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Perceptions of Resilience-Informed Education in Postsecondary Instructors

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Perceptions of Resilience-Informed Education in Postsecondary Instructors

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by

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ABSTRACT

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Many studies have noted the detrimental impact adverse childhood experiences (ACEs) can have on individuals' developmental trajectories and, as a result, the utilization of trauma-informed practices has been of increasing interest within the field of education. Most research on trauma-informed pedagogy is derived from samples of children in grades K-12, whereas research on trauma-informed teaching practices within higher education is comparatively scarce. The specific aims of the current investigation are two-fold. The first aim is to explore the effect of postsecondary instructors' disciplinary specialization (i.e., person-thing orientation) on their receptivity to compassionate teaching practices. The second aim is to implement a brief (i.e., one hour, single session), asynchronous intervention to inform instructors about ACEs, subsequent effects on learning, and evidence-based, trauma-informed teaching practices. Results indicated that participants' thing-orientation scores negatively predicted their post-intervention receptivity scores and that there was a significant increase in knowledge about compassionate teaching practices from pre-assessment to post-assessment. Future studies should seek to replicate these findings and continue to identify factors that may influence one's receptivity to compassionate teaching practices.

DEDICATION

This dissertation is dedicated to all of the teachers whose endless dedication and passion have shaped me into the person I am today. Because of the unwavering support you have given me, I know anything is possible.

This dissertation is also dedicated to my grandpa Fred, one of my first and most influential teachers. I miss you more than I can put into words.

"Teaching is a radical act of hope."

– Steven Gannon

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Chapter 1. Introduction

There is considerable evidence within the developmental psychology and public health literatures that experiencing adversity in childhood has lasting deleterious effects on individuals' developmental trajectories. One conceptualization of early adversity, Adverse Childhood Experiences (ACEs), arose from collaborative research efforts between the Center for Disease Control (CDC) and Kaiser Permanente to assess the effect of early life experiences on later physical and emotional wellbeing (Felitti et al., 1998). This landmark study characterized childhood adversity as exposure to one or more types of abuse (physical, sexual, or emotional), neglect (emotional or physical), or household dysfunction (parental substance use, mental illness, or incarceration, or the witnessing of violence towards the mother). In this study, ACEs were found to be common, with about half of all participants reporting exposure to one ACE and about one-fourth of participants reporting exposure to two or more ACEs. More recently, an estimated 62% of adults reported at least one ACE, with about one-quarter of respondents reporting exposure to three or more ACEs (Merrick et al., 2018). A strong-dose response relationship has been found between ACEs exposure and mental and physical health problems later in life; that is, as the number of ACEs an individual has experienced increases, so does their risk for a multitude of health problems, including ischemic heart disease, chronic lung disease, cancer, depression, and suicidality (Felitti et al., 1998). However, the impact of early adversity is not limited to the individual who experiences it first-hand; in 1998, annual cost estimates attributed to ACEs within North America exceeded $748 billion ($1.2 trillion inflation-adjusted in 2021) and arose from the costs associated with loss of productivity in the workforce, disease burden, disability, premature death, incarceration, and related factors (Bellis et al., 1998).

As health care providers became increasingly aware of the impact of ACEs on developmental outcomes, a "trauma-informed" approach gained popularity as a means to view development and personal efficacy. This approach tasks individuals to view others through a "lens" of childhood adversity in which one's behavior is viewed in light of the "knowledge and understanding of trauma's far-reaching implications" (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014, p. 2). In addition, there was recognition that trauma-informed care could extend beyond the individual therapeutic setting (DeCandia & Guarino, 2015) and into the organizational setting. Although there is no globally-accepted set of practices or procedures tied to trauma-informed approaches, SAMHSA (2014) recommends adherence to six general trauma-informed principles for organizational settings: (1) all members within an organization should experience physical and psychological safety; (2) organizational operations should be conducted with transparency with the goal of establishing and maintaining trust among individuals within the organization; (3) systems of peer support should be established; (4) collaborative efforts should be in place within the organization so that everyone plays a role in organizational functioning; (5) power differentials should be recognized such that individuals' strengths and experiences are valued, and individuals should be given choice and shared decision-making capacities; and (6) the organization should be cognizant of cultural stereotypes and biases while also working to dismantle systemic stereotypy.

Additionally, SAMHSA's model (2014) holds that all individuals in any trauma-informed program, organization, or system should "realize the widespread impact of trauma and understand potential paths for recovery; recognize the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and respond by fully integrating knowledge about trauma into policies, procedures, and practices, and seek to actively resist re-

traumatization" (p. 9). Thus, to become trauma-informed, organizations need to promote efforts that are based on knowledge of trauma and the understanding of its far-reaching effects on those who have experienced it (SAMHSA, 2014).

A key feature of trauma-informed practice moves beyond simply knowing that trauma affects how humans develop into adults. Trauma-informed practice incorporates resilience-focused principles into the daily operations of organizations by taking action steps to improve individuals' outcomes in light of this knowledge (Leitch, 2017). Creating an environment that fosters resilience is a necessary part of trauma-informed practice as there are always opportunities to promote positive professional development among those who have experienced trauma (Bartlett & Steber, 2019). However, resilience does not solely reside within the individual (Masten, 1994), but is also largely determined by an individual's social supports (Resnick, 2000; Southwick et al., 2014). These social supports can act as protective factors that both minimize adverse outcomes among those who have experienced trauma and promote the efficacy of all those working toward achieving an organization's goals. Thus, not only does the presence of caring, stable, and responsive social supports serve as a protective factor for children (National Scientific Council on the Developing Child, 2014), they remain a protective factor throughout adulthood (Ozbay et al., 2008).

Resilience- and trauma- informed interventions have been found to greatly improve outcomes for individuals with trauma histories (DeCandia & Guarino, 2015; Purkey et al., 2018). For example, the use of trauma-informed care has been linked to increased responsivity to cognitive behavioral treatment among adults in correctional facilities (Miller & Najavits, 2012). As well, adolescent mothers who resided in a trauma-informed medical home experienced significant increases in prenatal appointment attendance coupled with a decreased prevalence of

low birthweights in their newborns (Ashby et al., 2019). Additionally, adolescents in a residential care facility who participated in a trauma-informed group treatment had marked improvements in anxiety and depressive symptoms, relationships with others, physical complaints, attention management and impulsivity, and engagement in risk behaviors (Habib et al., 2013). Within K-12 schools, trauma-informed care has been linked to increased student attendance and decreased discipline referrals (Dorado et al., 2016), as well as increased student concentration and decreased prevalence of externalizing behaviors (Holmes et al., 2015).

It may be thought that trauma-informed practices are only useful for those who have experienced trauma; however, because they promote resilience, they contain basic elements that promote the efficacy of all people. All humans have basic psychosocial needs, including security, belongingness, and the formation of meaningful relationships with others (Boyden, 1987, as cited in Resnick, 2000) and these needs directly align with many aspects of trauma-informed care. In the workplace, for example, all individuals can benefit from being a part of an organization that promotes physical and psychological safety, fosters trust, and values their unique strengths and experiences (e.g., Edmundson, 2018).

Trauma-Informed Perspectives in Education

Educational institutions are one type of workplace that can benefit from a trauma-informed lens, and they are also one of the most frequently studied (especially K-12 settings; e.g., Brunzell et al., 2015; Crosby et al., 2018; Minahan, 2019; Overstreet & Chafouleas, 2016). For example, training on trauma-informed practices has led to increased trauma awareness among public school educators (McIntyre et al., 2018). In addition, teachers who were exposed to a trauma-informed positive education model were better able to form substantive relationships with their students and incorporate practices in their classroom that increased psychological

wellbeing, like focusing on one's strengths and thinking in terms of a growth mindset (Brunzell et al., 2019). Even just making teachers aware of trauma improved their attitudes toward students as compared with teachers who received training that only focused on skill-building (e.g., helping families deal with trauma, responding to trauma-related behaviors in the classroom) or on skill building and self-reflection (e.g., examining one's own trauma history, focusing on self-care; Loomis & Felt, 2020).

Six pedagogical practices which align with SAMHSA's (2014) principles of trauma-informed care are captured in Wolpow et al.'s (2009) Compassionate Teaching model. According to this model, a teacher should:

1. Always empower, never disempower. Students affected by trauma can compete with teachers for power by arguing with their teacher, following instructions their own way or on their own time, or refusing to participate in classroom activities (Fescer, 2015). This reactivity occurs because students believe that controlling their environment is the key to safety (Craig, 1992). Teachers should not get into power struggles with students but should instead be consistent and respectful in their classroom management. This aligns with the SAMHSA (2014) principles of safety (Principle 1) and empowerment (Principle 5).
2. Provide unconditional positive regard. Students with trauma histories may not recognize that adults can consistently act with positive regard toward them. Thus, teachers should establish a sense of trust with students by displaying sustained and genuine kindness toward them. This aligns with SAMHSA (2014) principle of trust and transparency (Principle 2)

3. Maintain high expectations. Teachers must not lower their expectations for their students as this may also increase the student's perception of powerlessness and they may inadvertently feel as though their teacher has "given up" on them. This aligns with the SAMHSA (2014) principle of empowerment, voice, and choice (Principle 5).
4. Check assumptions, observe, and question. Teachers must recognize that trauma can affect any student and the effects of trauma can manifest itself in many ways (e.g., trauma should not only be considered in students who misbehave; trauma should also be a concern for a reserved and quiet student). This aligns with the 6th SAMHSA pillar of cultural, historical, and gender issues, as instructors may inadvertently make assumptions about students that need to be considered within these contexts.
5. Be a relationship coach. Children who have experienced trauma may have difficulties forming attachments (Herman, 1992, as cited in Wolpow et al., 2009) and teachers are in a unique position to model what stable relationships can look like. Herman (1992) emphasizes that educators do not only teach academic content but are inherently modeling social interactions for their students, and thus implicitly coaching them. This aligns with the SAMHSA (2014) principle of safety (Principle 1).
6. Provide guided opportunities for helpful participation. Educators should allow students the opportunity to engage in meaningful participation so that they can develop a sense of belonging. Interacting with others can provide a basis for social support in which to combat the feelings of isolation that often stem from trauma. This aligns with the SAMHSA (2014) principles of collaboration and mutuality (Principle 4) and empowerment, voice, and choice (Principle 5).

Although these pedagogical practices were designed to guide K-12 teachers in promoting resilience among students with trauma histories, it stands to reason that they would promote resilience among all students. All students can benefit from a teacher who is consistent, respectful, positive, and stable, and who holds high expectations of them while providing them with opportunities to increase feelings of belongingness within the classroom. Indeed, the National Scientific Council on the Developing Child (2014) identified a positive teacher-student relationship as a significant protective factor for all children.

Empirically, the use of trainings based on the Compassionate Teaching model has led to an increased awareness of trauma's impact on child development and the implementation of trauma-informed practices in school, but only in K-12 settings (Hertel et al., 2009). However, there is no reason to believe that students could not also benefit from compassionate teaching practices within the postsecondary educational setting. While there is no single agreed upon definition of effective college teaching, a number of pedagogical practices have been linked to improved student outcomes within the postsecondary setting and align with many of the principles in the Compassionate Teaching model (Wolpow et al., 2009). Although this model has not been empirically tested within the postsecondary setting per se, most of its principles have independent empirical support in postsecondary settings:

1. For example, college freshmen who were taught to take ownership of their needs (i.e., were encouraged to become empowered) had an improved self-esteem, sense of belonging, and ability to satisfy their needs; the authors suggest that empowerment may promote academic motivation and academic success, and thereby increase student retention rates (Burdenski & Faulkner, 2010).

2. Faculty often do not reflect on the impact their assumptions have on their own teaching due to lack of time (Lawler, 2003), but instructors' teaching methods are often "connected with their conceptions of teaching" (Lindblom-Ylanna et al., 2006, p. 285). Instructors' assumptions have been hypothesized to increase pressure on the instructors themselves because instructors can assume they are the sole transmitter of knowledge, and these assumptions undermine students' capabilities (Booke & Willment, 2018). Because becoming trauma-informed necessitates a perspective shift in which individuals change their fundamental question from "What's wrong with you?" to "What happened to you?" (Harper & Cromby, 2020), educators can shift their pedagogical assumption from "It's your responsibility to learn this" to "Let's work collaboratively on this," reflecting their ability to check their assumptions about others' behavior.
3. Setting high expectations for students is typically viewed as a characteristic of effective postsecondary teaching and research has found a link between demonstrated teaching ability (i.e., being part of a teaching academy at their university) and one's tendency to hold high expectations for their students (Carraway & Burris, 2017). To the best of my knowledge, only one study has empirically investigated the role of holding high expectations on student performance in postsecondary settings. In that study, it was reported that faculty who fail to uphold the principle of holding high expectations and fostering a sense of belonging within the classroom promote the idea to students that they have given up on the students and their learning, resulting in students' lowered self-esteem, disengagement from the material, and failure to complete the course (Hawk & Lyons, 2008).

4. Consistent with the principles of modeling positive relationships and possessing positive regard toward students, positive student-faculty interactions have been associated with increased student effort and engagement and a higher level of content acquisition (Pascarella & Terenzini, 2005).
5. Finally, the establishment of safe, supportive, and nonthreatening relationships that promote a sense of mutual belongingness among students and faculty has been considered an environment in which students learn best (Anderson & Carta-Falsa, 2002).

Compassionate Teaching Practices in Higher Education

Although the extant literature demonstrates the value of trauma-informed approaches in the context of K-12 education, its value in higher education contexts is less clear. As already noted, it stands to reason that many of the relationship-focused efforts that work in K-12 settings would also apply to higher education settings, especially because trauma histories are prevalent among college students. Roughly 56-64% of college students report at least one ACE and 12.4% report four or more ACEs (McGavock & Spratt, 2014; Windle et al., 2018); additionally, students may experience trauma while at college, emphasizing the saliency of trauma in higher education. Within the original ACEs study, about 60% of participants had exposure to at least one ACE and had some college experience; about 49% of participants had exposure to at least one ACE and were college graduates (Felitti et al., 1998). Exposure to ACEs may also partially determine which students are most likely to remain enrolled and to graduate on time. College students with high ACE scores are less likely to graduate from a post-secondary institution (Boden et al., 2007), perhaps because they experience more academic barriers as a result of family issues and health problems (Hinojosa, 2018) but also because they have worse mental

health outcomes than their peers without histories of ACEs (Karatekin, 2018). The widespread implementation of trauma-informed care can be a means of improving many metrics of success for universities by means of improving outcomes for students. Institution performance is often determined by student retention rates, graduation rates, enrollment numbers, and student course feedback (Coy et al., 2001). For universities to maintain and increase their performance in these areas, it may be in their best interests to identify and implement trauma-informed approaches (e.g., the Compassionate Teaching model: Wolpow et al., 2009) that promote positive interactions between students and faculty.

In addition, while stress is often perceived as a necessary and inevitable part of the college experience, the developmental impact of trauma can lead students with trauma histories to experience the typical stressors of college life differently than students without trauma histories (Davidson, 2017; Read et al., 2011). Childhood trauma disrupts individuals' developmental trajectories and these disruptions can be expected to impact performance in the college classroom. ACEs have been associated with deficits in emotional and cognitive skills, including memory (Irigaray et al., 2013; Majer et al., 2010), executive function (Ji & Wang, 2018; Petkus et al., 2018), and processing speed and attention (Petkus et al., 2018), all of which are skills necessary for college success.

On the other hand, when viewed from the perspective of promoting resilience, all students, no matter their exposure to ACEs, should benefit from attending institutions employing compassionate teaching practices (Davidson, 2017). The transition to college is a substantial source of stress (Shields, 2001), even for students without trauma histories. The American College Health Association (2019) reported that 34.2% of all college students reported that concurrent stress significantly affected their academic performance, with 45.3% of students

reporting more than average stress and 13.4% reporting tremendous stress within the previous 12-month period. When students' psychosocial needs are addressed through compassionate teaching practices, they may be able to have improved relationships, improved emotional and behavioral regulation, increased academic achievement, and improved physical and psychological well-being, which are indicative of college success and graduation (Davidson, 2017). As above, it would seem to be of interest, in the service of improving the academic success metrics of their students, for higher education institutions to promote compassionate teaching practices, regardless of students' trauma histories.

Barriers to Compassionate Teaching Practices in Higher Education

Although compassionate teaching practices would surely be valuable for students attending college or a university, educators may not always possess the knowledge, training, skills, or interest necessary to implement them (Cole et al., 2009). There may also be significant infrastructural challenges to implementing trauma-informed teaching practices within higher education that are not found in K-12 settings. First, faculty in higher education are often expected to balance the roles of instructor and researcher, so there may be less time available to learn about compassionate teaching. Similarly, in many institutional settings achieving tenure often requires university instructors to spend more time on research than on professional development in the area of teaching, although this time allotment can depend on one's institution, discipline, gender, or other factors (e.g., Milem et al., 2000; Winslow, 2010).

Second, because most postsecondary instructors receive little training in pedagogical methods or theory in the first place, especially when compared to primary and secondary instructors (Robinson & Hope, 2013), they may not have been exposed to educational systems that place value on pedagogical training. There is a common maxim that states that faculty tend

to “teach the way that they were taught” (Oleson & Hora, 2013) and faculty often note that their pedagogical methods mimic those of their own instructors (e.g., Mazur, 2009). Nevertheless, faculty also incorporate their own experiences into teaching practices (e.g., advice from a spouse ideas from observing colleagues teach; Oleson & Hora, 2013). This finding suggests that trainings, workshops, and other forms of professional development could be one avenue by which faculty obtain experiences that allow them to adapt their teaching (Oleson & Hora, 2013).

Third, institutions may themselves not see value in providing (or simply may not provide) the resources and time to support professional development in the area of pedagogy. The greatest barriers to course-level change have been instructor resources and time, and faculty have noted that they often felt they had little control over these areas (Sunal & Hodges, 1997, as cited in Sunal et al., 2001). Therefore, the pursuit of trainings, professional development opportunities, or other interventions aimed at providing postsecondary educators the skills necessary for engaging in compassionate teaching practices may not be prioritized and may even be resisted in the absence of sufficient institutional support.

Finally, changes in pedagogical practices necessitate taking risks (e.g., changing teaching practices does not guarantee improved student outcomes; Cohen, 1988), and the perceived costs of taking such risks may not outweigh the perceived benefits (e.g., Gibbs & Coffey, 2004). Unless a clear benefit of new practices can be seen, faculty may not buy-in to incorporating such practices. Ultimately, the widespread use of compassionate teaching practices will require faculty to see its value and display interest in adopting these practices.

Factors Potentially Impacting Receptiveness to Training in Compassion-Based Teaching

In addition to systemic/structural barriers to learning about and engaging in compassionate teaching practices, there may be individual differences in faculty receptivity to

compassionate teaching practices. One potential individual difference factor stems from the fact that faculty employed in higher educational settings hail from relatively heterogenous disciplinary/cultural traditions. The pedagogical views of faculty members might be expected to reflect these cultural traditions; and these traditions may in turn influence faculty knowledge of and interest in employing compassion-based teaching practices (cf. Laird et al., 2011). Having disparate views may also disparately impact faculty interest in and receptiveness to learning about compassionate teaching practices. Of course, one might expect such trainings to be most effective for faculty from disciplines that already value trauma-informed practices or who may be interested in implementing them (such as psychology, counseling, or social work), as compared with faculty who do not know of them or are not interested in incorporating them into the classroom. However, this remains an empirical question.

Thing-Orientation and People-Orientation

One broad brush with which to characterize "types" of faculty, and thus their potential receptivity to compassionate teaching practices, comes from Graziano et al. (2012), who suggested that disciplines can be characterized as being "thing-oriented" or "people-oriented." Faculty from people-oriented fields, such as education, the health professions, and the social sciences, may be more receptive to compassion-based teaching practices and may be more likely to implement them in their own teaching. Conversely, professionals from thing-oriented fields such as the physical and natural sciences and other STEM disciplines, or whose fields of study focus more on the physical environment (such as industrial/organizational psychology), may be less receptive to compassion-based teaching practices and may be less likely to incorporate them into their teaching. People in people-oriented fields may be more interested in how people relate to one another, while people in thing-oriented fields may be more interested in how physical

objects work (Graziano et al., 2012). In sum, faculty who emphasize interpersonal relations in their professional scholarly interests may be more receptive to learning about trauma informed practices in the classroom.

Although not unique to postsecondary educational settings, gender differences may also partially explain differences in receptiveness to and interest in learning about compassion-based teaching practices. Indeed, female faculty are more likely to use instructional practices that lead to improved student outcomes when compared to their male colleagues (Kuh et al., 2004). For example, Grasha (1994) found that female faculty were more likely to utilize a facilitator or delegator teaching style, which has the instructor acting as a guide or a resource as opposed to the sole transmitter of knowledge. Gender differences in teaching methods and outcomes have been found after controlling for class size, course level, professorial rank, and the gender ratio of faculty within the department an individual teaches in (Statham et al., 1991).

Disciplinary specialization is not independent of gender and many fields of study have stark differences in their gender composition. For example, the majority of degrees in many "people-oriented" majors, such as the health professions (~84%), education (~80%), psychology (~78%), English language and literature (~70%), and media and communications (~64%) were awarded to female students in 2016 (National Center for Education Statistics, 2016). In contrast, the majority of many students majoring in "thing-oriented" disciplines, such as engineering technologies (87.9%), computer and information science (81.3%), and engineering (79.1%), were conferred to male students in 2016 (Digest of Education Statistics, 2017). Researchers have also found that men and women choose college majors for different reasons. Malgwi et al. (2010), for example, found that although students frequently chose their major based on interest, the next most important factor was aptitude in the subject for women and potential for career

advancement for men, and these motivational differences may partly explain the overall differences in disciplinary choice. However, researchers have noted that group differences in personality between academic majors are not simple gender effects (Vedel et al., 2015); thus, it will be necessary to evaluate the relative contribution of each variable (i.e., discipline and gender) on study outcomes.

Variables not associated with academic discipline may also differentially affect faculty's receptiveness to implementing or learning about compassion-based teaching practices. As a group, older faculty may have less incentive for incorporating trauma-informed practices (Blackburn & Lawrence, 1986) and may even resist such change (Snyder, 2017). However, it has been noted that younger faculty and those who have been newly tenured tend to focus more on overall student development while faculty who are middle-aged and near retirement believe building rapport with students is especially important (Baldwin & Blackburn, 1981). Additionally, faculty's own experiences with trauma may impact their interest in and willingness to engage in compassionate teaching practices. Individuals with trauma histories have been found to have an increased desire to produce behavioral responses with the goal of helping others (Lim & DeSteno, 2016). Thus, faculty who have been exposed to ACEs may see more value in learning how to best support students who also have trauma histories when compared to faculty without ACEs histories.

One factor that cuts across the constructs of thing- versus people- orientation, gender, age, and trauma histories is empathy. In terms of disciplinary specialization, for example, Holland (1985, 1996) argues that individuals will flourish in their environment when there is a good fit between their empathic disposition and the characteristics of their environment (i.e., in this case, one's professional workplace). Thus, choice of professional discipline may be partially

driven by empathy. In support of this point, many studies have examined the relationship between college major and empathy, and students within the people-oriented fields, including the humanities, social, and life sciences, have been found to have higher levels of empathy than students in the physical sciences (Beauchamp & McKelvie, 2006; Billington et al., 2007; Harton & Lyons, 2003; Litten et al., 2017; Thomson et al., 2015). Assuming that faculty members pursue academic disciplines most aligned with their level of empathy, faculty in people-oriented fields might be expected to be more receptive to, and more likely to implement, compassion-based teaching practices.

Additionally, empathy has been associated with gender, as women have been found to possess higher levels of empathy than men (Willer et al., 2015). Differences in empathy as a result of gender differences may also partially explain differences in receptiveness to and interest in learning about compassion-based teaching practices. Meta-analyses on gender effects on empathy have supported the idea of small, but fairly stable differences between women and men (e.g., O'Brien et al., 2013, Thompson & Voyer, 2014; however, see Lamm et al., 2007 for conflicting results).

Although it was noted above that older faculty may see less value in changing their teaching strategies, increases in empathy have been associated with increases in age (Grühn et al., 2008; but also see Bailey & Henry, 2008, who reported that some forms of empathy decrease with age). However, it should be noted that age-related changes in empathy may also be partly associated with differences in education attainment (Phillips et al., 2002).

Previous life adversity has also predicted increases in empathy, compassion for others, and an increased desire to help others (Lim & DeSteno, 2016). Additionally, adults who have experienced childhood trauma have been found to possess higher levels of empathy when

compared to their peers without such histories, and that "empathy may be an 'end-product' of posttraumatic growth" (Greenberg et al., 2018, p. 8). Thus, faculty who have trauma histories themselves may be more inclined to learn about and implement teaching methods that promote positive development within all students and especially those with trauma histories.

Current Study

In sum, there are many barriers to the implementation of compassion-based teaching practices within higher education: (1) lack of faculty time and resources necessary to implement such practices, (2) lack of faculty training on the topic, (3) faculty need to focus on the balance between teaching and research, (4) faculty hesitance to take risks in manipulating their pedagogical techniques, and (5) lack of institutional support for compassionate teaching practices.

However, institutional climate changes taking place at East Tennessee State University (ETSU) may provide a unique opportunity to overcome some or all of these barriers in order to provide a positive working and learning environment for students and staff. In particular, ETSU founded a new agency designed to promote campus-wide acceptance of a trauma-focused lens. The ETSU Ballad Health Strong BRAIN [Building Resilience through ACEs-Informed Networking] Institute (SBI) was established to promote and disseminate evidence-based practices that prevent, reduce, or mitigate the effects of ACEs and to promote a trauma-informed citizenry in the Appalachian highlands region. One goal of the SBI is to promote resilience-informed teaching practices and to scientifically identify factors that influence large-scale implementation of resilience-informed teaching practices.

In an effort to further the mission of the SBI, the specific aims of the current investigation are two-fold. The first aim is to explore the effect of postsecondary instructors' disciplinary

specialization (i.e., person-thing orientation) on their receptivity to compassionate teaching practices. Within the context of the present study, receptivity is operationalized as the value participants place in each of the aforementioned compassionate teaching practices. The second aim is to determine whether a psychoeducational training focused on promoting resilience can influence receptivity to compassionate teaching practices. Based on the literature reviewed above, I propose the following hypothesis:

- H: After controlling for participants' ACEs scores, age, empathy scores, gender, and knowledge of compassionate teaching practices, participants' thing-orientation and people-orientation will significantly predict the growth of their receptivity to compassionate teaching practices from pre-assessment to post-assessment. Participants high in people-orientation will have higher rates of receptivity growth from pre-assessment to post-assessment when compared to participants low in people-orientation. Similarly, participants high in thing-orientation may have lower rates of receptivity growth from pre-assessment to post-assessment when compared to participants low in thing-orientation. However, it may be possible that participants with high orientation scores in general (i.e., thing and/or people-orientation) may have greater rates of receptivity growth from pre-assessment to post-assessment when compared to participants with low orientation scores in general. This may indicate an overall interest in novel concepts and a willingness to engage in new experiences.

Chapter 2. Methods

Participants

Participants for the present investigation were faculty and graduate student instructors from East Tennessee State University. SBI faculty were not eligible to complete the present study. Addtionally, faculty at ETSU's Bill Gatton College of Pharmacy were not eligible to complete the present study as they were participating in another ACEs-related SBI study at time of data collection. All other eligible faculty and graduate students with teaching responsibilities were recruited through personal invitation, a notice sent from the Provost's office, and an announcement in a weekly email sent by the President of the university's office. Study data was collected and managed using REDCap electronic data capture tools (Harris et al., 2019; Harris et al., 2009) hosted at East Tennessee State University. The data collection period was approximately five weeks long; the first suvey invitations were sent on May 12th, 2021 and study closure occurred on June 18th, 2021.

Materials and Tasks

This study utilized a pre-/post-assessment design alongside an approximately 75- minute long asynchronous recorded intervention. The pretest assessed participants' demographics, person orientation-thing orientation, ACEs scores, empathy, and views on compassionate teaching practices. The post-test assessed participants' empathy and views on compassionate teaching practices.

Participant Surveys: Pre-Assessment

Demographics

Participant demographics, including age, gender identity, and years teaching at college level were assessed. Two items from the Organizational Trauma Resilience Assessment – Higher Education Version (Clements, n.d) were used to assess prior usage of trauma-informed care in participants day-to-day work and personal lives.

Person-Orientation/Thing-Orientation

Participants' person- and thing-orientations were measured using Graziano et al.'s (2011) Person Orientation-Thing Orientation scale. This scale includes 13 items, 8 of which assess participants' person-orientation and 5 of which assess participants' thing-orientation. This measure asks participants to indicate how interested they would be in a series of statements (e.g., "Make the first attempt to meet a new neighbor" for people-orientation; "Redesign and install a stereo sound system yourself" for thing-orientation) using a 5-point Likert scale (1 = Not at all [interested]", 5 = "Extremely [interested]"). In this scale, thing-orientation and people-orientation are treated as separate constructs rather than bipolar aspects of a single dimension (Graziano et al., 2011); therefore, each participant received a separate, averaged score for the each dimension. Participant scores could range from 1 to 5 for each dimension.

Adverse Childhood Experiences Scale

Participants' ACEs scores were measured using pertinent items from the Health-Resiliency-Stress Questionnaire (HRSQ; Wiet et al., 2016). This measure asks participants about the same experiences as the original ACEs study (Felitti et al., 1998), but also includes expanded items that reflect community-level adversity (e.g., experiencing discrimination or neighborhood violence). This measure asks participants to indicate their exposure to 14 ACEs, with a score of 1

meaning they had experienced that ACE and a score of 0 meaning they had not been exposed to that ACE. Participant scores could range from 0 to 14.

Traditional Masculinity and Femininity Scale

Gender identity was assessed using the Traditional Masculinity and Femininity Scale (TMF Scale; Kachel et al., 2016), a 6-item scale that measures self-ascribed masculinity and femininity. Participants indicated how masculine or feminine they attribute to themselves in a series of statements (e.g., "Traditionally, my interests would be considered…" and "Ideally, I would like to be…") using a six-point Likert scale (1 = very masculine, 5 = very feminine). Scores were on a continuous scale and were averaged to quantify participants' mean gender identity where higher scores indicated more feminine gender identity. Participant scores could range from 1 (very masculine) to 6 (very feminine).

Basic Empathy Scale for Adults

Empathy was assessed using the Basic Empathy Scale in Adults (BES-A; Carré et al., 2013), a 20-item measure that evaluates cognitive (i.e., the ability to understand another person's affective state) and affective empathy (i.e., the ability to experience appropriate emotional states in relation to others' experiences). Participants indicate how much they agree with each item (e.g., "My friends' emotions don't affect me much.") using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Participants' scores on cognitive empathy and affective empathy were combined into a single, summed empathy score and could range from 20 to 100.

Knowledge about Compassionate Teaching Practices

Knowledge about Compassionate Teaching was assessed using a combination of items from the Trauma-Informed Care in a Community College Survey (TIC-CCS; Doughty, 2018) and a series of new items developed for this study to assess overall familiarity with terms (e.g.,

trauma-informed care and adverse childhood experiences). Participants indicate how much they agree with each of the 11 items (e.g., "I use trauma informed practice in my day-to-day work.") using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Participant knowledge scores were summed and could range from 11 to 55.

Receptivity to Compassionate Teaching Practices

Receptivity to Compassionate Teaching Practices was assessed using an 18-item scale designed for this study. Of these items, 12 were designed to reflect Wolpow's (2009) Compassionate Teaching Practices while the remaining 8 items were designed to assess overall interest in improving one's teaching and overall interest in teaching. Participants indicate how much they agree with each item (e.g., "I am interested in how to improve my teaching.") using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Participant receptivity scores were also summed. Two other items were asked to determine whether participants' reason(s) to enter academia were based in teaching or in the ability to be a part of a research-based community. Thus, for the 20 items, scores could range from 20 to 100.

Intervention

The intervention utilized a modified version of the reflective tree metaphor from Mom Power, a program that provides support to families and their young children, modified for higher education instructors (Morelen, 2020; Rosenblum et al., 2017). The content of the intervention video included a brief introduction to ACEs, brain development, and the impact of trauma on learning, as well as an extended description of the utility of reflection in personal relationships in the context of the Compassionate Teaching Practices model (Wolpow et al., 2009) and the SAMHSA resilience pillars. See Appendix E for the alignment of the elements of the

compassionate teaching model with the SAMHSA pillars and training elements in the intervention video.

This intervention heavily relied on the use of metaphors and illustrations to convey the core underpinnings of compassionate teaching practices:

Metaphor of Background Music

The metaphor of "background music" is a means of capturing the valence of individuals' previous and on-going emotion-laden experiences. Individuals' perceptions of their current environments are influenced by the extent to which they_have had or are currently undergoing emotionally negative or positive experiences. If someone has had adverse or traumatic experiences, they may have "scary background music" which can cause feelings of stress or anxiety. Conversely, someone who has had positive experiences may have more pleasant background music and they may experience their current environment more positively.

Metaphor of the Black Box

In the training, a "black box" image is used to capture the idea that ACEs, which are the contents inside the black box, are the source of a multitude of negative, long-term health outcomes, including most major physical and mental health problems that individuals face. The "contents" of the black box are also responsible for risky sexual behaviors and substance abuse, and are a cause of learning problems, higher dropout rates, financial problems, and lower educational attainment.

Metaphor of the Trauma-Informed Lens

The metaphor of the trauma-informed lens is paired with the black box metaphor and is described as an essential tool to help promote resilience in all individuals, promote student retention, increase higher graduation rates and occupational success, healthy relationships, and

improved physical and mental health and well-being. When one observes one's colleagues and others around them through a trauma-informed lens, one views others' behaviors in light of the "knowledge and understanding of trauma's far-reaching implications" (SAMHSA, 2014, p. 2).

The "Flipping Your Lid" Demonstration

The "flipping your lid" metaphor uses the hand model of the brain (Siegel, 2012, p. 286) in which the wrist represents the brain stem, the thumb the limbic system, and the fingers folded over the thumb represent the neocortex. When the neocortex becomes flooded during times of stress, it may become ineffective at performing higher level functions, causing individuals to "flip their lid" (Siegel, 2012, p. 286). Within this metaphor, "flipping your lid" is visually represented when the fingers become outstretched, leaving the lower parts of the brain (i.e., the brain stem and limbic system represented by the thumb) to control behavior. This may cause individuals to become emotionally driven and act destructively.

Metaphor of the Reflective Tree

The reflective tree metaphor characterizes the dynamics of how individuals learn and grow, and cultivate and maintain relationships. The branches of the tree represent all humans' basic needs for exploration; when individuals are "in the branches," they are open to learning, receiving feedback from others, and trying new things. The roots of the tree represent the need to reflect, regulate, and repair relationships with others and may occur after a loss, the perception of danger, or some other source of stress; when individuals are "in the roots," they withdraw, self-protect, and become wary of their surroundings. The reflective tree is one way in which to foster healthy relationships with others and promote resilience in all individuals.

Participant Surveys: Post-Assessment

The post-assessment re-assessed participants' empathy and views on compassionate teaching practices and occurred approximately one week upon completion of the intervention.

REDCap Structure

All study tasks occurred within the REDCap survey software (Harris et al., 2019; Harris et al., 2009). Once particpants consented to participate in the study, they were immediately able to begin the pre-assessment surveys. Upon completing the final pre-assessment survey (i.e., the Receptivity to Compassionate Teaching Practices survey), participants were directed, within REDCap, to a new page with instructions to watch the linked intervention video. They were also directed to use the "Save and Return" button at the bottom of the screen if they were unable to watch the video in one sitting. This procedure allowed participants to enter their email so that they could be sent a return link needed to continue to watch the video. Once participants finished watching the video, REDCap directed them to a new page and asked them to indicate whether or not they watched the video. If they indicated "Yes," and submitted the survey, they were given a notice that said they would receive a follow-up email in one week with further instrutions on how to complete the post-assessment surveys. Participants were also given phone numbers to a crisis hotline, the National Alliance on Mental Illness, and the ETSU Counseling Center. One week after indicating they viewed the video, particpants were sent an automated email from REDCap with the post-assessment survey link.

Chapter 3. Results

Descriptive Statistics

Sixty-one individuals completed the informed consent and screener questions for this study, although only nineteen participants completed all study components. All data visualization and statistical analyses described below were completed using JASP (v. 0.14.1; JASP Team, 2020). Completers were defined as those who completed both the pre- and post-assessment surveys and viewed the intervention video, while noncompleters were defined as those who did not complete one or both of the surveys or did not view the intervention video. Descriptive statistics for the predictor and outcome variables for both completers and noncompleters are presented in Table 1 and descriptive statistics for both groups combined are presented in Table 2. Descriptive statistics for completers' and noncompleters' survey-based items are presented in Table 3. Pearson's correlations for predictor and outcome variables are presented in Table 4 for descriptive purposes but will be discussed in greater depth later.

Table 1

Participant Demographics: Comparing Completers and Noncompleters

	Completers						Noncompleters					
	N	Percent	Min	Max	*M*	*SD*	*N*	Percent	Min	Max	*M*	*SD*
Age	19	100	26	74	44.11	14.17	37	100	31	77	48.46	12.61
Gender Identity	19	100					37	100				
Female	14	73.68					21	56.76				
Male	4	21.05					16	43.24				
Other	1	5.26					0	0				
Sexual Orientation	19	100					38	100				
Heterosexual	15	78.95					33	86.84				
Gay or Lesbian	0	0					2	5.26				
Bisexual	2	10.53					3	7.89				
Other	1	5.26					0	0				
Prefer Not to Say	1	5.26					0	0				
Race/Ethnicity	19	100					38	100				
Caucasian	16	84.21					35	92.11				
Black (Not Hispanic)	1	5.30					1	2.63				
Asian/Pacific Islander	1	5.30					2	5.26				
Other	1	5.30					0	0				
Current Position	19	100					37	100				
Graduate Student	4	21.05					1	2.70				
Lecturer	1	5.26					8	21.62				

Assistant Professor	5	26.32					9	24.32				
Associate Professor	6	31.58					6	16.21				
Full Professor	3	15.79					13	35.14				
Years of Collegiate Teaching	19	100	1	40	9.74	10.38	37	100	1	44	14.19	12.60
≤ 5	9	42.11					13	35.14				
6-10	4	21.10					6	16.21				
11-15	2	10.53					3	8.11				
16+	4	21.10					15	40.54				

Table 2

All Participant Demographics

	N	Percent	Min	Max	*M*	*SD*
Age	61	100	26	77	46.29	13.39
Gender Identity	56					
Female	35	62.50				
Male	20	35.72				
Other	1	1.79				
Sexual Orientation	57	100				
Heterosexual	48	84.21				
Gay or Lesbian	2	3.51				
Bisexual	5	8.77				
Other	1	1.75				
Prefer Not to Say	1	1.75				
Race/Ethnicity	57	100				
Caucasian	51	89.47				
Black (Not Hispanic)	2	3.51				
Asian/Pacific Islander	3	5.26				
Other	1	1.75				
Current Position	56	100				
Graduate Student	5	8.93				
Lecturer	9	16.07				
Assistant Professor	14	25.00				
Associate Professor	12	21.43				
Full Professor	16	28.57				
Years of Collegiate Teaching	56	100	1	44	11.97	11.49
≤ 5	22	39.29				

6-10	10	17.86
11-15	5	8.93
16+	19	33.93

Table 3

Descriptive Statistics for Completers' and Noncompleters' Survey-Based Items

	Completers						Noncompleters					
	N	Percent	Min	Max	*M*	*SD*	N	Percent	Min	Max	*M*	*SD*
Person Orientation Score Average	19	100	2	4.38	3.13	0.60	32	100	2.13	4.25	3.42	0.54
Thing Orientation Score Average	19	100	1	5	2.27	1.19	33	100	1.00	4.80	2.81	1.12
ACE Score	19	100	0	10	4.26	2.74	32	100	0	8	2.78	2.49
0	2	10.53					7					
1	1	5.26					5					
2	2	10.53					5					
3	3	15.79					5					
4	2	10.53					3					
5	3	15.79					1					
6	3	15.79					1					
7	1	5.26					4					
8	0	0					1					
9	1	5.26					0					
10	1	5.26					0					
11+	0	0					0					
Mean Traditional Masculinity and Femininity Score	19	100	1.83	7	4.68	1.25	34	100	1.50	6.20	3.93	1.38
Empathy Score												
Pre-assessment	19	100	52	64	60.47	3.42	32	100	54	71	61.65	4.06
Post-assessment	19	100	54	67	59.89	3.80			N/A	N/A	N/A	N/A
Knowledge of CTP Score												
Pre-assessment	19	100	14	46	35.26	8.85	31	100	19	55	37.71	9.73
Post-assessment	19	100	26	54	41.63	7.98			N/A	N/A	N/A	N/A
Receptivity to CTP Score												
Pre-assessment	19	100	64	88	77.26	8.04	31	100	64	89	78.77	6.53
Post-assessment	19	100	66	88	78.94	7.00			N/A	N/A	N/A	N/A

Table 4

Pearson's Correlations

		ΔKnowledge	ΔReceptivity	ΔEmpathy	TMF Average	People-Orientation Average	Thing-Orientation Average	ACEs	Age
ΔKnowledge	r	--							
	p	--							
ΔReceptivity	r	0.255	--						
	p	0.293	--						
ΔEmpathy	r	-0.133	0.175	--					
	p	0.587	0.474	--					
TMF Average	r	0.01	-0.303	-0.276	--				
	p	0.961	0.207	0.253	--				
People-Orientation	r	-0.265	-0.189	0.022	0.058	--			
	p	0.273	0.438	0.926	0.813	--			
Thing-Orientation	r	-0.121	0.010	0.510	-0.806	-0.140	--		
	p	0.620	0.698	0.026*	<.001**	0.567	--		
ACEs	r	0.210	-0.054	0.189	0.307	0.372	-0.238	--	
	p	0.389	0.828	0.438	0.202	0.117	0.326	--	
Age	r	-0.402	-0.225	-0.086	-0.172	0.243	-0.03	-0.356	--
	p	0.089	0.353	0.723	0.480	0.315	0.900	0.134	--

Note: *$p < .05$, ** $p < .001$

Intervention Evaluation

Descriptive statistics for the three training video evaluation items are presented in Table 5. On average, participants noted that the training was helpful (M = 4.00, SD = 0.87), that they learned something new from the training (M = 3.94, SD = 0.83), and were confident in their ability to implement some of the ideas and practices from the training (M = 4.00, SD = 0.61). Recall that a score of "4" on the evaluation form corresponded to a rating of "Agree" on a 5-point Likert scale where 1 = "Strongly Disagree" and 5 = "Strongly Agree."

Table 5

Descriptives for Training Video Evaluation

	N	Percent	Min	Max	*M*	*SD*
Item						
"I found this training to be helpful."	19	100	2	5	4.00	0.82
"I learned something new in this training."	19	100	2	5	3.94	0.78
"I feel confident in my ability to implement some of the ideas and practices discussed in the training."	19	100	3	5	4.00	0.57

Inferential Statistics

Power Analysis

In order to conduct inferential statistics to evaluate the research hypothesis, an a priori power analysis was conducted using G*Power (version 3.1.9.6; Faul & Erdfelder, 1992). To detect a large effect size ($f^2 \geq 0.35$) within the planned multiple regression, a sample size of 70 participants would be needed to reach statistical significance at the $\alpha = 0.05$. Thus, the obtained sample size fell far short of the minimum required to maximize the probability of detecting even a large effect.

Multiple Regression

To evaluate the primary hypothesis, a multiple regression analysis was used to predict the change in participant receptivity to compassionate teaching practices, pre- to post- intervention, from their thing-orientation and people-orientation after controlling for their ACEs, age, empathy, gender, and knowledge of compassionate teaching practices. This regression is symbolized by the model:

$$\Delta\hat{y} = \beta_0 + \beta_1(TO) + \beta_2(PO) \sim [\beta_3(ACEs) + \beta_4(Age) + \beta_6(TMF) + \beta_5(Empathy_{Pre}) + \beta_7(Knowledge_{Pre})] + \epsilon$$

Where $\Delta\hat{y}$ = change in receptivity from pre- to post- assessment, TO = average thing-orientation score, PO = average people-orientation score, ACEs = summed participant Adverse Childhood Experiences score, Age = participant age in years, TMF = average participant scores on the Traditional Masculinity and Femininity Scale, $Empathy_{Pre}$ = summed pre-assessment empathy score, and $Knowledge_{Pre}$ = summed pre-assessment knowledge score.

Prior to conducting a regression analysis, it is considered a best practice to check for outliers and for the assumptions of normality, linearity, homoscedasticity, and multicollinearity. Two variables, TMF and $Empathy_{Pre}$, had three and two outliers, respectively (operationalized as values that were at least +/- 1.5 standard deviations beyond the mean), as assessed by boxplot. However, these values were appropriate for the data (i.e., they were possible values rather than data entry errors, for example) and were kept in the dataset. Normality and linearity were both assessed via Q-Q plot (Figure 1). Normality could not be assumed as the majority of points do not touch the line. To further assess this finding, a Shapiro-Wilk test was conducted and Thing-Orientation and $Empathy_{Pre}$ were found to be non-normally distributed ($p < .05$; Table 6).

Figure 1
Q-Q Plot of Standardized Residuals

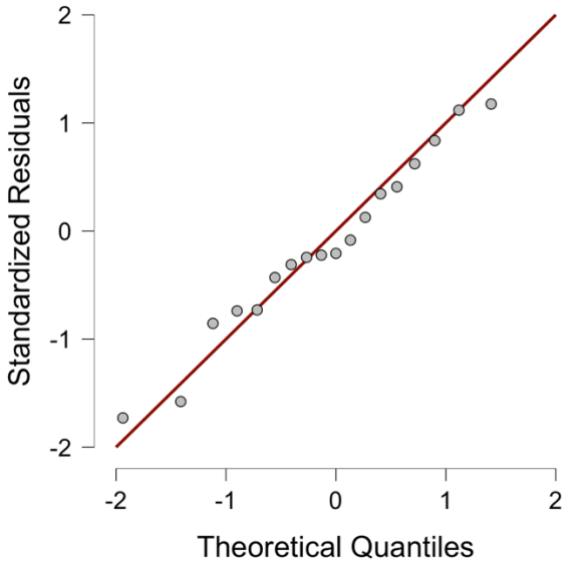


Table 6
Shapiro-Wilk Test for Model Variables

	Shapiro-Wilk	P-value of Shapiro-Wilk
Age	0.936	0.23
Person-Orientation Average	0.980	0.59
Thing-Orientation Average	0.898	0.04*
Mean Traditional Masculinity and Femininity Score	0.965	0.68
ACEs	0.967	0.72
$Empathy_{Pre}$	0.84	0.004*
$Knowledge_{Pre}$	0.94	0.23
ΔReceptivity	0.981	0.95

Note: *$p < .05$

Homoscedasticity was assessed via a plot of actual versus predicted residuals (Figure 2). Because there is a seemingly random distribution of residuals along the baseline (i.e., the absence of clear funneling), homoscedasticity can be confirmed. Finally, independence of observations was confirmed via the Durbin-Watson statistic (Table 7) as the model's value was between the values of 1.5 and 2.5. Finally, the Variance Inflation Factor (VIF) did not suggest that there was an issue of multicollinearity in either model, as all values were well below the suggested threshold of 10 and all tolerance values were greater than 0.2 (Table 9).

Figure 2

Actual Versus Predicted Residuals

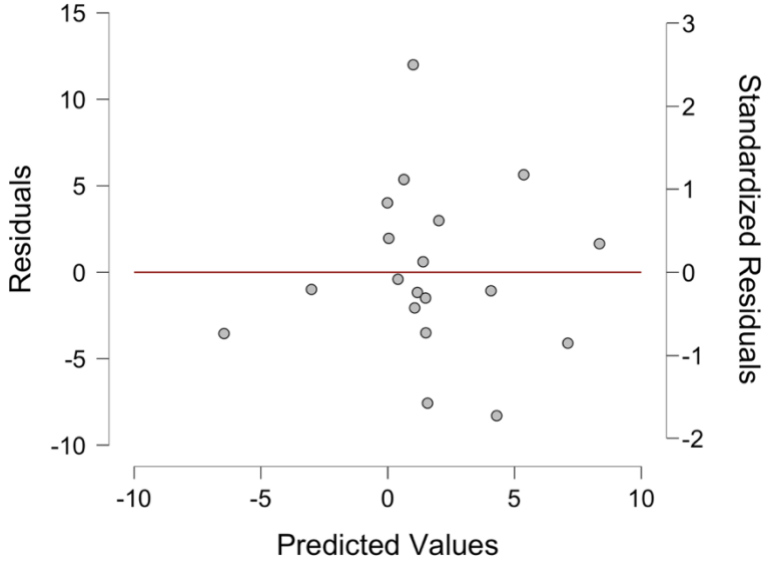


Table 7

Model Summary

	R	R^2	Adjusted R^2	RMSE	Durbin-Watson Autocorrelation	Durbin-Watson Statistic	Durbin-Watson p
H_1	0.57	0.32	-0.11	6.14	0.07	1.79	0.68

Table 8
ANOVA Summary

	Sum of Squares	df	*Mean Square*	*F*	p
Regression	197.78	7	28.25	0.75	0.63
Residual	414.78	11	37.67		
Total	612.11	18			

Table 9
Coefficients Summary

						Collinearity Statistics	
	B	*SE B*	β	*t*	*p*	Tolerance	VIF
(Intercept)	50.66	34.95		1.45	0.18		
Age	-0.17	0.13	-.41	-1.29	0.22	0.61	1.64
TMF Average	-3.95	2.34	-0.85	-1.69	0.12	0.24	4.09
ACEs Score	-0.06	0.70	-0.03	-0.08	0.94	0.55	1.80
$Knowledge_{Pre}$	-0.02	0.22	-0.03	-0.08	0.94	0.94	0.53
$Empathy_{Pre}$	-0.19	0.46	-0.11	-0.41	0.69	0.85	1.18
Thing – Orientation Score	-3.21	2.39	-0.65	-1.34	0.21	0.26	3.84
People – Orientation Score	-1.10	3.09	-0.09	-011	0.36	0.73	0.60

To get to the main analysis of interest, multiple regression analysis was used to predict change in participant receptivity to compassionate teaching practices, pre- to post- intervention, from their thing-orientation and people-orientation after controlling for their ACEs, age, gender, pre-assessment empathy scores, and pre-assessment knowledge of compassionate teaching practices. The null model failed to be rejected in explaining change in receptivity to compassionate teaching practices scores, $F(7,11) = 0.75$, $p = 0.64$, with an adjusted R^2 of -0.11 (Tables 7-8). Additionally, none of the individual coefficients were significant predictors of change in receptivity (Table 9).

Post Hoc Analyses

A series of post hoc analyses were conducted to investigate other possible effects of interest. The main hypothesis was that participants' thing- and people-orientations would predict their receptivity growth from pre- to post-assessment. Although the main analyses were nonsignificant, the next step was to assess two assumptions made throughout the study. (Note that all the following post hoc analyses were exploratory and thus have not been corrected for experiment-wise error.)

Implicit Hypotheses: Tests of Assumptions

Two assumptions were made throughout the present study. It was assumed that knowledge of and receptivity to compassionate teaching practices would significantly increase from pre-assessment to post-assessment. To determine if this was the case, two paired samples t-tests were conducted. The difference between pre- and post-intervention receptivity to trauma-informed teaching practices scores was nonsignificant, $t(18) = -1.26$, $p = .22$. However, there was a highly significant difference in the pre- and post-assessment knowledge of compassionate teaching practices, $t(18) = -5.41$, $p < .001$, suggesting that participants learned about compassionate teaching practices as a result of the intervention.

Multiple Regression: Pre-Assessment

It was also of interest to see whether or not participants' thing- and people-orientation scores predicted their receptivity to compassionate teaching practices pre-assessment. Even if participants' change in receptivity scores as a result from the training could not be significantly predicted by their orientation scores, it may be that their orientation scores could predict their

pre-assessment receptivity scores. If the training itself did not impact participants' *change* in receptivity to compassionate teaching practices, perhaps their thing- or person-orientation scores would still have an effect on their *initial* receptivity to said practices.

Thus, in a second multiple regression analysis using data from both completers and noncompleters, participant pre-intervention receptivity to compassionate teaching practices was regressed on their thing-orientation and people-orientation after controlling for their ACEs scores, age, empathy, gender, and knowledge of compassionate teaching practices. This regression was the same as the previous one but used the pre-intervention measure of receptivity instead of the change in receptivity as the outcome measure. Given that this sample was substantively different than in the previous analysis, I once again checked for the presence of outliers and for the assumptions of normality, linearity, homoscedasticity, and multicollinearity in this regression's new variables. No new outliers were found. Normality and linearity were both assessed via Q-Q plot (Figure 3), which demonstrated a slight skew of the data. Additionally, normality could not be assumed as the majority of points do not touch the line. A Shapiro-Wilk test was conducted and no new variables were found to be non-normally distributed. Homoscedasticity was assessed via a plot of actual versus predicted residuals (Figure 4). Because there is a seemingly random distribution of residuals along the baseline (i.e., the absence of clear funneling), homoscedasticity can be assumed. Furthermore, the VIF did not suggest that there was an issue of multicollinearity in either model, as all values were well below the suggested threshold of 10 and all tolerance values were greater than 0.2 (Table 13). Finally, independence of observations was confirmed via the Durbin-Watson statistic (Table 10) as the model's value was between the values of 1.5 and 2.5.

Figure 3

Actual Versus Predicted Residuals: Pre-Assessment

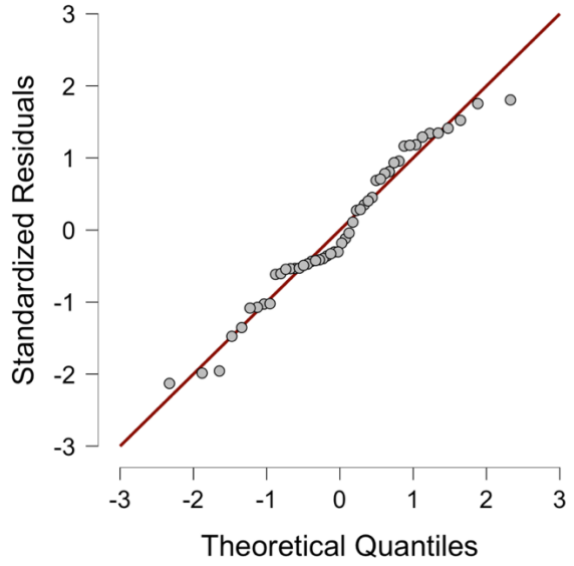
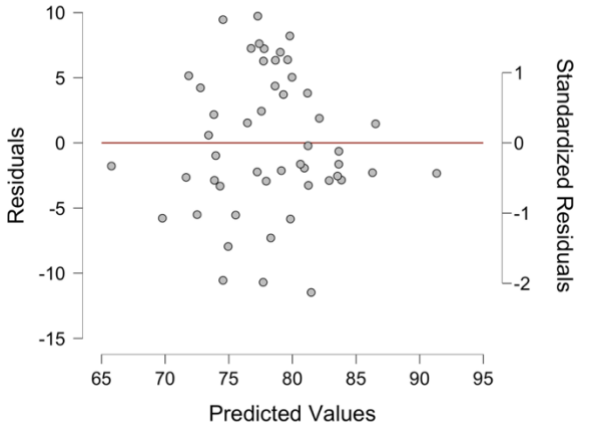


Figure 4

Actual Vs. Predicted Residuals: Pre-Assessment



The present model rejected the null in explaining pre-assessment receptivity to compassionate teaching practices [$F(6,49) = 5.27$, $p < .001$, adjusted $R^2 = 0.34$; Tables 10-11]. $\text{Empathy}_{\text{Pre}}$ ($B = 0.64$, $p < 0.01$), person-orientation average ($B = 3.81$, $p = 0.01$), TMF average ($B = 1.70$, $p = 0.04$), and age ($B = 0.18$, $p = 0.01$) were all significant predictors of pre-assessment receptivity to compassionate teaching practices (Tables 11-13).

Table 10

Shapiro-Wilk Test for Model Variables: Pre-Assessment

	Shapiro-Wilk	P-value of Shapiro-Wilk
Pre-Empathy	0.84	0.004**
Pre-Receptivity	0.90	0.06
Pre-Knowledge	0.94	0.23

Note: ***p <.01*

Table 11

Model Summary: Pre-Assessment

					Durbin-Watson	
R	R^2	Adjusted R^2	RMSE	Autocorrelation	Statistic	*p*
0.65	0.42	0.34	5.75	-0.07	2.14	0.64

Table 12

ANOVA Summary: Pre-Assessment

	Sum of Squares	df	*Mean Square*	*F*	*p*
Regression	1046.65	6	174.44	5.27	<.001
Residual	1423.35	43	33.10		
Total	2470.00	49			

Table 13

Coefficients Summary: Pre-Assessment

						Collinearity Statistics	
	B	*SE B*	*β*	*t*	*p*	Tolerance	VIF
(Intercept)	7.52	14.82		0.51	0.61		
Age	0.18	0.07	0.33	2.56	0.01*	0.81	1.24
TMF Average	1.70	0.79	0.33	2.16	0.04	0.57	1.76
ACEs Score	0.43	0.33	0.16	1.30	0.20	0.86	1.16
$Knowledge_{Pre}$	0.06	0.10	0.08	0.59	0.56	0.74	1.34
$Empathy_{Pre}$	0.61	0.23	0.33	2.65	0.01*	0.88	1.14
Thing – Orientation Average	0.66	0.83	0.11	0.79	0.43	0.69	1.44
People – Orientation Average	3.81	1.50	0.31	2.54	0.01*	0.90	1.12

Note: *p < .05

The Role of Empathy

It was expected that pre-assessment empathy scores would be related to the outcome measure of interest, but also confounded with the predictor variables: age, gender identity, ACEs history, and thing-people orientation. However, a Pearson's product-moment correlational analysis revealed that none of the assumed relationships were found (Table 4). Additionally, although it was not necessarily expected that there would be a change in empathy as a function of the intervention, a paired samples t-test was conducted to determine if participants' empathy scores significantly changed as a result of the training. Results did not suggest that there was a significant change in participant empathy scores from pre-assessment to post-assessment $t(18) = 0.68$, $p = 0.51$.

Comparing Completers and Noncompleters

Due to the longitudinal nature of this study, it was useful to determine if there were systematic differences between the completers and noncompleters. Significant differences between the two groups could point to important characteristics that could influence the

likelihood to complete the study. To determine if observed apparent demographical differences between completers and noncompleters were significant, chi-square tests of independence were conducted. Identity groups with fewer numbers of participants were combined to ensure large enough cells to run the analyses. Results suggest that there was a significant association between participants' current position (e.g., graduate student, assistant professor) and their completion status, χ^2 (1, n = 56) = 9.97, p = 0.04; Table 14). However, completer versus noncompleter group membership was not associated with participants' gender (female versus non-female), race (white versus non-white), sexual identity (heterosexual versus non-heterosexual) or ACEs status (less than 4 ACEs versus 4+ ACEs; Table 14).

Table 14

Post Hoc Chi-Squared Tests

	Value	df	*p*	*N*
Race	0.77	1	0.38	56
Gender Identity	1.53	1	0.22	56
Sexual Orientation	0.53	1	0.47	56
ACEs Status	3.06	1	0.08	51
Current Position	9.87	4	0.04	56

Note: *p < .05

Additionally, a series of independent samples t-tests were conducted to determine if there were significant differences in the survey-based variables between completers and noncompleters. Completers *appeared* to be slightly younger, more likely to identify as non-heterosexual, non-white, feminine, and female, and have fewer years of teaching experience than noncompleters. Completers also appeared to have higher ACE scores than noncompleters. Completers' ACE scores ranged from 0 to 10 and ~58% of participants (n = 11) had an ACE score of at least 4, which is frequently noted as the cutoff for an increased risk in negative

physical and mental health outcomes (e.g., Hughes et al., 2017), while noncompleters' ACE scores ranged from 0 to 8 and ~31% of noncompleters (n = 10) had ACE scores of 4 or more. However, results indicated that there were no significant differences between completers and noncompleters (Table 15). Similarly, there was no significant difference between completers and noncompleters in their reasons for entering academia, $t_{research}(48) = 1.49$, $p = 0.14$; $t_{teaching}(48) = -0.43$, $p = 0.67$ (Table 15).

Table 15

Independent Samples T-Tests: Comparing Completers and Noncompleters

	t	df	*p*
Age	1.17	54	0.25
Years of Experience	1.32	54	0.19
TMF Average	-1.98	51	0.05
People-Orientation Average	1.73	49	0.09
Thing-Orientation Average	1.61	50	0.11
ACEs	-1.98	49	0.05
Pre-Assessment Empathy	1.05	48	0.30
Pre-Assessment Receptivity	0.73	48	0.47
Pre-Assessment Knowledge	0.89	48	0.38
Reason for Entering Academia			
Research	1.49	48	0.14
Teaching	-0.43	48	0.67

Chapter 4. Discussion

The overarching goals of this study were two-fold. The first aim was to explore the effect of postsecondary instructors' thing-orientation and people-orientation on their receptivity to compassionate teaching practices. It was expected that, upon controlling for individual level characteristics (i.e., ACEs history, age, gender identity, pre-assessment empathy scores, and pre-assessment knowledge of compassionate teaching practices scores), participants with high people-orientation scores would have higher rates of growth in receptivity to compassionate teaching practices than participants low in people-orientation. Additionally, it was hypothesized that participants with high thing-orientation scores would have lower rates of growth in receptivity to compassionate teaching practices than participants low in thing-orientation. However, results indicated that the present model did not significantly explain the change in receptivity to compassionate teaching practices scores.

The second aim of this study was to implement a brief, one-hour, single-session, asynchronous intervention to inform college-level faculty about ACEs, the subsequent effects of ACEs on learning and behavior, and to introduce the possibility of instructors employing evidence-based, trauma-informed teaching practices. Results suggest that participants found this one-hour, asynchronous training to be helpful, that they felt that they learned something new, and that they could implement some of the ideas and practices discussed within the training. Results also suggested that participants' knowledge of trauma-informed teaching practices increased as a result of the intervention.

Beyond the main hypothesis that participants' thing-people orientation would predict their receptivity to compassionate teaching practices, I implicitly hypothesized that participant receptivity of compassionate teaching practices would increase from pre-assessment to post-

assessment. The present training did not appear to have an effect on participants' change of receptivity scores, but, upon controlling for participant ACEs scores, age, gender, pre-assessment empathy scores, and pre-assessment knowledge of compassionate teaching practices scores, participants' thing- and people-orientation scores did significantly predict their pre-assessment receptivity to teaching practices scores. Specifically, participants' pre-assessment empathy scores, average people-orientation scores, gender identity scores, and age significantly and positively predicted their pre-assessment receptivity scores. As participants' pre-empathy scores increased, so did their receptivity scores. Similarly, participants' people-orientation scores were positively predictive of their receptivity. These findings were expected as a major assumption throughout the study was that orientation is predictive in determining participants' receptivity to compassionate teaching practices and that empathy may play a major role in this relationship. Similarly, as participants' gender identity became more feminine, pre-assessment receptivity scores increased. This was expected as research has suggested that females tend to be more empathetic and may, therefore, be more receptive to compassionate teaching practices. Finally, as participants' ages increased, as did their receptivity scores. This was an unexpected finding as previous literature suggests that younger faculty, compared to older faculty, may be more willing to try new teaching strategies. However, it could be that older instructors' teaching experiences may allow them to more easily see the benefits of compassionate teaching practices, therefore increasing their receptivity to them. It may also be that younger instructors have not yet established a set teaching meta-structure that would allow them to entertain the possibility of changing their teaching practices.

A second implicit hypothesis was that participants' knowledge of compassionate teaching practices would increase from pre-assessment to post-assessment, a prediction which was

confirmed. This finding suggested that a single, brief, and asynchronous intervention can be one modality through which participants learn about resilience-informed care, or at least how to use compassionate teaching practices within the higher education classroom.

Previous research suggests that empathy may be one factor that associates with gender, age, trauma histories, and thing-people orientation, and in the present investigation such relationships were assumed. However, post hoc analyses revealed that empathy was not significantly related to any of these variables. Although gender has been previously associated with empathy in that women tend to be more empathetic than men, perhaps conceptualizing gender as level of masculinity or femininity (as assessed via the Traditional Masculinity and Femininity Scale) does not adequately capture this distinction. Empathy was also not associated with age; however, as noted in the introduction, previous findings regarding the relationship between age and empathy have been contradictory (e.g., Grühn et al., 2008; Bailey & Henry, 2008). Educational attainment has been thought to partially explain associations between age and empathy (Phillips et al., 2002), raising the possibility that the lack of an association in the present sample may be due to participants' relatively high educational attainments and homogeneity. Empathy was also not associated with participants' trauma histories, although previous studies have indicated that life adversity predicts increases in empathy (Lim & DeSteno, 2016) and that such empathy may be a product of posttraumatic growth (Greenberg et al., 2018). But it may be that the development of posttraumatic growth relies on a number of other factors such as self-efficacy, resilience, and emotional intelligence (Li et al., 2012). It could be that posttraumatic growth, not a history of adversity per se, is what predicts empathy.

There were, however, a number of significant relationships that had not been directly hypothesized. Participants high in thing-orientation tended to identify as less feminine (i.e.,

tended to have higher average TMF scores) than participants low in thing-orientation. This finding is consistent with previous research showing that most individuals from thing-oriented disciplines tend to be male. Interestingly, participants high in thing-orientation also had higher changes in empathy than people lower in thing-orientation. Although participants' thing- and people- orientations were not significantly associated with pre-assessment empathy scores and there was no significant change in participants' empathy scores as a whole, it may be that participants with high thing-orientation scores had more potential to increase their empathy scores.

Similarly, participants with lower pre-assessment receptivity scores tended to have a greater change in receptivity scores from pre-assessment to post-assessment. This finding is to be expected as participants with lower initial receptivity had more potential to increase their receptivity scores than participants with higher initial receptivity. Interestingly, participants with higher ACEs scores tended to have more knowledge about compassionate teaching practices to begin with. Perhaps participants with ACEs have greater motivation to seek out information on how to best teach students with similar histories. Finally, participants with higher pre-assessment empathy scores tended to have higher pre-assessment receptivity scores than participants with lower pre-assessment empathy scores. While not directly expected in the present study, this finding is consistent with the possibility that people who are highly empathetic are more receptive to ideas and practices that may benefit others.

Perhaps the most revealing findings were related to participant attrition. Individual-level predictors of receptivity to compassionate teaching practice were of main interest, but what had not been considered was the extent to which these characteristics may have influenced individuals' choices to complete the study once they enrolled. It was found that participants'

current ranks significantly predicted whether or not they would complete the study: full professors were least likely to complete the study while graduate students were most likely. This finding makes sense because full professors may not have interest in improving their teaching or deviating from their already established practices compared to graduate students who are likely to be new to teaching. It may also be that younger instructors were likely to complete the study precisely because of greater familiarity with trauma-informed principles. Results did not indicate that participants' reasons for entering academia (whether for teaching or research) differed significantly between completers and noncompleters. However, these items assessed participants' reasons for *initially* entering academia which may be different from participants reasons for *remaining* in academia.

Study Limitations and Future Directions

Perhaps the foremost limiting factor of the present study was its unexpectedly small sample size. With such a small sample size, very limited conclusions can be drawn. A general guideline for the central limit theorem to be upheld is to secure a sample size of at least 30 (Chang et al., 2006), which the present study failed to achieve. Obviously, it may be that the current results would change with an increase in sample size. In addition, and perhaps related to its longitudinal nature, the present investigation had considerable experimental attrition. About 32% of individuals who consented to the study completed the pre-assessment, intervention, and post-assessment. Most of the experimental attrition occurred during the intervention where ~85% of non-completers left the study. This specific attrition point could be attributed to the length of the intervention (~75 minutes), although I cannot be certain. Future researchers may seek to analyze the effect of intervention length on participant attrition, as well as participants' interest in pedagogy and/or trauma-informed care as a possible confound. Researchers may also wish to

employ the use of planned data collection points for participants who appear to be attriting in which individuals are asked to give feedback on the study itself.

The nature of the intervention itself, beyond its length, may also have contributed to the present findings. Similar iterations of the training have been conducted in person and synchronously online; however, because this study was conducted in the context of the COVID-19 pandemic, it was necessary for the intervention to be delivered asynchronously online. Video conferences have been noted to be more fatiguing than in-person meetings and this may be due to the increased strain on attention (Bailenson, 2021). This effect may carry over to asynchronous meetings and may be one reason for the high attrition rate and small sample size within the present training. Learning in a face-to-face setting has also been noted to be more effective than through online modalities (Arias et al., 2018), so it may be that an in-person training would have been more effective. Additionally, the pandemic left many higher education faculty facing numerous challenges, including increasing professional and personal responsibilities (e.g., VanLeeuwen et al., 2021). It may be that improving one's teaching, at least in the area of compassionate teaching practices, is not a priority for many faculty at the time the present investigation was conducted; focus instead may be placed on effective online teaching practices and learning new technology.

Other characteristics of the training also could have contributed to the present findings. The content of the intervention entailed many metaphors (e.g., the reflective leadership tree, scary background music, black box) that may have been unfamiliar to participants, or difficult for them to understand, which may have limited participants' comprehension of and

receptiveness to compassionate teaching practices. Future research should seek to understand participant perceptions about the content of this and other similar trainings.

Even had there been a large enough sample size, interpretations of findings from the present study would still be limited by other factors. For example, the use of subjective evaluations of knowledge may not accurately capture true knowledge obtained as a result of the training. Although participants said that they knew the effects of trauma on learning, for example, their actual knowledge of the effects of trauma were not assessed. The present study was also set up so participant responses were not anonymous, and such a lack of anonymity may have compelled participants to respond differently than they otherwise would have. Additionally, the present investigation's operationalization of receptivity to compassionate teaching practices may be a limiting factor. Receptivity was operationalized as the value placed on the compassionate teaching practices. However, receptivity to compassionate teaching practices could also be operationalized as actual behaviors that resulted from seeing value in doing them. Seeing value in a practice and actually implementing a practice may be two distinct interpretations of receptivity. Future research should seek to implement objective measures of knowledge to determine whether a single, brief training significantly continues to influence pre- and post-intervention knowledge scores and to determine if such a training results in changes in behavior.

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APPENDICES

Appendix A: Knowledge of Compassionate Teaching Practices

1 = “Not at all”, 2 = “Slightly”, 3 = “Moderately”, 4 = “Quite a lot”, 5 = “Extremely”

1. I am familiar with the term trauma-informed care.
2. I am familiar with the term adverse childhood experiences.
3. I know what it means to be trauma-informed.
4. Experiences from early childhood can influence us into adulthood.
5. I am familiar with the effects of trauma on an individual’s overall health and social well-being.*
6. I can identify student behaviors that may be indicative of someone who has experienced or is experiencing trauma.*
7. I am knowledgeable about the effects of trauma on learning.*
8. I am knowledgeable about the effects of trauma on student behaviors.*
9. I am knowledgeable about the effects of trauma on student’s academic success.*
10. I am knowledgeable regarding how instructors may inadvertently re-traumatize students.*
11. I am knowledgeable regarding available resources to support students affected by trauma*

* Originates from the Trauma-Informed Care in a Community College Survey (TIC-CCS; Doughty, 2018)

Appendix B: Receptivity to Compassionate Teaching Practices

1 = “Strongly Disagree”, 2 = “Disagree”, 3 = “Neither Agree nor Disagree”, 4 = “Agree”, 5 = “Strongly Agree”

1. The opportunity to be a part of the research community is why I entered/want to enter academia.**
2. The opportunity to teach is why I entered/want to enter academia.**
3. Interacting with students is one of the most rewarding aspects of my job.
4. Building relationships with students is an important part of teaching.
5. I am interested in learning how to improve my teaching.
6. I am generally interested in receiving feedback on how to improve my teaching.
7. I frequently change my teaching practices to reflect new things I have learned.

I see value in…

8. Being predictable in my interactions with my students.
9. Ensuring a physically safe environment for my students to learn in.
10. Ensuring a psychologically safe environment for my students to learn in.
11. Displaying kindness toward my students.
12. Maintaining a positive attitude toward even my lowest performing students.
13. Holding high expectations for all students.
14. Changing my standard for my lowest performing students (R)
15. Learning about my students’ lives outside of my classroom.
16. Assuming students are trying their best.

17. Building supportive relationships with my students.
18. Letting students know that my relationship with them is unaffected by their performance in the class.
19. Finding ways for my students to feel connected to others in the class.
20. Supporting a sense of community in my class.

*Denotes use in post-assessment only

**Denotes use in pre-assessment only, were not used in pre-receptivity scores

Appendix C:
Thing Orientation – People Orientation Scale (Graziano et al., 2011)

1 = “Not at all”, 2 = “Slightly”, 3 = “Moderately”, 4 = “Quite a lot”, 5 = “Extremely”

People-Orientation Items

1. Listen to a conversation between two people in a crowd
2. Strike up a conversation with a homeless person on a street
3. Listen with caring interest to an old person who sits next to you on a bus
4. Notice the habits and quirks of people around you
5. Make the first attempt to meet a new neighbor
6. Attend a speech given by a person you admire without knowing the topic of the speech
7. Attempt to comfort a total stranger who has had a disaster happen
8. Gain a reputation for giving good advice for personal problems

Thing-Orientation Items

9. Redesign and install a stereo sound system yourself
10. Take apart and try to reassemble a desktop computer
11. Stop to watch a machine working on the street
12. Remove the back of a mechanical toy to see how it works
13. Try to fix your own watch, toaster, and so forth

Appendix D: Intervention Evaluation

1 = “Strongly Disagree”, 2 = “Disagree”, 3 = “Neither Agree nor Disagree”, 4 = “Agree”, 5 = “Strongly Agree”

1. I found this training to be helpful.
2. I learned something new in this training.
3. I feel confident in my ability to implement some of the ideas and practices discussed in today’s training.

Appendix E:
Alignment of SAMHSA Principles, Compassionate Teaching Practices, and Intervention Video Elements

Compassionate Teaching Model (Wolpow, 2009) Practice:	SAMHSA Principle(s):	Training Video Element
1. Always empower, never disempower.	- Safety - Empowerment	- Promoting physical and psychological safety in the classroom
2. Provide unconditional positive regard.	- Trust and transparency	- Modeling seeing and celebrating: from the branches of the reflective tree metaphor
3. Maintain high expectations.	- Empowerment, voice, and choice	-Being warm and kind/strong and in charge
4. Check assumptions, observe, & question.	- Cultural, historical, and gender Issues	- Background music metaphor
5. Be a relationship coach.	- Safety	- Modeling being in the branches of the reflective tree metaphor, promoting and modeling use of a trauma lens
6. Provide guided opportunities for helpful participation.	- Collaboration and mutuality - Empowerment, voice, & choice	- Modeling scaffolding: from the branches of the reflective tree metaphor

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