long-term outcomes (Darling-Hammond et al., 2009; Gulamhussein, 2013). Traditional professional development is also provided through face-to-face methods, which can be inflexible when flexibility is needed in the school environment.

In response to the need for more applicable and flexible professional learning activities in education, virtual and blended (e.g., in-person and virtual components) training approaches have been introduced with school staff. Most online mental health training literature presents short-term effectiveness and a lack of specificity for pre-service teachers. More research is needed on the necessary components to encourage long-term continual professional learning in mental health trainings for pre-service teachers. This study sought to evaluate the applicability,

adaptability, and helping behavior outcomes (i.e., knowledge, attitudes, aspirations) of the TIME-PT through pilot data by providing initial, post-intervention, and follow-up measures on providing youth mental health supports.

Research Questions

This study included the following questions:

1. After receiving the *Training In Mental health for Educators - Pre-service Teachers* (TIME-PT), how do pre-service teachers perceive the understanding, feasibility, and applicability of the training?
2. To what extent are there pre- to post-intervention differences in pre-service teachers' knowledge, attitudes, and aspirations towards students with mental health concerns prior to and after the TIME-PT?
3. To what extent are there pre- to post-intervention differences in pre-service teachers' mental health stigma and bias after the TIME-PT?

CHAPTER II: LITERATURE REVIEW

This chapter reviews the extant research on teacher education and mental health trainings to provide the current study's background. First, the role of teachers in providing mental health support to students is explored through evaluations of teacher education and student outcomes. Next, the evolution of in-person and online mental health trainings for teachers and pre-service teachers is considered for overall trends in professional learning. This chapter concludes with a review of the literature on current online mental health trainings, their level of effectiveness, the limitations for pre-service teachers, and the importance of online trainings as a method to improve future teachers' school-based mental health services.

Dual-Factor Model of Mental Health

Based on the medical model, traditionally the field of mental health focused on identifying and targeting supports for psychological problems and distress (Antaramian et al., 2010). Health was seen as the absence of illness or disability (Keyes, 2005) without the acknowledgment of other factors that can worsen or improve mental health. The mindset towards mental health recently has challenged the traditional medical model's assumption that the absence of illness does not equate to positive mental health. The dual-factor model of mental health incorporates indicators of wellness (i.e., subjective well-being) and negative indicators of illness (i.e., psychopathology) as a comprehensive measure of mental health (Antaramian et al., 2010). With both the presence of positive wellness and a lack of mental health symptoms indicating the most academic success for students (Antaramian et al., 2010; Lewis et al., 2010),

teachers must receive training on understanding why and how their role in early identification of mental health concerns is necessary for student success.

Mental Health Impacts on Student Outcomes

There are several proximal and distal outcomes associated with student mental health needs. Students with social-emotional skills have increased learning capacity and decreased mental health risk (Zins et al., 2004). However, when youth encounter multiple stressors (e.g., financial stress, and violence), they report increased mental health risks (Williams, 2018). Discrimination (e.g., racial) can also serve as a stressor for youth and can lead to them experiencing worsening mental health outcomes (e.g., anxiety and depression; Williams, 2018). Teachers' mental health and stress can influence their instruction and performance (Sanchez & von der Embse, 2020). Teacher stress can serve as a school-based stressor which can crucially impact the classroom environment and students' capacity to learn (Phillips & Lowenstein, 2011).

Teachers often perceive themselves as having an important role in implementing social-emotional lessons, behavioral classroom interventions, and monitoring student progress with more uncertainty in their role in student mental health screening and referrals (Maclean & Law, 2022). Teachers also reported school psychologists as having the primary role in most aspects of providing school-based mental health support, including implementing social-emotional and behavioral interventions (Reinke et al., 2011). Thus, there is a discrepancy in teachers' perceptions of their role and the importance of their role in student mental health support. Teachers' mixed perceptions of their role in school-based mental health supports affects whether they engage in addressing student's mental health concerns (Romer et al., 2017). There are four specific barriers (Maclean & Law, 2022; Reinke et al., 2011) for teachers to provide timely and effective student mental health support outlined below including 1) negative mental health

stigma and biases, 2) understanding their role in providing student mental health support, 3) lack of knowledge and skills, and 4) lack of specified and applied training (see Table 1 below).

Table 1.
Summary of Studies on Online Mental Health Trainings

Training (Number of Studies)	Authors	Type of Study	Sample Size	Measure	Efficacy
Kognito (3)					
At-Risk for Elementary School Educators	Long et al., 2018	Randomized Control Trial	18,896	Gatekeeper Behavior Scale (Albright et al., 2016)	Intervention group scores significantly higher than control group 3-months post-training ($p<.001$)
At-Risk for Middle School Educators	Timmons-Mitchell et al., 2019	Repeated Measures Design	33,703	Gatekeeper Behavior Scale (Albright et al., 2016)	Participants had positive change in attitudes of preparedness, likelihood, and self-efficacy ($p<.001$)
At-Risk for K-12 Educators	Greif Green et al., 2020	Independent samples t-tests; Repeated measures ANOVAs	46	Gatekeeper Behavior Scale (Albright et al., 2016); Teacher Mental Health Vignette Scale (Green et al., 2018); Reported and Intended Behavior Scale (RIBS; Evans-Lacko et al., 2011)	Participants had significant improvement in preparedness and confidence compared to control group 1-month post-training ($p<.001$)

Table 1. (Continued).

Training (Number of Studies)	Authors	Type of Study	Sample Size	Measure	Efficacy
Notice. Talk. Act. (NTA) at School program (1)	American Psychiatric Association Foundation (APAF), 2020	Pilot	800	Program surveys (no further information provided)	Schools of educator participants reported increased mental health referrals and participants indicated increased "empowerment" to provide student support 9-months post-training
Northwest Mental Health Technology Transfer Center (MHTTC) (1[1])	Olson et al., 2021	Descriptive analyses; Independent samples t-tests	178	Impact of Training and Technical Assistance (IOTTA) (Coldiron et al., 2015; Walker & Bruns, n.d.)	Participants reported increased quality of the MHTTC resources and improved perceptions of content mastery ($p<.001$)

Mental Health Stigma

Mental health stigma also plays a role in students' early identification and corresponding services. Different forms of stigma can affect students. Public stigma involves "the negative or discriminatory attitudes that others have about mental illness" (American Psychiatric Association, 2020) which leads to social disapproval within a society (Goffman, 1963). While public stigma encompasses discriminatory attitudes others have towards mental health, anticipated stigma is individuals' "expectations of stigma experiences happening in the future"

[1] While Olson and colleagues (2021) conducted two studies, only one study was relevant for this Table.

(Kane et al., 2018). Thus, public stigma from adults, including teachers, and students' anticipated stigma from adults can prevent them from requesting support. Adolescents report fear of mental health stigmatization as the most significant barrier to receiving school-based mental health supports (Bowers et al., 2013). Student worry about mental health stigma is founded with stigmatization from peers, teachers, and school staff identified as a response to adolescent students disclosing their mental health concerns (Moses, 2010). Specifically, students with attention deficit hyperactivity disorder (ADHD) had impacted academics, behaviors, self-esteem, and peer relationships due to their teachers' beliefs and reactions regarding ADHD (Kos et al., 2006; Sherman et al., 2008). Teachers' mental health stigma can impact students reaching out to teachers for support and teachers identifying signs and referring students to necessary services. Thus, teachers should be prepared to identify, direct, and provide essential student mental health supports through their preparation programs (Rodger et al., 2018; Whitley et al., 2013).

The Influence of Teachers' Implicit Biases

Teacher stress and worsening mental health can exacerbate implicit biases in discipline rates. Implicit biases are unconscious associations and stereotypes that lead to certain behaviors and can sometimes differ from explicit beliefs (Staats et al., 2015; Greenwald & Krieger, 2006). Teachers' implicit biases may influence how they interpret and respond to student behaviors (Gilliam et al., 2016). In general, people tend to rely on their implicit biases to make decisions when dealing with stress (Johnson et al., 2016). Teachers' implicit biases can impact their disciplinary actions and responses to mental health concerns towards minoritized students. Black students are disproportionately suspended, expelled, and referred to law enforcement at higher rates than White students (U.S. Department of Education Office for Civil Rights, 2016). When students' mental health concerns are not treated, their academic performance decreases (Nelson

et al., 2004), and involvement in the juvenile justice system and future unemployment increases (Ohrt et al., 2020). Since students are experiencing heightened short- and long-term mental health symptoms due to the covid-19 pandemic (Liang et al., 2020), it is essential to ensure that teachers are prepared to effectively identify and provide mental health supports.

The Role of Teachers in Student Mental Health

Despite the typical policy patterns involving long-term, incremental change (Baumgartner et al., 2018), the COVID-19 pandemic necessitated rapid policy response at the federal, state, and local levels. Recent educational policy briefs and literature during the COVID-19 pandemic highlight the need for an immediate policy response to support students' social-emotional well-being (Darling-Hammond & Hyler, 2020; Durango & von der Embse, 2020) and help teachers' accountability to support students (Kraft et al., 2021; Latimer et al., 2020). Specifically, policy response shifted in-person learning to online learning, including a restriction of in-person supports for students. However, recent policy changes have introduced challenges for educators to support youth's mental health needs (Golberstein et al., 2020; Lee, 2020). While mental health needs in childhood and adolescence have increased due to stress, uncertainty, and grief from the COVID-19 pandemic (Olson et al., 2021), new policies restricted immediate response and access to necessary services and supports (Golberstein et al., 2020; Lee, 2020).

Educational policies regarding school-based mental health services focus on proactive and preventative efforts. In recent years, there have been more federal and state policies dedicated to enhancing mental health services for students. In 2016, the United States passed a policy to focus on federal-level accountability to coordinate and enhance the use of evidence-based programs for the prevention and treatment of mental health and substance use disorders (21st Century Cures Act, 2016). The National Suicide Hotline Designation Act of 2020

designates a universal telephone number for a national hotline specifically for suicide prevention and mental health crisis response. States across the United States have policies regarding requirements of teacher trainings on mental health and suicidal ideation in youth (SB1731, 2019), trauma-informed teacher trainings on trauma and adverse childhood experiences (SB211, 2021), establishing commissions to develop and promote K-12 mental health programs (HB131, 2019), and various other mental health-related initiatives (National Conference of State Legislatures, 2021). States, such as Florida, have implemented education rules for implementation plans to include K-12 health education related to mental and emotional health (Required Instruction Planning and Reporting, 2021). These various educational policies support the need for best practices in school-based mental health, including processes related to the multi-tiered systems of support (MTSS) framework. In the MTSS framework, the first step involves the early identification of youth with academic, social-emotional, and behavioral needs.

Universal screening tools are a common way to screen school-wide for areas of behavioral concern to connect students to evidence-based interventions (e.g., school-wide curriculums, targeted small groups) to prevent further deteriorating mental health or behavioral concerns (Severson et al., 2007). Teachers are often responsible for universal screening and providing evidence-based interventions, with a meta-analysis identifying teachers' participation in about 40% of mental health interventions (Franklin et al., 2012). As teachers are a primary source of mental health identification, program implementation, and support to students (Reinke et al., 2016), they must be appropriately trained and prepared to provide a variety of student supports. However, many teachers lack the necessary tools (Bruhn et al., 2014), skills (Cunningham & Suldo, 2014), and training (von der Embse et al., 2018) to efficiently and accurately screen students' mental health needs. Without the appropriate support for teachers,

there become critical delays in the early prevention and identification of students' needs (Severson et al., 2007).

Barriers and Facilitators to Teacher Knowledge and Skill Development in Mental Health

While teachers have a crucial role in supporting students' mental health, many pre-service teacher education programs do not mention the need for explicit mental health training (Council for Accreditation of Educator Preparation, 2015). Specifically, when examining elementary teacher preparation program syllabi, about 50% of syllabi omitted student mental health content (State et al., 2011). Most teacher training programs focus on early identification and referral processes (Ohrt et al., 2020) or mental health content knowledge (Kutcher et al., 2016). There are few requirements for pre-service teachers to obtain mental health training as designated in the Florida Statutes' Section 48.1004 (2021). Most teacher education certification standards provide general statements about mental health without further instruction on how to effectively gain necessary mental health knowledge or skills (Brown et al., 2019).

Most teacher in-service or pre-service experiences do not include mental health training on addressing students' concerns after identification (Ohrt et al., 2020). Along with limited mental health training, teachers also lack the required support and capacity to establish a positive and responsive classroom environment that promotes positive student mental health (Oberle & Schonert-Reichl, 2016; Shen et al., 2012). Schools are tasked with providing social and emotional learning (SEL; Greenberg et al., 2003) through inclusive and responsive classrooms with teachers often incorporating SEL programs and curriculums (e.g., Tier 2 interventions, Positive Behavior Intervention Supports [PBIS]). Teachers' prosocial relationships with students and use of positive behavior supports as outlined through the SEL Competency of Teacher domains are crucial to improved student social competence and self-regulation skills (Lee &

Bierman, 2015). The SEL Competency of Teacher domains includes teaching self-awareness, social awareness, responsible decision-making, self-management, and relationship skills (CASEL, 2013). When analyzing state-level teacher preparation programs in the United States, most states (71%) addressed between one to three of the five core SEL Competency of Teacher domains, with no states addressing all five core SEL domains (Schonert-Reichl et al., 2015). Thus, teacher preparation programs do not cover all of the SEL domains which promote teachers to provide the social-emotional support needed for students' improved mental health. Teacher preparation mental health trainings with guidance and resources on providing the mental health skills and tools to aid students is necessary for teachers to implement student support effectively.

Youth-Focused Mental Health Trainings

A variety of mental health trainings emerged due to the need for teacher preparedness in supporting student mental health. In the literature, 15 teacher trainings conducted in the school setting varied across content areas (e.g., trauma, mental health disorders), most facilitated in-person (Ohrt et al., 2020). Most trainings focused on a specific diagnosis or mental health concern common in youth, such as depression, anxiety, ADHD, oppositional defiant disorder, and conduct disorder. Training activities include but are not limited to videos, case vignettes, role plays, modules, discussions, and self-evaluations. Most trainings demonstrated decreased mental health stigma and increased teachers' knowledge, attitudes, and mental health literacy. Teachers also experienced an increase in their identification of students in distress rather than students with mental health concerns (Moor et al., 2007). While trainings varied from one-day trainings to several years of data collection, there was an overall lack of short-term and long-term follow-up with many studies collecting post-training data immediately after the trainings. Specifically, of the 15 articles based on mental health intervention studies, 9 articles evaluated

training effectiveness within the same day to three days post-training (Ohrt et al., 2020). Since most of the mental health trainings do not have short-term and long-term follow-up of effectiveness, they do not have evidence to support teacher behavioral change as a result of their trainings. Many schools experienced decreases in implementing helping behaviors after training (Noell et al., 2005). Thus, job-embedded professional development with coaching and supplemental supports to encourage continual skill development would be helpful to include as a part of trainings (Darling-Hammond et al., 2017).

Youth Mental Health First Aid (Y-MHFA) is one of the most frequently used in-person mental health trainings in schools (NCBH, 2020). Y-MHFA provides adults (e.g., school staff, family, and health services workers) with knowledge, skills, and resources to aid adolescents (12-18 years old) with mental health challenges and/or in crisis. Specifically, Y-MHFA includes a presentation, videos, role-playing activities and scenarios, group discussions, a national resources list, and a personal program guidebook to reference. The program guidebook includes more detail about the discussed mental health challenges in youth during Y-MHFA. Y-MHFA uses a five-step acronym (i.e., ALGEE) to train adults on common mental health signs and symptoms (e.g., depression, anxiety, and suicide) in youth (NCBH & Missouri Department of Mental Health, 2019). The five-step ALGEE plan is incorporated into Y-MHFA to provide a learning tool to implement around youth with potential mental health risks or in crisis. The ALGEE plan outlines the following ongoing process for adults to learn and practice throughout the training: access for risk of harm, listening nonjudgmentally, giving reassurance and information, encouraging appropriate professional support, and encouraging support strategies (NCBH & Missouri Department of Mental Health, 2019).

Overall, school staff indicated Y-MHFA was feasible and relevant in the schools (Kidger et al., 2016). Y-MHFA also effectively improved the school staff's mental health knowledge, skills, and confidence to support youth (Kidger et al., 2016). With teachers specifically, Y-MHFA increased their knowledge, improved beliefs, and decreased stigma six months after the training (Jorm et al., 2010). However, while teachers' mental health stigma related to their likelihood to provide information to students increased, there were no effects on their skills to provide mental health support (Jorm et al., 2010). Y-MHFA effectively increases mental health literacy but has no long-term results post-1-year and a lack of cultural and diversity considerations (Sanchez et al., 2021)[2]. While the National Council for Mental Wellbeing (2020) started developing a virtual Y-MHFA, all evidence is for the in-person version and is currently the only version in circulation.

Evolution of Online Mental Health Trainings

Kognito

The *At-Risk for Elementary School Educators* simulation is an online training developed by Kognito that involves role-playing situations where elementary school educators would need to discuss potential student mental health concerns with relevant key stakeholders (i.e., students, parents) (Long et al., 2018). The *At-Risk for Elementary School Educators* simulation incorporates motivational interviewing (MI) skills into the role-playing situations with virtually simulated students or parents who describe their emotions, memories, and reactions to the different choices made by participants. This self-paced online mental health training involves data collection on the responses provided by educators and the completion of the training. While the training is self-paced, the role-play simulation is complete when the participant earns the

[2] This source is a thesis and is not peer-reviewed.

student or parent's trust. Then, the student expresses what is creating their psychological distress. After the simulation is completed, the participant goes through how the information they learned from the student and parent leads to recommendations and/or referrals.

Using the validated Gatekeeper Behavior Scale (Albright et al., 2016) at baseline and post-intervention, Long and colleagues (2018) measured educators' aspirations and attitudes to changes in their helping behaviors. Specifically, the Gatekeeper Behavior Scale uses 12 items assessing educators' mental health preparedness on a 5-point Likert scale (i.e., "not at all or to a very little extent" to "to a very great extent") and likelihood, self-efficacy, and role on a 4-point Likert scale. Elementary school educators (e.g., teachers, teacher aides, administrators, mental health professionals, administrative assistants, student teachers) from 10 different states completed the *At-Risk for Elementary School Educators* simulation and experienced increases in preparedness, likelihood, and self-efficacy in engaging in helping behaviors compared to the wait-list control group (Long et al., 2018). Therefore, this school-based role-playing simulation improved teachers' mental health helping attitudes and behaviors three months post-training. Teachers receiving the intervention had self-reported significant increases compared to teachers in the control group. Specifically, teachers in the intervention saw improvements in recognizing students in psychological distress, gathering more information from students and parents, discussing support services with parents, and consulting with colleagues regarding their students' concerns of psychological distress (Long et al., 2018). Overall, teachers also indicated they were satisfied with the course, finding the training useful, easy to use, and helpful in providing student and parent support.

There were several notable current limitations of the *At-Risk for Elementary School Educators* simulation training. There was no long-term follow-up measuring teacher-helping

attitudes and behaviors. Also, the use of self-report data only provides the teachers' perceptions when observations, interviews, and student mental health outcomes could constitute additional data to support the simulation training's effectiveness further. Other additional data that could have provided potential moderation effects of the training involve existing school-based mental health services, school climate and culture, and teachers' mental health. While the study included elementary student teachers, there was no data analysis completed by participant role; thus, the training effectiveness for elementary pre-service teachers is unknown.

Kognito also developed a virtual role-play training for middle school educators, the *At-Risk for Middle School Educators*, to examine educators' helping motivations, attitudes, and behaviors (Timmons-Mitchell et al., 2019). This training focuses on helping middle school educators identify potential mental health challenges (e.g., depression, anxiety, suicidal ideation), discuss their concerns with students, and refer students to student services personnel. Similar to the *At-Risk for Elementary School Educators*, the *At-Risk for Middle School Educators* is a school-based role-playing simulation training involving MI skills and measured educators' attitudes of preparedness and aspirations to provide mental health support through the Gatekeeper Behavior Scale (Albright et al., 2016) at baseline, post-training, and follow-up. Middle school educators (e.g., teachers, administrators, tutors, clerical personnel) from 27 different states completed the *At-Risk for Middle School Educators*. They experienced statistically significant increases in preparedness, likelihood, and self-efficacy (Timmons-Mitchell et al., 2019). Educators expressed having more conversations with other school staff regarding student mental health concerns post-training and at the 3-month follow-up.

However, the *At-Risk for Middle School Educators* training has opportunities for improvements and future research. Data collected was self-reported by educators focusing on the

perceived improvements in their learning behaviors without confirmation through additional data (e.g., referral rates, screener, and progress monitoring data). While there was a large sample size, significant increases in educators' helping behaviors had small effect sizes (Timmons-Mitchell et al., 2019). Thus, longitudinal research with different educator populations and a control group would help support the outcomes of the training.

Since there were trainings for elementary and middle school educators, Kognito addressed the gap of mental health trainings for pre-service teachers. The *Kognito At-Risk for K-12 Educators* training tested the effectiveness using the Gatekeeper Behavior Scale (Albright et al., 2016), the Teacher Mental Health Vignette Scale (Green et al., 2018), and the Reported and Intended Behavior Scale (RIBS; Evans-Lacko et al., 2011) for undergraduate and graduate students in pre-service teacher programs at one university (Greif Green et al., 2020). While the Gatekeeper Behavior Scale was implemented in previous studies on Kognito (Long et al., 2018; Timmons-Mitchell et al., 2019), the Teacher Mental Health Vignette Scale (Green et al., 2018) measured teacher mental health literacy and related confidence in providing mental health supports through vignettes of students with an internalizing or an externalizing disorder on a scale from 1 (i.e., least confident) to 10 (i.e., most confident). Meanwhile, pre-service teachers' mental health stigma was assessed through the RIBS' 8-item scale and 5-point Likert scale ranging from *agree strongly* to *disagree strongly*. Specifically, the RIBS assessed pre-service teachers' prior experiences with others with mental health concerns and their intention to provide mental health support. Pre-service teachers selected the elementary, middle, or high school training module. The control group received an IRIS Center training housed at Vanderbilt University[3]. The module includes resources regarding accommodations for students with

[3] The *Accommodations: Instructional and Testing Supports for Students with Disabilities* module is available at http://iris.peabody.vanderbilt.edu.

disabilities. Pre-service teachers who received the training reported more preparedness and confidence to address student mental health needs one-month post-training than the control group. There is initial support for Kognito with pre-service teachers (Greif Green et al., 2020), yet there was a low response rate, lack of feasibility (i.e., 2-hour time commitment), and a small sample size. There was also no data collected on their prior classroom and school experiences. The *Kognito At-Risk for K-12 Educators* training does not explicitly address mental health stigma, impacting teachers' helping behaviors towards students (Jorm, 2000). The *Kognito At-Risk for K-12 Educators* also did not address potential moderating factors which may affect the learning outcomes, such as the participants' experiences with mental illness. While the *Kognito At-Risk for K-12 Educators* does show pre-service teachers' role regarding getting more information from the student of concern and referring students to school counselors, the training does not address other important aspects of their role in providing mental health support (e.g., other school-based mental health professionals teachers can consult and refer students to, factors that influence how pre-service teachers effectiveness to support students, cultural responsiveness).

Notice. Talk. Act. at School

To address student mental health awareness among high school educators and school personnel, the American Psychiatric Association Foundation (APAF, 2020) created the *Notice. Talk. Act. (NTA) at School* program. *NTA at School* includes information and resources on early warning signs of mental health concerns, how to effectively talk to students with concerns, and how to connect students with appropriate services. Program components include an e-learning module, either an online or in-person skills-based training, an evaluation, and online resources. While the e-learning module focuses on ensuring educators have mental health knowledge (e.g.,

statistics, early warning signs), the skills-based training focuses on how to talk to and connect students through role-playing and scenario-based activities. The online module and skills-based training also offer educators real-time feedback and encourage interaction through videos, audio playbacks, and quizzes. For program evaluation, educators complete pre-and post-surveys including follow-up assessments at 3, 6, and 12 months after the program.

In a preliminary study on the *NTA at School*, 800 educators in 10 schools across the United States (i.e., Florida, Maryland, Ohio, Texas, Virginia, and Wisconsin) completed program surveys in the 9 months after implementation of the program. Participating schools also provided school data on mental health referral rates and students' social-emotional competencies for 2 years starting one-month pre-training. However, no information or details were provided on the measures used to evaluate the initial effectiveness of the *NTA at School program*. During the first 9 months of the study, schools reported increased referrals, with average mental health referral rates significantly increasing one-month post-training (APAF, 2020)[4]. Correspondingly, most of the trained school staff (91%) reported using learned principles to connect students to mental health services. Educator perceptions of the program through ratings on a scale from low (i.e., 1) to high (i.e., 5) indicate the training as high quality with high levels of engagement. Most educators (87%) also indicate they were "empowered" to help students (p. 7; APAF, 2020).

Since the *NTA at School* program only has preliminary data to support effectiveness, educator acceptability, and improved trends in student behavior, further ongoing analysis and additional research are needed to support the initial results. Specifically, the preliminary data cannot determine whether the *NTA at School* program alone leads to educators' changes or differences in helping behaviors. The measures used to evaluate the mental health program are

[4] This source is not peer-reviewed.

not reported and thus would need potential evidence on the internal consistency reliability (i.e., Cronbach's alpha) of the construct items on the surveys. Schools also provided data on student suspension, detention, and truancy rates yet preliminary analysis did not notice any patterns in improvements in student behavior. While the pilot study analyzed referrals for mental health services, analyzing additional student data (e.g., universal screening, student perceptions) can provide more support for the effectiveness of the *NTA at School*. The NTA at School also was not designed for pre-service teachers and thus, does not specifically address the role and importance of pre-service teachers in supporting future students' mental health.

Northwest Mental Health Technology Transfer Center Virtual Trainings

In response to the COVID-19 pandemic and related restrictions, heightened needs for mental health support for youth introduced adaptations of trainings into virtual or online formats. The Northwest Mental Health Technology Transfer Center (MHTTC) adapted its activities and technical assistance to expand its professional development opportunities to mental health practitioners, caregivers, families, and youth with in-person and virtual trainings. Typical training topics provided by the MHTTC involved school mental health-focused evidence-based practices, MTSS, implementation processes, leadership processes, and workforce member wellbeing (Olson et al., 2021). New training topics introduced during the covid-19 restrictions included but were not limited to covid-19 impact on school mental health, telehealth best practices, and support for parents and caregivers (Olson et al., 2021).

Olson and colleagues (2021) conducted two studies on the impact of the MHTTC online training and the impact of the trainings on families and caregivers. The first study analyzed the impact of the training, impact on practice, mastery of the training content, and trainer credibility through the Impact of Training and Technical Assistance (IOTTA) survey (Coldiron et al., 2015;

Walker & Bruns, n.d.). The IOTTA survey has multi-item subscales from the constructs mentioned above with items ranging from 0 (i.e., “complete beginner”, “low”) to 10 (i.e., “fully expert”, “high”) scale on the participant mastery and training quality constructs and a -3 (i.e., “large negative impact”) to 3 (i.e., “large positive impact”) on the impact on practice construct, respectfully. Online trainings provided adaptations for the COVID-19 pandemic and related restrictions to in-person professional development with reported gains in knowledge and behaviors. Participants also reported the online mental health training as high quality and perceptions of higher levels of content mastery to perform helping behaviors with adaptations due to COVID-19 restrictions. However, participants had lower intentions to use training materials associated with the online training, which presents challenges with the effective implementation of mental health supports during the COVID-19 pandemic (Olson et al., 2021). A reliance on self-report, lower response rates for online activities, and a lack of a comparison group also limited the scope of the studies on the MHTTC online trainings. The MHTTC online trainings also were not designed or created specifically for educators, thus, the trainings lack the applicability for pre-service teachers to support future students. From the overall lack of evaluated online mental health trainings for pre-service teachers (See Table 1), it is crucial to consider the underlying frameworks guiding professional learning activities with the aim of pre-service teachers continual learning.

Theoretical Framework

Theory of Planned Behavior

The theory of planned behavior (TPB) examines multiple factors influencing educators' decisions and actions (Ajzen, 1985; 1991). The TPB specifies (a) attitudes, (b) subjective norms, and (c) perceived behavioral control as primary factors that influence and impact teachers’

behavior (Dunn et al., 2018). Specifically, attitudes, subjective norms, and perceived behavioral control help predict and understand teachers' behavioral intentions toward professional learning. Thus, these factors interfere with or facilitate teachers' implementation of new instructional practices. Figure 1 displays the multilevel model of the factors which lead to teachers' behavioral intention to engage in ongoing professional learning and development (Dunn et al., 2018).

Teacher *attitudes* focus on their beliefs toward engaging in professional learning and learned practices. Teachers' attitudes are influenced by the strength of their beliefs about the behavior and their subjective evaluation of their beliefs (Dunn et al., 2018). Meanwhile, teachers' *subjective norms* encompass others' opinions on the importance of engaging in ongoing professional learning. Other teachers' views in their school, school staff, and others in their professional setting can influence a teacher's behaviors. Additionally, teacher *perceived behavioral control* refers to their perception of the difficulty of performing the behavior. The level of difficulty is impacted by external factors (e.g., resources, opportunities) that either support or deter the engagement in professional learning in their practice in their schools. Teachers' perceived behavioral control reflects their beliefs in the availability of external factors to engage in the behavior (Dunn et al., 2018).

Teacher attitudes, subjective norms, and perceived behavioral control determine their intentions to utilize professional learning. Teacher *behavioral intention* measures the likelihood of engaging in the behavior of ongoing professional learning. Therefore, when teacher attitudes, subjective norms, and perceived behavioral control are more favorable toward the behavior, the teacher's intentions to perform the behavior would be more robust (Ajzen, 1991). Following the TPB model (Ajzen 1985, 1991), the stronger the teacher intends to perform the behavior, the more likely they are to engage in it. Since teacher behavioral intention provides a strong

indication of performing the behavior, it is crucial to assess teacher attitudes, norms, and perceptions for favorableness to their professional learning. The pre-service teacher training, such as the TIME-PT, assesses pre-service teachers' attitudes, norms, and perceptions of access to engage in ongoing professional learning on their future student mental health support. The TIME-PT also addresses pre-service teachers' intentions to continue their continuous professional learning regarding their role in students' mental health and their mental health stigma and bias. Thus, when measuring the initial applicability, usefulness, and mental health learning outcomes of the TIME-PT, it is crucial to analyze teachers' **attitudes**, subjective norms (i.e., perceptions of applicability), and perceived behavioral control (e.g., **knowledge**) all influence their behavioral intention (i.e., **aspirations**) to engage in continual learning throughout and after the course of the online training.

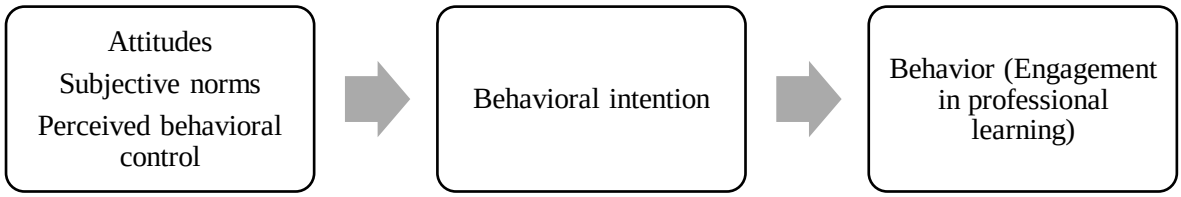

Figure 1: Structure diagram of Teacher's Behavior Change in Model of the Theory of Planned Behavior (TPB)

The TPB framework has predicted teacher behavior in internet use of professional development (Demir, 2010), the evaluation of professional development workshops (Patterson, 2001), and the longitudinal acceptance of technology in professional development (Venkatesh & Davis, 2000). Teacher behavior has effectively been applied to the TPB framework to explain the factors that influence behavior change through professional learning activities. TPB research has

provided an understanding of the components and elements needed to induce more effective teacher behavior changes in school-based professional learning interventions and programs.

Professional Development in MTSS and the Schools

Problem-solving and data-based decision-making frameworks, such as PBIS and Response to Intervention (RtI), incorporate the use of professional development to facilitate adequate academic, social, emotional, and behavioral supports. PBIS helps guide evidence-based behavioral practices for data collection and decision-making processes (Lewis-Palmer et al., 1999; Eagle et al., 2013), while RtI helps guide student academic success through intervention monitoring and awareness of disproportionality in special education (McIntosh & Goodman, 2016). Both frameworks work together and have strong alignment with MTSS in incorporating equitable supports for all students (Sugai, 2009). Thus, MTSS in the schools aligns all educational personnel (e.g., school staff, university/college partners, policymakers), collaborative systems and workgroups, and implementation and evaluation of training and technical supports through the incorporation of PBIS and RtI (Florida's Multi-Tiered System of Supports, 2020). To facilitate effective and evidence-based practices through MTSS, teachers require effective, applicable, and continual professional learning (Castillo et al., 2018b).

Professional learning and development in schools have improved teacher knowledge, attitudes, skills, and intentions to engage in evidence-based practices to inform student success (Desimone & Garet, 2015; Franklin et al., 2012). Frameworks for professional learning, such as the 4-step instructional design and delivery model (Bowman, 2016), provide instructors with the tools to develop effective structures and instructional strategies for trainings with evidence suggesting improved learning (Vlach, 2018). School professionals need to invest in and support the training of teachers to continue improvements in different content areas. To ensure long-term

professional learning outcomes, pre-service teachers need to be sufficiently prepared to deliver and engage in evidence-based instruction and interventions. Thus, professional learning through trainings should "involve intensive, ongoing exposure to new content with frequent opportunities to apply what is being taught" (p. 415; Castillo et al., 2018a).

Learning Forward in collaboration with 40 professional associations and education organizations developed Standards for Professional Learning which explicitly outline the overall goal of professional learning is for educators to accrue the knowledge, skills, practices, and dispositions to best lead to student success (Learning Forward, 2022a). The specific seven characteristics of effective educator professional learning are learning communities, resources, learning designs, outcomes, leadership, data, and implementation (Learning Forward, 2022b). Learning communities encompasses educators as individuals and in collaboration with other key stakeholders committing to "continuous improvement, collective responsibility, and goal alignment" (Learning Forward, 2022b). Resources focus on the availability and prioritization of necessary resources that increase ongoing professional learning outcomes. Learning designs include the appropriate theories, research, and models of human learning incorporated into the design of professional learning activities. Outcomes involve the alignment of educator performance related to professional learning leading to desired student outcomes. Leadership is a necessary component for educators to have the capacity to learn and lead themselves and others in effective professional learning. Data is required from multiple sources (e.g., school, home, community) in various methodologies (e.g., quantitative and qualitative) for comprehensive analysis of the effectiveness of professional learning. Implementation of learned practices, processes, and programs from effective professional learning leads to long-term educator effectiveness and student outcomes. Since pre-service teachers are in training to learn best

practices for future teaching, trainings should incorporate effective teaching methods into their professional learning activities. Thus, the TIME-PT piloted the initial outcomes of a practical mental health training with multiple opportunities for modeling, practice, feedback, and questions to maximize engagement and learning outcomes (Harbour et al., 2015).

Components of Professional Learning Activities in the Schools

Traditional professional development in the schools consists of in-service trainings provided by outside experts (Sugai et al., 2012). Using the traditional approach, professional learning produced short-term improvements but also lower implementation fidelity over time and reduced student outcomes (Joyce & Showers, 2002). Overall, standard professional learning practices are deemed "unfocused, fragmented, low-intensity activities" (Cole, 2012; p. 5), which do not yield long-term changes in behavior. Professional learning activities, such as short-term workshops and trainings, typically include little or no follow-up to continue building the capacity to effectively practice the teachings (The New Teacher Project, 2015). Professional development sessions are sometimes required even when 75% of teachers report knowing the topic well (The New Teacher Project, 2015). Thus, there is an overall lack of adaptability and perceived applicability for teachers' professional development opportunities.

The same components for effective professional learning mentioned above also are necessary for pre-service teachers' mental health professional learning. Recent literature on effective professional learning in education has focused on the importance of the increased transference between professional learning and classroom practice that improves teachers' instructional practice (Gore & Ladwig, 2006) and student learning (Alberta Education, 2010). To have increased transference from professional learning to practice regarding in-person and online professional development, professional learning should include choices in their learning

experiences, flexibility (e.g., asynchronous and synchronous activities), customizable experiences (e.g., engagement/practice with colleagues, and coaching by experts), and opportunities for reflexive thinking (Brooks & Gibson, 2012).

Summary

With the importance of student mental health supports, more research is needed to explore mental health trainings for pre-service teachers on their role in supporting future students. Since mental health training is not an included component in most teacher preparation programs (Council for Accreditation of Educator Preparation, 2015), pre-service teachers do not receive the necessary training in their role in students' mental health and thus, rely on professional development when they are practicing teachers and educators. Research has emphasized the need for adaptable and applicable mental health trainings for educators (Olson et al., 2021). Across various mental health trainings provided to educators, schools have experienced decreases in helping behaviors after training (Noell et al., 2005) indicating a lack of long-term effectiveness. Of online mental health trainings provided to pre-service teachers, while they had initial support for improving helping behaviors and acceptability they did not have evidence for long-term effectiveness, feasibility, and lower aspirations to use learned skills from the training (APAF, 2020; Greif Green et al., 2020; Olson et al., 2021). Thus, it is critical for online mental health trainings to include opportunities for continued learning and skill development (Darling-Hammond et al., 2017). This study aims to address the gap in research on adaptable online mental health trainings created for pre-service teachers regarding their initial professional learning outcomes (e.g., knowledge, attitudes, aspirations), their initial mental health stigma and bias, and their perceived understanding of the practices, feasibility to implement strategies, and applicability of the training.

CHAPTER III: METHODS

The current study was a primary analysis of data that were collected as a part of a dissertation project. Quantitative data with supplementary qualitative data were collected from a convenience sample of students in teacher preparation programs. The data were used to explore the initial effects of TIME-PT on selected outcomes (e.g., knowledge) for pre-service teachers. An expert panel and focus group data from pre-service teachers helped inform the development of the TIME-PT. This pilot study evaluated pre-service teachers' perceptions of the TIME-PT and pre-intervention and post-intervention differences (i.e., knowledge, attitude, aspiration, and mental health stigma and bias outcomes) with the TIME-PT. Data from the *PROMOTE Assessment of Y-MHFA (PAY)* and the *Usage Rating Profile - NEEDS* (*URP – NEEDS*; Chafouleas et al., 2018) were from one-group using an independent *t-test* design and a repeated measures design for evidence of promise, respectfully. Data from the Error Choice Test (ECT; Corrigan et al., 2013) and the Teacher Mental Health Vignette Scale (Green et al., 2018; Green et al., 2022) were collected as part of a one-group pretest-posttest design. Thus, the pretest-posttest design cannot assess whether the TIME-PT alone caused changes in pre-service teachers' mental health stigma, implicit bias, and learning outcomes. This chapter details the participants and procedures of the study, describes the measures, and explains the data analysis plan.

Participants

Participants were recruited from teacher preparation programs at one state university in the southeastern region of the United States. The university is ethnically diverse with over 49,000 students, including 50% White, 22.9% Hispanic, 9% Black, 8% Asian, 4% two or more

races, and less than 1% American Indian and Native Hawaiian or Other Pacific Islander. There are over 36,000 undergraduate students and 9,000 graduate students with over 1,300 undergraduate and 1,100 graduate students in the College of Education. The College of Education includes 61% White, 20% Hispanic, 11% Black, 4% two or more races, 3% Asian, and less than 1% American Indian and Native Hawaiian or Other Pacific Islander.

There are 14 undergraduate majors and 54 graduate programs in the College of Education where the teacher preparation programs are housed. In the teacher preparation programs (N = 1,407), student demographics include 64% White, 21% Hispanic, 7% Black, 4% two or more races, 2% Asian, and less than 1% American Indian and Native Hawaiian or Other Pacific Islander. For this study, university students in teacher preparation degree programs were the focus of recruitment. See Table 5 for participants' teacher preparation programs (e.g., Elementary Education). Data for the pilot study were collected during the fall semester and the post-surveys were collected at the beginning of the spring semester. During data collection in the fall semester, there were five required courses (i.e., one course had two sections and one course only had 3 students enrolled in teacher preparation programs) for students in the teacher preparation degree programs in the semester the study occurred were also open to students as elective courses (N = 164). For the focus group portion of the study, first-year university students were not recruited because their experience in their programs was limited. All participants (i.e., pilot study, focus group) were recruited from one local university due to the ability to tailor the TIME-PT specifically for pre-service teachers in the university, recruitment collaboration with teacher preparation program professors, feasibility, and time constraints. Recruitment for this study was conducted in collaboration with the director of the college and the teacher preparation

program's professors who were teaching the five required courses through emails, Canvas course announcements, and professors' in-class discussions.

Separate participants were recruited from the programs for a focus group focusing on what they have learned about mental health, what they would still like to know, and what they believe their role is in providing student mental health support (Appendix B). The purpose of the focus group was to inform the creation of the TIME-PT modules to ensure they were applicable and provided necessary information and guidance to support youth mental health. Following qualitative methodological best practices on the application of focus group interviews on education (Cheng, 2014), the interview protocol was provided in the following format: introductory questions, transfer questions, key questions, specific question(s), closing questions, and the final question. More details on the questions, procedures, and outline of the focus group are included below.

Measures

Demographic Information

After providing consent for the pilot study, pre-service teachers completed the demographic section only on the pre-survey of the *PROMOTE Assessment of Y-MHFA (PAY)*. For confidentiality, pre-service teachers were coded using researcher-created unique identifiers on all data collection materials. Demographic information on the *PAY* measure included gender, race/ethnicity, the highest level of education, and teaching certifications. Participants were also asked about previous experiences with mental health trainings.

PAY Surveys

The *PAY* measured educator attitudes, skills, behavior, aspirations, and knowledge about mental health based on Youth Mental Health First Aid (Y-MHFA; Sanchez, 2021). The PAY

was derived from the *Mental Health Knowledge, Services, and Professional Development Survey* (Romer et al., 2018), a published survey with evidence of accuracy and internal consistency reliability ranging between .80-.99 within the survey concepts or topics. The Access to Resources, Training and Coaching concept had the highest internal reliability at .99, followed by Perceived Preparedness at .92, Support for EBP at .86, and .80 for School and Community Supports. In the adapted version of the survey used in the study by Sanchez (2021), internal consistency reliability ranged between .09-.24 for the Mental Health Knowledge concept, .44-.90 for the Evidence Based Practices concept, .85 for the School-and Community-Based Mental Health Supports concept, .69 for the Direct Mental Health Support concept, .92 for the Professional Development Needs concept, .88 for the Culturally Responsive Practice concept, and .95 for the Access to Professional Development (Training, Resources and Coaching) concept.

Table 2.
PAY items matched with Knowledge, Attitude, Skill, Aspiration, and Behavior (KASAB) Outcomes

Concept	Item number	Item	Scale	KASAB
Mental Health Knowledge	1	There are things you can do to make sure your students are mentally healthy.	T/F	Knowledge
	2	Less energy and interest in activities, change in appetite and weight, and trouble sleeping can be signs of depression.	T/F	Knowledge
	3	Anxiety is one of the most common types of mental health problems in teens.	T/F	Knowledge

Table 2. (Continued).

Concept	Item number	Item	Scale	KASAB
Mental Health Knowledge	4	Youth with mental health problems are never happy.	T/F	Knowledge
	5	Youth who are happy are more likely to fail in school.	T/F	Knowledge
	6	With help, most children and youth who have mental health problems get well and stay well.	T/F	Knowledge
	7	Many types of mental health problems run in families.	T/F	Knowledge
	8	Suicide is a leading cause of death among youth 10 years and older.	T/F	Knowledge
	9	Eating disorders can lead to death.	T/F	Knowledge
	10	Use of alcohol or other drugs increases the risk of suicide or harm.	T/F	Knowledge
School- and Community-Based Mental Health Supports	11	Teachers at our school know how to talk to student about their feelings.	1-6	Attitude
	12	It is easy for students to talk to teachers at our school when they have problems such as feelings or getting along with others.	1-6	Attitude
	13	Teachers at our school care about students.	1-6	Attitude
	14	Students have someone they can talk to when they have a problem.	1-6	Attitude
	15	Students have an adult at school they can talk to when they have a problem.	1-6	Attitude
	16	Students have someone outside of school that they can talk to if they or a friend of theirs has a problem.	1-6	Attitude
	17	In our school, students receive timely access to a continuum of mental health supports.	1-6	Attitude
Evidence Based Practices (EBP)	18	When selecting an intervention, I consider its prior evidence of effectiveness.	1-5	Knowledge
	19	I know where to find out about programs and practices that are evidence-based.	1-5	Knowledge
	20	I know how to select an evidence-based program centered on the needs of youth I serve.	1-5	Knowledge
	21	I can identify an evidence-base for each of the practices I use.	1-5	Knowledge
	22	I feel that schools should be involved in addressing the mental health issues of students.	1-5	Attitude

Table 2. (Continued).

Concept	Item number	Item	Scale	KASAB
Evidence Based Practices (EBP)	23	I feel that I have the level of knowledge required to meet the mental health needs of my students.	1-5	Attitude
	24	I feel that I have the skills required to meet the mental health needs of my students.	1-5	Attitude
	25	I feel I have adequate cultural knowledge and communication/interpersonal skills to meet the mental health needs of my culturally diverse students.	1-5	Attitude
	26	I am willing to try new practices even if they are very different from what I am used to doing.	1-5	Aspiration
	27	I believe evidence-based practice is more important than professional experience.	1-5	Aspiration
Culturally Responsive Practice	28	When selecting evidence-based practices, I am willing to consider the culture of the participants within effectiveness studies.	1-5	Aspiration
	29	I am willing to facilitate family and youth input in local selection and modifications to programs.	1-5	Aspiration
	30	I will adjust practices and interpersonal communication to the cultural differences of others.	1-5	Aspiration
	31	I will modify an intervention in consideration of my population's culture and demographics.	1-5	Aspiration

Please reference Sanchez (2021) for the different educator factors (e.g., knowledge, attitudes) included in each concept of the survey listed above. The internal consistency reliability in the unacceptable range for the Mental Health Knowledge concept necessitates caution when interpreting results. Participants' journal entry prompts were collected to provide additional information and supplement the data on their mental health knowledge for this pilot study.

For this study, *PAY* adaptations were made to address the study's research questions, including excluding items that did not directly address the research questions (e.g., items related to skill and behavior outcomes). While there are five domains to evaluate successful educators'

professional learning (i.e., knowledge, attitude, skill, aspiration, and behavior; Killion, 2008), this study focused on knowledge, attitude, and aspiration outcomes as a pilot of a new mental health training. The domains included in the *PAY* for this study are pre-service teachers' mental health knowledge, attitude, and aspiration. All items on the pre-*PAY* were included and in the same order in the post-*PAY* except the demographic information. There are 31 items on the *PAY* that are divided among pre-service teachers' knowledge (n = 14), attitudes (n = 11), and aspirations (n = 6). Please reference Table 2 for the alignment of the PAY items with the KASAB (i.e., knowledge, attitudes, and aspirations) educator professional learning outcomes.

Usage Rating Profile – NEEDS (URP-NEEDS)

The *Usage Rating Profile - NEEDS* (*URP-NEEDS*; Chafouleas et al., 2018) is a self-report 24-item measure designed to assess the degree of usefulness of a particular school-based assessment tool (see Appendix C). The URP-NEEDS was edited to assess the usefulness of the TIME-PT for the purposes of this study. Usability is measured within five factors: understanding, willingness to change, feasibility, family-school collaboration, and external supports. The *URP-NEEDS* has acceptable to strong internal consistency reliability estimates (Briesch et al., 2020) for the following subscales: understanding (range = .93-.94), willingness to change (range = .73-.89), feasibility (range = .84-.90), and family-school collaboration (range = .70-.80). The external supports subscale has questionable to acceptable internal consistency reliability estimates (range = .67-.76; Briesch et al., 2020).

Understanding is represented through 10 items indicating an understanding of the procedures (i.e., "School personnel understand the procedures of the social, emotional, and behavioral approach"). Willingness to change items are represented through four statements of the likelihood of adaptability to learned information, skills, and materials (i.e., "School personnel

like to use new strategies to help address the social, emotional, and behavioral needs of students"). Feasibility items (i.e., four items) refer to the reasonableness of engaging with learned information, skills, and materials (i.e., "The materials needed for the social, emotional, and behavioral approach are reasonable for school personnel"). Family-school collaboration items are addressed through three statements related to the belief of the importance of family-school collaboration (i.e., "Parental collaboration is needed in order to implement this social, emotional, and behavioral approach"). External supports are represented through three items related to the need for additional support through community agencies, consultants, and other related external personnel (i.e., "School personnel need consultative support in order to carry out the social, emotional, and behavioral approach"). Participants are asked to indicate the degree to which they agree (i.e., 1 = *strongly disagree*, 6 = *strongly agree*) with provided items.

For the purpose of this study, items were modified to address professional development from the participant's point of view (i.e., "I understand the procedures of the TIME-PT", "The total time required for teachers to carry out the processes and procedures of the TIME-PT is manageable"). The modified items were approved by a group of experts for having the same meaning, clarity, and construct as the original items. Table 3 shows the adapted items and their corresponding factors.

See Appendix C for the original URP-NEEDS items. The directions for the measure were also adapted to fit the context of the TIME-PT (i.e., "Consider the TIME-PT's processes and procedures to identifying and supporting students' social, emotional, and behavioral needs when answering the following statements…"). The scores for each subscale were averaged with higher scores indicating more perceived understanding, feasibility, and applicability (i.e., willingness to change) of the TIME-PT.

Table 3.

Adapted URP-NEEDS items with Aligned Factors

Item Number	Item	Factor
1	I understand the procedures of the TIME-PT.	Understanding
2	The total time required for staff to carry out the TIME-PT is manageable for school personnel.	Feasibility
3	The current TIME-PT approach offers a good way to identify a child's behavior problem.	Understanding
4	A positive relationship with community agencies is important to carry out the TIME-PT.	External Supports
5	I like to use new strategies to help address the social, emotional, and behavioral needs of students.	Willingness to Change
6	I know how to use social, emotional, and behavioral screening data to document student improvements.	Understanding
7	Regular home-school communication is needed in order to execute the TIME-PT approach.	Family-School Collaboration
8	The amount of time required of school personnel for record keeping related to the TIME-PT is reasonable.	Feasibility
9	I am willing to use new and different types of social, emotional, and behavioral strategies developed by researchers.	Willingness to Change
10	The TIME-PT approach is effective for addressing a variety of problems.	Understanding
11	A positive home-school relationship is needed to carry out the TIME-PT.	Family-School Collaboration
12	Ongoing assistance from external consultants is necessary to successfully use the TIME-PT.	External Supports
13	I am knowledgeable about the purpose and goals of social, emotional, and behavioral screening.	Understanding
14	The preparation of materials needed for the TIME-PT is reasonable for school personnel.	Feasibility
15	I am familiar with what can be done to prevent or treat social, emotional, and behavioral difficulties in school.	Understanding
16	I would try a new strategy to address the social, emotional, and behavioral needs of students even if it were very different from what I am used to doing.	Willingness to Change
17	I understand how goals for social, emotional, and behavioral screening fit with a system of student supports.	Understanding

Table 3. (Continued)

Item Number	Item	Factor
18	Parental collaboration is needed in order to carry out the TIME-PT approach.	Family-School Collaboration
19	School personnel need consultative support in order to carry out the TIME-PT.	External Supports
20	I understand how to use social, emotional, and behavioral screening data to guide decisions about student supports.	Understanding
21	The materials needed for the TIME-PT are reasonable for school personnel.	Feasibility
22	The materials I am confident in my ability to carry out the TIME-PT approach.	Understanding
23	I am willing to change how I operate to meet the social, emotional, and behavioral needs of students.	Willingness to Change
24	I know how to carry out the TIME-PT approach.	Understanding

Teacher Mental Health Vignette Scale

The Teacher Mental Health Vignette Scale (Green et al., 2018; Green et al., 2022) comprises of four vignettes based on students (i.e., “Anna”, “David”) with varying degrees (i.e., mild, severe) of internalizing (i.e., depression) or externalizing (i.e., oppositional defiant disorder [ODD]) mental health concerns. The Teacher Mental Health Vignette Scale was designed to measure mental health literacy with there being a strong connection in research between decreased stigma or explicit bias with higher mental health literacy (Ma et al., 2023; Simões et al., 2023). Thus, implicit nor explicit biases were not directly measured by the Teacher Mental Health Vignette Scale. All participants received the mild internalizing Anna vignette pre-training and then the mild internalizing David vignette during post-training because the online format the TIME-PT was delivered in did not allow randomization of surveys (i.e., the university’s Canvas software). See Appendix D for the mild internalizing “Anna” Teacher Mental Health vignette. Each vignette includes six questions, including one open-ended question (e.g., What would you say, if anything, is going on with Anna?”), one yes or no question (e.g., Do you have any

students like Anna in your classes?"), and four questions on the extent teachers would identify concerns on a Likert scale of one (e.g., *not at all serious, not at all worried*) to 10 (e.g., *very serious, very worried*). The scale was validated by clinical and research experts through the *Children's Global Assessment Scale* (C-GAS; Shaffer et al., 1983) to determine how experts rate the level of concern for students in the vignettes. There were no significant differences in expert C-GAS ratings of internalizing and externalizing mental health vignettes, $t(32) = -.72$, $p = .48$. Experts also rated varying degrees of severity with the vignettes of mild symptoms with students as less impaired than the vignettes of severe symptoms, $t(30) = 3.04$, $p < .01$.

The vignettes were only presented to participants before and after completing the TIME-PT. There were no opportunities for teaching provided by the author or modules surrounding the vignette. Participants were asked to describe what is happening to the student in the vignette in a short answer form and were discussed in the results. Items related to their experience surrounding youth mental health concerns were adapted to consider students participants have worked with or seen as a part of their practicum (i.e., "Have you seen any students like Anna in your classes or in practicum?", "How common is David's behavior compared to other students you teach or have seen taught at practicum?"). The two items related to their experiences with students in practice were not included in the average scores but were further discussed in the results. For the rest of the items, the scores were combined to produce an average score with a lower average score on "mild" degree vignettes indicating a better understanding of the student's mental health in the vignette and a higher average score on the "mild" degree vignettes indicating a worse understanding of the student's mental health. Each participant received the same vignette at pre- and post-TIME-PT.

The Error Choice Test

The Error Choice Test (ECT; Corrigan et al., 2013) is a mental health stigma measure designed as a knowledge test on mental illness (Appendix E). The error-choice technique in questionnaires is an indirect attitude measure with the questions designed for the unlikelihood participants knew the true answers and thus, the responses imply positive or negative evaluations of their attitudes surrounding particular topics with participants unaware of the measure directly testing prejudice (American Psychological Association, 2022). The test-retest reliability of the ECT ranged from fair (.50) to good (.70) with good construct validity (Michaels & Corrigan, 2013) compared to the Attribution Questionnaire (AQ-9; Corrigan et al., 2006). The ECT has also been evaluated with students in health-related preparation programs (i.e., nursing students) with an internal consistency of .62 and an inter-item correlation of .40 for a pilot study of a program addressing stigma toward mental illness (Fokuo et al., 2019). The ECT consists of 14 items and each item is scored on a scale of 0 (i.e., more positive response) or 1 (i.e., more stigmatizing response). Thus, higher total average scores represent a greater mental health bias or prejudice.

Procedures

Focus Group

In coordination with the director of teacher preparation programs at the southeastern state university, participants from the teacher preparation degree programs were recruited to participate in the focus group. The focus group was conducted before the administration of the TIME-PT. Thus, the focus group interview data were used to provide information to inform the creation and development of the modules in the TIME-PT (see Appendix B). The focus group

was also intended to provide the perspective of the end user (i.e., pre-service teachers), what the end-user has learned, and if they have already received mental health trainings. For this study, five to eight participants were recruited for the focus group to ensure that there would be more encouragement for participants to share their experiences, sufficient quality of responses, and a feasible size group for moderation purposes. Recruitment letters and emails were distributed to professors who were currently teaching pre-service teachers. Due to low student enrollment at the time of recruitment, there were initially three participants who responded to the recruitment emails and letters. One student did not log into the scheduled meeting, thus two students participated in the focus group. The focus group interview was a one-hour, one-time virtual semi-structured interview following best practices (Cheng, 2014). Participants in the focus group were not recruited for participation in the broader TIME-PT study.

Before the start of the focus group, participants completed a verbal consent form and were read an introduction to the study providing information about the author, the purpose of the study, and asked if they had any questions before beginning (see Appendix B). Then, participants were reminded about the request for an audio recording of the focus group. An audio recording was used for transcriptions and for reviewing the responses from the participants to apply their responses to the creation of the TIME-PT modules. Focus group questions centered on gauging the participants' interests in education, how mental health is incorporated into their program, their experiences with professional learning in mental health, what teachers' role in providing mental health support is, and the participants' perceptions of preparation to provide support.

Expert Panel Review

For this study, an expert panel review was conducted to ensure the effectiveness, feasibility, and engagement of the content and format of the TIME-PT. Specifically, the expert

panel review was used "to develop a series of recommendations on a proposal" (Department of Sustainability and Environment, 2005, p. 36) to also help finalize the modules of the TIME-PT. The purpose of the expert panel was to inform the development of the TIME-PT rather than as methodological guidance. Expert panelists also guided best practices in developing a modularized training that would be applicable and feasible for pre-service teachers. The expert panel (N = 10) consisted of members from the dissertation committee, directors and professors in the university's teacher preparation programs, and university professors and graduate students in learning design and technology programs. See Table 4 for expert panelists' positions, relevant expertise, and years of experience.

The expert panel was sent a protected, shared link to an online folder (i.e., Google Drive folder) with the TIME-PT materials (e.g., lesson plans, measures) included and an online document for the expert panel to provide recommendations. See Appendix F for the TIME-PT lesson plans and Appendix G for the journal entry prompts. For the measures that the expert panelists reviewed, see Appendix A (i.e., PAY), Appendix C (i.e., URP-NEEDS), Appendix D (i.e., Teacher Mental Health Vignette), and Appendix E (i.e., the Error Choice Test).

Since a variety of expert opinions are needed for the development of this new intervention, the expert panel was completed virtually through a joint online document (e.g., Google Word Document) which was only shared with the members of the expert panel by the author. However, expert panelists preferred to provide their feedback through group and individual meetings focused on the development of the TIME-PT. This allowed expert panel members to share their expertise, share their recommendations, and collaborate with other experts on the panel.

Table 4.

Expert Panelists and Areas of Expertise

Expert Panel Member	Position	Relevant Expertise	Years of Experience
1	Professor	School psychology, school-based mental health practices, educational policy analyses, education	15 years
2	Professor	School psychology, professional learning, school-community partnerships, education	15 years
3	Professor	Educational measurement, intervention and assessment evaluation, education	40+ years
4	Professor	Mental health law and policy, mental illness, stigma, community-based research	14 years
5	Professor	Educational psychology, curricula and assessment development, home-school factors on development	25+ years
6	Adjunct Professor, Doctoral Graduate Student	Reading education, educational psychology, computer-assisted instruction, curricula, lesson plan, and assessment development	6 years
7	Instructor, Learning Designer	Learning design and technology, digital learning, training development, education	10+ years
8	Assistant Director, Doctoral Graduate Student	Learning design and technology, digital learning, training development, education	10 years
9	Doctoral Graduate Student	Learning design and technology, digital learning, training and program development, education	4+ years
10	Doctoral Graduate Student	School psychology, school-based mental health practices, implicit bias, program development, education	4 years

Feedback provided was then noted by the author on the feedback form for further review with the dissertation committee. The opinions and recommendations were noted on the feedback form and then reviewed by the author for the application of any necessary changes to the content, format, and measures before the implementation of the TIME-PT.

The expert panelists did not note any areas of improvement or any changes needed on the content, format, and measures for the TIME-PT. Thus, feedback was consolidated into the

feedback form detailing strengths and additional comments expert panelists provided. See Appendix H for the expert panel feedback form with feedback noted from the expert panelists. Overall feedback from the expert panel was that the lesson plans included helpful descriptions, important and relevant content, and were of good design for an Articulate Rise presentation.

TIME-PT

The director of teacher preparation programs helped with the coordination of recruitment of university students in teacher preparation programs. Recruitment for this pilot study was determined by the following: "the availability of subjects, estimating the recruitment time of subjects, how the investigation is conducted, and the cost of the study" (Musil, 2011). The purpose of this pilot study was to examine the feasibility of the use of the TIME-PT with a small sample size to inform future implementation with larger sample sizes and more rigorous study designs (Leon et al., 2011). Qualitative responses (i.e., journal entry prompts) were collected to supplement the quantitative results of the pilot study. The TIME-PT was delivered through a remote format through three separate modules each being provided to pre-service teachers a week apart (Appendix H). Each module was approximately 25 minutes with participants being provided supplemental materials to facilitate continual learning (e.g., readings, videos). Each module also included journal entry prompts for participants to provide information on what they hope to learn and what they already know about the topic before the module and what they've learned and what they want to learn more about immediately after the module (Appendix G). Participants were instructed to take approximately 5 minutes on completing journal entry prompts for each module.

Each module was created as an Articulate Rise online training presentation and then uploaded to Canvas for participants to have access to the modules and the links to the Qualtrics

surveys and receive Canvas course announcements and communication. The Articulate Rise online training presentation system helps design online trainings using interactive features (e.g., embedded videos, knowledge tests) and has capabilities to embed the trainings into educational learning platforms (e.g., Canvas). Please see the Introduction section for more information about the Articulate Rise online training system. Each module had a sequential order of six lessons (i.e., started with an introduction to the content and then listed the learning objectives) but allowed for open navigation so participants could review any section of the module. As participants went through each lesson, the module would update the percentage the participant had completed. The first module for participants was titled "Mental Health Stigma & Bias" (see Appendix I), the second module was "Common Mental Health Signs" (see Appendix J), and the third module was "Teacher's Role in Mental Health Support" (see Appendix K). For each module, lesson 1 consisted of the "Introduction" section which included a brief description of the content, the numbered learning objectives, and a link to their journal entry prompt before they start the module. Every module also had a similar format for each "Reflection" section which included a brief overview and call back to the beginning of the module (e.g., "Remember these students from earlier? Because of mental health stigma and bias, they could be missed or overlooked.") and a link to their journal entry prompt at the end of the module.

Survey Administration. All surveys, including consent forms, were sent using Qualtrics survey links. After consent was obtained from participants, before the TIME-PT, the participants completed the pre-*PAY* (i.e., demographic information and PAY), the Teacher Mental Health Vignette Scale, and the ECT. Then, participants participated in the first module of the TIME-PT. At the beginning of each module, participants completed the journal entry prompt (e.g., what they hope to learn and what they already know about the topic). After each module, participants

completed the URP-NEEDS. After participants complete the third module, they then completed the Teacher Mental Health Vignette Scale and the ECT. After 1 month, participants completed the post-*PAY* and the URP-NEEDS. See Figure 2 below for a visual timeline of survey administration for the TIME-PT.

Mental Health Stigma and Bias. The first module included the following lessons: 1) Introduction, 2) Mental Health Stigma & Bias, 3) Research & Literature, 4) Identifying Stigma & Techniques for Bias Awareness, 5) Mental Health Resources & Continued Practice, and 6) Reflection. In the "Introduction", the learning objectives were: 1) describe how mental health stigma and bias affect students, 2) identify and challenge mental health stigma and biases, 3) design a classroom learning environment using de-bias strategies, and 4) apply strategies, materials, and resources to future practice. Lesson 2 opened with a statement on the importance of having awareness of stigma and biases with pictures that show youth being impacted by them and included examples of stigma, bias, and implicit bias through the use of a flip card interactive feature (e.g., the definition of stigma is displayed on one side of a card and then participants can click a button to flip the card over for examples of stigma).

At the end of Lesson 2, participants are probed to consider phrases of mental health bias or stigma they've heard or thought about and then are provided with four example quotations of mental health stigma or bias along with representative pictures of youth. The four example quotations with pictures are presented with an interactive feature for participants to click through the pictures (e.g., "That student is just acting like that for attention" quotation is right next to a picture of a child who has colored on their face).

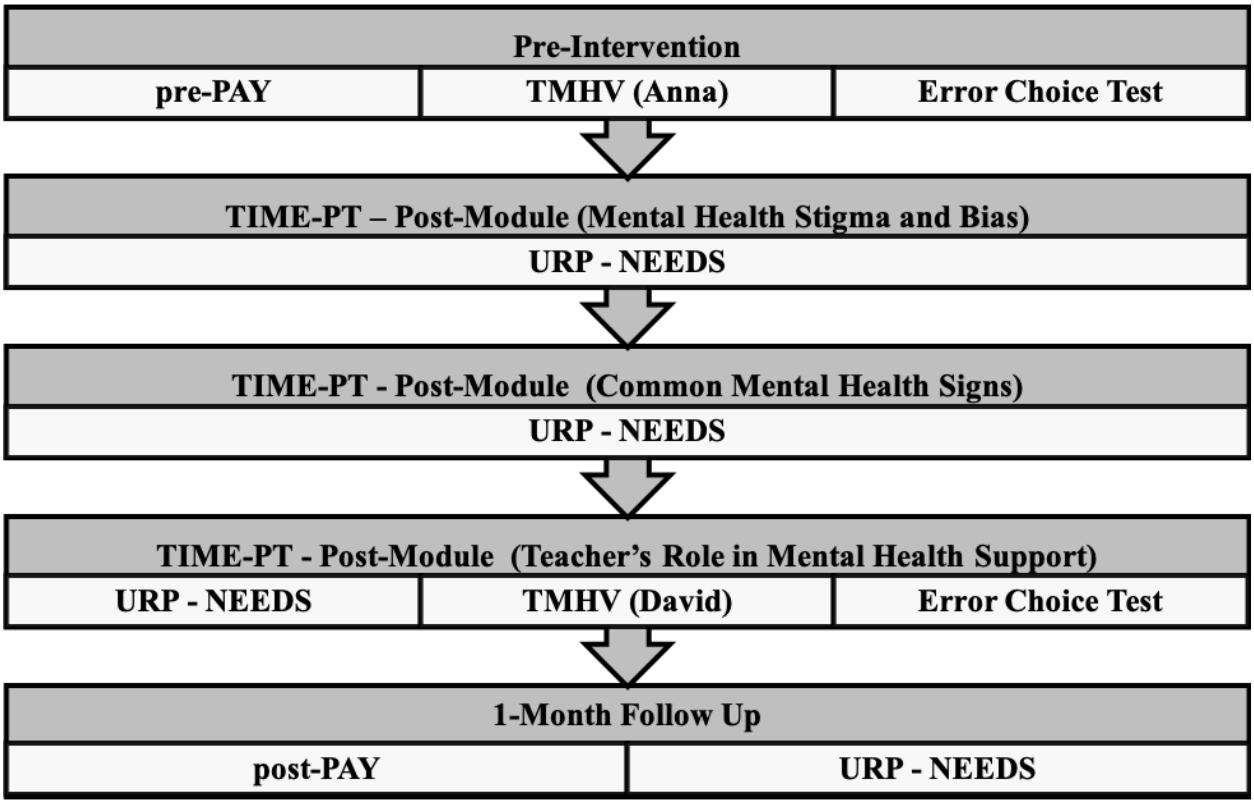

Figure 2. Timeline of survey administration for TIME-PT.*

**The abbreviation TMHV signifies the Teacher Mental Health Vignette.*

Lesson 3 includes "Research on Mental Health Stigma" with definitions and explanations about the interaction of teachers' public stigma and students' anticipated stigma. Research from the literature on the effects of stigma on youth is highlighted along with research regarding the effects of stigma on students with diagnoses. Next, an interactive picture feature with quotes from the youth of different age groups was presented for participants to learn about the direct impact on youth from youth themselves (See Appendix I). The next section of Lesson 3, "Research on Bias in Identification and Referral of Youth", included a video about *"The Pygmalion Effect"* by APA Shorts (Kang et al., 2019), statistics on the disproportionality of referral rates of Black youth, and the lifetime effects on Black students (e.g., higher rates of

suspension, expulsion, and referral to law enforcement). The last section included five interactive cards with pictures of youth for participants to flip and learn common mental health stigmas and biases in schools (e.g., "Stigma: That student has too many health concerns to get any better."). Lesson 4 included a 5-minute video created by the author and a graduate student on ways to identify mental health stigma and biases, a transcript of the video, a link to the "De-bias the classroom" sheet from Harvard University (Kang et al., 2023), and two short knowledge tests (i.e., the first one was a select all strategies that apply, the second one was a matching activity to match the strategies mentioned in the 5-minute video). All knowledge tests could be completed multiple times with no score assigned to them. Lesson 5 listed links and descriptions to resources for more information for educators, their future students, and national resources (e.g., info card for the National Suicide Prevention Lifeline (https://988lifeline.org/).

Common Mental Health Signs. The second module included the following lessons: 1) Introduction, 2) Mental Health Signs Among Youth, 3) Ways to Help Youth with Mental Health Issues, 5) Mental Health Resources & Continued Practice, and 6) Reflection. In the "Introduction", the learning objectives were: 1) describe how mental health concerns affect students, 2) identify mental health concerns and challenge mental health misconceptions, 3) design a classroom learning environment that incorporates mental health awareness, 4) apply strategies, materials, and resources to future practice. Lesson 2 prompted participants to consider three different examples of potential students they could have seen at practicum (e.g., a video of a student falling asleep including a written description of the video). Then, there were three statistics and a section on "Research on Mental Health Signs among Youth" at the end of Lesson 2 included emphasizing the prevalence of mental health concerns in youth, the outcomes when students do not receive support, and how school-based mental health services help students (e.g.,

"School-based mental health services have been shown to enhance access to other services", Lindsey et al., 2013). See Appendix J for an example of how a section on mental health research was displayed. A video of teenagers who discussed their experience with mental illness was linked to helping participants connect research to reality.

An interactive infographic opened Lesson 3 for participants to engage on what can help youth (i.e., create a safe and supportive classroom, open discussion, and recognize students in distress). A list of questions to check in with students was included along with a video that highlighted the 10 most common signs of mental health concerns in youth and facts about teen mental health. Two knowledge tests based on the videos closed Lesson 3 and included six short answers, multiple choice, and true and false. Lesson 4 included resources for educators to continue learning about mental health and strategies for the classroom and resources to share with youth and parents. Lesson 5 included a statement to help connect the information in the module to practice and the journal entry prompt.

Teacher's Role in Mental Health Support. The third module had the following lessons: 1) Introduction, 2) How Teacher's Burnout Affects Students, 3) Practices to Support Student Mental Health, 5) Mental Health Resources & Continued Practice, and 6) Reflection. Lesson 1 included statements on the overall purpose of the module to build participants' capacity to support students. The learning objectives were: 1) describe how teachers' stress, burnout, and mental health concerns affect students receiving support, 2) challenge common misconceptions of teachers' role in student mental health support, 3) recognize and explain the process of teacher response and student referral, and 4) apply strategies, materials, and resources to future practice. Lesson two opened with symptoms of teacher burnout (e.g., frustration) along with a short video and descriptors for each example. The effects of teacher burnout were included on flip cards with

the statistic on one side and a picture example on the other for the participant to engage with. Research on the history of mental health trainings for teachers and barriers which prevent teachers from providing effective student support closed the lesson.

An infographic on how teachers can help students with mental health issues (e.g., foster well-being) opened Lesson 3 along with two videos that included teachers discussing the concepts in the infographic. A practice scenario closed out the lesson with a brief description of the situation. There are three short descriptions to continue the scenario with three questions for the participant to consider following each description. If the participant answers incorrectly, an explanation is included as to why (see Appendix K). The lesson closed with a statement on this module exploring general processes to support student mental health but with a reminder to always follow school and district guidelines and processes. Lesson 4 highlighted the national resources on infographics from Module 1 again and mental health resources by district in the state of the university with an explanation of how to locate information in outside districts. Self-care strategies are included in a slide deck feature with short descriptors and a reminder at the end on the importance and impact of self-care. Optional resources were included for participants to explore more information and resources for their future classrooms. Lesson 5 included a connection between the beginning of the module and the journal entry prompt.

Data Analyses Plan

Focus Group

The author gathered general demographic information from participants that were relevant to the interview questions, including their year in their program and their teacher preparation program. The focus group lasted about 45 minutes and was recorded using the Microsoft Teams application. All questions from the focus group semi-structured interview

protocol were addressed and answered by participants. See Appendix D for the interview protocol questions.

Thematic analyses were conducted using the recording of the focus group and direct quotes were derived through the transcription service provided by the Microsoft Teams application. Due to a margin of error in the transcription by the Microsoft Teams application, the author listened to the recording for the accuracy of reporting. A second meeting for the focus group was not conducted due to the first meeting providing information to conceptualize common themes of what they've learned about mental health, their understanding of their role in mental health support, and their perceived areas of need for mental health training. Thematic analyses included the process of the author identifying, analyzing, and interpreting overall patterns of meaning, themes, and concepts from the participants' verbal individual and group responses (Braun & Clarke, 2008). The process of thematic analyses was conducted per each interview question and on overall themes regarding mental health and mental health trainings. The results from the focus group's thematic analyses helped inform the development of the TIME-PT.

Pilot Study

Descriptive statistics were conducted for each research question using the SPSS program. Further analyses were conducted to ensure the internal reliability of the new items on the surveys (i.e., Cronbach's alpha). In the first step, Cronbach's alpha was conducted using Descriptive Statistics for each scale. Next, moderate to high (.70 or greater) Cronbach's alpha within constructs were reported and if there were low to moderate (.69 or lower) item-to-total correlations, then there was consideration to remove the items with low item-to-total correlations that weakly measure the construct. Some variability within items and constructs was expected,

especially with surveys with lower participant responses (e.g., 1-month follow-up surveys). In addition to Cronbach's alpha, there was a check through the data on potential data to remove. This included, for example, a participant marking all "1" throughout the survey and participants who left items blank. The skewness and kurtosis of the data were also checked through descriptive statistics. Further descriptive analyses, ANOVAs, and t-test analyses per research question are included below.

Data Analyses. A (one group) repeated measures (three-time) ANOVA was conducted to analyze participants' understanding, feasibility, and applicability of each module in the TIME-PT (**Research Question 1**). An ANOVA with repeated measures has assumptions that need to be considered. The assumptions for a repeated measures ANOVA are a continuous dependent variable, an independent variable that consists of the same group, no significant outliers, the data are normally distributed, and sphericity. Descriptive statistics tested for normality in each factor (e.g., understanding) per survey. For the assumption of no significant outliers, descriptive statistics were also used to evaluate for outliers within each factor for each time participants completed the URP-NEEDS Survey after each module. Mauchly's test of sphericity was used to test the assumption of sphericity.

Independent *t-test*s were conducted to analyze differences in perceptions of participants' average scores in the URP-NEEDS at module 1 of those who did and did not complete the post-URP-NEEDS (**Research Question 1**) and to analyze mental health knowledge, attitudes, and aspirations at the pre-PAY of those who did and did not complete the post-PAY (**Research Question 2**). These analyses were conducted to provide insight into potential differences between those who did and did not complete the post-surveys related to attrition and initial potential implications of the research questions in conjunction with the qualitative responses

from the journal entry prompts. Assumptions must be met to conduct independent *t-test*s on mental health knowledge, attitudes, and aspirations, including a continuous dependent variable, an independent variable of two categorical groups, independence of observations, no significant outliers, and normal distributions of the dependent variable. Descriptive statistics were used to observe outliers and normal distributions.

Paired sample *t-test*s through a one-group pretest-posttest design were completed to analyze participants' differences in mental health stigma and bias from average scores pre- to post-Teacher Mental Health Vignettes and pre- to post-ECTs (**Research Question 3**). Assumptions for paired sample *t-test*s needed to be considered, including continuous dependent variable, the same group at each time the independent variable is measured, no significant outliers, and normally distributed data. Descriptive statistics were reviewed for outliers and normality.

Qualitative responses on the modules to further support the understanding, feasibility, and applicability of the TIME-PT (**Research Question 1**) and potential knowledge, aspirations, and attitudes towards providing mental health support (**Research Question 2**) as supplemental data were considered using thematic analyses. Qualitative responses provided in the Teacher Mental Health Vignette (i.e., "What would you say, if anything, is going on with Anna/David?") were analyzed for overall trends in responses (**Research Question 3**). Thematic analyses included the process of the author identifying, analyzing, and interpreting patterns of meaning and themes from the participants' qualitative responses to the journal entry prompts (Braun & Clarke, 2008). Coding for broader themes of participants' perceptions of understanding of the TIME-PT, participants' perceptions of feasibility to use learned principles from the TIME-PT,

and the participant's perceptions of the applicability of the TIME-PT in future practice were also analyzed.

Ethical Considerations

This study does not pose more than minimal risk to human subjects. Each participant viewed an online version of the consent letter that included a description of the study, what the participants would be asked to do, assurance that their responses would remain anonymous, and by continuing the survey they were consenting to participation. The demographics of the study were monitored during the recruitment phase and more targeted efforts were taken to better represent various demographic features, as needed. This pilot study went through the Institutional Review Board at the University of South Florida for approval before the start of study activities.

CHAPTER IV: RESULTS

The results of the statistical analyses conducted for the research questions in the current study are described in this chapter. First, descriptive and preliminary analyses are detailed for the pilot study. Next, the results of one group repeated measures ANOVAs, independent *t-test*s, paired sample *t-test*s and correlational analyses, and thematic analyses are reported to assess the pre-service teachers' perceptions of the TIME-PT and professional learning outcomes (i.e., mental health stigma and bias, knowledge, attitudes, and aspirations) at two time points.

Descriptive Analyses

A total of three pre-service teachers completed a consent form for the focus group and 27 pre-service teachers completed a consent form for the TIME-PT pilot study. Development of the TIME-PT (i.e., expert panel, focus group) was completed in the spring and summer 2022 semesters prior to the start of the pilot study in the fall 2022 semester. Post-survey data was collected in the early spring 2023 semester. For the focus group, one pre-service teacher did not respond to an email follow-up or join the virtual video invitation and thus, two pre-service teachers participated in the focus group. Thematic analyses from the focus group are included below. For the TIME-PT pilot study, most participants were female (n = 20, 74.1%) and White (n = 18, 66.7%). Regarding education level, there were participants enrolled in six different teacher preparation programs with most enrolled in Elementary Education (n = 9, 33.3%). Most participants were in the third year of their program (n = 15, 55.6%) and had their Associate's Degree (n = 17, 63%) but no teaching certification (n = 20, 74.1%).

Table 5.
Participant Demographic Information for TIME-PT

Individual-level variables	*n*	Percent
Gender		
Female	20	74.1
Male	5	18.5
Non-binary, Genderqueer, Agender, Gender noncomforming	1	3.7
Race/Ethnicity		
White or Caucasian	18	66.7
Black or African American	7	25.9
Asian	1	3.7
Level of Education		
Associate's degree	17	63.0
High school diploma or GED	9	33.3
Teacher Preparation Program		
Elementary Education	9	33.3
Early Childhood Education	5	18.5
Exceptional Student Education	5	18.5
Educational Psychology	4	14.8
Education	2	7.4
Secondary Education	1	3.7
Year in Program		
Third	15	55.6
Fourth	8	29.3
First	2	7.4
Second	1	3.7
Teacher Preparation Program's Course		
Course D	13	48.1
Course A	8	29.6

Table 5. (Continued).

Individual-level variables	*n*	Percent
Course E	3	11.1
Course C	2	7.4
Teaching Certification		
No certification	20	74.1
Temporary certificate	4	14.8
Regular/Standard state certificate or Advanced professional certificate	2	7.4

Note. There were 5 courses in the teacher preparation programs included in recruitment and are noted with the pseudonyms Course A-E.

Participants were recruited across five different sections of four courses available with no participants recruited from one section of courses. More participant demographic information is included in Table 5. Most participants had not received a mental health training (*n* = 23, 85.2%) and only one participant (3.7%) had received Youth Mental Health First Aid (Y-MHFA) training. Some participants had personal experience and knew personally or knew of others who experienced mental illness (9, 33.3%). Multiple participants knew of loved ones or of others who experienced mental illness (5, 18.5%). See Table 6 for more information on participants' familiarity with mental health and experiences with mental health trainings.

Focus Group Thematic Analyses

In the focus group, three participants responded to recruitment and two participants completed one focus group. Thus, the focus group was completed one time with two participants. Participants completed a semi-structured interview following the interview protocol questions (see Appendix D). Demographic information from the participants was collected concerning the research questions and is included below in the Introductory Questions section. Thematic

analyses were conducted on themes per question and themes overall regarding mental health and mental health trainings.

In the Introductory Questions section, participants expressed both being in the same program of Science and Education with special focuses on reading and Exceptional Student Education (ESE). Participant A was in their third year in their program and Participant B was in their fourth year.

Table 6.
Participant Information Regarding Mental Health

Individual-level variables	N	Percent
Completed Y-MHFA		
No	25	92.6
Yes	1	3.7
Completed other mental health training		
No	23	85.2
Yes	3	11.1
Familiarity with mental illness		
1, 2, & 3	9	33.3
2 & 3	5	18.5
3	4	14.8
4	3	11.1
1	2	7.4
1 & 3	2	7.4
2	1	3.7

Note. Under the variable "Familiarity with mental illness", participants had the option to choose all options that apply. There were four possible choices and they are noted with the following numbers: 1) I've personally experience(d) mental health concerns, 2) I've had loved ones (e.g., family, friends) experience mental health concerns, 3) I've had individuals in my life that I've known (e.g., colleagues, acquaintances, students) experience mental health concerns, and 4) I've never known someone with or personally experienced mental health concerns.

Both participants described the reason for studying to become a teacher to be an advocate and a mentor for students. Participant A specified the understanding of the school's ability to provide a safe space for students (e.g., "I wanted to be an advocate for students… I know a lot of students use school as like a second home").

When asked about their motivation to join the focus group study, both participants identified wanting to learn more about how to support students' mental health. While both participants discussed their personal experiences, Participant A focused on their personal experience with mental health to connect to their practice (e.g., "Now that I am in the position to be the person that I wished I had growing up, I want to make sure that… I can help students"). Participant B focused on their lack of exposure in their program on how to support students' mental health (e.g., "There really has not been… full units. Of how to really be a mental health advocate for children, I feel like it really hasn't been covered").

During the Transfer and Key Questions section, participants indicated mental health is incorporated more broadly into their program's training model. They both identified mental health incorporated into their core courses in their program without in-depth discussions and application (e.g., "It's more just been like quick discussions… "I can't think of like a time where they taught us how to speak to children about [mental health] at like age appropriate levels"). Thus, when asked about experiences with professional learning in mental health, neither could recall receiving any mental health professional learning outside of the discussions in their courses. Both participants also had not heard of other students in teacher preparation programs at their university receiving mental health professional learning. Specifically, both participants could not identify one mental health training they have received during their teacher preparation program (e.g., "I don't think [mental health trainings] are a part of our program").

In the Specific Questions section, participants provided general responses regarding their role as future teachers to provide mental health support. Participant B identified with teachers being advocates for students but could not identify having learned what strategies or skills to use (e.g., “As far as someone actually teaching us what it’s like… what traits to have, … who to be for the students, and no one’s ever said anything”). Participant A also stated not learning what the teacher’s role is in providing mental health support and their personal experience is the only reason why they know how to identify students in need (e.g., “I think if it wasn’t for my personal experiences growing up that I wouldn’t know what to look for”). For the Closing Questions section, both participants stated they did not feel prepared or confident to provide mental health support because of their lack of training, experience, knowledge, and skills. Participant B specified wanting an action plan on the process of identifying and referring students and then having opportunities to observe and practice the process (e.g., “I wish… the university like had an action plan…. so we would feel more confident because I don’t really feel confident in like the proper procedures in the schools”). Participant A mentioned the focus of their program to learn academic accommodations and processes (e.g., “The same way that you see ESE students need accommodations and modifications, [students with mental health concerns] also need accommodations and modifications because they struggle with something that just usually can’t be tested”).

Overall, both participants’ perceptions and experiences reflect the literature (Council for Accreditation of Educator Preparation, 2015) regarding a lack of discussion about the teacher's role in mental health, understanding the importance of mental health (especially when there's a personal experience with mental illness), and there being a lack of mental health trainings during their training. Thus, themes regarding the importance of mental health and lack of knowledge,

experience, and applicable practice regarding providing mental health support were noted by participants for themselves and from what they've heard from other students in their program. Also, the use of the term "advocate" was included throughout the focus group as the common verbiage they were familiar with regarding the teacher's mental health role, however, participants indicated multiple times they did not fully understand what being an advocate entailed (e.g., "It's more just like talking about being an advocate, but not how to be an advocate").

TIME-PT Data Analyses

First Research Question

The first research question consists of the following:

After receiving the Training In Mental health for Educators - Pre-service Teachers (TIME-PT), how do pre-service teachers perceive the understanding, feasibility, and applicability of the training?

While 26 participants completed the URP-NEEDS after each module, only 7 participants completed the URP-NEEDS at the 1-month follow-up. Of the 7 participants who completed the URP-NEEDS at the follow-up, one participant did not complete the URP-NEEDS after module 1. For the one-way ANOVA with repeated measures (URP-NEEDS after modules 1, 2, and 3) design to analyze the perceptions after each TIME-PT module, participants were excluded for missing data for each factor (i.e., understanding, willingness to change, feasibility, family-school collaboration, and external supports). The factors of understanding and willingness to change included all 26 participants with no missing data. The factors of feasibility, family-school collaboration, and external supports included 25 participants with one participant excluded with missing data (4%). To analyze the potential differences in perceptions of participants who did

complete with those who did not complete the post-URP-NEEDS, an independent *t-test* was conducted.

ANOVA with repeated measures. An ANOVA with repeated measures has assumptions that need to be considered. In this pilot study, the dependent variable is measured through averages and the independent variable consists of the same participants completing the survey after each module. While the factors of understanding, feasibility, and family-school collaboration yielded a few outliers, with some participants scoring lower, this may be expected with the population being studied, and their lack of prior exposure to mental health interventions, and thus should be included in the results.

Table 7.
Descriptive Statistics for Understanding, Willingness to Change, Feasibility, Family-School Collaboration, and External Supports Outcomes from URP-NEEDS at Module 1

	Module 1							
Factor	*N*	*α*	*M*	*SD*	Min	Max	Sk	K
Understanding (10 items)	26	.94	4.37	1.04	2.00	6.00	-0.50	0.12
Willingness to Change (4 items)	26	.77	5.34	0.52	4.00	6.00	-0.39	-0.10
Feasibility (4 items)	25	.95	4.57	0.82	1.00	6.00	-1.19	3.21
Family-School Collaboration (3 items)	25	.88	5.09	0.55	1.00	6.00	-2.72	11.0
External Supports (3 items)	25	.86	4.84	0.63	1.00	6.00	-2.18	7.81

Note. α = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation, Sk = Skewness, K = Kurtosis. Scale goes from 1.00 to 6.00.

While the external supports factor yielded some outliers as well, with some participants scoring lower and a few scoring higher on one survey, this also may be expected with the

population being studied, variability in knowledge about community supports, and thus should be included in the results. Item skewness statistics for understanding ranged from -0.83 to -0.53, willingness to change skewness ranged from -0.48 to 0.14, feasibility skewness ranged from -0.86 to 0.07, family-school collaboration skewness ranged from -0.84 to 0.24, and external supports skewness ranged from -1.6 to -0.06 and were all close to normal distributions. Kurtosis ranged from -0.07 to 1.0 for understanding, kurtosis ranged from -1.5 to -0.25 for willingness to change, -0.40 to 1.4 for feasibility, -0.86 to 0.52 for family-school collaboration, and -0.30 to 4.7 for external supports, and were all close to normal distributions (Brown, 2015).

Table 8.
Descriptive Statistics for Understanding, Willingness to Change, Feasibility, Family-School Collaboration, and External Supports Outcomes from URP-NEEDS at Module 2

	Module 2							
Factor	*N*	*α*	*M*	*SD*	Min	Max	Sk	K
Understanding (10 items)	26	.89	4.62	0.91	2.60	6.00	-0.34	-0.65
Willingness to Change (4 items)	26	.68	5.17	0.59	4.00	6.00	-0.23	-1.00
Feasibility (4 items)	25	.95	4.76	0.79	3.00	6.00	-1.60	4.15
Family-School Collaboration (3 items)	25	.93	5.20	0.68	3.67	6.00	-2.42	7.95
External Supports (3 items)	25	.89	4.92	0.63	3.67	6.00	-2.22	0.96

Note. α = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation, Sk = Skewness, K = Kurtosis. Scale goes from 1.00 to 6.00.

Mauchly's test of sphericity indicated the assumption of sphericity had not been violated for the following factors: understanding, $X^2(2) = 1.931$, $p = .381$, willingness to change, $X^2(2) = 4.529$, $p = .104$, and feasibility, $X^2(2) = .392$, $p = .822$. The Greenhouse-Geisser correction is a statistical method for adjusting the lack of sphericity and is an estimate of sphericity. For the

factor of external supports, the assumption of sphericity had not been violated with the Greenhouse-Geisser correction, $F(1.594, 38.248)$, $p = .018$. However, the assumption of sphericity had been violated for the family-school collaboration factor which indicates scores across the three URP-NEEDS surveys were not statistically significantly different. Thus, a repeated measures ANOVA was not conducted for the family-school collaboration factor. See Table 7 and Table 8 above and Table 9 below for further information on URP-NEEDS descriptive statistics for each module.

Table 9.
Descriptive Statistics for Understanding, Willingness to Change, Feasibility, Family-School Collaboration, and External Supports Outcomes from URP-NEEDS at Module 3

	Module 3							
Factor	*N*	*α*	*M*	*SD*	Min	Max	Sk	K
Understanding (10 items)	26	.93	4.92	0.69	3.30	6.00	-0.99	0.96
Willingness to Change (4 items)	26	.93	5.34	0.60	4.00	6.00	-0.64	-0.20
Feasibility (4 items)	25	.96	4.90	0.73	3.00	6.00	-2.10	6.26
Family-School Collaboration (3 items)	25	.94	5.21	0.58	4.00	6.00	-2.76	11.0
External Supports (3 items)	25	.89	5.21	0.64	3.00	6.00	-2.81	9.71

Note. α = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation, Sk = Skewness, K = Kurtosis. Scale goes from 1.00 to 6.00.

The understanding factor in the URP-NEEDS surveys provided after each module consisted of 10 items (α = .94, .89, .93) with good to excellent reliability. The willingness to change factor in the URP-NEEDS consisted of 4 items (α = .77, .68, .94) with questionable to excellent reliability. The feasibility factor in the URP-NEEDS survey consisted of 4 items (α = .95, .95, .96) with excellent reliability. The URP-NEEDS' family-school collaboration factor

consisted of 3 items (α = .88, .93, .94) with good to excellent reliability. The URP-NEEDS' external supports factor also consisted of 3 items (α = .86, .89, .89) with good reliability.

To address each factor (except family-school collaboration) in the URP-NEEDS, a repeated measures ANOVA was conducted to determine if there were significant differences between modules in pre-service teachers' understanding of the approach, willingness to change practices, feasibility to provide support, and seeking needed external supports as discussed in the TIME-PT. There were significant differences in pre-service teachers' understanding after each module over time, $F(2, 25) = 8.180$, $p < .001$.

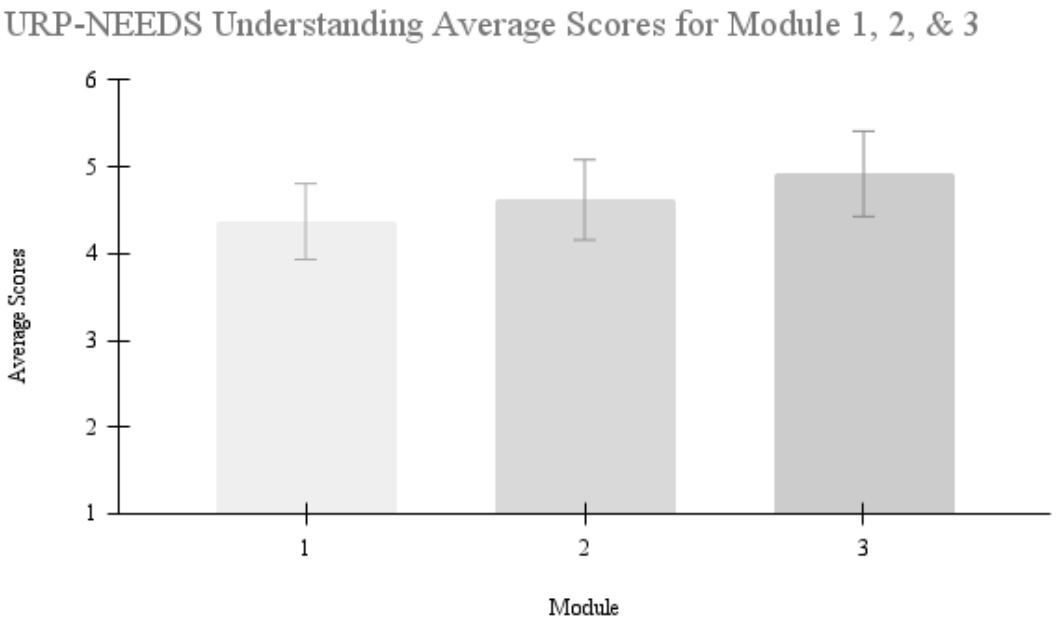

Figure 3. Graph of URP-NEEDS understanding average scores at Module 1, 2, & 3.

Specifically, there was a statistically significant difference between the average understanding scores between the first module ($M = 4.37$, $SD = 1.04$) and third module ($M = 4.92$, $SD = 0.69$), $p = .003$, and approaching significance between the second module ($M = 4.62$, $SD = 0.91$) and third module, $p = .054$. See Figure 3 above for the understanding average scores

for each module. There was no statistical significance between the first module and the second module.

When considering pre-service teachers' willingness to change practices, there was no significant difference across the three modules which suggests that there are no differences across the first module (M = 5.34, SD = 0.52), second module (M = 5.17, SD = 0.59), and third module (M = 5.34, SD = 0.60), $F(2, 25) = 0$, $p = 1.00$. See Figure 4 below for willingness to change average scores at each module.

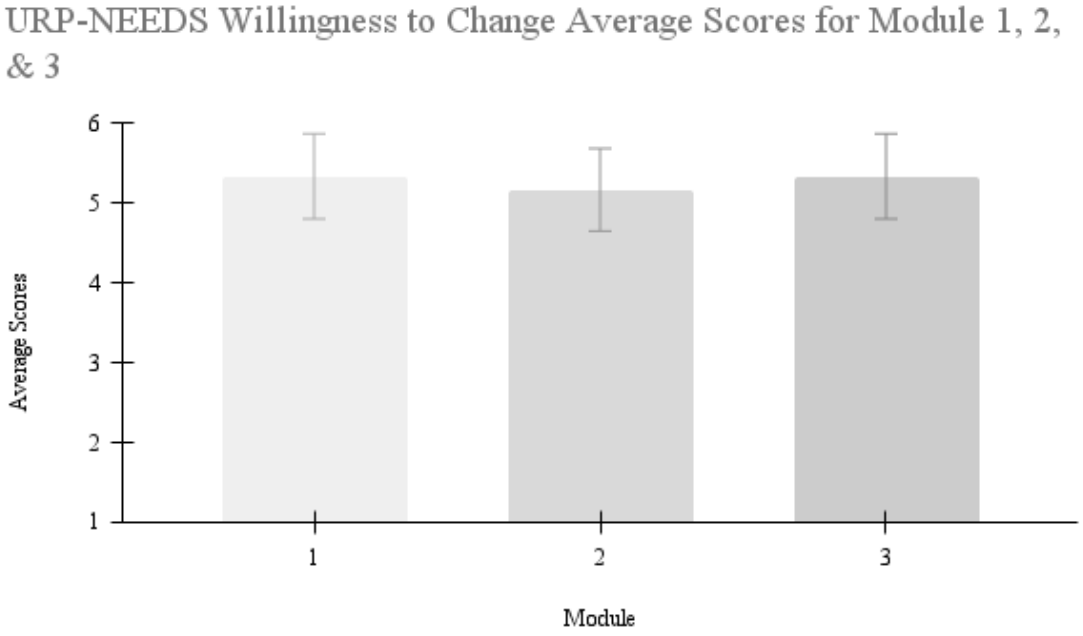

Figure 4. Graph of URP-NEEDS willingness to change average scores at Module 1, 2, & 3.

There was a statistical significance in pre-service teachers' feasibility to provide mental health support across the three modules, $F(2, 24) = 7.090$, $p = .014$. There was a statistical significance between feasibility averages at the first module (M = 4.57, SD = 0.82) and the third module (M = 4.90, SD = 0.73), $p = .041$. However, there was no statistical difference between

the second module (M = 4.76, SD = 0.79) and the third module. See Figure 5 for the average feasibility scores for each module.

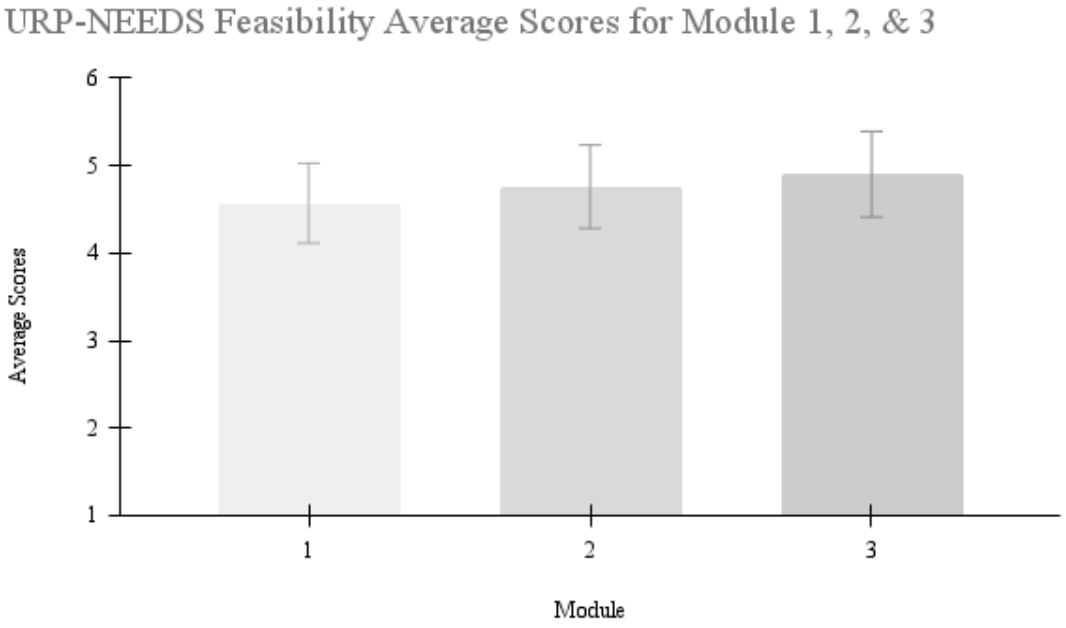

Figure 5. Graph of URP-NEEDS feasibility average scores at Module 1, 2, & 3.

Lastly, there was a statistical significance in averages of pre-service teachers seeking external supports across modules, $F(2, 24) = 16.137$, $p < .001$. There was a statistically significant difference in the external supports average scores between the first module (M = 4.84, SD = 0.63) and the third module (M = 5.21, SD = 0.64), p = .002. There was no significant difference between the first and second modules (M = 4.92, SD = 0.63) or the second and third modules. See Figure 6 below for external supports averages at each module in the TIME-PT.

Independent t-test. To analyze the potential differences in perceptions of participants who did (n = 20) compared with those who did not complete the post-intervention URP-NEEDS

survey (n = 6), an independent *t-test* was conducted with assumptions considered. The dependent variable is the average scores for each factor in the URP-NEEDS for Module 1.

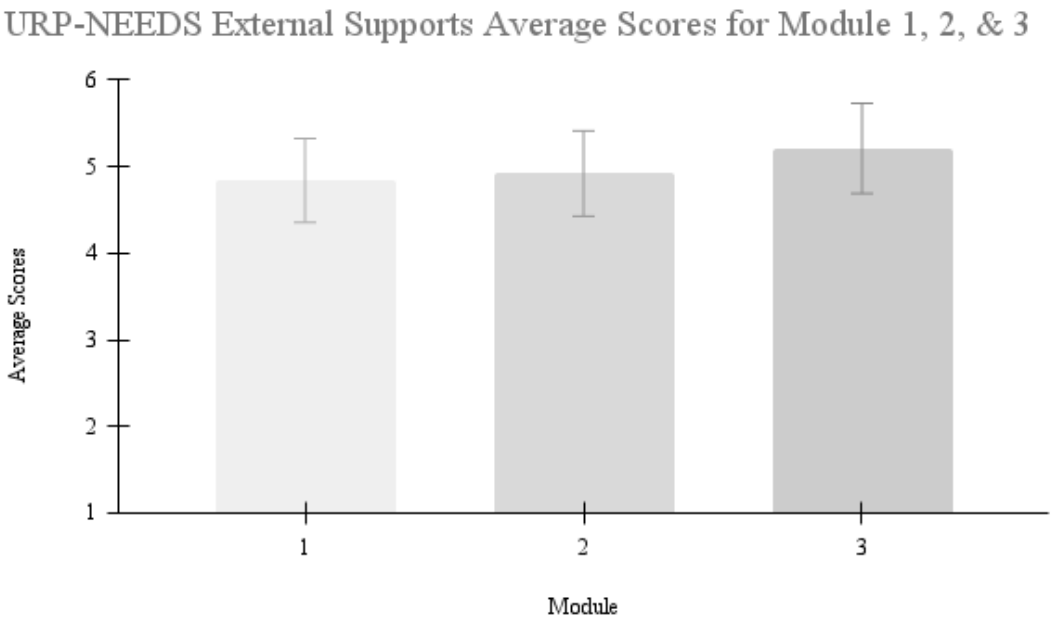

Figure 6. Graph of URP-NEEDS external supports average scores at Module 1, 2, & 3.

The two groups consist of the participants who did and participants who did not complete the post-URP-NEEDS. Thus, there were no participants in both groups. No significant outliers and normal distributions for each factor were established through descriptive statistics. See Table 10 for further information. The last assumption is for homogeneity of variances, which was calculated using Levene's test for homogeneity of variances. Through Levene's test, there was a homogeneity of variances in understanding average scores (p = .950), willingness scores (p = .533), feasibility scores (p = .152), family-school collaboration scores (p = .757), and external supports scores (p = .569).

To address the URP-NEEDS for Module 1 for participants who completed the post-survey and those who didn't complete it, independent *t-test*s were conducted to determine potential differences in each factor between both groups of participants. For the understanding factor for the URP-NEEDS for Module 1, participants who completed the post-URP-NEEDS' average scores (M = 3.88, SD = 1.06) were not statistically significantly lower than participants who did not complete the post-URP-NEEDS (M = 4.51, SD = 1.01), $t(24) = 1.314$, $p = .201$).

Table 10.

Descriptive Statistics for Understanding, Willingness to Change, Feasibility, Family-School Collaboration, and External Supports Outcomes for Independent t-test

Factor	*N*	*M*	*SD*	Std. Error
Understanding (10 items)	20	4.51	1.01	0.23
	6	3.88	1.06	0.43
Willingness to Change (4 items)	20	5.30	0.55	0.12
	6	5.46	0.43	0.18
Feasibility (4 items)	20	4.50	1.18	0.26
	6	4.21	0.49	0.20
Family-School Collaboration (3 items)	20	4.98	1.06	0.24
	6	4.78	0.62	0.25
External Supports (3 items)	20	4.88	1.02	0.23
	6	4.06	0.44	0.18

Note. M = Mean, SD = Standard Deviation, Std. Error = Standard Error. Scale goes from 1.00 to 6.00.

For the willingness to change factor, participants who completed the post-URP-NEEDS' average scores (M = 5.46, SD = 0.43) were also not statistically significantly lower than participants who only completed the URP-NEEDS at Module 1, $t(24) = -0.641$, $p = .527$. Participants who completed the post-URP-NEEDS survey did not have statistically significantly lower feasibility scores (M = 4.21, SD = 0.49) and family-school collaboration scores (M = 4.78, SD = 0.62) than participants who did not complete the post-URP-NEEDS survey on feasibility (M = 4.50, SD = 1.18) and family-school collaboration (M = 4.98, SD = 1.06), $t(24) = 0.574$, p =

.572 and $t(24) = 0.450$, $p = .657$. External supports average scores were not statistically significant but were close to statistically significant, $t(24) = 1.920$, $p = .067$. Thus, the participants who completed the post-URP-NEEDS' external supports average scores ($M = 4.06$, $SD = 0.44$) were not statistically significantly lower than those who did not complete the post-URP-NEEDS ($M = 4.88$, $SD = 1.02$).

Descriptive statistics for post-URP-NEEDS. Descriptive statistics were conducted for the participants ($n = 7$) who completed the URP-NEEDS at the 1-month follow-up. Average scores ranged from slightly agreeable ($M = 4.59$) to agreeable ($M = 5.50$). Participants had higher average scores on their willingness to change practices ($M = 5.50$, $SD = 0.48$) and to collaborate between school and home ($M = 4.81$, $SD = 0.92$) for their future students at the 1-month follow-up.

Table 11.
Descriptive Statistics for Understanding, Willingness to Change, Feasibility, Family-School Collaboration, and External Supports Outcomes post-TIME-PT

Factor	*n*	*M*	*SD*	Min	Max	Skewness	Kurtosis
Understanding (10 items)	7	4.59	0.49	3.70	5.20	-0.78	0.80
Willingness to Change (4 items)	7	5.50	0.48	5.00	6.00	-0.20	-2.55
Feasibility (4 items)	7	4.64	0.69	4.00	5.75	0.69	-1.19
Family-School Collaboration (3 items)	7	4.81	0.92	3.33	6.00	-0.43	-0.37
External Supports (3 items)	7	4.71	0.71	4.00	5.67	0.36	-2.07

Note. M = Mean, SD = Standard Deviation. Scale goes from 1.00 to 6.00.

Participants had the lowest average scores on their understanding ($M = 4.59$, $SD = 0.49$) and feasibility to provide mental health support ($M = 4.64$, SD = 0.69). See Table 11 above for more descriptive statistics on URP-NEEDS' factors post-training.

Thematic analyses. To examine participants' understanding, feasibility, and applicability of the TIME-PT, thematic analyses were conducted on the pre-and post-module journal entry prompts. Participants were encouraged to complete journal entry prompts to facilitate and continue their professional learning. Across the three modules in the TIME-PT, there were 49 total responses provided by participants in the pre-module journal entry prompts and 43 total responses in the post-module prompts. In the pre-module journal entry prompts, most responses (30 responses) mentioned wanting to learn ways and strategies to support students (e.g., "I hope to learn more about how to approach students when I notice these signs in a way that will aid them and support them the best").

A few participants (n = 3) addressed the feasibility to provide mental health support by discussing burnout (e.g., "I know that burnout and stress on the teacher's end can greatly impact a student's education"). Multiple other participants (n = 9) addressed the feasibility to help future students with concerns about their mental health (e.g., "I hope to learn more about how a teacher can support a student with mental health issues and be a resource for them instead of a burden"). Various participants (n = 4) identified the importance of working with students' families (e.g., "How important parent involvement and teacher involvement are in a student's life"). A few participants (n = 3) referred to the importance of learning and seeking external supports (e.g., "It is our job as teachers to help find ways that are appropriate to practice to help these students who are struggling succeed and get the best help from in-school or outside of school services").

In the post-module journal entry prompt, multiple responses (19 responses) mentioned the approaches in the TIME-PT were understandable (e.g., "How to de-bias my room and the way to reach out to students and organizations in order to get the help the students need") and applicable (e.g., "I have learned that creating a safe, collaborative classroom environment where

students can express their values and opinion can help me identify students who are potentially in need of mental health support"). Most responses (31 responses) identified mental health knowledge they have learned (e.g., "I learned that it is important to be observant of signs of mental health distress in the classroom"). Only three participants identified external supports they learned, including organizations (e.g., The Trevor Project) and counseling. Multiple participants (n = 5) expressed wanting to know how to navigate home-school collaboration when students have mental health concerns (e.g., "I want to learn more about the different resources out there for both parents and students").

Second Research Question

The second research question consists of the following:

To what extent are there pre- to post-intervention differences in pre-service teachers' knowledge, attitudes, and aspirations towards students with mental health concerns prior to and after the TIME-PT?

While 26 participants (96.3%) completed the pre-PAY, 6 participants completed the post-PAY at the 1-month follow-up. Out of the 6 participants, 5 participants completed both the pre- and post-PAY and were included in the final analyses. To examine this research question, independent *t-test*s of participants' average knowledge, attitudes, and aspirations on the pre-PAY for those who completed the post-PAY and those who did not complete the post-PAY were conducted. Due to the sample size of participants, descriptive analyses were conducted for participants who completed both pre-and post-PAY to observe overall trends. Thematic analyses of the journal entry prompts were also examined to supplement the results of the second research question. See Table 2 for concepts from PAY surveys and their corresponding knowledge, attitudes, and aspirations items.

Assumptions must be met to conduct independent *t-test*s on mental health knowledge, attitudes, and aspirations. For each outcome, the dependent variable was average scores at the pre-PAY and the independent variable consisted of two independent groups (i.e., participants who completed the post-PAY and participants who did not complete the post-PAY). Thus, there were different participants in each group. There were no significant outliers for all of the attitude, knowledge, and aspiration averages. All outcomes were fairly normally distributed with knowledge outcomes ranged skewness from -0.31 to -0.11 and kurtosis of 0.89. Attitude outcomes ranged skewness from -0.74 to -0.39 and kurtosis from -0.10 to 0.36. The aspirations outcomes ranged skewness from -0.44 to 0.29 and kurtosis from -1.15 to -0.77. See Table 12 below for further information.

Independent t-tests. Mental health knowledge was analyzed through the Mental Health Knowledge concept with 9 items (α = -.53) and the Evidence Based Practices concept with 4 items (α = .75). The Evidence Based Practices concept had acceptable reliability. The Mental Health Knowledge concept had questionable reliability and thus, the results should be approached with caution. Most participants scored high averages ranging from 0.75 to 1, which suggests most participants had prior knowledge of common mental health myths and experience with mental health. Specifically, most participants had familiarity with mental illness (*M* = 23, 88%), thus, it may be expected that most participants would answer most items correctly. One item was removed from the analysis due to zero variance, which indicated the answer was correct by all participants (i.e., "Eating disorders can lead to death"). Another item was not included in the analyses due to technical difficulties in administration (i.e., "Use of alcohol or other drugs increases the risk of suicide or harm").

Table 12.
Descriptive Statistics for Knowledge, Attitudes, and Aspirations Outcomes from pre-PAY

pre-PAY

Factor	*N*	*α*	*M*	*SD*	Min	Max	Skewness	Kurtosis
Knowledge	26							
Mental Health Knowledge (9 items)		-.53	0.82	0.08	0.63	1.00	-0.31	0.12
Evidence Based Practices (4 items)		.75	3.29	0.70	2.00	4.50	-0.11	-1.05
Attitudes	26							
School- and Community-Based Mental Health Supports (7 items)		.76	5.34	0.52	4.00	6.00	-0.39	-0.10
Evidence Based Practices (4 items)		.75	3.53	0.72	1.75	4.50	-0.74	0.36
Aspirations	26							
Evidence Based Practices (2 items)		.55	3.98	0.67	3.00	5.00	0.29	-1.15
Culturally Responsive Practices (4 items)_		.94	4.33	0.65	3.00	5.00	-0.44	-0.77

Note. A = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation. Please note the Mental Health Knowledge concept has a negative Cronbach's alpha and thus the results for this concept should be approached with caution.

A few items, including items 1, 2, and 5 (e.g., "There are things you can do to make sure your students are mentally healthy"), only had one participant who scored differently from others. Thus, overall variability was low to none across multiple items in the Mental Health Knowledge concept. For the purposes of this pilot study, an independent *t-test* was not conducted for the Mental Health Knowledge concept but will be discussed within descriptive analyses.

An independent *t-test* was conducted to examine potential differences in knowledge means in the Evidence Based Practices concept between participants who completed the post-PAY (n = 5) and participants who did not complete the post-PAY (n = 21). Participants who completed the post-PAY had higher knowledge scores (M = 3.65) than participants who did not complete the post-PAY (M = 3.20), however, the difference in average scores was not statistically significant, $t(24) = -1.312$, $p = .202$. Participants who completed the post-PAY with higher knowledge scores than their counterparts suggest they had more mental health knowledge on evidence-based practices to utilize in supporting future students.

Pre-service teachers' attitudes were measured through the School- and Community-Based Mental Health Supports concept with 7 items ($\alpha = .76$) and the Evidence Based Practices concept with 4 items ($\alpha = .75$), both with acceptable reliability. An independent *t-test* was conducted to examine attitude differences in the School- and Community-Based Mental Health Supports concept between participants who completed the post-PAY (n = 5) with those who did not (N = 21). Participants who completed the post-PAY (M = 4.69) had statistically significantly higher attitude scores than participants who did not complete the post-PAY (M = 3.99), $t(24) = -2.329$, $p = .029$. To examine the strength of the difference between attitude scores, Cohen's d effect sizes were explored with scores having a medium to great effect (d = 0.6), which suggested there were medium to strong differences between groups' attitudes towards mental health supports in schools and communities.

An independent *t-test* was also conducted to examine attitude scores in the Evidence Based Practices concept between participants who completed the post-PAY (n = 5) with participants who did not complete the post-PAY (n = 21). Participants who did not complete the post-PAY (M = 3.62) had higher attitude scores compared to participants who did complete it (M

= 3.15), but the scores were not statistically significant, $t(24) = 1.325$, $p = .198$. The differences in attitude average scores suggest participants who did not complete the post-PAY had more agreeable mental health attitudes toward the need to use evidence-based practices in schools. The Evidence Based Practices concept with 2 items ($\alpha = .55$) and the Culturally Responsive Practices concept with 4 items ($\alpha = .94$) measured mental health aspirations. While the Culturally Responsive Practices concept had excellent reliability, the Evidence Based Practices concept had poor reliability. Thus, the aspirations' results from the Evidence Based Practices should be approached with caution. An independent *t-test* was conducted to examine differences in aspiration scores in the Evidence Based Practices concept between participants who completed the post-PAY ($n = 5$) and those who did not complete it ($n = 21$). While participants who did not complete the post-PAY (M = 4.05) had higher aspiration scores than participants who did complete the post-PAY ($M = 3.70$), the differences are not statistically significant, $t(24) = 1.044$, $p = .307$. Differences in aspiration scores suggested participants who did not complete the post-PAY were more willing to learn and try new evidence-based practices in the future. An independent *t-test* was also conducted to examine differences in the aspiration scores in the Culturally Responsive Practices concept between participants who completed the post-PAY ($n = 21$) and those who did not ($n = 5$). Participants who did not complete the post-PAY ($M = 4.43$) had higher aspirations scores than participants who did complete it ($M = 3.90$), but the differences were not statistically significant, $t(24) = 1.702$, $p = .102$. This result suggested participants who did not complete the post-PAY had high aspirations to engage in culturally responsive practices before the TIME-PT.

Descriptive analyses of pre- and post-PAY. Descriptive analyses were conducted of the knowledge, attitude, and aspiration outcomes of participants who completed both pre- and post-

PAY (N = 5, 18.5%) to compare differences in means across both surveys. See Table 12 above for the mental health outcomes for each concept at pre-PAY. On the knowledge outcomes, Mental Health Knowledge and Evidence Based Practices concepts were analyzed to compare means from pre- to post-PAY. Participants scored higher Mental Health Knowledge means on post-PAY (*M* = 0.89, *SD* = 0) compared to pre-PAY (*M* = 0.85, *SD* = 0.06). Participants also scored higher Evidenced Based Practices' means (*M* = 4.00, *SD* = 0.47) at post-PAY compared to pre-PAY (*M* = 3.65, *SD* = 0.45). Participants who completed both PAY surveys had increased scores on common mental health signs and evidence-based practices in the schools.

For attitude outcomes, School- and Community-Based Mental Health Supports and Evidence Based Practices concepts were observed for PAY means. On the School- and Community-Based Mental Health Supports concept, participants scored higher attitude means at pre-PAY (*M* = 4.69, *SD* = 0.57) compared to post-PAY (*M* = 4.06, *SD* = 1.31). On the Evidence Based Practices concept, participants scored higher attitude means at post-PAY (*M* = 4.20, *SD* = 0.33) compared to pre-PAY (*M* = 3.15, *SD* = 0.95). Overall, participants had decreased scores on their beliefs of school and community mental health supports provided in the schools and increased scores on their beliefs they had evidence-based mental health knowledge and skills.

For aspiration outcomes, Evidence Based Practices and Culturally Responsive Practices concepts were examined for comparative PAY means. For the Evidence Based Practices concept, participants scored the same aspiration mean at pre- and post-PAY (*M* = 3.70, *SD* = 0.57). In the Culturally Responsive Practices concept, participants scored higher aspiration average mean at post-PAY (*M* = 4.60, *SD* = 0.55) than at pre-PAY (*M* = 3.90, *SD* = 0.74). Thus, participants had similar aspiration scores on willingness to try new evidence-based practices and higher aspiration scores on willingness to engage in culturally responsive practices.

Thematic analyses. Themes surrounding participants' mental health knowledge, attitudes, and aspirations pre- and post-modules were analyzed through the journal entry prompts. There were 49 total responses provided by participants in the pre-module journal entry prompts and 43 total responses in the post-module prompts. In the pre-module journal entry prompts, some participants identified having some previous knowledge of mental health (n = 14). Participants' attitudes focused on the importance of mental health (e.g., "I know mental health is a serious concern in children"). Meanwhile, participants also mentioned their knowledge of common mental health signs and statistics (e.g., "children struggling with depression are prone to withdrawing", "1 out [of] 5 students suffer from a severe mental illness"). Of these participants, multiple (n = 4) were personally affected by mental illness and expressed high aspirations to provide mental health support (e.g., "I am someone who has multiple diagnoses… I hope to learn how I can be sure to support students with mental health struggles in the future"). Some participants expressed wanting to learn more information about mental health (e.g., "I hope to learn different signs to help detect students who need mental health support"). Many responses (30 responses) identified wanting to learn ways and strategies to support students (e.g., "What are the best ways for a teacher to approach a student with their concerns?", "I hope to learn the best practices to apply as a teacher when supporting a student with a mental illness").

In the post-module journal entry prompts, most responses (31 responses) mentioned specific mental health knowledge learned (e.g., "I learned 1 out of 4 youth ages 5-17 have a psychiatric diagnosis"). There were also multiple responses (21 responses) about what participants learned about and strategies to address mental health stigma and bias (e.g., "if you feel more inclined to have bias while grading, you can do something as simple as covering the

name on the front"). All responses (43 responses) mentioned wanting to continue their professional learning by learning more strategies, how to teach about mental health, how to continue addressing biases, and how to talk about mental health with families.

Third Research Question

The third research question consists of the following:

To what extent are there pre- to post-intervention differences in pre-service teachers' mental health stigma and bias after the TIME-PT?

All 27 pre-service teachers completed pre-and post-Teacher Mental Health Vignettes and pre- and post-ECTs. Three participants completed the pre-Teacher Mental Health Vignette (i.e., Anna version) 1-3 times and one participant completed the post-Teacher Mental Health Vignette (i.e., David version) two times. For the ECT survey, two participants completed the pre-ECT survey two times and one participant completed the post-ECT survey two times. For this pilot study, the first response provided by participants was included in the data. The ECT pre-and post-surveys consisted of 14 items (α = .42, .57) with unacceptable to poor reliability, and results should be approached with caution. However, since pre-service teachers were not expected to have a lot of previous knowledge or experience with mental health stigma, it may be expected for most participants to score similarly. When questionnaires have more than 50 items, better reliability would yield on two response choice questionnaires (e.g., true or false; Pamphlett, 2005).

The Teacher Mental Health Vignettes consisted of three items (α = .72, .85) with acceptable to good reliability. Participants also answered two items related to their experience with students (i.e., "Have you seen any students like Anna/David in your classes or at practicum?", "Using a scale of 1-10, where 1 is very rare and 10 is very common, how common

is Anna's/David's behavior compared to other students you teach or have seen taught at practicum?"). Almost half of the participants (n = 13, 48%) had seen students in classes or practicum as mentioned in the vignettes. Correlational analyses were conducted on participants' overall experience. Most participants did not have overall experience with students at their practicum sites with depression at the pre-vignette (M = 2.69, SD = 1.06) or at the post-vignette (M = 2.83, SD = 1.37). Both pre-and post-vignette participants' mental health experiences were positively correlated (r = .57) and statistically significant (p = .002) which suggested when participants had more mental health experience at the pre-vignette, they were also likely to have had more mental health experience at the post-vignette.

Participants also were asked for their perception of the student in an open-ended response (i.e., "What would you say, if anything, is going on with Anna/David?"). At the pre-survey, most participants (n = 21) mentioned they believed "Anna" may have depression (e.g., "It seems like Anna is experiencing signs of depression", "Depression?"). Some participants (n = 5) discussed gathering more information from Anna or Anna's family (e.g., "How are you feeling?", "I would reach out to the parents and let them know about the behavior change."). A couple of participants (n = 2) questioned potential bullying as Anna's concern. At the post-survey, most participants (n = 18) also mentioned "David" may have depression or signs of depression (e.g., "David has had a drastic mood and motivation change"). A few participants (n = 3) recognized David as experiencing a mental health crisis (e.g., "It seems as if he is experiencing a mental health crisis").

To examine this question, two paired sample *t-test*s through a one-group pretest-posttest design were completed for both the results of the pre-and post-Teacher Mental Health Vignettes and the pre-and post-ECTs. Assumptions for sample *t-test*s need to be considered. The dependent

variables are average scores for both the ECT and Teacher Mental Health Vignettes. The same participants are present in both the pre-and post-surveys for the ECT and Teacher Mental Health Vignettes.

Table 13.
Descriptive Statistics for Teacher Mental Health Vignette and Error Choice Test at pre and post-TIME-PT

Measure	*N*	*α*	*M*	*SD*	Min	Max	Skewness	Kurtosis
TMHV (3 items)								
Pre	27	.72	8.09	1.43	4.33	10.00	-1.20	1.84
Post	27	.85	8.48	1.37	3.67	10.00	-1.69	4.57
ECT (14 items)								
Pre	27	.42	0.53	0.15	0.21	0.79	-0.34	-0.52
Post	27	.57	0.53	0.17	0.14	0.79	-0.09	-0.67

Note. TMHV = Teacher Mental Health Vignette, ECT = Error Choice Test, α = Cronbach's alpha, *M* = Mean, *SD* = Standard Deviation. Teacher Mental Health Vignette Scale goes from 1.00 to 10.00. Error Choice Test Scale includes 0 and 1.

The Teacher Mental Health Vignettes had two outliers, in which participants scored lower averages, which might be expected with this population and thus, should still be considered. There were no outliers on either of the ECT surveys. The Teacher Mental Health Vignette average scores were close to normal distributions with skewness ranging from -1.69 to -1.19 and kurtosis ranging from 1.84 to 4.56. The ECT scores were also close to normal distributions with skewness ranging from -.33 to -.08 and kurtosis ranging from -.66 to -.51. See Table 13 for descriptive statistics at pre and post-TIME-PT.

A paired sample *t-test* was conducted to examine differences, if any, in the participants' mental health bias pre- and post-TIME-PT. Through correlational analyses, participants' mental health bias average scores were positively correlated ($r = .68$) and statistically significant ($p < .001$), which indicated participants with a better understanding of mental health (e.g., depression)

and fewer mental health biases before the TIME-PT also had a better understanding and fewer mental health biases after the TIME-PT.

While the means of the pre-scores (M = 8.09, SD = 1.43) and post-scores (M = 8.48, SD = 1.37) and the direction of the t-value indicate an improvement in average mental health bias, the means' improvement was not statistically significant, $t(26) = -1.83$, $p = .079$. Another paired sample *t-test* was conducted to examine any differences in participants' mental health stigma before and after the TIME-PT. Through correlational analyses, participants' mental health stigma average scores were also positively correlated ($r = .64$) and statistically significant ($p < .001$), which suggested participants with more mental health stigma before the TIME-PT also had more mental health stigma after the training. Overall, there was a slight decrease in mental health stigma from pre-ECT (M = 0.532, SD = 0.15) to post-ECT (M = 0.527, SD = 0.17), but the differences were not significant, $t(26) = 0.20$, $p = .844$.

CHAPTER V: DISCUSSION

Mental health trainings for pre-service teachers are not prioritized in many teacher education programs (Council for Accreditation of Educator Preparation, 2015). While some teacher preparation programs focus on early identification and referral (Ohrt et al., 2020) or learning generally about mental health (Kutcher et al., 2016), most do not focus on teachers sustaining their learning and skills to be able to provide effective student support. There are evidence-based trainings, such as Y-MHFA, which are designed for school staff, families, and other individuals involved with youth on mental health awareness and skills on how to talk to youth (Haggerty et al., 2019). However, even Y-MHFA does not have evidence to support its long-term effectiveness and its use for teachers in their role in schools (Sánchez et al., 2020). Other mental health trainings (e.g., Kognito) designed for teachers are more applicable to teachers yet do not have evidence of long-term effectiveness and support for pre-service teachers. Therefore, the purpose of this pilot study was to examine the need for mental health trainings through the development and the initial evaluation of learning outcomes (i.e., mental health stigma and bias, knowledge, attitude, aspirations) of a new mental health training created specifically for pre-service teachers (*Training In Mental health for Educators – Pre-service Teachers* [TIME-PT]).

Key Findings

Applicability of the Training and Training Practices

A goal of this pilot study was to develop a mental health training for pre-service teachers on their role and responsibilities as future teachers to best support their future students based on

their prior experiences and learning opportunities on mental health in their teacher preparation programs. The TIME-PT was developed to bridge the gap between what pre-service teachers are already taught in their programs (e.g., curricula, trainings) and the expectations of their role that they do not receive professional learning before practice. Thus, an expert panel was conducted to gather feedback on TIME-PT's lesson plans created with literature indicating a lack of mental health trainings provided in teacher preparation programs (Council for Accreditation of Educator Preparation, 2015), incorporating best practices of online trainings and professional learning (Brooks & Gibson, 2012), and focus on what teachers need to know to best support students' mental health. Then, a focus group was conducted to gather data and perspectives from pre-service teachers themselves on their experiences with mental health, mental health trainings, and their needs for future practice in supporting students' mental health.

Expert panelists highlighted the need for the content provided in the TIME-PT and that the content applies to pre-service teachers (see Appendix H). In the focus group, pre-service teachers also indicated their teacher preparation program had not provided mental health trainings or in-depth coursework on their role in providing mental health support, and thus, both participants did not know nor felt confident to provide mental health support to future students (e.g., "I don't really feel confident in like the proper procedures in the schools"). In the TIME-PT, most participants (n = 25) also indicated never having received Y-MHFA or any other mental health training (n = 23). Most responses in the pre-module journal entry prompts (30 responses) highlighted wanting to learn about how to support future students' mental health. The need for mental health trainings in teacher preparation programs is reflected in mental health trainings not being a priority in most teacher preparation programs (Council for Accreditation of Educator Preparation, 2015; Oberle & Schonert-Reichl, 2016).

Another goal of this training is to initially evaluate the TIME-PT on key features of school-based educator professional development for its applicability for pre-service teachers. These key features include participants' understanding and feasibility of the training and its practices, their willingness to change their practices, and their view of the importance of home-school collaboration and external supports (see Table 3 in the Methods section). Overall, participants had a slightly agreeable to agreeable understanding of the approach, feasibility to provide the approach, willingness to change, and inclination to participate in home-school collaboration and external supports for each module. Pre-service teachers' agreement with the feasibility and willingness to change practices to provide the TIME-PT in the pilot study reflects pre-service teachers' preparedness and self-efficacy to provide mental health support after receiving the *Kognito At-Risk for K-12 Educators* training's pilot study (Greif et al., 2020).

Participants' understanding of the approach and process to support students' mental health statistically significantly (p = .003) increased between slightly agreeing in the first module (M = 4.37) and closer to agreeing in the third module (M = 4.92). Participants' understanding average scores approached statistical significance (p = .054) between the second module (M = 4.62) and the third module (M = 4.92). Participants' feasibility to provide student mental health support also statistically significantly (p = .041) from slightly agreeing with feasibility at the first module (M = 4.57) to being closer to agreeing at the third module (M = 4.90). Participants seeking external supports to support future students' mental health statistically significantly (p = .002) increased from slightly agreeing at the first module (M = 4.84) and agreeing at the third module (M = 5.21). Participants' willingness to change practices based on learned approaches in the TIME-PT was consistently agreeable between the first (M = 5.34), second (M = 5.17), and third (M = 5.34) modules. While participants' average scores for the need to participate in home-

school collaboration to best support students' mental health increased between the first (*M* = 5.09), second (*M* = 5.20), and third (*M* = 5.21) modules, the differences in scores were small, not statistically significantly different, and were overall agreeable to home-school collaboration. A smaller sample size might have contributed to the inability to detect statistical significance in willingness to change and home-school collaboration scores.

When considering participants' applicability of the training and its practices post-training, overall there was continued slight agreement to agreement of the training's approach to providing mental health support. Of all the factors, participants were the most agreeable of their willingness to change (*M* = 5.50) their mental health practices to best support future students with scores ranging from agreeance (Minimum score = 5.00) to strongly agreeance (Maximum score = 6.00). Participants' feasibility to provide support (*M* = 4.64) and seeking external supports to help students' mental health (*M* = 4.71) were slightly agreeable on average with the minimum score also slightly agreeable to the processes. While participants after receiving the TIME-PT were on average slightly agreeable to their involvement in family-school collaboration (*M* = 4.81), scores ranged from slightly disagreeing (Minimum score = 3.33) to strongly agreeing (Maximum score = 6.00). Participants also on average slightly agreed to an understanding of how to support future students' mental health (*M* = 4.79), scores ranged from slightly disagreeing (Minimum score = 3.70) to agreeing (Maximum score = 5.20). This suggests that not all participants understand the necessity for family-school collaboration or understand generally how to support students' mental health. Currently, online mental health trainings for educators does not focus on the role of teachers in providing student mental health support (APAF, 2020; Greif et al., 2020; Olson et al., 2021), which reflects pre-service teachers in this pilot study also not fully understanding their role. Most teacher preparation programs also do not focus on

teaching pre-service teachers their future role in providing mental health support (Council for Accreditation of Educator Preparation, 2015).

Mental Health Knowledge, Attitudes, and Aspirations

Another goal of this pilot study was to examine any differences in mental health knowledge, attitudes, and aspirations before and after the TIME-PT at a 1-month follow-up. Most participants (n = 23) identified having familiarity with mental illness, but most participants had not completed Y-MHFA (n = 25) or any other mental health trainings (n = 23). Thus, most participants had prior knowledge about mental illness based on their personal experiences themselves and with people they know. Most participants having personal and professional experiences with mental illness align with the high prevalence of mental illness in youth (Costello et al., 2005; Merikangas et al., 2010).

Knowledge outcomes were considered from the Mental Health Knowledge and Evidence Based Practices concepts in the pre-PAY. Participants' average scores (M = 0.82) in the knowledge true and false items (i.e., Mental Health Knowledge concept) indicated most participants had prior knowledge of common mental health myths and mental illness. There was low to no variability in multiple items in the Mental Health Knowledge concept, which could have impacted the reliability of the items. For the Evidence Based Practices concept, participants who had completed the post-PAY (M = 3.65) had more knowledge about evidence-based practices average scores than participants who had not completed the post-PAY (M = 3.20), but the differences were not statistically significant.

Attitude outcomes were measured through the School- and Community-Based Mental Health Supports and Evidence Based Practices concepts. Participants who completed the post-PAY (M = 4.69) had statistically significantly (p = .029) slightly agreeable attitudes towards

school and community mental health supports than participants who did not (M = 3.99) who had slightly disagreeable attitudes. The strength of these differences in attitudes towards school and community mental health supports was medium to great effect (d = 0.6). This suggests that participants who completed both the pre-and post-PAY (n = 5) had more agreeable attitudes towards school and community mental health supports than participants who only completed the pre-PAY before completing the TIME-PT. For the Evidence Based Practices, participants who did not complete the post-PAY (M = 3.62) had more agreeable attitudes towards evidence-based practices than participants who did complete the post-PAY (M = 3.15), but the differences were not statistically significant. While both groups on average neither agreed nor disagreed with the importance of evidence-based practices, participants who did not complete the post-PAY were approaching agreeance. This suggests participants who only completed the pre-PAY (n = 21) had more agreeable attitudes toward the use of evidence-based practices to provide mental health support than participants who completed both pre-and post-PAY.

Mental health aspirations outcomes were included in the Evidence Based Practices and Culturally Responsive Practices concepts. In both the Evidence Based Practices and Culturally Responsive Practices concepts, participants who did not complete the post-PAY (M = 4.05, 4.43) were more agreeable towards aspiring to try evidence-based and culturally responsive practices than participants who completed both pre- and post-PAY (M = 3.70, 3.90). Differences in aspiration scores were not statistically significant. Overall, the smaller sample size might have contributed to the inability to detect statistically significant average scores for the knowledge, attitude (only the Evidence Based Practices concept), and aspiration outcomes. Uneven sizes of the two groups could have also contributed to the inability of statistically significant results and thus, the inability to interpret effect size.

When comparing the means of participants who completed both pre-PAY and post-PAY (n = 5), participants had more mental health knowledge of common myths and more knowledge of evidence-based practices at post-PAY (M = 0.89, 4.00) compared to pre-PAY (M = 0.85, 3.65). Participants also had more agreeable attitudes toward evidence-based practices and aspirations towards culturally responsive practices at post-PAY (M = 4.20, 4.60) than pre-PAY (M = 3.15, 3.90). However, participants had more agreeable attitudes on school and community-based mental health supports at pre-PAY (M = 4.69) compared to post-PAY (M = 4.06). Participants' aspirations to provide evidence-based practices were the same pre- and post-PAY (M = 3.70). However, since these results are only to compare means because of the small sample size, there was no test for the statistical significance of any differences and no test to interpret effect size. Since pre-service teachers often lack the mental health knowledge and skills to provide student mental health, participants' suggesting barriers in organizational factors (e.g., logistics with school-community collaboration) and innovation factors (e.g., providing evidence-based practices from the TIME-PT) aligns with literature on other populations who also lack the mental health knowledge and skills prior to receiving a mental health training (Spagnolo et al., 2018).

Awareness and Knowledge of Mental Health Stigma and Bias

The last goal of this pilot study was to assess differences in mental health stigma and bias before and after the last module of the TIME-PT. Stigma and bias can directly affect teachers' ability to identify and triage mental health supports to students in need (Gilliam et al., 2016). While most participants had personal experiences and knew others with mental illness (n = 23), almost half of the participants (n = 13) did not have experience in their practicum with students with depression. However, most participants before TIME-PT (n = 21) and after (n = 18)

mentioned either Anna or David in the vignette potentially having signs of depression. Pre-service teachers having knowledge about depression and how depression affects students' learning is supported in the literature (Kikas & Timoštšuk, 2016).

Participants who had a better understanding of mental health and fewer mental health biases before the TIME-PT also had a better understanding of mental health and biases after the training ($r = .68$, $p < .001$). While Teacher Mental Health Vignette average scores increased from pre ($M = 8.09$) to post ($M = 8.48$) indicating improvement in mental health knowledge and biases, the differences were not statistically significant. There was also a positive correlation with mental health stigma in the ECT average scores where participants who had more stigmatized responses before the TIME-PT also had more stigmatized responses after the TIME-PT ($r = .64$, $p < .001$). While there was a slight decrease in mental health stigma average scores from pre-training ($M = 0.532$) to post-training ($M = 0.527$), these differences were not statistically significant. A smaller sample size might have contributed to the inability to detect the significance of the difference in average mental health stigma and bias scores. These results also align with research that mental health stigma can be ingrained into beliefs. Mental health stigma can develop during early childhood with children associating mental health disorders with violence and uncertainty (Lovett et al., 2011) continuing these associations into adulthood, which will require continual learning and practice to change. Little improvement in participants' mental health stigma and biases after the TIME-PT reflects how most mental health trainings for educators do not have evidence to support teacher behavior change short- and long-term post-trainings (Ohrt et al., 2020).

Participants recognized the importance of learning about mental health stigma and biases. Some participants mentioned not recognizing certain practices as a way of reinforcing mental

health stigma and biases (e.g., grading systems). Many responses in the journal entry prompt post-module (21 responses) mentioned learning about the importance of being aware of mental health stigma and biases. Many responses (19 responses) also mentioned learning the strategies from the "Mental Health Stigma & Bias" module they could use to address mental health stigma and bias once they're teachers (e.g., "A teacher can work on reducing these stereotypes by reevaluating how they grade, remembering what kids are called on so that there will be no favoritism, and letting go of personal biases."). While pre-service teachers' increasing awareness of their unconscious biases and the impact of mental health stigma was an important step to decreasing stigmatizing experiences for their future students, other factors that contribute to stigma and bias (e.g., negative attitudes and behaviors, lack of skills) also need to improve (Knaak et al., 2017).

Implications for Practice

An important implication for practitioners includes the incorporation of mental health trainings in teacher preparation programs. While mental health trainings are not required or incorporated in most teacher preparation programs (Council for Accreditation of Educator Preparation, 2015), the results of both the focus group and the pilot study indicated pre-service teachers need more professional learning in mental health and more opportunities to practice. Pre-service teachers mentioned learning general information about youth mental health but did not learn their role as future teachers and did not have opportunities to develop and practice helping skills. From the results of the pilot study, pre-service teachers also need more practice in recognizing their stigma and biases and destigmatizing and debiasing their work. Incorporating mental health trainings and more opportunities to practice skills learned in the training (e.g., program and practicum-embedded opportunities to practice with colleagues; Darling-Hammond

et al., 2017) will help pre-service teachers be better equipped to support future students' mental health.

Future Research

Since this was a development and pilot study of a newly created online mental health training for pre-service, more extensive and generalizable data is needed to provide evidence for the effectiveness of the TIME-PT. Collecting more data from multiple stakeholders (e.g., faculty and on-site supervisors) would provide perspectives on the mental health learning provided to pre-service teachers, areas of need for pre-service teachers, and barriers to mental health training and professional learning. For example, interviewing faculty on their perceptions of the connection between stress, resilience, and adverse childhood experiences (ACEs) on youth mental health would encourage faculty input in implementing mental health trainings and highlight the importance of mental health trainings. Since there was a small sample size of participants in the focus group, more data from focus groups is needed with pre-service teachers to identify the perspectives on mental health and the need for more mental health training from other teacher preparation programs across various universities in different areas. Another consideration for future research is to incorporate data analytics from the teaching software (e.g., Canvas) used to provide the TIME-PT. Data analytics could provide more detailed information about when and how the TIME-PT modules are viewed and accessed.

Future uses of mental health trainings for pre-service teachers should be mindful of the need for adaptability. Since most teacher preparation programs do not have requirements for mental health professional learning and development, collaboration with teacher preparation programs and their practicum sites to include the training in their curriculum. The low sample size could have been contributed to the TIME-PT being included as a supplemental requirement

for pre-service teachers. Future mental health trainings for pre-service teachers should consider also incorporating incentives when including trainings as supplemental to their curriculum. Incentives should be seen as beneficial and appropriate to pre-service teachers for their learning, such as extra credit in their course or a professional development certification. For example, two professors offered extra credit when they participated in the pilot study when feedback was received that students were stressed to complete the course after a natural disaster.

Limitations

There are several limitations of this study's results to address and consider. First, since the focus group study and expert panel focused on the early development of a new mental health intervention, the recruitment was focused on an acute population (i.e., pre-service teachers who were currently attending one southeastern state university). Also, since this was a pilot study, there was no control group to test the effectiveness of the TIME-PT. Recruitment was focused on one university in a southeastern state for feasibility, time constraints, and applicability of the development of the TIME-PT to the participants. Thus, the results of this study cannot be generalized to other teacher preparation programs in the southeastern state or other programs in the United States. However, one of the aims of this pilot study was to initially evaluate the applicability of the TIME-PT for pre-service teachers, which was conducted by examining the experiences and perceptions of pre-services through two forms of data (i.e., focus group and pilot study).

Second, due to low student enrollment during the focus group and pilot study, recruitment yielded fewer participants than expected. Thus, statistically significant results likely yielded low power. This study should be replicated with a larger sample size in multiple universities in different regions of the United States. Future studies on the TIME-PT should

incorporate the training more into teacher preparation program's courses and provide more incentives for students to participate, including gift cards. Third, while the incorporation of the TIME-PT into student courses as a course requirement for completion for all students, including those not participating in the study, helped with accessibility to the training, the author then had to provide answers to all students and update professors on student progress on the modules. Also, with the surveys embedded into the modules as Qualtrics surveys and the modules' availability to students staying open on Canvas until all students in the course completed them, students had access to take the surveys multiple times. Although directions were provided for students to only complete the surveys once for completion, some students noted completing them multiple times due to technical issues and not remembering whether they completed the survey. Future studies embedding the TIME-PT in university courses should have completion updated automatically to Canvas to avoid any confusion in the researcher's role in the course and to avoid any confusion about students' completion of the modules and embedded surveys.

Fourth, power analyses were not conducted in the pilot study. While power analyses are not necessary for determining the participant size of pilot studies (Musil, 2011), power analyses are needed to confirm the needed sample size to have a sufficiently high probability to reject the null hypothesis (Caldwell et al., 2022). However, for the purposes of this study, it is noted that the results of the repeated measures ANOVAs provide evidence of promise for future studies on the TIME-PT. Fifth, not all components of effective professional development (KASAB; Killion, 2008) were evaluated in this pilot study. Specifically, pre-service teachers' skills and behaviors were not evaluated. The focus of this study was to evaluate pre-service teachers' knowledge, attitudes, and aspirations due to the importance of building knowledge and the feasibility and time constraints of incorporating skills-based learning and assessing long-term behavioral

change. Future development of the TIME-PT should consider incorporating and assessing pre-service teachers' skills and behaviors change over time.

Sixth, the Mental Health Knowledge concept in the pre-PAY had low internal consistency reliability (α = .09-.2) and results should be reviewed with caution. The Mental Health Knowledge concept consisted of true and false statements with results having a ceiling effect where most participants scored most items correctly. Thus, participants generally already knew about common mental health myths. Future development of the TIME-PT and future studies on pre-service teachers' mental health knowledge should implement mental health knowledge scales with greater internal consistency reliability. However, a pre-and post-assessment of pre-service teachers' mental health knowledge as a result of an online mental health training is still important to measure change in learned outcomes. A focus group of relevant stakeholders (e.g., pre-service teachers, faculty, on-site practicum supervisors) could have also informed on what pre-service teachers already know about mental health to better design an assessment to measure the change of mental health knowledge. Utilization of mixed methods methodology (e.g., questionnaires, interviews, document analyses, observations) in a quasi-experimental study with a control group would potentially provide more in-depth and detailed data on the extent of the impact of a mental health intervention on pre-service teachers.

Seventh, the Teacher Mental Health Vignette Scale was used in this pilot study to measure mental health stigma and bias was designed to measure mental health literacy by asking participants for their reactions and responses to examples of students with mental health concerns. While there is a strong connection in research between decreased stigma or explicit bias with higher mental health literacy (Ma et al., 2023; Simões et al., 2023), implicit nor explicit bias was not directly measured by the Teacher Mental Health Vignette Scale. Future studies

should consider also including vignettes and surveys that directly measure implicit and explicit mental health bias or stigma.

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APPENDICES

Appendix A: The PAY

PAY Pre-Survey

Name/Code:		Program:		Date:	

Mental health refers to our thoughts and feelings, our ability to deal with problems, and get along well with others. Please complete the following survey regarding your attitudes towards and skills in supporting mental health in schools. **Survey responses are strictly confidential**, and no individual responses will be identified and reported. Data are used to evaluate training effectiveness and inform future supports.

Demographics

Please answer the following questions about yourself.	
1. What is your gender?	
a. Male b. Female	c. Non-binary, Genderqueer, Agender, Gender nonconforming d. Other: _____
2. Which best describes your race/ethnicity?	
a. American Indian or Alaska Native b. Asian c. Black or African American d. Native Hawaiian or Other Pacific Islander	e. White or Caucasian f. Multi-racial g. Hispanic h. Other: _____
3. What is the highest level of education you have completed?	
a. Did not complete high school b. High school diploma or GED c. Associate degree d. Bachelor's degree	e. At least one year of course work beyond a Bachelor's degree or graduate degree f. Master's degree g. Ph.D., Ed.D. or other doctorate degree h. Other: _____
4. What type of teaching certification do you hold?	
a. Regular or standard state certificate or advanced professional certificate b. Probationary certificate (the initial certificate issued after satisfying all requirements except the completion of a probationary period) c. Provisional or other type given to persons who are still participating in what the state calls an "alternative certification program" d. Temporary certificate (requires some additional college coursework and/or student teaching before regular certification can be obtained)	e. Emergency certificate or waiver (issued to persons with insufficient teacher preparation who must complete a regular certification program in order to continue teaching) f. Regular or full certification by an accrediting or certifying body other than the state g. I do not have any of the above certifications in this state
5. What is your level of familiarity with mental illness?	
a. I've personally experienced mental health concerns. b. I've had loved ones (e.g., family, friends) experience mental health concerns c. I've had individuals in my life that I've known (e.g., colleagues, acquaintances, students) experience mental health concerns. c. I've never known someone with or personally experienced mental health concerns.	
6. Have you completed a YMHFA course before?	
a. No b. Yes If so, when? _____	

7. Have you completed other mental health trainings?
a. No b. Yes If so, which ones? _____ If so, when? _____

Mental Health Knowledge

Rate whether you think the following are true or false.		
1. There are things you can do to make sure your students are mentally healthy.	True	False
2. Less energy and interest in activities, change in appetite and weight, and trouble sleeping can be signs of depression.	True	False
3. Anxiety is one of the most common types of mental health problems in teens.	True	False
4. Youth with mental health problems are never happy.	True	False
5. Youth who are happy are more likely to fail in school.	True	False
6. With help, most children and youth who have mental health problems get well and stay well.	True	False
7. Many types of mental health problems run in families.	True	False
8. Suicide is a leading cause of death among youth 10 years and older.	True	False
9. Eating disorders can lead to death.	True	False
10. Use of alcohol or other drugs increases the risk of suicide or harm.	True	False

School- and Community-Based Mental Health Supports

(1=Strongly Disagree, 2=Disagree, 3=Slightly Disagree, 4=Slightly Agree, 5=Agree, 6=Strongly Agree)

To what degree do you agree with the following?						
11. Teachers at our school know how to talk to student about their feelings.	1	2	3	4	5	6
12. It is easy for students to talk to teachers at our school when they have problems such as feelings or getting along with others.	1	2	3	4	5	6
13. Teachers at our school care about students.	1	2	3	4	5	6
14. Students have someone they can talk to when they have a problem.	1	2	3	4	5	6
15. Students have an adult at school they can talk to when they have a problem.	1	2	3	4	5	6
16. Students have someone outside of school that they can talk to if they or a friend of theirs has a problem.	1	2	3	4	5	6
17. In our school, students receive timely access to a continuum of mental health supports.	1	2	3	4	5	6

Evidence Based Practices (EBP) **(1-strongly disagree, 2-disagree, 3-neither agree/disagree, 4-agree, 5-strongly agree)**

Beliefs about EBPs and Role of Mental Health in Schools					
18. When selecting an intervention, I consider its prior evidence of effectiveness.	1	2	3	4	5
(1-strongly disagree, 2-disagree, 3-neither agree/disagree, 4-agree, 5-strongly agree)					
19. I know where to find out about programs and practices that are evidence-based.	1	2	3	4	5
20. I know how to select an evidence-based program centered on the needs of youth I serve.	1	2	3	4	5
21. I can identify an evidence-base for each of the practices I use.	1	2	3	4	5

22. I feel that schools should be involved in addressing the mental health issues of students.	1	2	3	4	5
23. I feel that I have the level of knowledge required to meet the mental health needs of my students.	1	2	3	4	5
24. I feel that I have the skills required to meet the mental health needs of my students.	1	2	3	4	5
25. I feel I have adequate cultural knowledge and communication/interpersonal skills to meet the mental health needs of my culturally diverse students.	1	2	3	4	5
Value and Importance of EBPs					
26. I am willing to try new practices even if they are very different from what I am used to doing.	1	2	3	4	5
27. I believe evidence-based practice is more important than professional experience.	1	2	3	4	5

Culturally Responsive Practice (1-strongly disagree, 2-disagree, 3-neither agree/disagree, 4-agree, 5-strongly agree)

28. When selecting evidence-based practices, I am willing to consider the culture of the participants within effectiveness studies.	1	2	3	4	5
29. I am willing to facilitate family and youth input in local selection and modifications to programs.	1	2	3	4	5
30. I will adjust practices and interpersonal communication to the cultural differences of others.	1	2	3	4	5
31. I will modify an intervention in consideration of my population's culture and demographics.	1	2	3	4	5

Appendix B: University Student Interview Protocol

Introduction to Study

My name is Alexis Sanchez. I am a graduate student at USF. I want to first thank you for agreeing to participate in this study. My dissertation research is interested in hearing the experiences of undergraduate and graduate students in teacher preparation programs with the hope of identifying strengths, weaknesses, and/or gaps in providing mental health support, if any. I hope to use the information collected to inform professional learning in mental health for undergraduate and graduate students in teacher preparation programs. The experiences you have had may have been variable, but we would like to hear from everyone whether positive or negative. Before we begin, do any of you have any questions for me?

I would also like to ask if I can record this session just in case I miss something and need to review.

Introductory Questions (5-10 minutes)

I want to start by taking some time to get to know you all.

1. What made you choose to pursue a degree in a teacher preparation program?
2. Tell me a little bit about what interested you in this study. What motivated you to participate?

Transfer Questions (14-16 minutes)

1. How is mental health incorporated into your program's training model, if at all?
    a. Future educators' mental health?
    b. Their future students' mental health?
2. How much of a focus would you say mental health is in your program?

Key Questions (10-15 minutes)

1. What experiences have you had in professional learning related to mental health service delivery in your program?
2. What specific mental health trainings have you received in your program?
3. What have you learned from mental health trainings in your program?

Specific Questions (10-15 minutes)

1. What have you learned about the teacher's role in providing mental health support?
    a. What do you think about teacher's role in providing mental health support?

Closing Questions (3-5 minutes)

1. To what extent do you feel prepared to provide mental health support to future students? Why? (i.e., perceptions of preparation)

Final Question (3-5 minutes)

1. Do you think there is something we should have discussed but we did not?

Appendix C: Usage Rating Profile - NEEDS (URP-NEEDS)

URP-NEEDS

Directions: Consider your school's approach to identifying and supporting students' social, emotional, and behavioral needs when answering the following statements. Circle the number that best reflects your agreement with the statement, using the scale provided below.

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1.	School personnel understand the procedures of the social, emotional, and behavioral approach.	1	2	3	4	5	6
2.	The total time required for staff to carry out the social, emotional, and behavioral approach is manageable for school personnel.	1	2	3	4	5	6
3.	The current social, emotional, and behavioral approach offers a good way to identify a child's behavior problem.	1	2	3	4	5	6
4.	A positive relationship with community agencies is important to carry out the social, emotional, and behavioral approach.	1	2	3	4	5	6
5.	School personnel like to use new strategies to help address the social, emotional, and behavioral needs of students.	1	2	3	4	5	6
6.	School personnel know how to use social, emotional, and behavioral screening data to document student improvements.	1	2	3	4	5	6
7.	Regular home-school communication is needed in order to execute the social, emotional, and behavioral approach.	1	2	3	4	5	6
8.	The amount of time required of school personnel for record keeping related to the social, emotional, and behavioral approach is reasonable.	1	2	3	4	5	6
9.	School personnel are willing to use new and different types of social, emotional, and behavioral strategies developed by researchers.	1	2	3	4	5	6
10.	The current social, emotional, and behavioral approach is effective for addressing a variety of problems.	1	2	3	4	5	6
11.	A positive home-school relationship is needed to carry out the social, emotional, and behavioral approach.	1	2	3	4	5	6
12.	Ongoing assistance from external consultants is necessary to successfully use the social, emotional, and behavioral approach.	1	2	3	4	5	6

USAGE RATING PROFILE

		Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
13.	School personnel are knowledgeable about the purpose and goals of social, emotional, and behavioral screening.	1	2	3	4	5	6
14.	The preparation of materials needed for the social, emotional, and behavioral approach is reasonable for school personnel.	1	2	3	4	5	6
15.	School personnel are familiar with what can be done to prevent or treat social, emotional, and behavioral difficulties in school.	1	2	3	4	5	6
16.	School personnel would try a new strategy to address the social, emotional, and behavioral needs of students even if it were very different than what they are used to doing.	1	2	3	4	5	6
17.	School personnel understand how goals for social, emotional, and behavioral screening fit with a system of student supports.	1	2	3	4	5	6
18.	Parental collaboration is needed in order to implement this social, emotional, and behavioral approach.	1	2	3	4	5	6
19.	School personnel need consultative support in order to carry out the social, emotional, and behavioral approach.	1	2	3	4	5	6
20.	School personnel understand how to use social, emotional, and behavioral screening data to guide decisions about student supports.	1	2	3	4	5	6
21.	The materials needed for the social, emotional, and behavioral approach are reasonable for school personnel.	1	2	3	4	5	6
22.	School personnel are confident in their ability to carry out the social, emotional, and behavioral approach.	1	2	3	4	5	6
23.	School personnel are willing to change how they operate to meet the social, emotional, and behavioral needs of students.	1	2	3	4	5	6
24.	School personnel know how to carry out the social, emotional, and behavioral approach.	1	2	3	4	5	6

Appendix D: Teacher Mental Health Vignette Scale

Teacher Mental Health Vignette Scale

In this survey, we will ask you to read and respond to two fictional scenarios.

SCENARIO 1: Please read the following scenario about a fictional student in <u>your</u> class and respond to the questions below.

Anna is a student in your class. She is always kind with other people and follows instructions during class. In the last few months, Anna has been increasingly moody, and you have noticed that she often puts her head down on her desk. She also seems to have lost interest in many of her friends and classwork, including participating in class activities that she used to enjoy. Every day Anna says that she feels very tired, but when you ask, she also says she is sleeping more than normal at night. In addition, the last few months, Anna seems to have trouble concentrating in class.

With just this information, and to the best of your knowledge, please answer the questions below.

1. What would you say, if anything, is going on with Anna?

2. Do you have any students like Anna in your classes?

❒ Yes ❒ No

3. Using a scale of 1-10, where 1 is not at all serious and 10 is very serious, how serious would you rate Anna's behavior? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Not at all serious									Very serious

4. Using a scale of 1-10, where 1 is not at all worried and 10 is very worried, how worried would you be about Anna? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Not at all worried									Very worried

5. Using a scale of 1-10, where 1 is very rare and 10 is very common, how common is Anna's behavior compared to other students you teach? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Very Rare									Very Common

6. Using a scale of 1-10, where 1 is very unlikely and 10 is very likely, how likely would you be to refer Anna to a school counselor, social worker, or psychologist for mental health services? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Very unlikely									Very likely

1

SCENARIO 2: Please read the following scenario about a fictional student in your class and respond to the questions below.

David is a student in your class. He has a longstanding group of friends, of which he is the leader. David has above-average intelligence, is very articulate, and has maintained good grades in school without working hard. Over the past six months, David has started to lose his temper a lot. He often appears angry, and he frequently blames others for his mistakes. Lately David's friends have begun to stay away from him because he is overly sensitive, becomes annoyed easily, and at times he seems to try to annoy his friends on purpose. You have noticed that David argues with you more than other students his age.

With just this information, and to the best of your knowledge, please answer the questions below.

7. What would you say, if anything, is going on with David?

8. Do you have any students like David in your classes?

- ❒ Yes
- ❒ No

9. Using a scale of 1-10, where 1 is not at all serious and 10 is very serious, how serious would you rate David's problem? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Not at all serious									Very serious

10. Using a scale of 1-10, where 1 is not at all worried and 10 is very worried, how worried would you be about David? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Not at all worried									Very worried

11. Using a scale of 1-10, where 1 is very rare and 10 is very common, how common is David's behavior compared to other students in your classes? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Very Rare									Very Common

12. Using a scale of 1-10, where 1 is very unlikely and 10 is very likely, how likely would you be to refer David to a school counselor, social worker, or psychologist for mental health services? Please circle your answer.

1	2	3	4	5	6	7	8	9	10
Very unlikely									Very likely

Appendix E: The Error Choice Test

KNOWLEDGE TEST ABOUT MENTAL ILLNESS

This is a test of your knowledge about mental illness. The questions on the test are taken from findings of scientific research. You are not expected to have read the research reports, but by using your experience and general knowledge you should be able to pick the correct answer. Some people will do much better than others because of their experience or because of their training in medicine, rehabilitation, or psychology. Read each question carefully and select the response that you consider to be the correct answer. THERE IS NO PENALTY FOR GUESSING. There is no time limit for the completion of this test, but you should work as rapidly as you can.

1. One type of psychotherapy, cognitive-behavioral therapy, has been shown to reduce the psychotic symptoms of schizophrenia.
    a. True
    b. False

2. Considering people with schizophrenia, what is the average number of separate hospitalizations for their mental illness over a one-year period of time?
    a. 4 or more
    b. 2 or less

3. People with severe mental illness cannot maintain private residences.
    a. True
    b. False

4. People with schizophrenia should be allowed to use an online dating service.
    a. True
    b. False

5. People with schizophrenia make up what percent of the homeless population?
    a. 5%
    b. 25%

6. Adolescents with schizophrenia are frequently truant from school.
    a. True
    b. False

7. People with severe mental illness are capable of establishing an intimate long-term relationship of a sexual nature.
    a. True
    b. False

8. People with schizophrenia benefit the least from services like psychotherapy.
    a. True
    b. False

9. People with schizophrenia are likely to steal from their family members.
    a. True
    b. False

10. Based on the capabilities of people with schizophrenia, school counselors should recommend beginning a job-training program rather than continuing in the regular curriculum.
    a. True
    b. False

11. For those with serious mental illness, what percent of treatment should be dedicated to medication compliance?
    a. Greater than 80%
    b. Less than 50%

12. Neglectful parenting is somewhat responsible for the beginning of a serious mental illness.
    a. True
    b. False

13. A person with schizophrenia is capable of being a physician or medical doctor.
    a. True
    b. False

14. The divorce rate among the general population is about 50%. What is the divorce rate among people who experience mental illness?
    a. Greater than 70%
    b. Less than 50%

Appendix F: TIME-PT Lesson Plans

School Mental Health COLLABORATIVE

Unit 1: *Common Mental Health Signs*	**Instructor: Alexis Sanchez, M.A. (asanchez14@usf.edu)**
Grade Level: Grade School	**Time: 25 Minutes**

Module Summary:

This 25-minute professional development is intended for pre-service teachers to build capacity in identifying mental health signs as a part of the *Training In Mental health for Educators – Pre-service Teachers* (TIME-PT). Studies have shown that mental health trainings can reduce mental health stigma and increase teacher's knowledge, attitudes, and mental health literacy. The *Common Mental Health Signs* module will include background information, interactive videos, and opportunities for discussion. This module will allow participants to make connections to current or past experiences, outline necessary components of identifying mental health concerns in school settings, and provide opportunities for practice and feedback.

Module Goals:

1. Participants will develop knowledge regarding the identification of common youth mental health signs.
2. Participants will be provided with all necessary materials (e.g., links to online resources) and opportunities for practice (e.g., interactive videos, discussion, troubleshooting) to promote classroom implementation of mental health concern identification.

Learning Objectives (*Measurement of Objective*):

1. Participants will determine the theoretical framework guiding, supporting research for, and students who may benefit from mental health support. *(Knowledge Domain)*
2. Participants will be able to challenge any mental health misconceptions through learned mental health knowledge. *(Attitudes Domain)*
3. Participants will express a desire or goal to apply mental health knowledge to an example at their local school context with the use of materials and resources. *(Aspirations Domain)*

Theoretical Framework:

Sharon L. Bowman's Quick Guide to the 4Cs Map A Brain-Based Instructional Design and Delivery Model (https://bowperson.com/2016/02/the-4cs-map-a-brain-based-instructional-design-and-delivery-model/)

Bowman's 4-step instructional design and delivery model is a structured way to design and deliver highly successful training that is based on brain functions. Below are the definitions for each of the 4 steps (Information From: https://bowperson.com/wp-content/uploads/2016/02/QuickGuideTo4CsMap.pdf).

1. **CONNECTIONS:** Instructors have learners make connections with what they already know about the topic with what they will learn and their current school environment.
2. **CONCEPTS:** Instructors will provide learners with new information in a multisensory way (hearing, discussing, writing, reflecting).
3. **CONCRETE PRACTICE:** Instructors will provide learners with an opportunity to practice a new skill or using the training content. The instructor will also observe and provide positive or corrective feedback.
4. **CONCLUSIONS:** Instructors will provide time for learners to summarize and evaluate as well as create action plans for how they plan to use the new knowledge and skills.

Bowman Component	Time	Objectives	Slides	Indicators of Growth Learning
	3 Min.		1-2	Participants will be introduced to: • Mental health training to provide support for students, • The presenter, and • What SMHC is and how it relates to mental health training. Participants will be shown the agenda for the presentation that outlines the topics that will be discussed in relation to utilizing mental health support as an intervention.
Connections	2 Min.	1	3-4	**Activity** • Participants will be asked, "Do your students during your practicum ever look like this?" with example photos of children and young adolescents who appear stressed, anxious, or upset along with statistics (e.g., "Mental health problems are prevalent in youth, with about one in every three to four youth ages 5-17 years old having a psychiatric diagnosis")[56] • Presenter will then touch on why it is important to reach these students and provide mental health support (e.g., "With only 36% of youth receiving treatment for a mental health disorder, they are at further academic and social-emotional behavioral risk")[7]
Concepts	4 Min.	1	5-6	The presenter will give a brief overview of the research literature dedicated to mental health literacy and techniques in identification of youth in need. Additionally, the presenter will review four of the most common mental

[5] Costello, J. E., Egger, H., & Angold, A. (2005). 10-Year research update review: The epidemiology of child and adolescent psychiatric disorders: I. Methods and public health burden. *Journal of the American Academy of Child & Adolescent Psychiatry, 44*(10), 972-986. doi:10.1097/01.chi.0000172552.41596.6f

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[7] Merikangas, K. R., He, J. -P., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., Georgiades, K., Heaton, L., Swanson, S., & Olfson, M. (2011). Service utilization for lifetime mental disorders in U.S. adolescents: Results of the National Comorbidity Survey-Adolescent Supplement (NCS-A). *Journal of the American Academy of Child & Adolescent Psychiatry, 50*(1), 32-45. doi:10.1016/j.jaac.2010.10.006

				health signs that they could experience in the school environment.
Concrete Practice	6 Min.	2	7-8	**Activity** The participants will be introduced to one interactive video to practice identifying students with potential mental health concerns. • The video outlines common signs and provides an example of how to identify common signs in students.
Concepts	4 Min.	2	9-10	The presenter provides resources for the participants to explore and personalize to their own students. There is also discussion regarding appropriate times and ways to naturally incorporate mental health awareness in the classroom.
Connections	1 Min.	3	11	The presenter reiterates the importance of early identification of mental health concerns in the classroom by connecting this section to the example of stressed children at the beginning.
Conclusions	5 Min.	3	12-15	The presenter provides time for questions and facilitates for participants to reflect and consider how they are going to implement this process in their school context. Participants will complete a reflection journal to make connections to what they already knew, new learning, questions they still have, and 1-2 things they will do at their future school.

School Mental Health COLLABORATIVE

Unit 2: *Mental Health Stigma and Bias*	**Instructor: Alexis Sanchez, M.A. (asanchez14@usf.edu)**
Grade Level: Grade School	**Time: 25 Minutes**

Module Summary:

This 25-minute professional development is intended for pre-service teachers to build capacity in recognizing and challenging mental health stigma and bias as a part of the *Training In Mental health for Educators – Pre-service Teachers* (TIME-PT). Studies have shown that mental health trainings can reduce mental health stigma and increase teacher's knowledge, attitudes, and mental health literacy. The *Mental Health Stigma and Bias* module will include background information, interactive videos, and opportunities for discussion. This module will allow participants to make connections to current or past experiences, outline necessary components of addressing mental health stigma and bias as a teacher, and provide opportunities for practice and feedback.

Module Goals:

3. Participants will develop knowledge regarding mental health stigma and implicit bias and the impact on student mental health delivery.
4. Participants will be provided with all necessary materials (e.g., links to online resources) and opportunities for practice (e.g., interactive videos, discussion, troubleshooting) to promote ongoing awareness mental health stigma and challenging implicit biases.

Learning Objectives (*Measurement of Objective*):

4. Participants will determine the theoretical framework guiding, supporting research for, and students who may be impacted by mental health stigma and implicit biases. *(Knowledge Domain)*
5. Participants will be able to address and challenge any mental health stigma and implicit biases. *(Attitudes Domain)*
6. Participants will express a desire or goal to apply mental health stigma and bias knowledge to an example at their local school context with the use of materials and resources. *(Aspirations Domain)*

Theoretical Framework:

Sharon L. Bowman's Quick Guide to the 4Cs Map A Brain-Based Instructional Design and Delivery Model (https://bowperson.com/2016/02/the-4cs-map-a-brain-based-instructional-design-and-delivery-model/)

Bowman's 4-step instructional design and delivery model is a structured way to design and deliver highly successful training that is based on brain functions. Below are the definitions for each of the 4 steps (Information From: https://bowperson.com/wp-content/uploads/2016/02/QuickGuideTo4CsMap.pdf).

1. **CONNECTIONS:** Instructors have learners make connections with what they already know about the topic with what they will learn and their current school environment.
2. **CONCEPTS:** Instructors will provide learners with new information in a multisensory way (hearing, discussing, writing, reflecting).
3. **CONCRETE PRACTICE:** Instructors will provide learners with an opportunity to practice a new skill or using the training content. The instructor will also observe and provide positive or corrective feedback.
4. **CONCLUSIONS:** Instructors will provide time for learners to summarize and evaluate as well as create action plans for how they plan to use the new knowledge and skills.

Bowman Component	Time	Objectives	Slides	Indicators of Growth Learning
	3 Min.		1-2	Participants will be introduced to: • Mental health training to provide support for students, • The presenter, and • What SMHC is and how it relates to mental health training. Participants will be shown the agenda for the presentation that outlines the topics that will be discussed in relation to utilizing mental health support as an intervention.
Connections	2 Min.	1	3-4	**Activity** • Participants will be asked, "Have you heard or thought of phrases like this?" with example photos of children and young adolescents who appear stressed, anxious, or upset along with captions (e.g., "That student is faking it for attention") • Presenter will then touch on why it is important to be aware of stigma and our biases in order to provide student mental health support.
Concepts	4 Min.	1	5-6	The presenter will give a brief overview of the research literature dedicated to mental health stigma and implicit bias in identification and referral of youth in need. Additionally, the presenter will review common stigma and biases regarding mental health that they could experience in the school environment.
Concrete Practice	6 Min.	2	7-8	**Activity** The participants will be introduced to one video to practice identifying mental health stigma and techniques to practice awareness of implicit biases. • The video outlines what mental health stigma looks like and provides an example of how to practice implicit bias techniques.
Concepts	4 Min.	2	9-10	The presenter provides resources for the participants to explore and personalize to their own students. There is also discussion regarding appropriate times and ways to

				naturally incorporate mental health stigma and bias awareness in the school setting.
Connections	1 Min.	3	11	The presenter reiterates the importance of accurate early identification of mental health concerns in the classroom by connecting this section to the example of stressed children at the beginning being “missed".
Conclusions	5 Min.	3	12-15	The presenter provides time for questions and facilitates for participants to reflect and consider how they are going to implement this process in their school context. Participants will complete a reflection journal to make connections to what they already knew, new learning, questions they still have, and 1-2 things they will do at their future school.

School Mental Health COLLABORATIVE

Unit 3: Teacher's Role in Mental Health Support	**Instructor: Alexis Sanchez, M.A. (asanchez14@usf.edu)**
Grade Level: Grade School	**Time: 25 Minutes**

Module Summary:

This 25-minute professional development is intended for pre-service teachers to build capacity in knowing their role in providing mental health support as a part of the *Training In Mental health for Educators – Pre-service Teachers* (TIME-PT). Studies have shown that mental health trainings can reduce mental health stigma and increase teacher's knowledge, attitudes, and mental health literacy. The *Teacher's Role in Mental Health Support* module will include background information, interactive videos, and opportunities for discussion. This module will allow participants to make connections to current or past experiences, outline necessary components of their role as a future teacher, and provide opportunities for practice and feedback.

Module Goals:

5. Participants will develop knowledge regarding their role in student mental health delivery.
6. Participants will be provided with all necessary materials (e.g., links to online resources) and opportunities for practice (e.g., interactive videos, discussion, troubleshooting) to promote more accurate identification, discussion, and referrals of students with potential mental health concerns.

Learning Objectives (*Measurement of Objective*):

7. Participants will determine the theoretical framework guiding, supporting research for, and processes for student mental health support. *(Knowledge Domain)*
8. Participants will be able to address and challenge any misconceptions regarding their role in student mental health support. *(Attitudes Domain)*
9. Participants will express a desire or goal to apply knowledge on their role and associated processes to an example at their local school context with the use of materials and resources. *(Aspirations Domain)*

Theoretical Framework:

Sharon L. Bowman's Quick Guide to the 4Cs Map A Brain-Based Instructional Design and Delivery Model (https://bowperson.com/2016/02/the-4cs-map-a-brain-based-instructional-design-and-delivery-model/)

Bowman's 4-step instructional design and delivery model is a structured way to design and deliver highly successful training that is based on brain functions. Below are the definitions for each of the 4 steps (Information From: https://bowperson.com/wp-content/uploads/2016/02/QuickGuideTo4CsMap.pdf).

1. **CONNECTIONS:** Instructors have learners make connections with what they already know about the topic with what they will learn and their current school environment.
2. **CONCEPTS:** Instructors will provide learners with new information in a multisensory way (hearing, discussing, writing, reflecting).
3. **CONCRETE PRACTICE:** Instructors will provide learners with an opportunity to practice a new skill or using the training content. The instructor will also observe and provide positive or corrective feedback.
4. **CONCLUSIONS:** Instructors will provide time for learners to summarize and evaluate as well as create action plans for how they plan to use the new knowledge and skills.

Bowman Component	Time	Objectives	Slides	Indicators of Growth Learning
	3 Min.		1-2	Participants will be introduced to: • Mental health training to provide support for students, • The presenter, and • What SMHC is and how it relates to mental health training. Participants will be shown the agenda for the presentation that outlines the topics that will be discussed in relation to utilizing mental health support as an intervention.
Connections	2 Min.	1	3-4	**Activity** • Participants will be asked, "Have you noticed symptoms of teacher burnout?" with example photos of teachers who appear stressed, anxious, or upset along with teacher burnout/turnover statistics (e.g., " It has been estimated that between five and 30 percent of teachers show distinct symptoms of burnout at any given time.")[8] • Presenter will then touch on why it is important to be aware and understand teachers' role in providing student mental health support while also engaging in self-care.
Concepts	4 Min.	1	5-6	The presenter will give a brief overview of the research literature dedicated to the lack of teacher awareness of what their role is and how to perform their role. Also, will reiterate the importance of early identification and referral of youth in need. Additionally, the presenter will review best practices regarding student mental health support in the school environment.
Concrete Practice	6 Min.	2	7-8	**Activity** The participants will be introduced to one video to practice the steps leading to student referral.

[8] Blazer, C. (2010). Teacher Burnout. Information Capsule. Volume 1003. *Research Services, Miami-Dade County Public Schools.*

				• The video outlines what their role looks like through an example.
Concepts	4 Min.	2	9-10	The presenter provides resources for the participants to 1) explore and personalize to their own students and 2) regarding self-care.[9] There is also discussion regarding appropriate times and ways to naturally incorporate mental health discussions, awareness, identification, and referral in the school setting.
Connections	1 Min.	3	11	The presenter reiterates the importance of teachers by connecting this section to the example of stressed teachers at the beginning.
Conclusions	5 Min.	3	12-15	The presenter provides time for questions and facilitates for participants to reflect and consider how they are going to implement this process in their school context. Participants will complete a reflection journal to make connections to what they already knew, new learning, questions they still have, and 1-2 things they will do at their future school.

[9] Rankin, J. G. (2016). *First aid for teacher burnout: How you can find peace and success.* Routledge.

Appendix G: Journal Entry Prompts

Questions Before Each Module

What I Already Know	**What I Hope to Learn**

Questions After Each Module

What I've Learned	**What I Want to Learn More About**

Appendix H: Expert Panel Feedback Form

Expert Panel Feedback Form

Thank you for your willingness to be on the expert panel. This feedback is for a dissertation study on the development and initial pilot of an online modularized mental health intervention for pre-service teachers called Training In Mental health for Educators - Pre-Service Teachers (TIME-PT). The TIME-PT includes three modules on common mental health signs, mental health stigma and bias, pre-service teachers' role in mental health services for their future students, and resources.

Directions:
Please record your initials in parenthesis following each comment and provide feedback based on your area of expertise. For example, if your area of expertise is in methodology, please focus your feedback on the measures.

Items included in this review:
Training

- Journal Prompts
    - Participants are granted 5 minutes before (first two questions) and 5 minutes after (last two questions) each module to complete
- TIME-PT Common Mental Health Signs
    - Outlines module in the series
- TIME-PT Mental Health Stigma and Bias
    - Outlines module in the series
- TIME-PT Teacher's Role in Mental Health Supports
    - Outlines module in the series

Measures

- ECT
    - A mental health stigma pre- and post-measure designed as a knowledge test on mental illness.
- PAY Post-Survey
    - Completed at the end of the third TIME-PT module to assess mental health knowledge.
- PAY Pre-Survey
    - Completed prior to the TIME-PT to assess mental health knowledge and collect demographic information.
- Teacher Mental Health Vignette Scale - Anna
    - Completed at the end of the third TIME-PT module to assess the level of concern for the student in the vignette.
- Teacher Mental Health Vignette Scale - David
    - Completed at the end of the third TIME-PT module to assess the level of concern for the student in the vignette.
- URP-NEEDS Adapted

- Completed after each module to assess the usability (perceived understanding, feasibility, and applicability (i.e., willingness to change) of the TIME-PT.

Strengths	Areas for Improvement	Additional Comments
• Lesson plans look good • Lesson plans have good descriptions • The lesson plans have good descriptions for each component. • The content in the lesson plans are a gap needed for students • Journal prompts give good information. • Lesson plans are well designed, look good, & the content are needed for students		• No concerns with measures • The lesson plans have good descriptions for each component & fit well as an Articulate Rise presentation.

Appendix I: TIME-PT's "Mental Health Stigma & Bias" Module

Effect on Students

Click on the + markers below to explore different examples of Mental Health Stigma based on their academic level.

Effect on Students

Click on the + markers below to explore different examples of Mental Health Stigma based on their academic level.

Appendix J: TIME-PT's "Common Mental Health Signs" Module

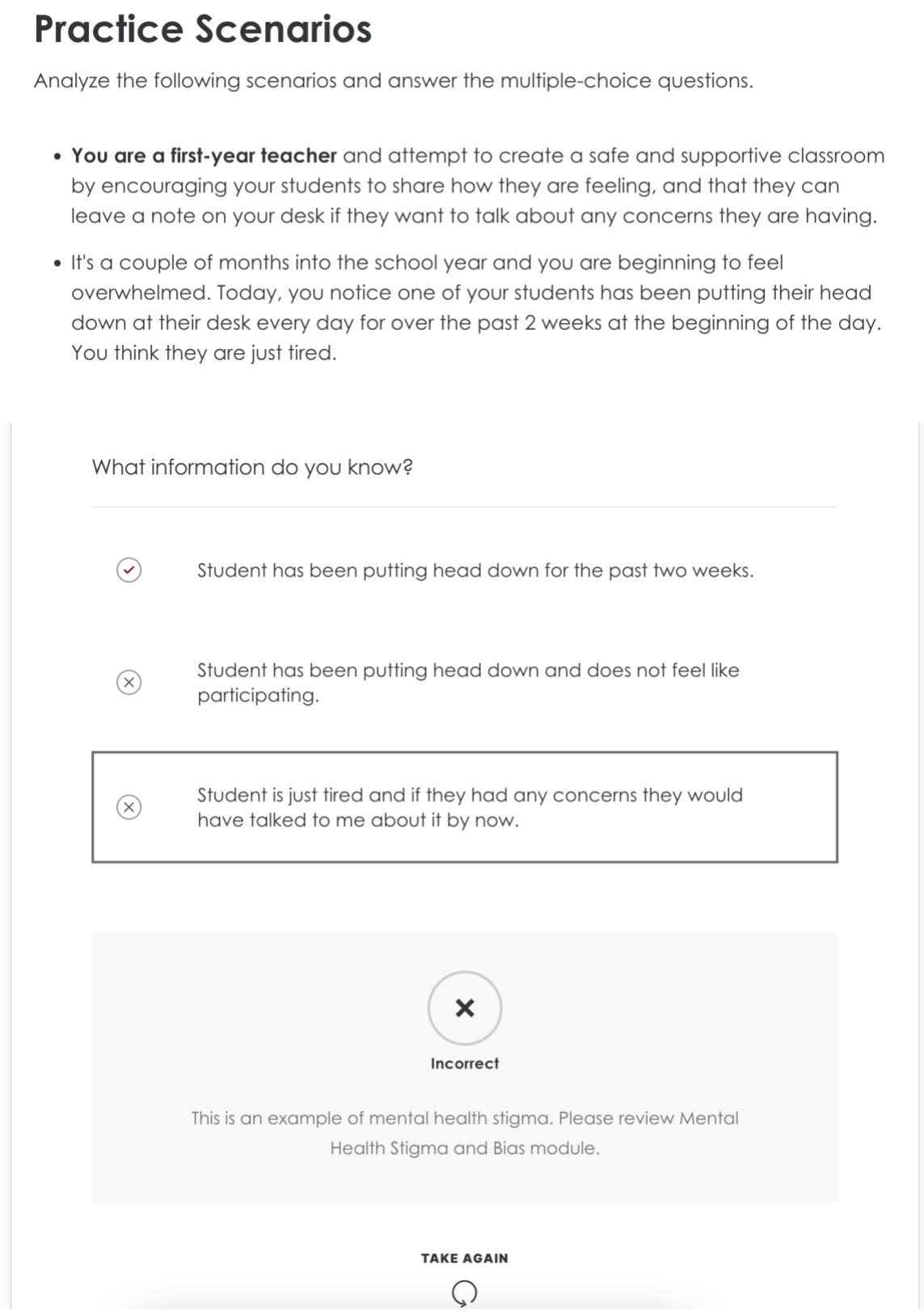
Research on Mental Health Signs among Youth

LACK OF RESPONSE TO MH

SCHOOL-BASED MH SERVICES

School-based mental health services have been shown **to enhance access to other services, assist in reducing the stigma of seeking help from formal sources, promote generalization and maintenance of treatment gains, improve school climate** by increasing the perceptions of support available to students and teachers, and promote a natural, ecologically grounded approach to helping children and families." (Lindsey et al., 2013)

Appendix K: TIME-PT's "Teacher's Role in Mental Health Support" Module



Appendix L: Teacher Mental Health Vignette Copyright Permissions

1 attachments (260 KB)
Teacher Mental Health Vignette Scale.pdf;

Hi Alexis,

Absolutely – you are welcome to use it! I attached a PDF version here, please let me know if I can send anything else that would be helpful.

Jen

From: Alexis Sanchez <asanchez14@usf.edu>
Sent: Thursday, March 10, 2022 1:47 PM
To: Green, Jennifer G. <jggreen@bu.edu>
Cc: Nathaniel von der Embse <natev@usf.edu>
Subject: Query about Teacher Mental Health Vignette Scale

Hello Dr. Jennifer Greif Green,

My name is Alexis Sanchez and I work under the advisement of Dr. Nate von der Embse with the school psychology graduate program at the University of South Florida. I am reaching out regarding your adapted measure, the *Teacher Mental Health Vignette Scale*, and wanted to see about the potential to use and cite the measure for the purposes of my dissertation. Please let me know if you want to discuss this further or have any questions.

Thank you for your consideration,
Alexis

Sincerely,

Alexis Sanchez, M.A.,

School Psychology Doctoral Candidate

Department of Educational and Psychological Studies

University of South Florida
Pronouns:they/them/theirs (What does this mean?)

Appendix M: Institutional Review Board (IRB) Letter

EXEMPT DETERMINATION

July 25, 2022

Alexis Sanchez
[redacted]

Dear Alexis Sanchez:

On 7/23/2022, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY004524
Review Type:	Exempt (2)(iii)
Title:	Development of Training In Mental health for Educators - Pre-service Teachers through a Pilot Study on Learning Outcomes
Funding:	None
Protocol:	• STUDY4524_DissertationIRB_Clean Copy 7-19-22.docx;

The IRB determined that this protocol meets the criteria for exemption from IRB review.

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

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about

whether these activities impact the exempt determination, please submit a new request to the IRB for a determination.

Sincerely,

Shanitra Butler
IRB Research Compliance Administrator