Caring for Teachers: Exploring Pre-Service Teacher Well-Being, Self-Efficacy, and Vicarious Trauma

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Abstract

Teachers play an integral role in the lives and development of the students they teach. Many students are exposed to trauma and can experience mental health problems that can show up in the classroom context, making the school a natural environment for detection and response of these concerns. Unfortunately, the lack of appropriate teacher education on supporting students of diverse mental health needs can leave them feeling helpless and ill-equipped. In this current study, 236 teacher candidates enrolled in an online mental health course completed a survey examining their self-efficacy, well-being, and vicarious trauma. Correlation results indicated significant associations between the factors, with the exception of vicarious trauma with workload well-being and efficacy for managing disruptive behaviour. Overall, results suggested that higher well-being was positively associated with self-efficacy and the acknowledgement and coping of vicarious trauma. Implications for school mental health and teacher education are discussed along with consideration of future research.

Keywords: teacher education, school mental health, vicarious trauma, well-being, self-efficacy
Lay Summary

Teachers play an integral role in the lives and development of the students they teach. Many students are exposed to trauma and can experience mental health problems that can show up in the classroom context, making the school a natural environment for the detection and pathway to early intervention of these concerns in both children and adolescents. Unfortunately, the lack of appropriate teacher education on supporting students of diverse mental health needs can leave them feeling helpless, overwhelmed, and ill-equipped. They may also experience the impact of vicarious trauma, which can be defined as the negative outcomes (such as stress, intrusive thoughts, worrying) from direct contact with individuals who have experienced trauma (Nimmo & Huggard, 2013). Previous studies have examined this stress response in other professions, such as counsellors and social workers, but little research has been done on teachers. In seeking to develop a system that supports both teachers and students, examining teacher wellness is key. In this study, teacher candidates enrolled in a mental health literacy course at a large Canadian university completed a survey examining their self-efficacy for inclusive teaching practices (TEIP; Sharma, Loreman & Forlin, 2011) well-being as it relates to their work (TWBS; Collie et al., 2015), and vicarious trauma (ARTIC-35; Baker et al., 2015). Results indicated that those participants who rated themselves higher on well-being also tended to have higher ratings of self-efficacy and an appreciation of the impact of vicarious trauma with coping through support seeking. This demonstrated the importance of education and support in the well-being of teachers. When we ensure they feel equipped with skills and knowledge and have space for connection, they have the resources to better support themselves, students, and their community.
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This thesis is dedicated to all the teachers who tirelessly and compassionately educate and support all learners. Your work is so impactful to each student and ripples through a much larger system beyond the classroom. Thank you.

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Introduction

By the time a child graduates from high school, they will have spent over 15,000 hours in a classroom setting (Oberle & Schonert-Reichl, 2016). This makes the school environment one of the most important environmental aspects of a child’s life. Indeed, as outlined in Bronfenbrenner’s bioecological model, an individual’s development can be influenced by their reciprocal interactions within various systems (Bronfenbrenner & Morris, 2007; Tudge et al., 2016). Human development does not occur in isolation, but rather through complex interconnections between the biopsychological individual, other people, and the environment at micro, meso, and macro levels (Tudge et al., 2016), meaning that for a child their development is not only influenced by caregiver relationships, but also by broader contexts of work, school and community settings as well as social, cultural, and political systems. Considering these reciprocal contexts within which development occurs, teachers can play a critical role in the life of a child. Operating within this system, teachers can have an impact not only on a child’s academic achievement, but also their social, emotional, and behavioural development (Fredriksen & Rhodes, 2004). Within this role, teachers can bear the expectation of noticing health concerns in students and responding in supportive ways (Rodger et al., 2020).

Indeed, teaching can be an incredibly rewarding and meaningful career, positively impacting the students and communities within which they work. However, teaching can also be full of challenges and stressors, and this has been associated with negative outcomes for both the teacher and students. For some teachers, these challenges can lead to discouragement, burnout, and ultimately the decision to leave the profession (Kutsyuruba, Godden, & Tregunna, 2014). This is concerning given the important role teachers play in not only facilitating learning but also aiding in socialization and developing responsible citizens (Greenberg, Brown & Abenavoli,
2016). Most of the school literature to date has focused on student well-being and the impact teachers have on students, with an apparent disregard for the well-being of the teachers themselves. The next step in the literature is to now give more consideration to teacher wellness and how to enable a system that supports both students and teachers.

One occupational challenge relevant to teacher wellness, but often neglected is their exposure to students who have experienced trauma and the potential for teachers to experience vicarious trauma (Borntranger et al., 2012). In the literature, this phenomenon has been related to compassion fatigue and secondary traumatic stress with much overlap. Compassion fatigue has been defined as the weakened capacity of a professional when they experience distress knowing about or witnessing client suffering (Nimmo & Huggard, 2013). Comparatively, secondary traumatic stress has been conceptualized as the stress response from witnessing or knowing about trauma experienced by others (Nimmo & Huggard, 2013), and vicarious trauma has been defined as the negative outcomes resulting from working with populations exposed to trauma (Nimmo & Huggard, 2013). While these phenomena can be separated into their relative parts, there are general characteristics shared among all three and the terms have been used interchangeably within the literature (Borntranger et al., 2012; Nimmo & Huggard, 2013). Briefly, within the context of this study, vicarious trauma may be described as the undesirable outcomes experienced by those in direct contact with individuals who have experienced trauma, whether by witnessing an event or knowing about it. While this has been extensively studied in helping professions such as social workers and counsellors, very little research has examined it in teachers (Newell & MacNeil, 2010; Trippany, Kress, & Wilcoxon, 2004).

Within the context of education, some of these undesirable outcomes can arise from teachers feeling helpless, overwhelmed, and unprepared in meeting the diverse mental health
needs of their students (Weston et al., 2008). Research has found that while teachers recognize the importance of attending to student mental health needs, they report not feeling adequately prepared to do so in their academic training (Koller et al., 2004). As such, it becomes important to consider ways to best support and educate teachers in order for them to feel efficacious in their role and equipped to support the health of themselves and students.

This study explores pre-service teacher well-being, self-efficacy, and vicarious trauma. With the recent shift in schools toward inclusive classrooms and trauma and violence informed approaches in schools, this line of inquiry is warranted. Teachers play a critical role in student outcomes, and if the goal is to build a system equipped to support all learners, then the general well-being and efficacy of teachers must be included.

**Literature Review**

**Self-Determination Theory**

This current study explores the well-being of teacher education candidates and the potential fit of the Self-Determination Theory (SDT) of human motivation to well-being. A macrotheory, SDT posits that humans are inherently active, intrinsically motivated, and oriented toward development (Deci & Ryan, 2012). In order to fulfill these qualities and achieve psychological well-being, humans have certain needs that must be met. These universal needs of motivation are: autonomy, competence, and relatedness (Ryan & Deci, 2000). Autonomy refers to control and the desire to have activity be in accordance with one’s sense of self, competence refers to the efficacy someone holds in their ability to manage their environment, and relatedness refers to the desire to feel cared for and connected to others (Deci & Ryan, 2000).

Indeed, this theory is highlighted in an issue brief on teacher stress published by Pennsylvania State University (Greenberg et al., 2016). In their summary of the literature, they
address the main sources of teacher stress which can be situated within the SDT framework. These sources are: school organization, job demands, work resources, and personal resources.

With respect to relatedness, having a supportive organization and school culture with high trust and collegial environment was associated with lower stress, higher job satisfaction, and intent in new teachers to continue in the career. The importance of autonomy was highlighted in the factor of work resources, as job control and the opportunity to make decisions was found to reduce stress, increase satisfaction, and foster empowerment. Lastly, personal resources, such as social-emotional competence, emphasize the universal need for competency. If a teacher feels unable to effectively manage occupational demands and is lacking resources, their performance may suffer which in turn can impact student outcomes. As such, in order to have motivated and efficacious teachers, it is reasonable to explore the ways in which competence and autonomy can be developed, but also connection to others.

Well-Being

Before discussing well-being as it relates to teachers, it is important to first broadly define what is meant by the term. In one of the earliest and most influential references to well-being, the constitution of the World Health Organization (1947) defined it as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (p. 1). This definition is significant in its mention of well-being encompassing not only the absence of illness but also the presence of abundance and resources. Although there have been continued conceptualizations of the term over the years, there remains a lack of consensus on one agreed upon definition (McCallum et al., 2017). Broadly, there appears to be two important categories within well-being: objective and subjective factors (McCallum et al., 2017). Objective being external dimensions such as resources and literacy, and subjective being individual dimensions
such as emotions and social relationships. Encompassing this, Day and Qing (2009) define well-being as “a dynamic state, in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community” (p. 15). This definition embodies the essential aspects of SDT in the importance of meeting universal needs which can allow for motivation and action from individuals (Deci & Ryan, 2012). On the whole, the one point that remains throughout the literature is the importance of the presence of wellness as opposed to the mere absence of illness. When individuals are well and have abundance, they can meaningfully contribute to not only their life but the lives of others and their community at large as well (Day & Qing, 2009). Considering this within the field of education, the importance of teacher well-being becomes an area of interest as they are positioned in a dynamic role within multiple systems.

One of the main areas to consider within teacher wellness is their well-being as it relates to their work. In a study comparing well-being in various professional groups, such as those in health and human resources, teachers’ ratings of their well-being were found to be significantly lower than that of comparators (e.g. doctors, finance managers, social workers) (Grenville-Cleave & Boniwell, 2012). Indeed, many teachers experience high occupational stress, and when compared to other professions, burnout is believed to be the highest among teachers (Oberle & Schonert-Reichl, 2016). Many of these stressors can be attributed to the complexity of teaching and the multitude of tasks involved which can lead to teachers working upwards of 10 to 20 hours outside of the regular school hours (Froese-Germain, 2014; Naylor & White, 2012). While teachers must attend to curriculum demands, student needs, and administrative work, they can also be impacted by non-instructional concerns such as student mental health (Froese-Germain, 2014), and can often be left unsupported in these roles. In one study examining elementary and
high school teachers across the United States, researchers found that while one of the main sources of stress reported by teachers was feeling overwhelmed with work responsibilities, the other top stressor was lack of support in teaching high needs students (Richards, 2012). On the whole, research has found teachers to express a desire for more resources and support, education, and professional autonomy (Froese-Germain, 2014). These desires align with SDT’s universal needs for autonomy, competency and relatedness (Deci and Ryan, 2012) and unfortunately, many teachers appear to be working from a position of unmet needs and high stress.

Most of the research on teacher stress has focused on the impact it has on students, with little regard for the well-being of the teachers themselves (Friedman-Krauss et al., 2014). Studies on students have found the stress experienced by teachers can negatively impact them and lead to a self-sustaining cycle within the classroom often referred to as the “burnout cascade” (Jennings & Greenberg, 2009; Oberle & Schonert, 2016). More specifically, as the teacher feels under supported and overworked, they can lack effective responses and classroom management techniques. This in turn can lead to unmet student needs, which can cause further decline in the classroom environment and increase stress in both students and teachers. Given that students spend countless hours in a classroom setting, the experience they have at school is a significant factor in their success (Oberle & Schonert-Reichl, 2016). Just as positive school environments can support student development, negative environments can hinder it.

Indeed, while teachers can play an integral role in the lives of their students, their ability to provide a supportive environment can be hindered when they are highly stressed and lacking the resources and abundance for wellness, and can impact students inside and outside of the classroom (Friedman-Krauss et al., 2014). For example, in a study using grades and self-report measures in 380 German teachers, Arens and Moren (2016) found that students of teachers with
higher levels of emotional exhaustion presented with both cognitive and non-cognitive effects. Not only did they have lower averages on school grades and standardized tests, but they also reported lower perceptions of teacher support and school satisfaction. In line with SDT, the authors suggested that teachers experiencing higher levels of emotional exhaustion can lack adequate resources to create positive relations with students. This becomes imperative when considering research demonstrating the extension of teacher-student relationships beyond the classroom (Halladay et al., 2020). Using data from the School Mental Health Survey of schools across Ontario, researchers found that teacher-student relationship quality and teacher responsiveness to student emotional concerns were both positively associated with increased mental health help seeking behaviour of students (Halladay et al., 2020). The association of the responsiveness of the teacher to student emotional concerns and the intent to seek help suggests the value in ensuring teachers have support and resources available to attend to student needs. When teachers are not in a place of health and wellness, they may lack the resources to effectively support themselves and students.

**Self-Efficacy**

Not only is it important to consider how teachers are doing, it is equally as important to consider the belief they have in their capabilities as educators. Teaching is a complex job and involves the acquisition of many skills in order to meet curriculum expectations and engage with a diversity of students. As such, teacher efficacy has generally been defined as the belief a teacher has in their ability to influence student behaviour and academic achievement (Friedman & Kass, 2002). That being said, there is debate in the literature and researchers have argued for broadening of the scope of teacher efficacy to include wider contexts. For example,
Friedman and Kass (2002) discuss that in addition to the classroom, teachers must be acquainted with factors such as school organization norms and learning to deal with conflicts with parents and colleagues.

Similar to teacher well-being, teacher self-efficacy has often been studied in relation to stress and burnout, with perceived self-efficacy acting as a protective factor in helping to cope with occupational demands (Schwarzer and Hallum, 2008). Within the literature self-efficacy and well-being are often studied together, whereby lower well-being is often associated with lower self-efficacy. For example, in one study looking at elementary and high-school teachers, not only was teacher perception of challenging student behaviour positively associated with teacher emotional exhaustion, but it was also related to their efficacy in handling student misbehavior (Tsouloupas et al., 2009). These results demonstrate the link between teacher well-being and the belief in their ability to meet work demands. In general, research has found that high teacher self-efficacy has been associated with lower job-related stress and helping to keep them motivated and satisfied in their work (see Zee & Koomen, 2016).

Within the classroom, teacher self-efficacy has been found to be associated with student outcomes and classroom environment (Herman, Hickmon-Rosa & Reinke, 2018). In a study examining 47 elementary schools in Midwestern United States, Goddard, Hoy, & Hoy (2000) found that teacher efficacy was associated with student achievement in both math and reading. This suggests that not only can decreases in self-efficacy impact the teachers themselves, but also has the potential to influence students as well. This can also go in the opposite direction, as seen in a study examining fifth grade teachers that found their self-efficacy to be positively related to the creation of a classroom environment of teacher support, warmth, enthusiasm, and the effective use of instructional time (Guo et al., 2012). This speaks to the complex and
The reciprocal nature of the classroom as a system whereby the environment, students, and teachers interact dynamically (Zee & Koomen, 2016). Further, research has found associations between teacher self-efficacy, stress and coping, whereby self-efficacy was negatively associated with stress and positively associated with proactive coping (Verešová & Malá, 2012). The authors described proactive coping as encompassing the accumulation and mobilization of resources and developed social skills. Within the classroom, when teachers are well and coping effectively this allows them the resources to feel efficacious in their role and contribute positively to students and the classroom at large.

**Vicarious Trauma**

While most of the literature discussed thus far has looked at the impact teachers can have on students, it is important to also consider the impact students can have on their teachers, especially those students who have experienced trauma. Over the years, our knowledge of trauma has grown and we are now aware of the pervasive nature of adverse experiences. According to the American Psychiatric Association (2013), a traumatic event can be defined as involving the experience, witnessing, or confrontation of actual or threatened death, serious injury, or sexual violence. While this definition is used diagnostically, literature on trauma has recognized the complex nature and individuals may experience many forms of violence both at the individual and systemic level (Goldsmith, Martin & Smith, 2014). Interpersonally, trauma can include experiences of physical, sexual, and psychological abuse or neglect (D’Andre et al., 2012). Systemic violence expands beyond this and includes environmental features, taking into consideration the contextual impact of society, culture, communities and institutions (Goldsmith, Martin & Smith, 2014).
Worldwide estimates of trauma have found that exposure is not rare. The World Mental Health Surveys of adults examining 24 countries found that 70% of the respondents had experienced at least one traumatic event (Kessler et al., 2017). Within Canada, research has estimated that 76% of adults report experiencing some form of trauma (Van Ameringen, Mancini & Boyle, 2008). In a study examining child abuse in Canada, Afifi et al. (2014) found prevalence rates of 32% among respondents for exposure to physical abuse, sexual abuse, and/or intimate partner violence before the age of 16. Indeed, many individuals have or will experience trauma in their lifetime and so it is likely that this may be brought into the school environment.

Within the classroom, students who have experienced trauma and violence can struggle to meet demands due to the stressors impacting them. Specifically, these students may present with behaviours such as an inability to concentrate, verbal and physical outbursts, or frequent absences (Sitler, 2009). Structurally, childhood poverty has been associated with increased mental health difficulties, with those children experiencing it being three times more likely to develop a mental health problem than compared those not living in poverty (Comeau et al., 2011; Lipman & Boyle, 2008). Moreover, those children and adolescents experiencing mental health problems are more likely to have poorer academic and occupational outcomes (Lipman & Boyle, 2008). These impacts of trauma are essential to consider within the realm of education given the amount of time children spend at school and the primary role it can play in their development.

Along with our increased awareness of the impacts of childhood trauma, there has been a focus on implementing trauma and violence informed care into schools. Recent research has established important links between increasing knowledge and building a system able to effectively support students with adverse experiences (Baker et al., 2015). With this, it is necessary to acknowledge the existence of vicarious trauma, which can occur when exposure to
the traumatic story of an individual leads to a response in the listener (Carello & Butler, 2015). For example, a student may have difficulty engaging in the classroom and disclose to a teacher that a family member is physically abusing them. The teacher may be shocked to hear this and experience intrusive thoughts and sleepless nights worrying about the student. This stress response can often result from a desire to help the victim but not feel capable and can include both emotional and cognitive symptoms (Caringi et al., 2015).

Although research has looked at various human service professions, such as social work and counselling, it has only been in recent years that attention had turned to the experiences of school staff (Caringi et al., 2015). In one of the few available studies, Borntrager et al. (2012) explored secondary traumatic stress (STS) in school personnel.

Participants in this study included 300 public school staff including educators, paraprofessionals, school based social workers, counsellors, and administrators who were recruited from six different schools including urban, rural, and American-Indian reservation communities. Participants completed voluntary STS training following data collection. After administering a self-report Secondary Traumatic Stress Scale (STSS), Professional Quality of Life Survey, and Peer Support Questionnaire, they found that participants were exposed to high levels of youth who were traumatized, and experiencing significant levels of STS symptoms. Researchers indicated these levels were high enough to meet criteria for Post-Traumatic Stress Disorder. These criteria include: exposure to a traumatic event; persistent reexperience of the traumatic event; persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness; persistent symptoms of increased arousal that were not present before the trauma; and duration of the symptoms lasting more than one month with the disturbances
causing significant impairment in social, occupational and other important functioning (American Psychiatric Association, 2000).

Furthermore, in examining predictors of STS results indicated only two significant variables: the intent to seek other employment and working for an organization that discouraged social support-seeking behaviour. The authors conclude that although participants had empathetic concern for their students and reported feeling satisfied in being able to do their job, they also reported high levels of burnout and the intent to seek other employment (Borntrager et al., 2012). These results underscore those of the Greenberg et al. (2016) teacher stress study discussed previously, whereby having a supportive environment was associated with lower stress, higher job satisfaction, and the intent in new teachers to continue the career. Indeed, aligned within an SDT framework, these results highlight the potential of negative outcomes as a result of unmet autonomy, competency, and relatedness needs. Particularly salient in the Borntrager et al. (2012) study, the failure to create an environment that encouraged social support-seeking was associated with burnout, supporting the notion that negative psychological consequences can occur when individual motivational needs are hindered. Furthermore, this highlights the importance of fostering a supportive work environment and equipping school staff with the skills necessary to handle direct and secondary trauma. While this study may not be generalizable to other teachers, as additional school personnel was studied, the results warrant further investigation of secondary trauma in schools.

In a second study, Caringi et al. (2015) collected qualitative data from participants of the Borntrager et al. (2012) study after they completed the STS trainings. With this study their intent was to determine factors influencing STS scores. Half of the participants volunteered, with a representative sample of 15 interviewed via telephone. A significant theme emerged through
discussions of work-related stress were organizational factors, such as large class sizes and lack of supervision. For teachers, they felt managing behaviour in a large class negatively impacted their ability to effectively teach course content and build connections with students. Alternatively, having a supportive network within the school was highlighted as a protective factor in allowing for collaboration and learning from other professionals. These findings underscore the high stress teachers experience which can contribute to STS and suggests a need for increased knowledge and resources to effectively support school staff. They also emphasize the importance of competence and relatedness in helping teachers feel efficacious, supported, and less stressed.

Prevalence of Mental Health Problems Among Children and Youth in Canada

It has been estimated that 1 in 5 Canadians will experience a mental health problem in any given year, with the majority of these issues reported to begin during the school-age years of childhood and adolescence (Government of Canada, 2006; Mental Health Commission of Canada, 2013). Prevalence rates from the Mental Health Commission of Canada (2013) estimate that 10-20% of Canadian youth are living with a mental health problem and in Ontario specifically, one study found 34% of high-school students indicated moderate to serious symptoms of anxiety and depression (Boak et al., 2016). Concerningly, research has found that although many children and youth experience mental health problems there remains a lack of access and utilization of services (Georgiades et al., 2014). In 2014 the Ontario Child and Health Study surveyed 6537 families with children aged 4-17 years old and found that while 18% and 22% met criteria for a mental disorder, less than a third of them had contact with mental health professionals (Georgiades et al., 2014). Indeed, despite the onset of most mental health problems occurring during adolescence they can often remain undetected into adulthood (Bostock et al.,
This is troubling given the persistent impact these problems can have on the functioning and development of an individual psychologically and physiologically (Lipman and Boyle, 2008). As mentioned previously, this can impact their future academically and vocationally (Lipman and Boyle, 2008). In college students, research has indicated those struggling with mental health disorders displayed negative consequences such as poorer performance, frequent absences, and difficulties sustaining social relationships (see Holmes & Silvestri, 2016). Occupationally, research has found that those diagnosed with a mental illness experience higher rates of unemployment than compared to the general population (Baron & Salzer, 2002). Research has also linked social inequalities to increased risk of mental health disorders, and so this can create a system of perpetual barriers (Allen et al., 2014). Early action therefore becomes a critical factor in the attempt to address and reduce these risks. As such, teachers can play an important role in the detection and pathway to early intervention of mental health problems in both children and adolescents.

**Teacher Education**

Despite the identification of schools as a significant environment in the healthy development of children, teacher education programs have yet to adequately adapt to the social and psychological aspects of this role (Weston et al., 2008). In Canada, these deficits were emphasized in a review of 213 Bachelor of Education programs across 66 institutions, whereby it was revealed that only two courses met the pre-determined criteria to qualify as a mental health course (Rodger et al., 2014). These criteria included: having a course title and description that indicated the course was about mental health, and a focus within the syllabus on building relationships and supporting students with mental health issues. Further, in a study of Canadian teachers two-thirds of the sample reported having not received any professional development to
equip them in supporting the mental health of students (Canadian Teachers’ Federation, 2011). This study also found that those more experienced teachers were more likely to receive professional development related to student mental health than compared to less experienced teachers. This highlights the need for teacher education that equips them with knowledge and skills to effectively meet the social and psychological demands of their role.

Unfortunately, research has suggested that teachers may be ill-equipped or uncomfortable engaging in this role (Bostock et al., 2011). In one study from the UK, teachers reported feeling concerned about their students’ mental health but also helpless, incompetent, and frustrated at not knowing how to respond (Rothi et al., 2008). In fact, teachers in the study discussed the impact of unmet student needs compounding classroom responsibilities and leading to lower job satisfaction and psychological well-being. Importantly however, they highlighted the need for mental health training as a solution to help facilitate their ability to engage in this role. Those who had received some training felt privileged and empathized with those who lacked access to such courses. Indeed, with increased awareness around the role teachers hold in mental health it is important to ensure teachers are receiving appropriate education. While there has been an increase in promotion of mental health related school programs for students, initial teacher education programs have been slower to respond (Weston et al., 2008). Evidently, it is important to not only build teachers’ pedagogical skills but also those around both their own and student well-being and mental health.

Within the framework of SDT, creating space for teachers to learn and practice autonomy may be an area to focus on as research has suggested a sense of autonomy to be protective of exhaustion (Fernet et al., 2012; Roth et al., 2007). For example, Roth et al. (2007) found that in their sample of 132 Israeli teachers, their autonomous motivation was positively associated with
personal accomplishment and negatively associated with emotional exhaustion. These findings can suggest that a sense of autonomy and accomplishment can help to enable teachers to withstand difficulties and perceive the work as significant. Moreover, in self report measures from the students, Roth et al. (2007) found that the enhanced autonomy supportive behaviour of the teachers helped to promote autonomous motivation in the students. Thus, fostering autonomy in teachers not only creates positive outcomes for themselves but this is extended into the students through the development of an autonomy supportive classroom.

Importantly, additional research has found that autonomous support can be taught to teachers. In their meta-analysis of intervention programs to support autonomy, Su and Reeve (2011) found that education programs can indeed effectively teach people to create autonomy supportive environments. While these interventions were done across various professions (such as clinicians and managers) and parents, educating teachers was found to be the most effective. Overall, the education programs were more effective in inexperienced trainees than experienced professionals. Within the context of education, this is significant as it supports the importance of implementing programs at the pre-service teacher level while they are still learning.

Furthermore, implementation setting was found to be a moderator of the results such that laboratory settings were found to be more effective than authentic settings. While both settings were consistently effective, the finding of laboratory settings as having stronger effects points again to the importance of implementing education at the teacher education level.

In addition to setting, focus of the programs was also found to moderate the main effect analysis such that skill-based programs were more effective than content-based ones (Su & Reeve, 2011). However, the authors noted that skill-based results were more diverse and so concluded that participants benefitted from both skill and knowledge. Within an SDT
framework, this would help meet individual needs for competency. Considering these results, it appears that it is important to not only provide knowledge for learning but also pedagogically equip teachers with the skills necessary for implementation.

Further, it appears that in addition to knowledge and skills, self-reflection may also play an important role in working with children exposed to trauma. In their study on trauma informed training for preschool teachers and staff, Loomis and Felt (2021) found that those who received both self and skill training had higher trauma-informed attitudes than those with knowledge only. Self-reflection training involved discussing topics such as the impact of one’s own trauma on responses to child behaviour and vicarious trauma. These findings add additional support to the need for a combination of both knowledge and skills in teacher education, and points to the significance of including aspects of acknowledging the personal impact of trauma. Notably, Loomis and Felt (2021) found that self-only training participants showed higher trauma-informed attitudes compared to knowledge-only training. This suggests that while general knowledge is important, equipping teachers with skills and the ability to reflect on their own responses are two key components to include.

Overall, most of the literature on teachers has focused on acknowledging and exploring the immense stress they can experience and the negative environment this can create (Oberle & Schonert-Reichl, 2016; Zee & Koomen, 2016). As evident in the aforementioned studies many teachers experience emotional exhaustion, feel under supported, and can display symptoms of vicarious trauma (Borntrager et al., 2012; Caringi et al., 2015; Tsouloupas et al., 2009). Importantly however, it appears that collaboration and learning can be factors in reducing this stress (Caringi et al., 2015; Greenberg et al., 2016). As such, there is a need for additional studies examining all of teacher well-being, self-efficacy, and vicarious trauma, as well as potential
mediating factors. It is important to not only examine how stressed teachers are but also explore how they are related and what contributing factors there are. Teachers are an integral part of school organization and play a key role in a child’s life, and so to build a strong system we need to consider their wellness.

**Method**

This study is part of a larger program evaluation of the mental health literacy course; the specific purpose here is to further explore each of the aforementioned variables, with this main research question:

- What are the associations between pre-service teacher well-being, self-efficacy, and vicarious trauma?

While studies have separately examined each of these areas in teachers, there is a need to further explore potential relationships between them.

**Participants**

This study examined the response outcomes of 236 pre-service teachers enrolled in the Bachelor of Education program at a large comprehensive university in Ontario. The participants included volunteer second-year students enrolled in an online course: Mental Health Literacy – Supporting Social-Emotional Development EDUC 5018Q. This course is mandatory for all second-year students, with the exception of those who are part of the specialized Psychology cohort. Students enrolled in the course are comprised of the other cohorts: International Education, Early Childhood Education, Urban Education, STEM, and French. A detailed breakdown of the sample demographics can be found in Table 1. Although participants included in this study are pre-service teachers in their second year of their Bachelor of Education (a post-
degree professional program), by the time they are enrolled in the course they have completed 3 practicum blocks for a total of 14-weeks of in-classroom experience. All students had the option to participate in research through pre and post-test measures, however this study will only focus on post-test data. Completion of 95% of each test automatically granted each student 5% toward their grade, with the choice to either include or exclude their responses in the study.

**Ethical Considerations**

The study was approved by the non-Medical Research Ethics Board (please see Appendix G). Although this study has been approved there remain some ethical points to discuss, including the anonymity of the participants given their course incentive and professor involvement in the research. To combat this, all participant results were de-identified and the professor did not have access to the data until the course was completed. Additionally, while there was a grade incentive for students to complete the tests, the inclusion of their answers in the research was completely optional. A student could complete the test and get their 5% mark, while also choosing to decline participation in the study. Finally, students could leave up to 10% of the items blank and still receive full participation marks. There is an inherent power dynamic between professors and students, and so we hope these options helped decrease pressure students may feel to participate.

A second ethical consideration is the stress participants may have felt in being confronted with measures assessing their well-being, self-efficacy, and vicarious trauma at work. This however was addressed in much of the material presented in the course. Some of the learning objectives of the course included: understanding how to navigate school and community resources, understanding when support and referral may be necessary, and identifying limits as an educator.
Table 1
Sample Demographics (n=236)

<table>
<thead>
<tr>
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<th>N</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
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<td></td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Senior</td>
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<td>40.2</td>
</tr>
<tr>
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<tr>
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<tr>
<td>Cohort</td>
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<td></td>
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</tr>
<tr>
<td>Urban Education</td>
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<td>Psychology</td>
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<td>Child and Family Studies</td>
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</tr>
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<td>Arts and Humanities</td>
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</tr>
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<td>Religion/Divinity</td>
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<td>1.5</td>
</tr>
<tr>
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<td></td>
</tr>
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<tr>
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<tr>
<td>Missing</td>
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<td>1.5</td>
</tr>
<tr>
<td>If yes, from where?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training program (ie ASSIST, Mental Health First AID)</td>
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<td>21.8</td>
</tr>
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<td>Undergraduate course</td>
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<td>34.5</td>
</tr>
<tr>
<td>Post graduate course</td>
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<td>2.3</td>
</tr>
<tr>
<td>Other</td>
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<td>13.8</td>
</tr>
<tr>
<td>Missing</td>
<td>72</td>
<td>27.6</td>
</tr>
</tbody>
</table>
Measures

All participant data was collected using Qualtrics. Informed consent (see Appendix B) and demographic information (see Appendix C) were collected at the pre-test, including gender, program, cohort, previous degree, and previous mental health and mental illness learning. A total of four scales were included: Mental Health Literacy Questionnaire (MHLQ) (Hatcher, 2018), Teacher Efficacy for Inclusive Practice (TEIP) (Sharma et al., 2011), Teacher Well-Being Scale (TWBS) (Collie et al., 2015), and Attitudes Related to Trauma Informed Care (ARTIC) (Baker et al., 2015). It should be noted that while data for the MHLQ was collected, it is beyond the scope of this current study and therefore was not used.

Teacher Efficacy for Inclusive Practice

The TEIP is an 18-item scale consisting of three factors measuring teacher efficacy, including efficacy to use inclusive instructions, efficacy in collaboration, and efficacy in managing disruptive behaviours (Sharma et al., 2011) (see Appendix F). The first factor of inclusive instruction and the third factor of managing disruptive behavior both consist of six items, while the second factor of efficacy in collaboration consists of eight items. Within the scale, each item is randomized to intersperse the factors throughout. One example of a statement is: I can provide an alternate explanation or example when students are confused. A six-point anchor system is used with each item for participants to respond within a range of strongly disagree (1) to strongly agree (6). This six-point scale does not include a neutral response option, and therefore requires participants to be decisive in their perception of their efficacy. A total score is calculated by adding each item response for a complete range of 18 to 108, with the higher scores indicating a higher sense of perceived efficacy for teaching in inclusive
classrooms. The TEIP is reliable and internally consistent, with Cronbach’s alpha scores of 0.93, 0.85, and 0.85 respectively for inclusive instructions, collaboration, and managing behaviour.

**Teacher Well-Being Scale**

The TWBS is a 16-item instrument that measures teachers’ experience of work through three factors of well-being: workload, organizational, and student interaction (Collie et al., 2015) (see Appendix E). Within the workload and organizational well-being factors there are six items each, and within the student interaction well-being factor there are four items. For example, one item included in the workload well-being factor is: fitting everything into the allotted time. For each item, participants are asked to rate how aspects of their work as a teacher affect their well-being on a seven-point scale from negatively (1) to positively (7). With 16 items total, the lowest possible score total score a participant can obtain is 16 and the highest is 112, with lower scores indicating lower well-being as aspects of work were rated more negatively. Cronbach’s alphas are all at acceptable levels of 0.85, 0.84, and 0.82 respectively for workload, organizational and student interaction factors.

**Attitudes Related to Trauma Informed Care**

The education version of the ARTIC scale consists of 35-items and five subscales (Baker et al., 2015) (see Appendix D). The five subscales of the ARTIC are: underlying causes of problem behaviour, responses to behaviour, on-the-job behaviour, self-efficacy at work, and reactions to the work. For the purpose of this study, only two subscales will be examined: self-efficacy at work and reactions to work, to measure self-efficacy and vicarious trauma respectively. Each of the items uses a seven-point bipolar Likert scale to reduce the risk of participants responding in socially desirable ways. For example, within the reactions to work subscale, a TIC-favorable attitude for one item is “The fact that I’m impacted by my work means
that I care” while the opposite is “Sometimes I think I’m too sensitive to do this kind of work”.

Within the two subscales there are seven items, for a score range of 7 to 49 for each. Higher scores indicate a higher sense of self efficacy in being able to meet job demands, and higher acknowledgement of vicarious trauma and choosing to cope by seeking support. Lower scores indicate lower perceived self-efficacy in being able to meet the demands of working with traumatized students, and less acknowledgement the effects of vicarious trauma and coping by ignoring it. The administration of the scale involves randomization of the items with some reverse scored. Reliability of internal consistency is good for this scale, with Cronbach’s alpha at 0.91 for the ARTIC-35.

**Procedure**

All self-report measures were completed online with the pre-test having been delivered before the course in October 2019 and the post-test administered at course completion in February 2020, before the COVID-19 pandemic. The current study utilized only the post-test scores.

Recruitment was done through an initial e-mail (see Appendix A) sent to all students enrolled in the mental health literacy course. This e-mail included broad information about the study and contact information. Those interested in participating were provided with a link to the Qualtrics test and informed consent. If they agreed, they were then brought to an information page detailing the requirement to complete 95% of the test in order to gain 5% toward their course grade and who to contact should they have questions or technical difficulties. Participants were informed that sharing their responses They were then presented with 10 optional demographic and background information questions. Participants were informed that this section was optional. Upon completion of these sections, they moved onto the test which involved the
consecutive presentation of all four scales. Participants were not told the name of the scale they were completing. At the end of the test, they were thanked for their participation and given contact information should they have any questions.

Mental Health Literacy Course

The mental health literacy course for teacher candidates not in the Psychology cohort is a mandatory requirement for the program. The course was instructed by Dr. Susan Rodger and ran over the course of 12 weeks during the Fall/Winter terms of 2019-2020. The course was created by mental health experts and teachers with the intention of providing pre-service teachers with knowledge and skills necessary for mentally healthy, culturally aware, and trauma and violence-informed classrooms. Throughout the course, teacher candidates learned about trauma, mental health, structural violence, access to care, and how these issues can impact student learning in the classroom. Course content and evaluation was provided in the form of videos, online games, case studies, video assignments, and weekly discussion forums. The online format can be beneficial in providing a sense of anonymity that can lend itself to comfortability in sharing and fostering a sense of community among the students in the course (Atkins and Rodger, 2016). Previous research evaluating the course has found teacher candidates to not only meet expected learning outcomes but extend them (Atkins and Rodger, 2016).

Data Analyses

As per instruction from the authors, scoring of the ARTIC-35 involved some items being reverse coded before subscale scores were calculated. For each of the other measures, a mean item score was also calculated for each subscale or factor. For the ARTIC, a higher score of reactions to the work indicates a lower level of vicarious trauma. A total of 8 variables were included in this current study including all TWBS factors, all TEIP factors, and two ARTIC
subscales (reactions to work and self-efficacy). Means, standard deviation, and ranges for each of these variables can be found in Table 2. To measure the degree of association between the variables, a Pearson correlation was calculated at a two-tailed level of significance (p<0.001).

Results

Overall results of the Pearson correlation indicated associations between all variables except for ARTIC reactions to work subscale with the TWBS workload factor and TEIP managing behaviour (see Table 3).

As expected, the association between the ARTIC reactions to work and self-efficacy subscales was significant at \( r(234) = .776, p < .001 \), suggesting that those who reported higher self-efficacy in meeting the demands of working with students exposed to trauma also reported higher acknowledgement of the effects of vicarious trauma. Further, the ARTIC self-efficacy was also associated with all TWBS factors: workload \( (r(234) = .262, p < .001) \), organization \( (r(234) = .445, p < .001) \), and student interaction \( (r(234) = .437, p < .001) \), as well as all TEIP factors: inclusive instruction \( (r(234) = .414, p < .001) \), collaboration \( (r(234) = .389, p < .001) \), and managing behaviour \( (r(234) = .358, p < .001) \). This suggests that participants in this sample who reported higher levels of self-efficacy across inclusive practice and working with students exposed to trauma also tended to report higher levels of well-being.

The ARTIC reactions scale was associated with TWBS factors of organization \( (r(234) = .345, p < .001) \) and student interaction \( (r(234) = .348, p < .001) \), however was not associated with workload \( (r(234) = .115, p < .001) \), suggesting that perceptions of students and school organization were related to levels of vicarious trauma while workload remained separate. Those participants that reported higher perception of well-being related to school organization and students, also tended to report higher acknowledgement of vicarious trauma and coping through
seeking support. Moreover, the reactions scale was associated with TEIP factors of inclusive instruction \((r(234) = .387, p < .001)\) and collaboration \((r(234) = .312, p < .001)\), however was not associated with managing behaviour \((r(234) = .211, p < .001)\). This suggests that those participants that rated themselves as feeling efficacious in classroom practices and collaborating with others, tended to rate themselves as higher on acknowledging the effects of vicarious trauma. However, efficacy for managing disruptive behaviour was not related to levels of vicarious trauma.

For the TWBS results indicated associations with all other TWBS factors, such that workload was associated with organization at \(r(234) = .539, p < .001\) and student interaction at \(r(234) = .468, p < .001\). Organization and student interaction factors were associated at \(r(234) = .634, p < .001\). This suggests that participants reporting higher well-being in one area also reported higher well-being in other areas. Further, the TWBS was also associated with all TEIP factors. Workload was associated with inclusive instruction at \(r(234) = .298, p < .001\), collaboration at \(r(234) = .272, p < .001\), and managing behaviour \(r(234) = .266, p < .001\). As expected, the TEIP was associated with all other TEIP factors such that inclusive instruction was associated with collaboration at \(r(234) = .722, p < .001\), and managing behaviour \(r(234) = .603, p < .001\). Collaboration and managing behaviour were associated at \(r(234) = .668, p < .001\). These results suggest overall that those participants rating themselves higher in well-being also rating themselves as higher in self-efficacy for inclusive practice.

We used the function “pwr.r.test” in the “pwr” package (Champely, 2020) in R version 4.0.4 (R Core Team, 2021), to estimate the magnitude of correlation coefficient that can be identified with our sample size. This function applies a Z transformation of the correlation coefficient, and applies a bias correction to the result, per the recommendations of Cohen (1988,
To control for multiple comparison bias, we adjusted the per-comparison alpha to account for the number of comparisons that we evaluated within our correlation matrix. Eight variables would require the evaluation of $\binom{8}{2}=28$ correlations, in order to account for all possible pairings. Our power calculation suggested that, with a two-sided alpha of 0.001, we would detect a correlation coefficient of 0.264 or more, 80% of the time.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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<td>Self-Efficacy</td>
<td>3</td>
<td>7</td>
<td>5.91</td>
<td>.868</td>
</tr>
<tr>
<td></td>
<td>Reactions to Work</td>
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<td>7</td>
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<td>.850</td>
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</tr>
<tr>
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<td>5.85</td>
<td>.748</td>
</tr>
<tr>
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</tr>
<tr>
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<td>Collaboration</td>
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<td>.530</td>
</tr>
<tr>
<td></td>
<td>Managing Behaviour</td>
<td>3</td>
<td>7</td>
<td>5.69</td>
<td>.602</td>
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</tbody>
</table>

*ARTIC: Attitudes Related to Trauma-Informed Care
TWBS: Teacher Well-Being Scale
TEIP: Teacher Efficacy for Inclusive Practice
Table 3

*Pearson Correlation Matrix*

<table>
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<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
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<td>.262**</td>
<td>.445**</td>
<td>.437**</td>
<td>.414**</td>
<td>.389**</td>
<td>.358**</td>
</tr>
<tr>
<td>2. ARTIC Reactions to Work</td>
<td>.776**</td>
<td></td>
<td>.115</td>
<td>.345**</td>
<td>.348**</td>
<td>.387**</td>
<td>.312**</td>
<td>.211</td>
</tr>
<tr>
<td>3. TWBS Workload</td>
<td>.262</td>
<td>.115</td>
<td></td>
<td>.539**</td>
<td>.468**</td>
<td>.298**</td>
<td>.272**</td>
<td>.266**</td>
</tr>
<tr>
<td>4. TWBS Organizational</td>
<td>.445**</td>
<td>.345**</td>
<td>.539**</td>
<td></td>
<td>.634**</td>
<td>.362**</td>
<td>.345**</td>
<td>.291**</td>
</tr>
<tr>
<td>5. TWBS Student Interaction</td>
<td>.437**</td>
<td>.348**</td>
<td>.468**</td>
<td>.634**</td>
<td></td>
<td>.391**</td>
<td>.336**</td>
<td>.426**</td>
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<tr>
<td>6. TEIP Inclusive Instruction</td>
<td>.414**</td>
<td>.387**</td>
<td>.298**</td>
<td>.362**</td>
<td>.391**</td>
<td></td>
<td>.722**</td>
<td>.603**</td>
</tr>
<tr>
<td>7. TEIP Collaboration</td>
<td>.389**</td>
<td>.312**</td>
<td>.272**</td>
<td>.345**</td>
<td>.336**</td>
<td>.722**</td>
<td></td>
<td>.668**</td>
</tr>
<tr>
<td>8. TEIP Managing Behaviour</td>
<td>.358**</td>
<td>.211</td>
<td>.266**</td>
<td>.291**</td>
<td>.426**</td>
<td>.603**</td>
<td>.668**</td>
<td></td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.001 level (2-tailed).
Discussion

The current study sought to explore the associations between pre-service teacher well-being, self-efficacy and vicarious trauma. The results of this study found significant associations between these variables, such that higher well-being and higher self-efficacy tended to be associated with higher acknowledgement and coping of the effects of vicarious trauma. No significance was found for vicarious trauma as it relates to efficacy for managing behaviour and workload well-being. Although causational conclusions cannot be drawn from these correlations, the results are promising in their exploration of the relationship between vicarious trauma, self-efficacy and well-being.

Self-Efficacy

The results of this study found all significant associations between the measures of self-efficacy (all TEIP factors and the ARTIC self-efficacy subscale) and all other measures. This suggests that in this sample, increases in their sense of self-efficacy was associated with increased well-being and an increase in the acknowledgement of vicarious trauma. From a SDT framework, these findings are in line with the notion that in order for individuals to be motivated and functioning well, they must feel competent, autonomous, and connected to others (Deci & Ryan, 2000). Central to these results is the need for competency whereby individuals need to feel they are capable and have the ability to manage their environment. This was reflective in the associations between the ARTIC self-efficacy, all TEIP factors, and well-being, suggesting that feeling efficacious in their ability to manage their work and influence their environment was related to feeling well about it. These findings are consistent with the literature on teacher self-efficacy and well-being, whereby those with high self-efficacy experience less stress (Zee & Koomen, 2016).
Furthermore, the associations between efficacy in collaboration with all other measures of self-efficacy and organizational and student interaction well-being suggests a relation in this sample between feeling capable and the perception of relations with others. Within an SDT framework, this is congruent with the needs for both competency and relatedness. This is supported in previous research on teacher well-being and work engagement that has found collaboration and relatedness with students to be important factors (Caringi et al., 2015; Klassen et al., 2012). Relatedly, autonomy supportive environments have been found to lead to positive outcomes in both teachers and students (Su & Reeve, 2011). The perception of an environment that is supportive of their individual needs has been associated with work engagement, emotional exhaustion, relatedness with students and the creation of an autonomy supportive classroom (Roth et al., 2007). As echoed in this sample, the more well they felt about their school organization and student interactions, the more efficacious they tended to feel in their role.

**Well-Being**

Well-being factors of organizational and student interactions were associated with all other measures of well-being, self-efficacy and vicarious trauma. The association between student interaction correlations and other well-being factors and self-efficacy items suggests relationships between the health of teachers in this sample and the practices in their classroom. This can be interpreted to mean that the healthier they are then the more likely their practices will be effective and inclusive. Indeed, this is in line with the literature on teacher self-efficacy whereby higher self-efficacy has been associated with effective use of instructional time and the creation of a teacher supportive classroom environment (Guo et al., 2012). Further, Friedman-Krauss et al. (2014) found in their study of preschool teachers, that the perception of child behaviour problems was associated with higher levels of stress. When teachers are required to
manage child behaviour while also adhering to the curriculum, they can have increased stress and deficits in their psychological resources (Friedman-Krauss et al., 2014). In this sample, higher ratings of the perception of students was positively associated with higher well-being and self-efficacy in their practices. As outlined by Jennings and Greenberg (2009), teacher social and emotional competence and well-being are essential in the development of supportive relationships, effective classroom management and program implementation. This underscores the important role teacher well-being and competency as it can allow for the obtainment of personal resources needed to engage effectively in their work and remain present to student needs.

The positive associations between organizational well-being and other factors of well-being and self-efficacy suggests a relation between the perception of school leadership and culture and classroom practices. The organizational well-being factor is related to teachers’ perceptions of their school as an organization, encompassing their perceptions of school leadership and the general culture toward teaching (Collie et al., 2015). The items in this measure cover areas such as relationships with administrators, support offered by school leadership, recognition of work, and participation in school-level decision making. The other associated factors included workload and student interaction well-being and self-efficacy measures of inclusive practice and of working with individuals exposed to trauma. As such, the positive associations found in this study can then suggest a relationship between the organizational environment of the school and teacher well-being and self-efficacy in their work. This is congruent with previous research finding that having a supportive environment was associated with lower teacher stress and higher job satisfaction (Greenberg et al., 2016). In this
sample, the more well they felt about the school environment, the better they felt about their work and the more inclusive their practices were.

Indeed, the organizational well-being factor is important given the significant research on autonomy supportive environments (Collie et al., 2015; Klassen et al., 2012). Within SDT, these are contexts in which an authority figure is supportive of individual interests, promotes choice, and is respectful of their perspectives (Deci & Ryan, 2008). These environments foster autonomy and are essential for meeting needs of autonomy, competency and relatedness (Collie et al., 2015). In an educational setting, these authoritative leaders can be principals and teachers. Research has found that when principals are perceived by teachers to be autonomy supportive, they are more likely to report satisfaction in their needs of autonomy, competence, and relatedness (Klassen et al., 2012). More specifically, Roth et al.’s (2007) study suggested that autonomy supportive contexts by principals can be promoted through encouraging teachers to be involved in decision making, giving them authority and fostering a school environment that supports relatedness and competency. This literature base is congruent with findings in this study, whereby organizational well-being was associated with all other measures indicating a relationship between perception of school organization and well-being, self-efficacy, and vicarious trauma.

The well-being factor of workload was not associated with the ARTIC reactions to work and only just at threshold for the ARTIC self-efficacy factor. Workload well-being encompasses issues related to workload and the associated pressures (marking work, fitting everything in to the allotted time, administrative work, staying late, and attending meetings) (Collie et al., 2015). The ARTIC reactions to work factor encompasses the coping of vicarious trauma through ignoring versus support seeking while the self-efficacy factor relates to the self-perception in
one’s ability to meet the demands of working with students exposed to trauma (Baker et al., 2015). The lack of association between these variables and workload suggests that when working with students exposed to trauma, other factors may be more influential. This is supported in previous research on vicarious trauma in school personnel, whereby predictors of secondary stress scores more highly involved aspects of school organization and managing behaviour as opposed to workload (Borntrager et al., 2012; Caringi et al., 2015). Within this, it is also important to consider the unique position of teacher candidates in being both students and teachers, having to attend to their own needs as well as find ways to best support their students (Chang, 2009).

Vicarious Trauma

The ARTIC measure of reactions to work was used to measure vicarious trauma and scores on this subscale associated with all measures of self-efficacy and both organizational and student interaction well-being. The vicarious trauma measure of reactions, encompasses coping with the impact of vicarious trauma by underappreciating the effects and ignoring them versus appreciation of the effects through support seeking (Baker et al., 2015). As discussed earlier, previous research on secondary traumatic stress in school personnel has found factors of organizational related stress (e.g., large classes, lack of supervision) and an environment lacking the promotion of support-seeking to be influential in participant stress (Borntrager et al., 2012; Caringi et al., 2015). These findings are echoed in this current study whereby vicarious trauma was correlated with organizational well-being, suggesting the perception of school leadership and culture to be related to the affective reaction to work. Those who rated their perception of the school organization as well also tended to acknowledge the experience of vicarious trauma and cope by seeking support. This underscores the importance of creating an environment that
allows for relatedness and support seeking as a way to cope with the emotional impacts of working with individuals exposed to trauma.

More specific to students, vicarious trauma was found to be associated with student interaction well-being and ARTIC self-efficacy, but not the TEIP factor of managing behaviour. The TWBS student interaction factor relates to the perceptions of and relation to students (e.g. their behaviour and motivation) (Collie et al., 2015), the ARTIC self-efficacy factor encompasses the perception of one’s ability in meeting the demands of working with students exposed to trauma (Baker et al., 2015), the TEIP relates to the efficacy in dealing with disruptive behaviour (e.g. getting children to follow rules and making expectations clear) (Sharma et al., 2011). This relates to the results of the Caringi et al. (2015) study on secondary trauma in school personnel, whereby they found teachers reporting that managing behaviour in the classroom negatively impacted their ability to teach effectively and build connections with students, which was ultimately linked with increased scores of secondary traumatic stress (Caringi et al., 2015).

In this sample, the association between the self-efficacy factor and vicarious trauma suggests that for those teachers who felt competent in working with students exposed to trauma they tended to also acknowledge the experience of vicarious trauma and cope more effectively. Moreover, these participants also tended to report higher well-being in the of perception of student behaviour, motivation, etc. Notably however, the TEIP factor of managing behaviour was not associated. One explanation for this could be the more relational aspect of the student interaction well-being factor. This relational and affective aspect of teaching was highlighted in the Caringi et al. (2015) study, whereby participants reported high levels of secondary trauma exposure and stress due to empathetic concern for their students. The more perceptive and relational aspect of the
student interaction well-being subscale may explain why it was associated with the vicarious trauma measure.

**Self-Determination Theory**

On the whole, the results from this current study support the relevance of SDT as a framework for teacher candidate motivation. The ARTIC, TWBS and TEIP measures appear adequate in their encompassing of the needs through aspects of self-efficacy, perceptions of school leadership and student interactions, well-being, and coping through support seeking. More specifically, autonomy was addressed with the TEIP and TWBS organizational factor; competency was also addressed through the TEIP as well as the ARTIC self-efficacy subscale and the TWBS workload factor; and relatedness was addressed with the ARTIC reactions to work subscale, TWBS organizational and student interaction factors and the TEIP collaboration factor. As indicated in this sample, associations between the variables of self-efficacy, well-being and vicarious trauma are congruent with the universal needs for competency, autonomy and relatedness. As theorized by Deci and Ryan (2000; 2012) fulfillment of these needs are essential for individuals to be well and motivated. The finding in this study that teacher candidates who tended to have higher scores of well-being also tended to be higher on self-efficacy and coping with vicarious trauma through support seeking aligns with the three needs and their role in well-being. As such, SDT seems to provide promise in being a framework to understand how the variables of self-efficacy, well-being and vicarious trauma relate to one another through universal needs for wellness.

**Implications for School Mental Health**

The findings that self-efficacy, well-being, and vicarious trauma were associated in teacher candidates in this present study points to the importance of expanding the scope of
school mental health. Currently, much of the focus has been on working with students who have been exposed to trauma, however this study underscores the need to work with teachers as well. This knowledge of the associations found in this sample can help guide counselling practices in schools. More specifically, given the relation between self-efficacy and vicarious trauma, focus could be placed on discerning what teachers need to feel capable. As discussed earlier, current research on vicarious trauma in school personnel has suggested the need for support and collaboration (Borntrager et al., 2012; Caringi et al., 2015). Additionally, research has found teachers to express a desire to attain knowledge and skills to feel efficacious in meeting the diverse needs of their students (Weston et al., 2008). This is important to consider as other literature has found training programs to be effective in teaching autonomy supportive practices to teachers (Su & Reeve, 2011). Since autonomy supportive environments help to lay the foundation for SDT needs of autonomy, competence, and relatedness to be met, it is a reasonable place to start (Perlman, 2015). Evidently, there is a desire for teachers to meet competency needs and feel efficacious in their practices and so more focus should be placed on supporting them in meeting this need. This is especially significant when considering the leadership role they play in the classroom and impact they can have on students (e.g. Fredriksen & Rhodes, 2004). When teachers are equipped with knowledge and skills, they are better able to support both themselves and students.

**Implications for Counselling**

These results can provide important direction for how to best support teachers when considered within the context of counselling. Previous research has highlighted the significant role of autonomy, support, and education in helping teachers meet their needs and move toward better well-being (Caringi et al., 2015; Froese-Germain, 2014; Roth et al., 2007). This has been
echoed in the current results with the finding that those teacher candidates with higher ratings of well-being also tended to have higher ratings of self-efficacy and an appreciation for the effects of vicarious trauma. In considering the implications for counselling, the vicarious trauma results are particularly salient in two ways. First, the finding that the three variables were associated points to the importance of self-efficacy in well-being and vicarious trauma. For counsellors working with teachers, it may be helpful to direct attention to building their self-efficacy, especially as it relates to their working with and supporting students exposed to trauma. Second, the vicarious trauma measure encompassing the appreciation of the effects of working with individuals exposed to trauma and coping through support seeking, provides important implications in how to help teachers dealing with vicarious trauma. This aligns with previous research identifying the significance of support and collaboration in secondary traumatic stress (Borntrager et al., 2012; Caringi et al., 2015) and research on trauma education highlighting the importance of discussing the personal impact working with individuals exposed to trauma can have (Loomis & Felt, 2021). Taken together, it seems that the acknowledgement of the experience of vicarious trauma and providing space for support are both worthy areas to consider within the context of counselling. In addition to providing teachers with the skills and knowledge necessary to feel self-efficacious and well, it is just as important to validate the personal impact of their work and create an environment allowing for support through connection with others.

**Limitations**

There are several limitations present in this study that warrant discussion. This study took place at a single Canadian university with students from a specific program. As such, these results may not necessarily generalize to teacher candidates attending other universities or living in other locations. Furthermore, given the nature of the participants being teacher candidates,
these results may not be generalizable to certified and practicing teachers. Other limitations of consideration come from the measures whereby they were completed through self-report and at one point in time. Although post-test measures were used and all participants were exposed to the same course material, any additional external learning or educational experiences were not accounted for in this study.

**Strengths**

Despite the discussed limitations, the current study has inherent strengths to contribute to the literature. Notably, is the value in studying teacher candidates as opposed to licensed teachers already practicing. By looking at emerging teachers there is still time to make improvements before they enter the field. If these teachers can receive knowledge and skills necessary to feel capable and autonomous, this can foster positive outcomes in students. This is important given that research has found teachers expressing a desire to attain training, as well as promising research finding teacher intervention programs to be effective.

**Future Directions**

In relation to this study, a one-year follow up with participants will be completed and will help to provide information on the retention and application of the knowledge gained in the MHL course. Broadly, additional research examining the variables of vicarious trauma, well-being, and self-efficacy could help to elucidate the associations further. Considering the results of this study and the support of the literature base, it seems reasonable to focus attention on teacher education as a starting point for future exploration and implementation.

In their proposition about what a teacher education program should include in regards to mental health, Weston et al. (2008) noted the importance of not only knowledge and skills but also the ability to build relationships, engage in various systems, and facilitate overall well-
being. Further, in Loomis and Felt’s (2021) study on trauma training for preschool staff, they highlighted the importance of also including aspects of self-reflection and the discussion of the personal impact of trauma when educating teachers on working with children who have experienced trauma. These suggestions underscore the needs of SDT and highlight the importance of teacher autonomy, competency and relatedness. When teachers feel efficacious, well, and connected to others, then they are more likely to be motivated to engage in practices benefitting themselves and students (Jennings & Greenberg, 2009; Klassen, 2012; Roth et al., 2007). Considering the impactful role they can play in a child’s development, ensuring the well-being of teachers is an area worthy of additional focus.

This becomes especially salient given the pressing need for children and youth to have access to mental health support (Halladay et al., 2020). As demonstrated in Halladay et al.’s (2020) study, teacher-student relationship and teacher responsiveness were found to be positively associated with elementary and secondary students’ intention to seek help for mental health concerns. Not only is it important to equip teachers with knowledge and skills to effectively respond to student concerns, but also equip them with resources and support to ensure their well-being is optimal.

Indeed, teaching is a stressful occupation and this may lead some to turn away from the profession and so it becomes essential to consider what will allow for retention of new teachers. Research has identified a desire in teachers to gain skills and knowledge in how to best support students, making teacher education and professional development a pivotal area to focus (Weston et al., 2008). When investments are made in teachers and improving teacher education, this investment is also being made in the students with whom they will impact throughout their career. Indeed, although the role of a teacher and that of a mental health professional are
markedly different, there is no denying the significant role teachers can play in the identification and support of students’ mental health (Rodger et al., 2020; Rothi et al., 2008). Given the literature base on the reality of this role, the voices of teachers expressing a desire for adequate education, and calls to action by researchers, it is reasonable to assume that teacher education would respond in kind however this is not the case. There still remains an apparent need in teacher education to better educate, equip and support teachers. Certainly, retaining as many great and passionate new teachers is of utmost importance to ensure a long career contributing to the lives of many students. When we create an environment that allows for all needs of autonomy, competency and connection to be met in teachers, then we create an abundance of resources for them to effectively attune to and support themselves and students.
References


Appendices

Appendix A

Email Script for Recruitment of Participants

Subject Line: Baseline knowledge about Mental Health Literacy Dear Students:

The instructor of course you are enrolled in (5018Q: Mental Health Literacy) measuring how effective this course is in increasing your knowledge about mental health literacy and trauma-informed teaching. Among the ways that you will receive marks for the course is through the completion of a pre-test and a post-test. There is no need to prepare for either of these tests; they will not be graded. Only your participation is required. More information is available on how this is done, once you click on the survey link. Another way your participation is counted in the course is through your weekly online posts in the “Discussion forums”.

In addition to having this pre- and post-test data and Discussion forums to measure how well the course met its learning objectives, a PhD student is going to be using the data to evaluate how online courses can help teacher education students learn about these topics.

No matter if you decide to share your data or not, you still need to complete the pre- and post-tests and Discussion Forum posts in order to receive the participation grades.

Below, you will find a link to the secure survey site. DO NOT SHARE THIS LINK, as it is unique to you.

You have until October 17 at 11:59 pm to complete the pre-test. Please be aware that it takes approximately 25 minutes to complete, so leave yourself ample time.

Please follow the instructions below to access the pre-test:

Follow this link to the Survey:

(link to be inserted)

Or copy and paste the URL below into your internet browser: (link to be inserted)

For more information about this pre-test please visit our course website on OWL. Please see the e course outline.

For any technical difficulties accessing the pre-test, please contact TA Richelle Bird at .
Appendix B

Letter of Information and Informed Consent

Evaluating a Mental Health Literacy Course for Pre-Service Teachers Letter of Information & Consent

Research team

Principle Investigator-Dr. Susan Rodger, Ph.D., Faculty of Education Co-Investigator-Richelle Bird, M.A., Ph.D. Candidate, Faculty of Education Research Support Staff- Anna Zuber, Faculty of Education

Purpose of the Study

You are invited to participate in this research because you are a Bachelor of Education student enrolled in EDUC 5018Q. This study is part of a PhD dissertation that will use the results from the course evaluation of this course. All students will complete pre and post-tests and discussion forum posts for the purpose of quality improvement to ensure the course is meeting learning objectives, and will receive marks for participation. We are asking your permission to share your responses to the quizzes for this PhD dissertation exploring the effectiveness of an online platform for providing pre-service educators information about mental health literacy and trauma-and-violence-informed care. We are also requesting your permission to collect and analyze information from your discussion forum posts for the purpose of identifying themes related to your experience of the course.

Your participation in this research is voluntary. There are no limitations to withdrawal; you can withdraw any or all of your information and have the right to withdraw your consent at any point during the study until final course grades are submitted, at which point the data will be anonymized. You may withdraw for any reason, and without any penalty by emailing Anna Zuber, .

Confidentiality

The information collected will be used for research purposes only, and neither your name nor any identifying information will be used in any publication or presentation of the study results. These identifying pieces of information will be used solely for the purpose of matching up survey responses to participants so you are able to receive your participation grade. All data used in the research will be de-identified following the submission of final grades by the IT department, thus the identities of those who consented to share data and those who did not will not be known to the research team. All information collected for the study will be kept confidential in the possession of Western’s research; only whole group findings and themes will be shared. Please note that answers from your pre and post-tests will not be linked to your forum posts. Your decision to participate will in no way impact your grade in this course or your relationship with faculty.
All data will be retained for a minimum of 7 years. Representatives of Western University’s Non-Medical Research Ethics Board may require access to your study-related records to monitor the conduct of the research. The results of the study will be disseminated through publication in a peer reviewed journal and/or through presentation at relevant conferences.

You do not waive any legal rights by consenting to this study.

**Risks & Benefits**

There are no known risk to participating in this study. While there are no direct benefits to participating, study data will be utilized to fill important gaps in the literature with respect to mental health education for teachers.

**Questions**

If you have any questions about the conduct of this study or your rights as a research participant you may contact the Office of Research Ethics, Western University at or . If you have any questions about this study, please contact Dr. Susan Rodger (Phone: or Email: ).

Please print/save a copy of this letter for future reference

Sincerely,
The Research Team,

Dr. Susan Rodger Ph.D., Richelle Bird M.A., Ph.D. Candidate, and Anna Zuber, Manager Teacher Education, Faculty of Education

This section is to ensure that we have your informed consent to participate in this research.

Principal Investigator: Dr. Susan Rodger Ph.D., Faculty of Education, Western University, Co-Researcher: Richelle Bird M.A., Ph.D. Candidate, Faculty of Education
Research Support: Anna Zuber, Manager Teacher Education, Faculty of Education

I give permission for my responses from my pre and post-tests to be used in this research.

____Yes

____No

I give permission for my discussion forum responses to be used in this research.

____Yes

____No
Appendix C

Demographic Questionnaire

Start of Block: Western ID

Q1 Please enter your Western Student Login (e.g. jdoe)

End of Block: Western ID

Start of Block: Demographic Items

Q2 Please indicate which best describes your experience.

Q3 Gender

○ Male (1)
○ Female (2)
○ Transgender (3)
○ Prefer not to say (4)
Q4 BEd Program

- Primary (1)
- Junior (2)
- Intermediate (3)
- Senior (4)
- Alternative (5)
- Other (6)

Q5 Cohort

- International Education (1)
- Early Childhood Education (2)
- Urban Education (3)
- French (4)
- STEM (5)
- Advanced Studies in the Psychology of Achievement, Inclusion and Mental Health (6)
Q6 Previous Degree

- Science (biology, chemistry, physics, mathematics) (1)
- Psychology (2)
- Child and Family Studies (3)
- Health Sciences (kinesiology, nursing, medicine) (4)
- Social Sciences (geography, sociology, anthropology, economics, politics science) (5)
- Arts and Humanities (english, history, women's studies, philosophy, french) (6)
- Social Work (7)
- Religion/Divinity (8)
- Other (please specify): (9) ________________________________________________

Q7 Degree Obtained

- Undergraduate (1)
- Masters (2)
- PhD (3)
- Other (please describe): (4) ________________________________________________

Q8 I have learned about mental health and mental illness before this course:

- Yes (1)
- No (2)
Q9 If yes, where from? Choose one from the following:

- Training program (such as ASSIST or Mental Health First AID) (1)
- Undergraduate course (2)
- Postgraduate course (3)
- Other (please describe): (4) ________________________________
Appendix D

Attitudes Related to Trauma Informed Care (ARTIC) Scale

Q1 People who work in education, health care, human services, and related fields have a wide variety of beliefs about their students, their jobs, and themselves. The term “student” is interchangeable with “client,” “person,” “resident,” “patient,” or other terms to describe the person being served in a particular setting. **Trauma-informed care** is an approach to engaging people with trauma histories in education, human services, and related fields that recognizes and acknowledges the impact of trauma on their lives. For each item, select the circle along the dimension between the two options that best represents your personal belief during the past two months at your placement.

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Students’ learning and behavior problems are rooted in their **behavioural or mental health condition.**

Students’ learning and behavior problems are rooted in their **history of difficult life events.**
Focusing on developing healthy, healing relationships is the best approach when working with people with trauma histories.

Rules and consequences are the best approach when working with people with trauma histories.

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Being very upset is normal for many of the students I serve.

It reflects badly on me if my students are very upset.
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<td>I don't have what it takes to help my students.</td>
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The students were raised this way, so there’s not much I can do about it now.

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| The students were raised this way, so they don’t yet know how to do what I’m asking them to do.

Students need to experience real-life consequences in order to function in the real world.

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| Students need to experience healing relationships in order to function in the real world.
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If students say or do disrespectful things to me, it makes me look like a fool in front of others.

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I have the skills to help my students.
The best way to deal with feeling burnt out at work is to seek support.

Q10

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The best way to deal with feeling burnt out at work is not to dwell on it and it will pass.

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Many students just don't want to change or learn.

All students want to change or learn.
Q12

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</table>

Students are often not yet able or ready to take responsibility for their actions. They need to be treated flexibly and as individuals.

Students need to be held accountable for their actions.

---

Q13

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</table>

I realize that my students may not be able to apologize to me after they act out.

If students don’t apologize to me after they act out, I look like a fool in front of others.
Q14

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Each day is uniquely stressful in this job.

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The fact that I'm impacted by my work means that I care.

Sometimes I think I'm too sensitive to do this kind of work.
Q16

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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students have had to learn how to trick or mislead others to get their needs met.</td>
<td>1 (1)</td>
<td>2 (2)</td>
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<td>4 (4)</td>
<td>5 (5)</td>
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</tbody>
</table>

Students are manipulative so you need to always question what they say.

Q17

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</tr>
</thead>
<tbody>
<tr>
<td>Helping a student feel safe and cared about is the best way to eliminate undesirable behaviours.</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>4 (4)</td>
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</table>

Administering punitive consequences is the best way to eliminate undesirable behaviours.
Q18

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<td>4 (4)</td>
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When I make mistakes with students, it is best to move and pretend it didn't happen.

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</tbody>
</table>

The ups and downs are part of the work so I don't take it personally.

The unpredictability and intensity of the work makes me think I'm not fit for this job.
The most effective helpers find ways to toughen up-to screen out the pain—and not care so much about the work.

Students could act better if they really wanted to.

<table>
<thead>
<tr>
<th>Q20</th>
<th>1 (1)</th>
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### Q22

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<th>5 (5)</th>
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<th>7 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>It's best to treat students with respect and kindness from the start so they know I care.</td>
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It's best to be very strict at first so students learn they can't take advantage of me.

### Q23

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<th>5 (5)</th>
<th>6 (6)</th>
<th>7 (7)</th>
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</thead>
<tbody>
<tr>
<td>Healthy relationships with students are the way to good student outcomes.</td>
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People will think I have poor boundaries if I build relationships with my students.
<table>
<thead>
<tr>
<th>Q24</th>
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</tr>
</thead>
<tbody>
<tr>
<td>I feel able to do my best each day to help my students.</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>4 (4)</td>
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<tr>
<td>I'm just not up to helping my students anymore.</td>
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</thead>
<tbody>
<tr>
<td>It's because I am good at my job that the work is affecting me so much.</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>4 (4)</td>
<td>5 (5)</td>
<td>6 (6)</td>
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<tr>
<td>If I were better at my job, the work wouldn't affect me so much.</td>
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### Q26

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</table>

Students do the right thing one day but not the next. This shows that they are doing the best they can at any particular time.

### Q27

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<td>(7)</td>
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</tbody>
</table>

When managing a crisis, enforcement of rules is the most important thing.

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Students do the right thing one day but not the next. This shows that they could control their behaviour if they really wanted to.

When managing a crisis flexibility is the most important thing.
Q28

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If I don’t control students’ behaviour, bad things will happen to property.

As long as everyone is safe, it is ok for students to become really upset, even if they cause some property damage.

Q29

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</table>

I dread going to my placement it’s just too hard and intense.

Even when my placement is hard and intense, I know it’s part of the work and it’s ok.
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<thead>
<tr>
<th>Q30</th>
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<th>6</th>
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</tr>
</thead>
<tbody>
<tr>
<td>How I am doing personally is unrelated to whether I can help my students.</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>4 (4)</td>
<td>5 (5)</td>
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I have to take care of myself personally in order to take care of my students.

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<th>Q31</th>
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<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>If things aren't going well, it is because the students are not doing what they need to do.</td>
<td>1 (1)</td>
<td>2 (2)</td>
<td>3 (3)</td>
<td>4 (4)</td>
<td>5 (5)</td>
<td>6 (6)</td>
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If things aren't going well, it is because I need to shift what I'm doing.
### Q32

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<th>5 (5)</th>
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<th>7 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am most effective as a helper when I focus on a student’s strengths.</td>
<td></td>
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<tr>
<td>I am most effective as a helper when I focus on a student’s problem behaviours.</td>
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### Q33

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<th>7 (7)</th>
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<tbody>
<tr>
<td>Being upset doesn’t mean that students will hurt others.</td>
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<tr>
<td>If I don’t control students’ behaviour, other students will get hurt.</td>
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Q34

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<tbody>
<tr>
<td>Response</td>
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<td>2 (2)</td>
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<td>4 (4)</td>
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<td>7 (7)</td>
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If I told my colleagues how hard my placement is, they would support me.

If I told my colleagues how hard my placement is, they would think I wasn’t cut out for the job.

Q35

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<tbody>
<tr>
<td>Response</td>
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</tbody>
</table>

When I feel myself "taking my work home", it's best to bring it up my colleagues and/or supervisor(s).

When I feel myself "taking my work home", it's best to keep it to myself.
Currently, how do the following aspects of being a teacher affect your well-being as a student-teacher?

Q1 Marking work

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q2 Fitting everything into the allotted time

○ Negatively (1)

○ Mostly Negatively (2)

○ More Negatively than Positively (3)

○ Neither Positively nor Negatively (4)

○ More Positively than Negatively (5)

○ Mostly Positively (6)

○ Positively (7)

Q3 Administrative work related to teaching

○ Negatively (1)

○ Mostly Negatively (2)

○ More Negatively than Positively (3)

○ Neither Positively nor Negatively (4)

○ More Positively than Negatively (5)

○ Mostly Positively (6)

○ Positively (7)
Q4 Work I complete outside of school hours for teaching

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)

Q5 Working to finish my teaching tasks

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q6 Staying late after work for meetings and activities

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)

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Q7 Relations with administrators at my school

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q8 Support offered by school leadership

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)

Q9 Recognition for my teaching

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q10 School rules and procedures that are in place

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)

Q11 Communication between members of the school

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q12 Participation in school-level decision making

○ Negatively (1)
○ Mostly Negatively (2)
○ More Negatively than Positively (3)
○ Neither Positively nor Negatively (4)
○ More Positively than Negatively (5)
○ Mostly Positively (6)
○ Positively (7)

Q13 Student behaviour

○ Negatively (1)
○ Mostly Negatively (2)
○ More Negatively than Positively (3)
○ Neither Positively nor Negatively (4)
○ More Positively than Negatively (5)
○ Mostly Positively (6)
○ Positively (7)
Q14 Relations with students in my class

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)

Q15 Student motivation

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Q16 Classroom management

- Negatively (1)
- Mostly Negatively (2)
- More Negatively than Positively (3)
- Neither Positively nor Negatively (4)
- More Positively than Negatively (5)
- Mostly Positively (6)
- Positively (7)
Appendix F

Teacher Efficacy for Inclusive Practice (TEIP)

This survey is designed to help understand the nature of factors influencing the success of routine classroom activities in creating an inclusive classroom environment. Please circle the number that best represents your opinion about each of the statements. Please attempt to answer each question.

<table>
<thead>
<tr>
<th></th>
<th>1 Strongly Disagree</th>
<th>2 Disagree</th>
<th>3 Disagree Somewhat</th>
<th>4 Agree Somewhat</th>
<th>5 Agree</th>
<th>6 Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I can make my expectations clear about student behaviour.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>I am able to calm a student who is disruptive or noisy.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I can make parents feel comfortable coming to school.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I can assist families in helping their children do well in school.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I can accurately gauge student comprehension of what I have taught.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I can provide appropriate challenges for very capable students.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I am confident in my ability to prevent disruptive behaviour in the classroom before it occurs.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I can control disruptive behaviour in the classroom.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I am confident in my ability to get parents involved in school activities of their children with mental health problems.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I am confident in designing learning tasks so that the individual needs of students with disabilities are accommodated.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>I am able to get children to follow classroom rules.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Statement</td>
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<td>-----------------------------------------------------------------------------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I can collaborate with other professionals (e.g. itinerant teachers or speech pathologists) in designing educational plans for students with mental health problems.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I am able to work jointly with other professionals and staff (e.g. aides, other teachers) to teach students with mental health problems in the classroom.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I am confident in my ability to get students to work together in pairs or in small groups.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I can use a variety of assessment strategies (for example, portfolio assessment, modified tests, performance-based assessment, etc).</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>I am confident in informing others who know little about laws and policies relating to the inclusion of students with mental health problems.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>I am confident when dealing with students who are physically aggressive.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>I am able to provide an alternate explanation or example when students are confused.</td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix G

Ethical Approval

Western Research

Date: 2 October 2019

To Dr. Susan Rodger

Project ID: 112483

Study Title: Evaluating a Mental Health Literacy Course for Pre-Service Teachers

Application Type: NMREB Amendment Form

Review Type: Delegated

Full Board Reporting Date: 01/Nov/2019

Date Approval Issued: 02/Oct/2019 10:41

REB Approval Expiry Date: 25/Sept/2020

Dear Dr. Susan Rodger,

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the WREIM application form for the amendment, as of the date noted above.

Documents Approved:

<table>
<thead>
<tr>
<th>Document Name</th>
<th>Document Type</th>
<th>Document Date</th>
<th>Document Version</th>
</tr>
</thead>
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<tr>
<td>10.1.2019_EMail Script_Longitudinal</td>
<td>Recruitment Materials</td>
<td>01/Oct/2019</td>
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<tr>
<td>10.1.2019_LOI_Consent__CLEAN2</td>
<td>Implied Consent/Assent</td>
<td>01/Oct/2019</td>
<td>2</td>
</tr>
<tr>
<td>10.1.2019_LOI_Consent_Longitudinal__CLEAN2</td>
<td>Implied Consent/Assent</td>
<td>01/Oct/2019</td>
<td>2</td>
</tr>
<tr>
<td>100.1.2019_Mental_Health_Literacy_Course_Post-Test_survey__CLEAN</td>
<td>Online Survey</td>
<td>02/Oct/2019</td>
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</tbody>
</table>

REB members involved in the research project do not participate in the review, discussion or decision.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario. Members of the NMREB who are named as investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Please do not hesitate to contact us if you have any questions.

Sincerely,

KateyAnn Harrin, Research Ethics Officer on behalf of Dr. Randal Graham, NMREB Chair

*Note: This correspondence includes an electronic signature (validation and approval via an online system that is compliant with all regulations).*

Page 1 of 1
Curriculum Vitae

Name: Bernadette Yeo

Post-secondary Education and Degrees:

University of the Fraser Valley
Abbotsford, BC, Canada
2011-2017 B.A. Honours Psychology

The University of Western Ontario
London, Ontario, Canada
2019-2021 M.A. Counselling Psychology

Honours and Awards:

Social Science and Humanities Research Council (SSHRC)
Canada Graduate Scholarship
2020-2021

Related Work Experience

Teaching Assistant
University of Western Ontario
2020-2021

Counselling Intern Student
Family Service Thames Valley
2020-2021