AN EXAMINATION OF WORK-RELATED STRESS AND RESILIENCE IN CANADIAN TEACHERS

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DEDICATION

This thesis is dedicated to all teachers. Thank you for the work that you do and the difference you make. This study would not have been possible without you.

ABSTRACT

Teachers are susceptible to work-related stress, including burnout, secondary traumatic stress, and vicarious trauma. Yet, little is known about how resilience may serve as a protective factor and the prevalence of work-related stress in teachers. The aim of the current study was to examine work-related stress and resilience among K-12 Canadian teachers. Participants (N = 313) completed an online survey assessing work-related stress and resilience. Moderate to high work-related stress and significant associations with resilience were found among teachers. Significant differences were also found for teachers with low, intermediate, and high resilience. Furthermore, resilience significantly predicted lower work-related stress. These findings suggest resilience may serve as a protective factor. Analysis of short-answer responses highlight the challenges teachers are facing, and coping mechanisms for managing burnout and stress. These findings demonstrate a need for individual and systemic supports to help reduce vulnerability to work-related stress and promote resiliency in teachers.

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LIST OF ABBREVIATIONS

CD-RISC	Connor-Davidson Resilience Scale
ProQOL 5	Professional Quality of Life Scale, Version 5
PTSD	Post-Traumatic Stress Disorder
STS	Secondary Traumatic Stress
TIC	Trauma-Informed Care
VT	Vicarious Trauma
VTS	Vicarious Trauma Scale

GLOSSARY

Term	Definition
Burnout	A state of emotional, mental, and physical exhaustion caused by prolonged workplace stress
Secondary Traumatic Stress	The behaviours and emotions resulting from knowledge about a traumatizing event experienced by another; The stress resulting from helping or wanting to help a traumatized or suffering person
Vicarious Trauma	The profound personal changes that result from empathetic engagement with a client's traumatic material
Resilience	Protective or positive processes that work to reduce negative outcomes following experiences of adversity or risk

CHAPTER 1: INTRODUCTION

Teachers are often at the forefront of dealing with childhood trauma, as they frequently handle emotional and behavioural issues at school (Hydon et al., 2015). Students experiencing trauma may seek support from their teachers and although teachers may want to help, they might not have been explicitly trained to deal with trauma (Caringi et al., 2015; Christian-Brandt et al., 2020; Minero, 2017). Additionally, teachers typically experience high rates of occupational stress due to heavy workloads (Christian-Brandt et al., 2020; Hydon et al., 2015; Skaalvik & Skaalvik, 2010), lack of support (Borntrager et al., 2012), inadequate schedules (de Vera Garcia & Gambarte, 2019), and large classroom sizes (Klassen & Chiu, 2010). Although there are various definitions for a teacher, the current study defined a teacher as being employed in a K-12 school district and meeting the provincial qualifications for teacher certification.

Exposure to trauma is a prominent issue among children and adolescents (Christian-Brandt et al., 2020; Felitti et al., 1998). In 2015, one-third of Canadians indicated they experienced some form of child maltreatment before the age of 15 (Statistics Canada, 2015). Childhood maltreatment can include sexual abuse, physical abuse, neglect, witnessing domestic violence, and/or exposure to violence by a parent/guardian against another adult (Afifi et al., 2014; Statistics Canada, 2015). Trauma exposure puts children at risk for severe behavioural problems (Fergusson et al., 2013), poor school attendance and grade achievement (Stempel et al., 2017), and psychological problems (Larson et al., 2017). This has important consequences for teachers as they may regularly engage with students who are facing trauma (Rankin, 2022).

The combination of being exposed to trauma and high stress can lead to work-related stress which includes burnout, secondary traumatic stress (STS), and vicarious trauma (VT) (Cummings et al., 2020). While research has extensively examined these constructs in other

helping professions (e.g., physicians, social workers, nurses; e.g., Cummings et al., 2020), based on the researcher's literature search there are no studies exploring all three phenomena in teachers. Furthermore, there is limited research on STS in teachers, and very few studies specifically focusing on VT (e.g., Eyal et al., 2019).

In an attempt to help ameliorate work-related stress, research has turned to the concept of resilience. In the educational field, resilience is understood as a dynamic process between a person and their environment that allows them to thrive, rather than just survive, in the face of adversity (Beltman et al., 2011). Numerous studies have found evidence that resiliency reduces vulnerability to burnout and trauma, including STS and VT (Stanley et al., 2021; West et al., 2020). Despite the high rates of work-related stress in teachers, very few studies have examined associations with resilience (e.g., de Vera Garcia & Gambarte, 2019; Richards et al., 2016). Furthermore, research has not yet investigated these three phenomena in Canadian teachers. Thus, the current study aims to bridge this gap in the literature by exploring the prevalence of burnout, STS, and VT in Canadian teachers as well as assess how resilience is associated with each construct.

Research Questions

The following research questions were used to guide the current study:

1) What is the prevalence of work-related stress (burnout, STS, and VT) in Canadian teachers?
2) What are the relationships between resilience and burnout, STS, and VT in teachers?
3) Are there significant differences between burnout, STS, and VT scores in teachers with low, intermediate, and high resilience?

CHAPTER 2: LITERATURE REVIEW

In this section, a general overview of the literature on burnout, STS, VT, and resilience will be provided. To begin, each concept will be defined and then the existing research on risk and protective factors and influential theories will be discussed. Each section will conclude with a summary of the literature on burnout, STS, and VT in teachers.

Overlapping Terminology

Although burnout, STS, and VT are all psychological responses that result from working with individual impacted by trauma, each differs in terms of how it manifests and the severity of the symptoms (Cummings et al., 2021). To best comprehend these phenomena, one must understand the notion of an individual's professional quality of life, which refers to the value a person feels in relation to their work as a helper (Stamm, 2010). One's job can be influenced by either positive or negative aspects of their work and these aspects are incorporated by compassion satisfaction (the positive) and compassion fatigue (the negative). Compassion satisfaction is the pleasure one derives from doing well at their work. Compassion fatigue consists of two key components: (1) burnout, which is associated with feelings of exhaustion, anger, frustration, and depression; and (2) secondary traumatic stress, which consists of negative feelings that arise from fear and work-related trauma (Stamm, 2010).

In the literature, the terms compassion fatigue, burnout, STS, and VT are often used interchangeably (Cummings et al., 2020; Sprang et al., 2007). While there are nuances between each term, there is little delineation in research. As briefly mentioned above, burnout and STS are distinct sub-components of compassion fatigue (Stamm, 2010). *Burnout* refers to persistent negative feelings about oneself in relation to work. On the other hand, STS occurs through work-related, secondary exposure to people who have experienced trauma. VT is another work-related

stress reaction but differs in terms of symptomology (Cummings et al., 2020). While STS symptoms have a rapid onset, VT symptoms occur over time through an accumulation of experiencing secondary trauma. In other words, STS results from indirect exposure (e.g., recollection of another's trauma) of one specific traumatic experience, whereas VT occurs through the accumulation of multiple indirect traumatic experiences (Cummings et al., 2020; Stamm, 2010). Furthermore, Cummings et al. (2021) recently found that, despite the differences in definition, burnout, VT, and STS appear to be co-occurring. This suggests that individuals who experience one type of psychological distress may be more likely to experience another (Cummings et al., 2021). Therefore, while each of these concepts are different, they are highly interrelated and prevalent among helping professionals (e.g., social workers, nurses; Stamm, 2010).

Burnout

Burnout is a well-known and researched phenomenon specifically related to the workplace. According to the International Classification of Diseases (ICD-11), burnout is considered a syndrome that results from unproperly managed chronic workplace stress. Burnout is characterized by three factors: feelings of exhaustion or energy depletion, feelings of negativity or pessimism related to one's job, and reduced professional efficacy (World Health Organization [WHO], 2019). More simply put, burnout is a state of emotional, mental, and physical exhaustion caused by prolonged workplace stress (Center for Addiction and Mental Health [CAMH], 2021). Although burnout is not classified as a medical condition, it can lead to physical symptoms, prolonged feelings of helplessness, hopelessness, and can turn into a mental disorder if unaddressed (CAMH, 2021; WHO, 2019). Thus, burnout is particularly important to understand due to the negative impact it has on one's quality of life, quality of work (Rupert et

al., 2015), intention to quit (Weisberg & Sagie, 1999), and because it lowers overall job satisfaction (Nagar, 2012).

Burnout is highly prevalent among employed Canadians. According to Statistics Canada (2010), one in four Canadian workers report being stressed, with 60% of these workers claiming that work is the source of their stress. This can be further broken down into 27% of Canadian workers (or 3.7 million) being "extremely" stressed on most days, and 46% (or 6.3 million) being "a bit" stressed. Furthermore, burnout affects both men and women equally and is both an individual and organizational problem (Statistics Canada, 2010).

Despite the concept of burnout being well-established in the literature, experts often had difficulty coming to a consensus for a standard definition. Different people have used the term to mean various things, leaving gaps about what burnout is and potential solutions for it. Eventually, a consensus was made surrounding the three core dimensions of burnout, leading to further research being conducted and ultimately leading to the multidimensional theory of burnout as established by Maslach (Maslach, 1982, 1998; Maslach et al., 2001).

Dimensions of Burnout

According to Maslach et al. (2001), there are three core components of burnout. The first and central quality of burnout is exhaustion. When someone describes themselves or others as having burnout, they are often referring to being exhausted. Although exhaustion is the strongest identifier and a necessary criterion for burnout, it is not sufficient. This means that exhaustion alone does not capture the phenomenon of burnout. Rather, exhaustion reflects the stress aspect of burnout, but does not describe the relationship burnout has with one's work. This leads into the second dimension of burnout: depersonalization/cynicism. When one experiences exhaustion, they begin to distance themselves both cognitively and emotionally from their work, typically in

an attempt to cope with work overload. This can lead to different types of negative feelings including a sense of depersonalization and cynicism. Depersonalization refers to negative reactions towards people and work. This allows for job demands to become more manageable since one is more emotionally indifferent and impersonal with their service recipients. Cynicism is a negative attitude that may develop when one becomes exhausted. Research has found that distancing is typically an immediate reaction to exhaustion and has a strong relationship with depersonalization and cynicism across a variety of professions (Maslach et al., 2001).

The last dimension of burnout is feelings of reduced personal accomplishment, or inefficacy. Inefficacy is related to the dimensions of exhaustion and cynicism, as these two feelings are likely to reduce one's sense of effectiveness in their work. Additionally, exhaustion or depersonalization/cynicism often interfere with effectiveness since it is difficult to feel accomplished when feeling exhausted or indifferent (Maslach et al., 2001). Even though these three dimensions are highly recognized in research, the developmental aspects of burnout are still debated. It remains unclear which order the dimensions of burnout present, evolve, and how they relate to each other (Schaufeli et al., 2011). However, many researchers have investigated how burnout may develop across various populations and professions (Mäkikangas et al., 2020).

Development of Burnout

The developmental process of burnout is multidimensional and complex. As such, three prominent models have been developed to describe the theoretical development of burnout (Mäkikangas et al., 2020). First is the phase model created by Golembiewski and colleagues (1986), which proposes that burnout symptoms present starting with cynicism. When a worker develops cynical feelings because of their work, these feelings begin to impair performance and identification with people. In turn, this affects perceptions of accomplishment resulting in

diminished personal efficacy. Exhaustion is the final phase in response to feelings of cynicism and professional inefficacy. Thus, Golembiewski et al. posited that burnout begins with cynicism followed by reduced professional efficacy and ending in exhaustion.

The process model by Leiter and Maslach (1988) is the second developmental theory of burnout. This model follows the same order as previously mentioned and is opposite to the phase model. First, exhaustion develops due to high job demands and leads to reduced job involvement, impaired attention, and reduced emotional connection. This turns into cynicism, and if cynical feelings persist, it can lead to a sense of lacking accomplishment and decreased personal efficacy (Leiter, 1993; Leiter & Maslach, 1988).

Combining the two above models, Lee and Ashforth (1993) developed the combined model of burnout. Similar to Leiter and Maslach, they proposed that cynicism develops from exhaustion but added that personal inefficacy develops independently from cynicism. Lee and Ashforth believe that a reduced sense of personal accomplishment is directly caused by exhaustion. Thus, this model holds that exhaustion has an effect on both cynicism and personal inefficacy (Lee & Ashforth, 1993).

These three theories of burnout have been extensively investigated in empirical research. No single theory has been completely supported by empirical studies, but longitudinal data found some support for a combination of Lee and Ashforth's (1993) and Leiter and Maslach's (1988) theories. In particular, exhaustion appears to facilitate cynicism/depersonalization over time but also cynicism/depersonalization causes both personal inefficacy and exhaustion (Taris et al., 2005). Although these findings had the greatest empirical support, the results are not strong enough that a causal inference can be made (Mäkikangas et al., 2020).

Causes of Burnout

Research has identified four common situational precursors to burnout: unfavourable work conditions, motivated employees with high internal work expectations, inadequate coping strategies, and ineffective management of work stress (Mäkikangas et al., 2020). Burnout tends to develop when job demands, such as workload and time pressure, are high and job resources, such as support and feedback, are low (Maslach et al., 2001). The job demands-resources model (JD-R) developed by Bakker and Demerouti (2006) proposes that an occupation's job demands and job resources are two critical risk factors associated with job stress. According to the model, job demands include psychological, social, or organizational job factors and require skills that come with particular physical or psychological costs (Bakker & Demerouti, 2006). For example, work pressure or unfavourable work conditions can be considered job demands. Job demands are also considered the primary risk factor for burnout. Furthermore, high workload has been associated with the three burnout dimensions of exhaustion, cynicism, and personal inefficacy (Alarcon, 2011).

Job resources include social, psychological, physical, or organizational job factors that are helpful in achieving work goals, reduce job demands, as well as promote personal growth and learning (Bakker & Demerouti, 2006). Job resources can therefore help manage job demands and can exist at the organizational level (e.g., workplace opportunities and pay), interpersonal level (e.g., supervisor support), workplace level (e.g., involvement in decision-making), or the task level (e.g., skillset, task variety; Bakker & Demerouti, 2006). In addition to job demands, having a lack of job resources has been associated with burnout. Extensive research has shown that a lack of social support is linked to burnout (Burke & Greenglass, 1996; Maslach et al., 2001; Schaufeli & Bakker, 2004). These effects are seen more if there is a lack of support from supervisors more so than from co-workers. Similarly, absence of feedback has also been

consistently related to all three dimensions of burnout (Maslach et al., 2001). Thus, social support and feedback are two crucial factors of a workplace that can elicit burnout.

The onset of burnout has also been linked to various individual factors including demographic variables, personality characteristics, and work-related attitudes (Alarcon et al., 2009; Maslach et al., 2001). Age is the primary demographic variable that has been associated with burnout. In particular, younger employees report higher levels of burnout than older employees (those over 30 – 40 years old), suggesting that burnout is of greater risk earlier in one's career. Marital status has also been associated with burnout. Individuals who are unmarried (particularly men) tend to be more prone to burnout compared to those who are married (Maslach et al., 2001). Similar to what was mentioned previously, individuals who are unmarried may report higher burnout because they lack the social support that is typically associated with having a spouse.

Several personality traits have also shown a greater risk for developing burnout. Those who have low levels of hardiness (sense of control over one's life, openness to change) tend to have higher levels of burnout, especially in the exhaustion dimension (Azeem, 2010). Individuals who have an external locus of control (attribute achievements to others or chance) have higher levels of burnout compared to those with an internal locus of control (attribute achievements to one's own ability or effort; Alfuqaha et al., 2021). Lastly, burnout has been linked to a more passive, defensive coping style whereas active and confrontive coping is related to lower burnout symptoms (Maslach et al., 2001). Additionally, people who hold high expectations for their job in terms of the kind of the work and the likelihood of succeeding are also at risk for developing burnout. One hypothesis for this is that high expectations cause people to work too hard and too much, leading to exhaustion and eventually cynicism when the intended results are not met

(Maslach et al., 2001). It should be noted that the relationship between burnout and individual factors is not as strong as with situational factors, suggesting that burnout is more of a social phenomenon than an individual one (Maslach et al., 2001).

Burnout in Teachers

Burnout in teachers has been an area of prolific research over the past several decades (Friedman, 1991). Teaching is one of the professions with the highest risk for burnout symptoms (de Heus & Diekstra, 2009; Marken & Agrawal, 2022). For example, in a study conducted in the Netherlands, teachers had higher burnout scores than any other social profession (e.g., psychotherapist, physician, dentist; de Hues & Diekstra, 2009). Furthermore, according to a U.S. survey by Gallup (see Marken & Agrawal, 2022), the burnout rate for K-12 education workers is 14% higher than all other industries. Specifically, the survey showed that 44% of K-12 education workers reported feeling burned out compared to all other industries including healthcare (31%) and community/social services (22%). Teachers may report higher burnout rates due to various factors including lack of professional recognition, lack of support, time pressure, classroom problems, lack of benefits, and having numerous roles within their job (Andreychik, 2019; Hoigaard et al., 2012; Kutsyuruba et al., 2019; Mearns & Cain, 2003). Teachers may also feel that they invest more into their jobs than they receive, which can lead to emotional, psychological, or occupational problems (Van Horn et al., 2001).

Teacher burnout has been shown to have both a personal and occupational impact (Skaalvik & Skaalvik, 2020). European studies have found teacher burnout predicts lower self-efficacy (Brouwers & Tomic, 2000; Hoigaard et al., 2012), lower job satisfaction (Skaalvik & Skaalvik, 2010), lower job commitment, decreased perceived health and job ability (Hakanen et al., 2006), and higher frequency numbers regarding intentions to quit (Hoigaard et al., 2012).

Furthermore, due to the Covid-19 pandemic, both Canadian and U.S. teachers have been experiencing increasing levels of burnout (Wilson, 2021). The pandemic has exacerbated preexisting stressors and demands within the profession, thus contributing to burnout among teachers (Pressley, 2021).

Addressing burnout in teachers is particularly important as it also has a negative impact on students. When teachers face exhaustion and stress and lack the necessary coping skills and self-efficacy, it becomes difficult to deal with student behaviours (Bottiani et al., 2019). As such, interactions and relationships with students may begin to suffer (Breeman et al., 2015). Burnout also impairs the teacher's ability to successfully implement classroom lessons and plans (Larson et al., 2018) and provide an adaptive learning environment, which can lead to more negative social, behavioural, and academic student outcomes (Hoglund et al., 2015). In a U.S. study by Herman and colleagues (2018), teacher burnout was associated with worse student outcomes including lower student adaptive behaviours (e.g., helping classmates), lower math achievement, and higher disruptive behaviours (Herman et al., 2018). Thus, if we aim to improve student well-being and success, it is imperative to address teacher burnout first.

Research has identified several protective factors for burnout in teachers (Buonomo et al., 2017). Job resources have been found to play a role in teacher burnout, such that teachers with autonomy and supervisory support had lower levels of emotional exhaustion (Skaalvik & Skaalvik, 2020). Teachers with high levels of self-efficacy are also less likely to be burnt out as they ask and receive more support from their colleagues (Aldridge & Fraser, 2015). Past research has also investigated the efficacy of school-based programs to help teachers meet the increasing demands of their work (Flook et al., 2013). In a U.S. pilot study by Flook and colleagues (2013), a mindfulness intervention (mindfulness-based stress reduction) that was adapted for teachers

was found to increase self-compassion and effective teaching behaviour and reduce negative psychological symptoms and burnout. Similarly, a more recent intervention that incorporates mindfulness practices is the Stress Management and Resiliency Training (SMART) program. This program is designed to improve well-being by utilizing daily brief mindfulness practices that promote resilience, such as gratitude and compassion. This intervention has been shown to improve quality of life and decrease anxiety and stress among teachers, thus potentially working to prevent burnout (Chesak et al., 2019). Overall, some studies have examined factors and interventions that can help teachers combat the negative effects of burnout, but more research is warranted to examine the potential protective role of resilience.

Secondary Traumatic Stress

According to Figley (1999), *secondary traumatic stress* (STS) is "the natural, consequent behaviours and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person" (p. 10). Symptoms of STS are similar to those of post-traumatic stress disorder (PTSD) and may include intrusive thoughts related to the other person's traumatic experience, avoidant responses, and physiological arousal (Bride, 2007). The difference between PTSD and STS is that those who directly experience a traumatic event may develop PTSD, whereas those who hear about another person's trauma may develop STS (Jenkins & Baird, 2002).

The American Psychiatric Association ([APA]; 2013) defines intrusion symptoms as having recurrent and distressing thoughts related to the traumatic event(s). The individual may have nightmares, flashbacks, or feel like they are reliving the event. There may be particular triggers related to the traumatic event and these triggers can have associated physiological reactions, such as heart pounding or sweating. Avoidant symptoms include avoiding distressing

thoughts or feelings associated with the trauma. The person may also avoid reminders of the trauma, such as avoiding certain locations, people, objects, or activities. Lastly, marked alterations to arousal include irritable behaviour, outbursts, reckless behaviour, guarded and alert, exaggerated startle response, difficulties concentrating, and sleep disturbances (APA, 2013).

Theory of STS

The underlying theory of secondary trauma was developed from working with people who have experienced trauma. Ludick and Figley (2017) developed nine theoretical stipulations that form the groundwork for STS processes: (1) that STS is complex and typically unavoidable for those who work with individuals who suffer; (2) STS often occurs when a worker is exposed to a certain amount of another's reality. This may be through direct (e.g., conversation) or indirect (e.g., videotapes) contact with the traumatized person; (3) STS is elevated when the worker helps the individual who has been affected by trauma; (4) compartmentalizing the stress to the contact (e.g., with pictures, videos, etc.) will also increase STS; (5) prolonged exposure elevates STS; (6) remembering past traumatic events will elevate STS; (7) STS is decreased when the worker experiences compassion satisfaction (which increases feelings of worth and purpose); (8) social support helps to lower STS; and (9) the level of compassion fatigue resilience (CFR) is directly related to STS, but STS is also impacted by other life demands outside of work (Ludick & Figley, 2017). Compassion satisfaction is the pleasure one derives from doing their work well, particularly in the context of helping (Stamm, 2010). CFR is compassion that comes from empathy and is protective against STS (Ludick & Figley, 2017). Thus, as compassion satisfaction and CFR increase, STS will decrease.

Risk and Protective Factors

In the literature, several risk factors have been identified that may increase one's probability of developing STS. In a meta-analysis, Hensel and colleagues (2015) found various risk factors for STS among professionals exposed to traumatic material (including mental health clinicians, school personnel, child welfare and domestic violence workers, and chaplains). Caseload ratio was found to have the strongest effect (r = .19) in terms of demographic risk factors, which suggests that the proportion of traumatized people (or time working with these people) may be more important than the frequency of supporting traumatized individuals. Personal trauma history was another identified risk factor, with varying strengths of association across studies (r = .5-.36). The authors suggest this could be due to the variations in the professional's type of trauma, extent of exposure, and gender. Furthermore, if the type of trauma is consistent with the person being supported, this could increase the risk of STS. For example, a therapist with a personal history of sexual assault may develop STS after being reminded of their traumatic experience when a client shares a similar traumatic experience (Hensel et al., 2015). Lastly, research suggests that high levels of empathy, particularly empathic distress related to clients' trauma, can increase vulnerability to developing STS (MacRitchie & Leibowitz, 2010).

In addition to various risk factors, there are several protective factors that can help prevent the onset of STS. Workplace social support is one factor that has been associated with STS. In a study by Slattery and Goodman (2009), participants who received higher social support from coworkers were less likely to experience STS. Access to power is another protective factor, such that when one perceives their work environment as empowering, they are less likely to experience STS (Slattery & Goodman, 2009). As mentioned previously, compassion satisfaction is another protective aspect against STS. When one experiences compassion satisfaction, they feel energized, experience uplifting emotions, adaptive self-efficacy, and increased competence

related to their professional work and providing care for others (Stamm, 2002). Research has found compassion satisfaction to be a robust negative correlate of STS (Kerig, 2019). Additionally, the concept of dispositional/trait mindfulness, which is the tendency to pay attention to experiences in the present moment without judgement, has been associated with lower levels of STS (Brown & Ryan, 2003; Turgoose & Maddox, 2017). More recent findings suggest that higher levels of resilience (discussed later in this literature review) is a significant predictor of lower STS (Harker et al., 2016).

STS in Teachers

Teachers are often at the front lines when it comes to working with childhood trauma by responding to emotional and behavioural crises at school as well as hearing students' personal experiences with trauma (Hydon et al., 2015). This can have a negative impact on teachers by increasing their emotional burden, stress, and anxiety, which subsequently increases turnover from the profession (Caringi et al., 2015). Despite this, until 2012 there was no research conducted that focused on STS in teachers (Borntrager et al., 2012; Caringi et al., 2015). Borntrager et al. (2012) were the first to examine STS in school personnel, which included teachers, paraprofessionals, school social workers, counsellors, and administrators. They found that public school staff (N = 300) were experiencing significant levels of STS and were exposed to high levels of student trauma. Since then, there has been a growing body of research demonstrating that STS has a profound impact on both teachers and students (e.g., Caringi et al., 2015), but the literature remains sparse.

As previously described, STS is associated with impaired functioning across a variety of domains (e.g., physical and mental health). This can have negative consequences by increasing teacher absenteeism from work and disrupting the relationships and teaching environment with

students. Less experienced teachers may be particularly prone to the deleterious effects of STS perhaps due to having less time to develop coping strategies or not having opportunities for trauma-related training (Rankin, 2022). Furthermore, many teachers may leave the profession altogether, causing further disruption for students (Salloum et al., 2015). Research findings from the U.S. suggest that 40-50% of teachers who have been teaching for less than five years leave the field entirely (Rankin, 2022). Similarly, research in Canada has shown that teachers nearing five years in the field considered leaving the profession more than teachers who were in their first few years (Kutsyuruba et al., 2022). This becomes problematic for school districts as there becomes a constant influx of inexperienced workers, which strains school funds as more time and money is spent training new teachers (Meyers & Cornille, 2002; Rankin, 2022). Thus, in addition to being maladaptive for the individual teacher, STS can also disrupt students, fellow teachers, and the overall school community.

Although STS can never be completely eradicated, recent research has investigated strategies that may help protect teachers against the harmful effects of STS. First, it is important to educate teachers on STS to increase their knowledge and awareness of the issue (Rankin, 2022). This will help teachers engage in preventative strategies, such as increasing self-care and resiliency to help mitigate against the development of STS. Education programs and schools can implement trauma training programs that allow teachers to identify and normalize their traumatic experiences, helping to reduce symptoms of STS (Bell et al., 2003).

One training program that has gained widespread attention is Trauma-Informed Care (TIC). TIC is a framework adopted by many professionals working with those who experienced trauma (e.g., child welfare and criminal justice services), and has received increasing attention in schools (Christian-Brandt et al., 2020). TIC is driven by six principles: safety, trustworthiness,

peer support collaboration and mutuality, empowerment, and historical, cultural, and gender issues (Substance Abuse & Mental Health Administration [SAMHSA], 2014). In a school context, many studies have found teachers benefit from TIC training and report significant improvements to teachers' understanding of childhood trauma (Haas, 2018). In a recent study by Christian-Brandt and colleagues (2020), teachers with higher levels of STS perceived TIC to be more effective. Thus, it may be that teachers who are exposed to more student trauma may be more eager and receptive towards TIC. Although TIC shows promise for helping to prevent STS, the research remains limited (Borntrager et al., 2012; Caringi et al., 2015; Christian-Brandt et al., 2020).

Vicarious Trauma

McCann and Pearlman (1990) developed the term *vicarious trauma* (VT) to refer to the effect working with traumatized clients has on therapists. VT refers to profound personal changes (e.g., disruptions to one's personal and professional identity) that result from empathetic engagement with a client's traumatic material (McCann & Pearlman, 1990; Vrklevski & Franklin, 2008). VT is associated with similar symptoms as PTSD such as reoccurring thoughts about the traumatic event, avoiding traumatic material, and symptoms of depression (Regehr et al., 2004). VT differs from PTSD in that it occurs through persistent exposure to traumatic material (Aparicio et al., 2013), whereas PTSD results from directly experiencing a traumatic event (National Institute of Mental Health [NIMH], 2021). As previously mentioned, VT differs from STS as VT symptoms occur through an accumulation of multiple secondary traumatic experiences, whereas STS results from one specific traumatic experience (Cummings et al., 2020; Stamm, 2010). Although the term initially focused on social workers and therapists, it has

been expanded to other professions that deal with trauma (e.g., lawyers; Vrklevski & Franklin, 2008).

Theory of Vicarious Trauma

VT was established from and is clinically grounded in constructivist self-development theory (Kadambi & Ennis, 2004; McCann & Pearlman, 1990). This theory suggests that people construct their realities by developing cognitive structures, or schemas, which include beliefs and assumptions about oneself and the world and are used to interpret and make sense of experience (Janoff-Bulman, 1992; McCann & Pearlman, 1990). Typically, when someone learns new information, it is assimilated into existing schemas. However, when information is incompatible with existing schemas, it cannot be assimilated, and the original schema becomes challenged. This process occurs when someone experiences vicarious trauma, since the trauma cannot fit into an existing schema. When this happens, the schema must be modified so new information can be incorporated. In vicarious traumatization the schemas become modified, but in a negative way such that distress and heightened awareness arises from the new, modified schema (McCann & Pearlman, 1990). Thus, VT is more than a host of symptoms associated from chronic secondary trauma. It involves cognitive shifts that disturb the helper's frame of reference, including their identity, worldview, and psychological needs (Aparicio et al., 2013; Canfield, 2005).

VT can also be explained through theories of traumatic memory processes. McCann and Pearlman (1990) describe VT specifically in terms of the therapist-client relationship; however, their theory can be applied to other helping professions. They mention how a previously neutral object can become triggering and cause flashbacks related to another's traumatic experience. In other words, trauma can become stored in one's memory as an image that is connected to other thoughts, experiences, and objects. Thus, when that image is later recalled, it can cause

flashbacks and distress (McCann & Pearlman, 1990). This becomes particularly problematic in the case of VT, since the affected helper is continuously exposed to traumatic material, increasing the threat of further traumatization (Ehlers & Clark, 2000).

Risk and Protective Factors

Previous research has identified several factors that may contribute to the development of VT. Not every person who is exposed to secondary trauma will develop VT symptoms, leading researchers to investigate differences in traumatized versus non-traumatized individuals (Lerias & Byrne, 2003). A substantial amount of literature has identified several key predictors of VT including previous trauma history, psychological well-being, social support, and experience (e.g., Adams et al., 2001; Lerias & Byrne, 2003).

A personal history of trauma has been found to be an indicator of posttraumatic stress after a person experiences secondary exposure to a traumatic event (Lerias & Byrne, 2003; Van der Kolk et al., 1996). This is because individuals with a history of trauma find it hard to adjust to recent vicarious exposure while still dealing with distressing memories of their past trauma (Adams et al., 2001; Brady et al., 1999). This is especially prominent for adults who experienced childhood trauma, as many may not have recovered from their past trauma and thus are at increased risk for re-experiencing their traumatic past when vicariously exposed to another's critical event (Lerias & Byrne, 2003). Additionally, a past history of psychological issues, such as depression and anxiety, may make it more difficult for a person to cope with vicarious trauma exposure (Van der Kolk et al., 1996).

A plethora of research has demonstrated the critical role of social support after experiencing a traumatic event (Lerias & Byrne, 2003). Specifically, social support has been found to decrease the level of distress such that more social support leads to better adjustment,

and less social support tends to be associated with higher distress (De Jong et al., 1999; Lerias & Byrne, 2003). Lastly, the number of years of work experience has been associated with VT, but the findings are contradictory. Some authors suggest that those who have more experience are at higher risk for developing VT (Cummings et al., 2021), while others suggest less experienced workers are more prone to VT due to a lack of experience (Bell et al., 2003).

Vicarious Trauma in Teachers

The concept of VT is relatively unexplored in teachers. Based on the researcher's literature search, no studies have specifically examined the prevalence and concept of VT in teachers. However, exploring the literature on VT becomes complicated because, as previously mentioned, VT and STS are often used interchangeably in the literature (Stamm, 2010). Thus, it is unclear which studies may be referring to VT as STS. This warrants more studies where there is a clear definition of VT used with a specific focus on teachers.

Resilience

Definitions of *resilience* have been adapted in a variety of disciplines including psychology, medicine, sociology, and neuroscience, to name a few. As such, there has been a lack of consensus for a single definition of resilience (Herrman et al., 2011). Numerous definitions of resilience are comprised of overcoming the stress or adversity to an environmental risk (Bowes & Jaffee, 2013; Horner, 2017). More specifically, individuals who are resilient have relatively good psychological outcomes despite experiencing adversity (Rutter, 2006). Other researchers have defined resilience as protective or positive processes that work to reduce negative outcomes following experiences of risk (Greenberg, 2006). People who are resilient and hardy are commonly characterized as having an internal locus of control, positive self-image, and are optimistic (Burns & Anstey, 2010; Cedarblad, 1996).

Although the term resilience is generally used to describe the ability for individuals to thrive and adapt in the face of adversity, it has also been shown that resilience is not exclusively a personal attribute (Beltman et al., 2011; Masten et al., 1990). Rather, resilience is a complex construct that results from a combination of person, biological, and environmental factors (Herrman et al., 2011; Liu et al., 2017). Personal factors that have been shown to contribute to resilience include internal locus of control, mastery, self-efficacy, self-esteem, positive cognitive appraisal, optimism, and personality traits (openness, extraversion, and agreeableness). Furthermore, social attachments, emotional regulation, positive emotions, spirituality, active coping, hardiness (also referred to as grit), and adaptability have all been associated with resilience (Joseph & Linley, 2006). Thus, there are many aspects of one's personality and cognitions that can contribute to resiliency (Herrman et al., 2011).

Evidence also suggests that biological and genetic factors can impact resilience (Luthar & Brown, 2007). Exposure to early childhood trauma can affect the developing brain and disrupt neurobiological systems. This means that these brain changes can affect one's ability to regulate emotions and negatively impact their resilience to later adversity (Herrman et al., 2011). In terms of environmental factors, social support from family, friends, and other caring figures is associated with resilience. On a broader scale, community factors such as supportive schools, community services, recreational activities, culture, and spirituality have been found to enhance resiliency (Luthar et al., 2000). Research has proposed that each of these resiliency factors dynamically interact to either enhance or reduce resilience (Herrman et al., 2011).

Resilience in Teachers

Research suggests that teacher resilience is more than the capacity to bounce back after experiencing adversity. According to Gu and Day (2013), resilience in teachers is the ability to

manage the unavoidable uncertainties that are inevitable in teaching. In other words, resilient teachers can adjust to adverse situations and manage their stress by being functional and proactive (Gunn & McRae, 2021). Resilience in teachers is also influenced individually and in combination with the classroom context, the commitment to those at their work (e.g., students), the broader professional work context (e.g., workload), and the ability to manage anticipated and unanticipated events (Beltman et al., 2011; Gu & Day, 2013). The existing literature on teacher resilience has highlighted the importance of risk and protective factors (Beltman et al., 2011).

Risk factors are important to consider as resilience may be brought about during times of adversity and challenge. Risk factors are variables that contribute to the development or worsening of maladaptive conditions. Thus, in order to gain a full conceptual understanding of resilience, both risk and protective factors should be taken into account. Individual risk factors include having negative self-beliefs or confidence, and difficulty asking for help (Day, 2008; Fantilli & McDougall, 2009). Some of the most common contextual risk factors for teachers include disruptive students, heavy workload, lack of support, and management difficulties (Beltman et al., 2011). According to Fantilli and McDougall (2009), approximately half of new Canadian teachers considered leaving the teaching profession due to the challenges they faced.

On the other hand, there are also protective factors that help to sustain teachers when challenges arise. Although several individual protective factors have been identified in the literature, the key factors appear to be having intrinsic and altruistic motives and possessing a sense of self-efficacy (Beltman et al., 2011; Hong, 2012). Teachers who are driven by intrinsic motivations (e.g., working with children, altruism) may be more likely to thrive in the face of difficulties. Similarly, teachers who perceive a sense of self-efficacy, or feeling confident and competent, are more likely to be resilient and effective at their job (Day, 2008). The literature

has also identified many contextual protective factors such as school, mentor, and peer support, and working with students. Support from school administration in the form of strong, open, and well-organized leadership and mentor relationships serve as protective factors. Despite students potentially providing challenges for teachers, positive student-teacher relationships can also serve as a source of support for teacher's during challenging times (Kitching et al., 2009). Although both risk and protective factors play a role in teacher resiliency, it is important to recognize that resilience is a complex, idiosyncratic construct that consists of dynamic interactions between a person and their environment (Beltman et al., 2011). Thus, risk and protective factors can co-exist and contribute to resiliency, making it hard to ascertain how exactly resilience is developed.

Resiliency Associations

Resiliency has been associated with a multitude of factors, including the aforementioned constructs of burnout and trauma. Given that resilience has been found to moderate stress and the ability to bounce back after adversity, it may serve as a protective factor against the stressful effects of burnout (Garcia & Calvo, 2012). Research focusing on physicians (e.g., West et al., 2020), nurses (e.g., Guo et al., 2017), and social workers (e.g., Stanley et al., 2021), has found that resilience is inversely associated with burnout symptoms, such that higher levels of resilience is associated with lower burnout symptoms.

Compared to other helping professions (e.g., physicians, nurses, social workers), there seems to be less research examining resilience in teachers. In the existing literature, resilience appears to be protective against teacher burnout. For example, in a U.S. study by Richards et al. (2016), resiliency was found to reduce the perception of burnout. Teachers who had higher levels of resilience seem to feel less emotionally drained, be more satisfied with their work, and have

positive interactions with others (Richards et al., 2016). Similar results were also found by de Vera Garcia and Gambarte (2019), whereby primary school teachers with lower resiliency showed associations with higher levels of burnout (de Vera Garcia & Gambarte, 2019). These findings were also established by Burić et al. (2019), as higher levels of perceived resilience predicted lower burnout in teachers. Thus, resiliency appears to be a protective factor across a variety of helping professions, including teachers.

Research has also found associations between resilience and trauma, including both STS and VT. A recent study examining trauma in medical staff during the COVID-19 pandemic found that hardiness, a component of resilience, played a protective role against secondary trauma (Maiorano et al., 2020). Similarly, resilience was found to lower the risk for STS in a study of in-patient family caretakers (Muomah et al., 2021). In a sample of paramedics, resilience was negatively correlated with PTSD symptoms (Streb et al., 2014). In teachers, the research on resilience and trauma is scarce. This may be because the literature on trauma in teachers is relatively new and has begun to receive attention within the past decade (Hydon et al., 2015). The existing literature has primarily focused on resilience-based interventions to help teachers cope with trauma. For example, Wolmer et al. (2016) implemented a school resilience program to help both teachers and students enhance their resiliency. They found that this program helped teachers with positive interpersonal relations (e.g., dealing with discipline issues, improving empathy and cooperation) and manage their emotional distress (Wolmer et al., 2016). In a recent systematic review by Kangas-Dick and O'Shaughnessy (2020), interventions that target contextual factors (e.g., improving teacher social support) appeared to be the most important for promoting resilience in teachers (Kangas-Dick & O'Shaughnessy, 2020). Thus, it seems that enhancing resilience allows teachers to adapt and overcome challenges, but there is

limited research examining how resilience may help teachers who experience STS and VT. Moreover, there is a dearth of research investigating resiliency and burnout specifically within the Canadian context (e.g., Kutsyuruba et al., 2019).

Overall, previous research suggests teachers are vulnerable to developing burnout and STS, and that resilience may serve as a protective mechanism. However, there remain gaps in the literature on VT in teachers, work-related stress in the Canadian context, and associations with resilience. Based on the gaps in the literature, the purpose of the current study was to explore work-related stress and resilience in Canadian teachers.

CHAPTER 3: METHODS

The following chapter will discuss the methodology used in this study including recruitment of participants, materials used, procedure, and methods of analysis.

Participants

Participants for this study included K-12 Canadian teachers who were recruited using purposive sampling through social media. Recruitment garnered a total of 1226 responses, and survey responses were filtered using several metrics. A total of 334 participants failed the attention check question, and the remaining 892 responses were filtered using Qualtrics (2021) fraud metrics including captcha scores, fraud scores, and duplicate responses. Furthermore, participants who had completed below 90% of the survey and who were missing over five scale questions were removed from the sample. Visual inspection of the short-answer responses was used in combination with the above measures as a method of removing responses. In combination, these metrics created a final sample size of 313 participants.

Recruitment occurred during the school year between the months of December 2022 to March 2023. Inclusion criteria included being employed as a current teacher and having proficiency in English language. Participants were not eligible to take part in the study if they were not a current teacher. Teachers were recruited for this study through snowball sampling on social media. This is where a recruitment notice (see Appendix A) was posted on social media platforms (Facebook, Reddit, Instagram, and Twitter) and people were asked to share the study with others who may be interested (Heckathorn, 2015). On Facebook, access was requested for private groups or moderators of various teacher groups were contacted and asked if a description and link of the study could be posted. Similarly, the study link and description was posted on Reddit, Twitter, and Instagram. In addition to social media recruitment, teacher associations

across Canada were contacted and asked if a study link and description could be shared with their email Listserv. This method was unsuccessful as no provincial or territorial teacher associations were able to share the study.

Social Media Platforms

Social media is emerging as a convenient and accessible way to recruit potential participants for human subjects research (Gearhart, 2015). Utilizing social media is particularly appealing as it allows researchers to connect their study to a wide range of individuals in a given population (Gelinas et al., 2017). Thus, social media is beneficial to use to recruit a more diverse participant pool (Ramo & Prochaska, 2012). In the current study, this form of recruitment created the ability to connect to a broad range of teachers across Canada.

Facebook is one of the most popular social networking forums and has gained attention in research. Facebook is both an easy to use and cost-effective way to recruit participants, allowing for targeting of specific groups of interest (Lau et al., 2011). Similarly, Instagram is another one of the most popular social networks and has more recently received attention in research for the same purposes of reaching target populations for recruitment (e.g., Moraes et al., 2021). Reddit is another online platform that allows for free and quick recruitment of participants. With various threads on specific topics, researchers are able to recruit particular populations of interest (Shatz, 2017). Twitter is another social media platform that is commonly used by teachers and is an accessible resource for sharing resources and information within the teaching profession (Forte et al., 2012). Utilizing Facebook, Reddit, Twitter, and Instagram for the current study allowed for free and accessible purposive sampling of teachers as participants.

Materials

In order to answer the research questions, data was analyzed using a combination of demographic questions and three measures that assess resilience, VT, STS, and burnout.

Demographic and Teacher Information

Participants were asked a variety of demographic questions including age, gender, ethnicity, number of children, highest level of education completed, and marital status. In addition, participants were asked specific questions relating to teacher information such as if they are currently employed as a teacher (inclusion criteria question), current teaching assignment, number of years in the field of education, number of years in current position, grade presently teaching, school level currently teaching (elementary, middle, or high school), and geographic region of teaching (urban or rural). These questions were adapted from past studies examining similar phenomenon in teachers (Christian-Brandt et al., 2020; de Vera Garcia & Gambarte, 2019). Teachers were also asked about their personal history of trauma (e.g., abuse, neglect), an overall rating of their mental health, overall perceived social and workplace support, if they have ever completed a trauma informed care program/course and if so, whether it was part of their teacher training or job requirement. Lastly, teachers were asked if they intend to leave the field of education. A complete list of demographic questions can be found in Appendix B.

Open-Ended Questions

Two open-ended questions were asked to gain a further understanding of teacher resilience and stress. First, teachers were asked, “What are your main methods to help you cope with the possible burnout and stressors associated with teaching?” This was followed by, “Please describe your biggest problem or concern related to your role as a teacher.” These questions were developed based on past studies examining teacher resilience (e.g., Drew & Sosnowski, 2019; Maring & Koblinsky, 2013).

The Connor-Davidson Resilience Scale

Connor and Davidson (2003) developed the Connor-Davidson Resilience Scale (CD-RISC) as a brief, self-rated assessment that quantifies resilience. This scale is one of the most commonly used scales to measure resilience across a variety of populations (Windle et al., 2011). Based on past research on resilience, Connor and Davidson (2003) tested items on middle-aged adults with or without a clinical diagnosis of various mental health disorders (e.g., PTSD, generalized anxiety disorder). This resulted in the development of the CD-RISC which is comprised of 25 items and has since been found to have strong psychometric properties, including good internal consistency (Cronbach's $\alpha = .89$) and test-retest reliability (.87) across a variety of populations. Subsequent studies have also demonstrated strong internal consistency (Cronbach's $\alpha = .92$) (Lamond et al., 2008). Recent studies suggest that the scale is best used as a unidimensional measure of resiliency (Burns & Anstey, 2010; Gonzalez et al., 2016; Velickovic et al., 2020). Thus, the total score of the CD-RISC provides meaningful information about overall resiliency (Connor & Davidson, 2003).

Participants were asked to respond to the items in the CD-RISC by indicating how much the items relate to their experiences in the past month. The 25 items are measured on a five-point Likert type scale of 0 = *not true at all*, 1 = *rarely true*, 2 = *sometimes true*, 3 = *often true*, and 4 = *true nearly all the time*. Total scores are calculated by summing all 25 items, creating a range from a minimum of 0 to a maximum of 100. Higher scores indicate higher resilience. Scores can be divided into quartiles, which are taken from the observed frequency distribution of the sample. The lowest quartile (Q1) describes the score range for the least resilient group, the second (Q2) and third (Q3) describe the intermediate resilient group, and the fourth (Q4) describe the most resilient group (Connor & Davidson, 2003). In a normative community sample

of 577 US adults, the mean resiliency score was 80.7. In clinical populations, mean resilience scores were found to be lower including a score of 68.0 in psychiatric outpatients and 47.8 and 52.8 in two PTSD samples, respectively (Connor & Davidson, 2003). Permission to use the CD-RISC was obtained for the current study.

Professional Quality of Life Scale – Version 5

The Professional Quality of Life Scale, version 5 (ProQOL 5; https://proqol.org/) was chosen to assess the variables of STS and burnout (Stamm, 2010). Originally called the Compassion Fatigue Self Test, this scale was developed by Figley in the late 1980s (Figley, 1995; Stamm, 2010). In 1993, the concept of compassion satisfaction was added to the scale, after which several versions of the scale were adapted by both Figley and Stamm. Ultimately, this resulted in the creation of the ProQOL by Stamm in the 1990s (Stamm, 2010). The fifth version of this scale is a 30-item, self-report, Likert scale designed for use in any helping profession (see Appendix C). The ProQOL 5 asks participants to reflect on how frequently they have experienced the items in the past 30 days on a scale from one to five. Items are rated as 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*, and 5 = *very often*. Total scores are calculated by summing the items by subscale. Items 1, 4, 15, 17, and 29 are reversed scored in order to ensure respondents are consistently answering the scale questions. The ProQOL 5 is best used in a continuous form, however cut-off scores are provided to indicate potential risks (for burnout and STS) or protective factors (for compassion satisfaction). For each subscale, scores below 22 indicate low levels of each construct, scores between 23 and 41 are indicative of moderate levels, and a score of 42 or more is considered high (Stamm, 2010).

The ProQOL 5 subscales measure the constructs of compassion satisfaction, burnout, and STS. Compassion satisfaction is defined as the pleasure one derives from being able to do their

work well. An example item from this subscale is, “my work makes me feel satisfied.” Higher scores on the compassion satisfaction subscale indicate a greater satisfaction related to one’s ability to be effective at their job. Thus, those with scores in the high range derive a lot of professional satisfaction from their job whereas those with scores below 23 have problems with their job or derive satisfaction from other sources rather than their job. Cronbach’s α for this subscale is considered good at .88 (Stamm, 2010).

Burnout is associated with feelings of hopelessness and difficulties dealing with work or doing one’s job effectively. An example item from the burnout subscale is, “I feel trapped in my job as a [*helper*].” Higher scores on this subscale indicate an individual is at higher risk for burnout. If an individual has a low burnout score, this likely reflects positive feelings one has in their ability to be effective at their job. Those with a high burnout score likely feel ineffective at their job. This subscale has acceptable internal reliability (Cronbach’s α = .75) (Stamm, 2010).

Items on the STS subscale (10 items) describe one’s experiences with work-related, secondary exposure to others’ trauma. An example item from this subscale is, “I jump or am startled by unexpected sounds.” According to Stamm (2010), those with a high STS score may need to evaluate their feelings about their job and/or work environment. The STS subscale has demonstrated good internal consistency (Cronbach’s α = .81) (Stamm, 2010).

The ProQOL 5 has been widely used in over 200 published papers and has been evaluated in three classes of workers: healthcare workers, child/family workers, and school personnel (Borntrager et al., 2012; Stamm, 2010). As such, the scale uses the terms, “help”, “helping”, and “helper” to broadly describe different helping professions. These can be substituted to address the appropriate target group. For the purposes of this study, “help” words in the scale will be replaced with “teach”. The ProQOL 5 is free to use provided no changes are

made (except those permitted, e.g., changing the word “helper”), it is not sold, and the authors are credited.

The Vicarious Trauma Scale

The Vicarious Trauma Scale (VTS) was developed by Vrklevski and Franklin (2008) and is used to assess subjective levels of distress related to working with traumatized clients (see Appendix D). This scale is comprised of eight items and utilizes a 7-point Likert-type scale ranging from one to seven with 1 = *strongly disagree* and 7 = *strongly agree*. Example items include, “my job involves exposure to distressing material and experiences,” and “I find it difficult to deal with the content of my work.” For the current study, items 2, 3, and 6 were adapted for use in teachers by replacing the term “client” with “student.” A total VT score can be calculated by summing the responses to the items, with higher scores indicating higher VT. A total score in the range of 8 to 28 is indicative of low VT, a score of 29 to 42 indicates moderate VT, and a range of 43 to 56 shows high VT (Aparicio et al., 2013). In the original study, the scale was validated with criminal lawyers with a high Cronbach’s α of .88 (Vrklevski & Franklin, 2008). Since then, the scale has been validated in other populations including social workers and victim advocates (Aparicio et al., 2013; Benuto et al., 2018). Although no studies were found that have used this scale on teachers, Cronbach’s α was used to ensure that the scale had appropriate internal consistency in this sample of Canadian teachers. The author’s permission to use the VTS was obtained for the current study.

Procedure

This study employed a cross-sectional research design. After obtaining ethics approval from the University of Alberta Research Ethics Board (see Appendix E), data collection occurred through Qualtrics, an online database service that provides data protection and security

(Qualtrics, 2021). Prior to administering the survey to teachers, a pilot study was conducted to ensure all questions were clear, free of errors, and that the survey functioned appropriately. Conducting a pilot study also ensured that the survey was of appropriate length and is not overly time consuming before being administered to the desired sample. I also personally completed the survey to determine the amount of time it takes to complete and to check for clarity. For the pilot study, students in the Master of Education Counselling Psychology program at the University of Lethbridge were asked to participate through their research methods course. Following the completion of informed consent, 22 students took part in the pilot study, and feedback related to technical issues was provided. It was highlighted that the links did not work on mobile devices, and that the gift card draw link had issues opening. These issues were addressed prior to administering the survey to teachers.

After the pilot study, the updated and modified survey was posted on social media to recruit potential teacher participants. Those who chose to take part in this study did so online using a personal computer or similar device. After clicking the link to participate in the study, participants were asked to provide informed consent (see Appendix F) and were given a brief description of the study and what they were being asked to do. There was no deception involved, and participants were aware they were going to be asked questions about their experiences with work-related stress, resilience, and trauma. Participation was completely voluntary, and all data collected was completely anonymous and was unable to be linked with the participant. Participants who did not provide informed consent were redirected and prompted to exit the survey. Those who provided informed consent answered one inclusion criteria question about whether they are a current K-12 teacher. Participants who answer “no” were redirected to the debriefing document. Those who indicated “yes” continued to fill out the 94-item survey

beginning with demographic questions, followed by the three scales (CD-RISC, ProQOL 5, and VTS), the two open-ended questions to gather further information about their teaching experiences, and concluding with support, mental health, and trauma-related questions. Throughout the survey, one attention check question was implemented to ensure participants were paying attention to the questions. The attention check question asked participants to *please select 'never' from the choices listed,* which was integrated at the end of the ProQOL 5 scale questions.

Throughout the survey, participants were given the option to withdraw anytime if they felt any distress or discomfort. At the end of the survey, all participants were directed to the debriefing form which provided resources for mental health support and additional links if they wanted further information about STS, VT, burnout, or resilience (see Appendix G). Participants were compensated by having the option to enter a draw to win one of four $50 Amazon gift cards. Those who wished to enter the draw were provided a separate link at the end of the survey where they entered their email for the draw. This identifying information was not linked to the participant's survey responses in any way. After the survey closed, four participant emails were randomly selected to win a gift card. All emails collected from the survey were deleted after the gift cards were dispersed to participants.

Methods of Analysis

All data were analyzed using IBM SPSS statistical software version 26. Resilience served as the independent variable and the constructs of burnout, STS, and VT as the dependent variables. To answer the first research question, descriptive statistics were run to determine the prevalence of burnout, STS, and VT among Canadian teachers. They were also used to assess general characteristics of the sample (e.g., age, years of teaching experience, etc.).

Next, Cronbach's alpha was used to assess internal consistency within the ProQOL-5, CD-RISC, and VTS. This is due to the fact that alpha is based on the test scores from the specific sample being tested and therefore it is recommended to be measured every time a test is administered (Tavakol & Dennick, 2011). Cronbach's alpha was also important to assess in the VTS as this measure had not been previously validated in teachers. Cronbach's alpha is expressed as a number ranging from 0 to 1 and assesses whether all items in a test are measuring the same construct (Tavakol & Dennick, 2011). Based on the literature, an alpha of 0.70 is generally considered acceptable, and 0.80 or greater is preferable (Cortina, 1993). These metrics were also used for the current study.

To address the second research question, Pearson's correlation analysis was used to assess the relationship between resilience and each work-related stress variable. The Pearson correlation is a commonly used method of measuring a linear relationship between two variables. This method of analysis assigns a value between -1 (total negative correlation) and +1 (total positive correlation), and 0 denotes no correlation. The greater the value is to 1, the greater the strength of association. This is denoted by Pearson's correlation coefficient with the strength of association ranging between weak (0.1 – 0.3), moderate (0.3 – 0.5), and strong (0.5 – 1.0). Furthermore, Pearson's correlation has several assumptions that are emphasized in the literature. The first assumption of Pearson's correlation is that the data are measured at the continuous level, which was the case for the current variables being measured. Second, the variables need to be approximately normally distributed. Although the Central Limit Theorem states that when a sample is larger than 30 the sample will tend to approximate a normal distribution, it is still recommended to follow assumptions of normality regardless of the sample size (Mishra et al., 2019). The data for each variable was examined for normality using a combination of

histograms, normal Q-Q plots, box plots, as well as skewness and kurtosis. Skewness is a measure of symmetry within the distribution and kurtosis is a measure of the peakedness of a distribution (Mishra et al., 2019). *Z* scores were obtained to adjust for standard error and given the sample was >300, an absolute skewness value of ≤ 2 and an absolute kurtosis of ≤ 4 was used for determining normality (Kim, 2013). The Shapiko-Wilk test was not used to assess normality as this test is more appropriate for small sample sizes (< 50) and often yields a statistically significant result with larger sample sizes. The third assumption is that there are no relevant outliers. Each variable was assessed for extreme outliers using a combination of boxplots and *z*-score analysis. Potential outliers were first identified by using boxplots, and *z*-scores were used to determine whether the identified outliers were extreme. An absolute value of ±3.29 was used to identify outliers (Mowbray et al., 2018; Tabachnick et al., 2013). One outlier was identified on the CD-RISC scale with an absolute *z*-score exceeding -3.29 (z = -4.03). Pearson's correlation was run with and without the outlier to assess the degree to which the outlier influenced the analysis (Schober et al., 2018).

To address the third research question, first the median resiliency score was found to indicate the midpoint in the frequency distribution (*Mdn* = 63). The low (Q1 ≤ 54), intermediate (Q2 and Q3 = 55 – 70), and high (Q4 = 71+) quartiles were then used to categorize participants into their respective resilience category. Next, the assumptions for one-way analysis of variance (ANOVA) were tested including normality, outliers, and homogeneity of variance. The third variable, STS, was found to meet the assumptions of homogeneity of variance using Levene's test ($p > .05$), as well as normality and outliers. A one-way ANOVA was used to examine the difference between teachers with low, intermediate, and high resiliency scores and levels of STS. A significant one-way ANOVA statistic does not indicate where the differences are, only that at

least one group differs from the others. To examine group differences, Tukey's honest significant difference (HSD) post hoc test was used.

The assumption of homogeneity of variance was not met for the other work-related stress variables. Levene's test revealed that both burnout ($p < .05$) and VT ($p < .05$) did not meet this assumption. Therefore, Welch's ANOVA (Welch's *F* test) was used to determine whether teachers with low, intermediate, and high resiliency scores have significantly different burnout and VT levels. Welch's ANOVA is an alternative statistical test to the one-way ANOVA for when the assumption of homogeneity of variance is violated. Welch's ANOVA is a test used when this assumption is not met, and data is normally distributed. Following Welch's ANOVA, the Games-Howell post-hoc test was used to determine where any significant differences lie. Similar to Tukey's HSD, the Games-Howell test is a nonparametric version of comparing specific differences between groups. However, this test does not rely on the assumption of equal variances.

For both the one-way and Welch's ANOVA, omega squared (ω^2) was calculated to determine the effect size for each variable. Omega squared is a measure of the strength of association and is used to estimate how much variance is the dependent variable can be explained by the variance in the independent variable (APA, 2023). Although there are other methods of determining effect size, such as eta-squared, omega squared was selected as it is considered a less biased alternative to eta-squared (Field, 2013). To interpret ω^2, an effect size < 0.01 is considered very small, ≤ 0.01 – < 0.06 is considered small, ≤ 0.06 – < 0.14 is considered medium, and ≥ 0.14 is considered large.

In addition to the primary research questions, a multiple linear regression was used to examine the relationship between multiple predictor variables and one dependent variable. Prior

to executing the analysis, dummy variables were created for all ordinal independent variables. Dummy variables transform the variables to take on a value of either zero or one, with one indicating the variable is present. The number of dummy variables created was equal to *k*-1, where *k* equaled the number of categories in the variable (e.g., low, moderate, and high social support). The last category in each variable was used as the reference variable in the multiple regression. Additionally, several assumptions were tested of multiple linear regression were tested. First, multivariate normality was assessed by examining the standardized residual normal p-p plots. The second assumption of multicollinearity was tested using Variance Inflation Factor (VIF) values, with values > 5 indicating multicollinearity. The final assumption of homoscedasticity was assessed using a scatterplot graph of the regression standardized residual and the regression standardized predicted values. All of these assumptions were met, with the exception of multicollinearity for one demographic variable (age), which had a VIF > 5. As such, this variable was excluded from the analysis.

Thematic Analysis

Thematic analysis was used as a method for organizing and capturing information from participant's open-ended survey responses (Braun & Clarke, 2006). This method of analysis is widely used to identify and report themes in qualitative data. Specifically, themes were identified using an inductive approach, meaning that data was analyzed without trying to fit it within a pre-existing coding frame or the researcher's theoretical interests. An inductive approach was used in the current study given that the identified themes were related to the data, rather than the researcher's analytical interest in the topic. Another layer of thematic analysis involves determining the level of the themes. This was done at the semantic or explicit level meaning that

themes were identified based on the data's surface meaning and not any underlying ideas, assumptions, or conceptualizations (Braun & Clarke, 2006).

Next, open-ended responses were analyzed using Braun and Clarke's (2006) phases of thematic analysis. As the researcher, I first became familiarized with the data. This involved repeated reading of the open-ended responses to garner an understanding of any themes and patterns in the data. The second phase consisted of generating initial codes which refers to identifying aspects of the data that help to organize it systematically. I then began the next phase of analyzing codes to find overarching themes. Once themes were created, they were then reviewed to ensure the themes fit with each code and within the entire data set. Lastly, themes were defined and refined. For particularly large themes, sub-themes were developed to provide more structure.

In conjunction with Braun and Clarke's (2006) phases of thematic analysis, Bree and Gallagher's (2016) method of thematically analyzing qualitative data was implemented. This method uses Microsoft Excel to organize, code, and classify data by employing colour and sorting features of the software while simultaneously aligning with the phases outlined by Braun and Clarke (2006). An overview of the analysis approach can be found in Appendix H.

Positionality and Reflexivity

As a 25-year-old educated white female, I acknowledge the role my positionalities had in this research process. Striving to be a self-reflexive researcher, I was aware that while I have experienced the education system as a student, I lack the perspective of being a teacher. I understood how my personal and educational experiences influenced the research process and used this insight to reflect on my perceptions as I made meaning of teacher's responses in this study.

CHAPTER 4: RESULTS

This chapter will begin with descriptive information and statistics of the sample and is followed by Pearson's correlation. Next, one-way and Welch's ANOVA, as well as multiple linear regression results are discussed. Lastly, findings from the thematic analysis are reviewed.

Descriptive Information

In the final sample size of 313 participants, 87.9% of respondents were female and 8.3% were male. The most prevalent age range of participants was between 26-34 years of age (36.4%). The most common self-reported sexuality was heterosexual (83.1%). Most participants identified as being married (58.1%) and the most prevalent number of children reported was zero (45%) and two (30.7%). The majority of participants held a post-secondary (bachelor's) degree (66.8%) and were employed as a full-time teacher (84%) in the public school system (88.5%). In terms of experience, 22% of participants had been in the teaching field for 6-10 years, 20.1% for 3-5 years, and 17.9% for 20 or more years. Most participants had completed certifications/ trainings (90.4%) and taught at the elementary school level (60.4%). Furthermore, 59.7% of participants reported teaching in an urban area and 39.9% in rural area. Alberta was the most common province participants were currently teaching in (39.3%), followed by British Columbia (24.6%) and Ontario (17.3%). Participant's most frequently self-reported ethnicities included White (83.4%), Indigenous (3.2%), and South Asian (2.2%).

In terms of social support, 40.9% of participants perceived their support as being "high." For workplace support, 29.7% perceived their administrative support as "moderate," 23.6% as "high," and 21.7% as "low." A total of 31.9% of participants perceived their workplace mental health support as "very low," and 35.1% perceived their workplace educational assistant support as "very low" as well. Many participants rated their perceived level of overall workplace support

at “moderate” (41.9%). Furthermore, 44.4% of participants rated their overall mental health as “average” at the time the survey was taken.

A total of 47.4% of participants responded they did not have a history of childhood trauma/adverse childhood experiences. A history of experiencing parental mental health problems occurred for 27.2% of participants, followed by 16.3% of participants reporting that they experienced abuse. Lastly, 62.3% of participants indicated they had not experienced a traumatic incident(s) as a part of their role as teacher. In contrast, 32.9% responded “yes” to this question. An overview of the demographic information can be found in Table 1.

Table 1

Demographic Characteristics

Variable	Full sample (n = 313)	
	N	%
Gender		
Female	275	87.9
Male	26	8.3
Other	4	1.3
Prefer not to say	5	1.6
Age		
18-25	22	7
26-34	114	36.4
35-44	96	30.7
45-54	64	20.4
55-64	16	5.1
65+	1	0.3
Sexuality		
Bisexual	17	5.4
Heterosexual	260	83.1
Lesbian	6	1.9
Pansexual	8	2.6
Queer	5	1.6
Prefer not to say	12	3.8
Other	5	1.6
Ethnicity[b]		
Arab	4	1.3
Biracial	5	1.6

Indigenous	10	3.2
South Asian	7	2.2
White	261	83.4
Not listed	13	4.2
Other	11	3.5
Teaching Contract		
Full-time teacher	263	84
Part-time teacher	21	6.7
Substitute teacher	18	5.8
Other contract	11	3.5
School System		
Public	277	88.5
Private	32	10.2
Not sure	3	1
Prefer not to say	1	0.3
Level of Education		
Master's degree	88	28.1
Post-secondary (bachelor's) degree	209	66.8
Other	5	1.6
Marital Status		
Divorced	10	3.2
Living, common-law	36	11.5
Married	182	58.1
Unmarried, no partner	51	16.3
Unmarried, partner	28	8.9
Other	4	1.3
Prefer not to say	2	0.6
Number of Children		
Zero	141	45
One	42	13.4
Two	96	30.7
Three	19	6.1
Four	6	1.9
Five	6	1.9
Province Currently Teaching		
Alberta	123	39.3
British Columbia	77	24.6
Manitoba	33	10.5
Ontario	54	17.3
Quebec	5	1.6
Saskatchewan	10	3.2
Other	11	3.4
Years in the Teaching Profession[a]		
Less than a year	13	4.2
1-2 years	25	8
3-5 years	63	20.1

6-10 years	69	22
11-15 years	47	15
16-20 years	39	12.5
Over 20 years	56	17.9
Years in Current Position[a]		
Less than a year	81	25.9
1-2 years	63	20.1
3-5 years	76	24.3
6-10 years	54	17.3
11-15 years	21	6.7
16-20 years	10	3.2
Over 20 years	7	2.2
School Level Currently Teaching		
Elementary school	189	60.4
Middle school	35	11.2
High school	64	20.4
Other	25	8
Geographic Region of Job		
Rural	125	39.9
Urban	187	59.7
Prefer not to answer	1	0.3
Completion of Trauma-Informed Training		
Yes	135	43.1
No	147	47
Not sure	30	9.6
Planning to Leave the Field of Education[a]		
Yes	38	12.1
No	155	49.5
Unsure	119	38
Completion of Certifications/Trainings		
Yes	283	90.4
No	24	7.7
Prefer not to say	6	1.9
Perceived Level of Social Support		
Very high	54	17.3
High	128	40.9
Moderate	96	30.7
Low	22	7
Very low	10	3.2
Perceived Level of Workplace Administrative Support		
Very high	21	6.7
High	74	23.6
Moderate	93	29.7
Low	68	21.7
Very low	52	16.6

Perceived Level of Workplace Mental Health Support		
Very high	11	3.3
High	21	6.7
Moderate	91	29.1
Low	86	27.5
Very low	100	31.9
Perceived Level of Workplace Educational Assistant Support		
Very high	12	3.8
High	35	11.2
Moderate	64	20.4
Low	76	24.3
Very low	110	35.1
Perceived Level of Overall Workplace Support		
Very high	8	2.6
High	51	16.3
Moderate	131	41.9
Low	81	25.9
Very low	40	12.8
Overall Mental Health Rating		
Excellent	14	4.5
Good	63	20.1
Average	139	44.4
Poor	77	24.6
Terrible	20	6.4
History of Childhood Trauma/Adverse Childhood Experiences[a]		
Experienced violence	25	8
Experienced abuse	51	16.3
Experienced neglect	34	10.9
Witnessed violence in the community	23	7.4
Witnessed violence in the home	32	10.3
Family member attempted or died by suicide	25	8
Parental substance use problems	37	11.9
Parental mental health problems	85	27.2
Other	29	9.3
None of the above	148	47.4
Prefer not to say	13	4.2
Experienced a Traumatic Incident(s) in Teaching Role (Past 12 Months)[b]		
Yes	103	32.9
No	195	62.3

[a] Missing one response

[b] Missing two responses
[c] Missing three or more responses

Cronbach's Alpha

Cronbach's alpha was evaluated for the ProQOL-5, CD-RISC, and VTS scales. The ProQOL-5 had a total of 30 items (α = .76), and the compassion satisfaction subscale consisted of 10 items (α = .90), the burnout subscale consisted of 10 items (α = .76), and the secondary traumatic stress subscale also consisted of 10 items (α = 0.80). The CD-RISC was found to have high internal consistency with an α = .90 for the 25 items. Lastly, the VTS was also highly reliable across all variables (8 items; α = 0.88).

Descriptive Statistics

Descriptive statistics were used to assess the mean resilience score as well as the frequency of each work-related stress variable. Results indicate that participants' mean resilience score was 62.82 (*SD* = 12.43). Descriptive statistics also found that 90.4% of participants are experiencing a moderate level of burnout as shown by having a summed burnout score between 23 – 41. The mean burnout score was 29.99 (*SD* = 5.43). Similarly, 76% of participants have a moderate level of STS based on their summed score between 23 – 41. The mean STS score was 27.10 (*SD* = 6.11). In contrast, 50.8% of participants fell into the high level category for VT, which was indicated by a score of 43 – 56. The mean VT score was 40.88 (*SD* = 9.12). A summary of participants' final scores for each scale can be found in Table 2.

Table 2

Prevalence of Burnout, STS, and VT

Work-related stress variable	Full sample (*n* = 313)	
	N	%
Burnout		
Low	27	8.6
Moderate	283	90.4
High	3	1

Secondary Traumatic Stress		
Low	72	23
Moderate	238	76
High	3	1
Vicarious Trauma		
Low	32	10.2
Moderate	122	39
High	159	50.8

Pearson's Correlation

To address the second research question, Pearson's correlation was used to examine the relationship between resilience, burnout, STS, and VT. There was a significant strong negative relationship found between resilience and burnout, $r(311) = -.55$, $n = 313$, $p < .001$. There was a significant weak negative relationship found between resilience and STS, $r(311) = -.28$, $n = 313$, $p < .001$, as well as resilience and VT, $r(311) = -.22$, $n = 313$, $p < .001$. The strength of the relationships remained the same for each variable when the outlier was removed with slightly different correlation coefficients between resilience and burnout, $r(310) = -.54$, $n = 312$, $p < .001$, resilience and STS, $r(310) = -.29$, $n = 312$, $p < .001$, and resilience and VT, $r(310) = -.24$, $n = 310$, $p < .001$.

Table 3

Descriptive Statistics and Correlations with Outlier Included

Variable	*N*	*M*	*SD*	Resilience	Burnout	STS	VT
Resilience	313	62.82	12.34	-	-	-	-
Burnout	313	29.99	5.43	-.55**	-	-	-
STS	313	27.10	6.12	-.28**	.56**	-	-
VT	313	40.88	9.12	-.22**	.54**	.59**	-

**$p < .001$

Table 4

Descriptive Statistics and Correlations with Outlier Removed

Variable	*N*	*M*	*SD*	Resilience	Burnout	STS	VT
Resilience	312	62.98	12.03	-	-	-	-
Burnout	313	29.99	5.43	-.54**	-	-	-
STS	313	27.10	6.12	-.29**	.56**	-	-
VT	313	40.88	9.12	-.24**	.54**	.59**	-

**$p < .001$

One-way ANOVA

To address the third research question, a one-way ANOVA was performed to investigate if there is a significant difference in STS based on low, intermediate, and high levels of resilience. The descriptive statistics for each level of resilience can be found in Table 5.

Table 5

Descriptive Statistics for Resilience and STS

Resilience Level	*N*	*M*	*SD*
Low	81	29.06	5.69
Intermediate	147	27.35	5.87
High	85	24.80	6.22

Results of the one-way ANOVA were significant at the .05 level with a medium effect size, $F(2, 310) = 10.99$, $p < .001$, est. $\omega^2 = .06$. Tukey's HSD post hoc test indicated that the high resilience group and the low resilience group differed significantly in their STS ($p < .001$). Similarly, the high resilience group and the intermediate resilience group significantly differed in their STS ($p < .05$). However, there was no significant difference between the mean of the low resilience group and the intermediate resilience group ($p = .095$). Therefore, different levels of resilience have an effect on STS levels. Teachers with high resilience are more likely to have lower STS levels than teachers with low or intermediate resilience.

Welch's ANOVA

Welch's ANOVA was implemented to examine the differences between low, intermediate, and high resilience levels and burnout. Descriptive statistics for each level of resilience and burnout can be found in Table 6.

Table 6

Descriptive Statistics for Resilience and Burnout

Resilience Level	*N*	*M*	*SD*
Low	81	33.72	4.18
Intermediate	147	29.90	4.81
High	85	26.60	5.26

Results indicated a statistically significant difference among the three levels of resilience and burnout with a large effect size, $F(2, 178.38) = 48.27$, $p < .001$, est. $\omega^2 = .23$. Post hoc Games-Howell tests indicate that the low resilience group and the high resilience group had significantly different burnout scores ($p < .001$). The low and intermediate resilience groups also differed significantly in their burnout scores ($p < .001$). Similarly, the intermediate resilience group and the high resilience group differed significantly in their burnout scores ($p < .001$). Therefore, low, intermediate, and high resilience levels have an effect on burnout. Teachers with high resilience are more likely to have lower burnout and teachers with intermediate resilience are more likely to have lower burnout than those with low resilience.

Welch's ANOVA was also used to examine the differences between resilience levels and VT. Descriptive statistics for low, intermediate, and high resilience and VT can be found in Table 7.

Table 7

Descriptive Statistics for Resilience and VT

Resilience Level	*N*	*M*	*SD*
Low	81	43.41	7.70
Intermediate	147	41.21	8.97
High	85	37.91	9.89

There was a statistically significant difference found among the three levels of resilience and VT with a small effect size, $F(2, 178.55) = 8.02$, $p < .001$, est. $\omega^2 = .04$. Post hoc Games-Howell tests indicate that the low resilience group and high resilience group significantly differed in their VT scores ($p < .001$). Similarly, the intermediate and high resilience groups differed significantly in their VT scores ($p < .05$). However, there was no significant difference found between low and intermediate resilience groups VT scores ($p = .130$). Thus, different levels of resilience affect teachers' VT scores such that teachers with high resilience are more likely to have lower VT scores compared to those with intermediate and low resilience.

Exploratory Analysis

Multiple Linear Regression

A multiple linear regression was used to predict burnout based on social support, overall workplace support, administrative support, overall mental health support, number of years in the teaching profession, and resilience. In the final model, all six predictors accounted for 47% of the model variance ($R^2 = .47$, $F(11, 301) = 24.49$, $p < .001$). It was found that low workplace support significantly predicted burnout ($\beta = .406$, $p < .001$), as did moderate workplace support ($\beta = .225$, $p = .001$). Low mental health support was also a significant predictor of burnout ($\beta = .126$, $p = .008$), whereas moderate mental health support was not ($p > .05$). Moderate social support, but not low social support, was also a significant predictor of burnout ($\beta = .27$, $p = .048$). Resilience was also found to be a significant negative predictor of burnout ($\beta = -.444$, $p < .001$).

There were no statistically significant results found for all other predictor variables ($p > .05$). An overview of the regression coefficients can be found in Table 8.

Table 8

Regression Coefficients of Burnout on Predictor Variables

Variable	*B*	*SE*	β	*t*
Low workplace support	3.75	0.88	0.34	4.25***
Moderate workplace support	1.83	0.74	0.17	2.47*
Resilience	-0.19	0.02	-0.43	-9.68***
Low social support	0.75	0.83	0.04	0.90
Moderate social support	1.09	0.55	0.09	1.98*
Low administrative support	0.63	0.76	0.06	0.83
Moderate administrative support	0.27	0.66	0.02	0.40
Low mental health support	2.38	0.89	0.22	2.68**
Moderate mental health support	1.47	0.84	0.12	1.76
Years in teaching profession (5 or less)	-0.34	0.58	-0.03	-0.56
Years in teaching profession (6-15 years)	-0.14	0.56	-0.01	-0.25

*$p < .05$
**$p < .01$
***$p < .001$

A multiple linear regression was used to predict STS based on social support, overall workplace support, administrative support, overall mental health support, number of years in the teaching profession, exposure to trauma in the classroom, and resilience. The final model indicated that all seven predictors accounted for 16% of the model variance ($R^2 = .16$, $F(12, 300)$

= 4.89, $p < .001$). It was found that low workplace support was a significant predictor of STS (β = .209, $p < .05$), and resilience was a significant negative predictor (β = -.231, $p < .001$). Classroom trauma exposure was also a significant predictor of STS (β = .136, $p < .05$). No statistically significant results were found for the remaining variables. Table 9 provides an overview of the regression coefficients for each variable.

Table 9

Regression Coefficients of STS on Predictor Variables

Variable	*B*	*SE*	β	*t*
Low workplace support	2.61	1.26	0.21	2.07*
Moderate workplace support	1.41	1.06	0.11	1.34
Resilience	-0.11	0.03	-0.23	-4.10***
Low social support	0.27	1.19	0.01	0.23
Moderate social support	0.69	0.78	0.05	0.86
Low administrative support	-0.12	1.08	-0.01	-0.11
Moderate administrative support	-0.91	0.94	-0.07	-0.97
Low mental health support	-0.36	1.27	-0.03	-0.26
Moderate mental health support	-2.15	1.19	-0.16	-1.81
Years in teaching profession (5 or less)	-0.37	0.83	-0.03	-0.44
Years in teaching profession (6-15 years)	-0.59	0.80	-0.05	-0.74
Classroom trauma exposure	1.65	0.66	0.14	2.52*

*$p < .05$
**$p < .01$

***$p < .001$

Lastly, a multiple linear regression was used to predict VT based on social support, overall workplace support, administrative support, overall mental health support, number of years in the teaching profession, exposure to trauma in the classroom, and resilience. The final model showed that all seven predictors accounted for 21% of the variance ($R^2 = .21$, $F(12, 300) = 6.55$, $p < .001$). Resilience was found to be a significant negative predictor of VT ($\beta = -.116$, $p < .05$). Furthermore, being in the field for less than five years was also found to significantly negatively predict VT ($\beta = -.124$, $p < .05$). Low mental health support was a significant predictor of VT ($\beta = .287$, $p = .004$), as was classroom trauma exposure ($\beta = .137$, $p = .009$). No other predictor variables were found to be statistically significant. The regression coefficients for each predictor variable can be found in Table 10.

Table 10

Regression Coefficients of VT on Predictor Variables

Variable	*B*	*SE*	β	*t*
Low workplace support	2.02	1.83	0.11	1.10
Moderate workplace support	1.58	1.53	0.09	1.03
Resilience	-0.09	0.04	-0.12	-2.11*
Low social support	-0.53	1.73	-0.02	-0.31
Moderate social support	1.58	1.14	0.08	1.39
Low administrative support	2.97	1.57	0.16	1.89
Moderate administrative support	1.42	1.36	0.07	1.04
Low mental health support	5.33	1.84	0.29	2.90**

Moderate mental health support	3.10	1.73	0.15	1.79
Years in teaching profession (5 or less)	-2.43	1.21	-0.12	-2.01*
Years in teaching profession (6-15 years)	-1.14	1.16	-0.06	-0.98
Classroom trauma exposure	2.50	0.96	0.14	2.61**

*$p < .05$
**$p < .01$
***$p < .001$

Thematic Analysis

Coping Methods for Burnout and Stressors Associated with Teaching

A total of 272 participants responded to the open-ended question 'what are your main methods to help you cope with the possible burnout and stressors associated with teaching?' Based on participant's responses, six themes were developed which include well-being, work-life boundaries, activities and hobbies, social support, lack of coping, and distraction. A frequency count of each theme can be found in Table 11, and a word cloud highlighting the prevalence of common words reported by participants can be found in Appendix I.

The most frequently reported theme was well-being, with a total of 119 participants aligning with this theme. Two sub-themes were identified based on participants describing either self-determined or professional forms of support pertaining to well-being. A total of 90 participants described utilizing self-determined supports for their well-being. Self-determined supports included using coping methods independently, or without a professional. For example, "exercising", "meditation", and "taking mental health days" were some self-determined supports described by participants. Others described the importance of "taking time away from work" to "do something relaxing" or "go to the gym." In contrast, professional supports included external

methods of coping that involve a professional (e.g., psychologist). A total of 39 participants expressed using a form of professional support such as “taking medications”, “talking to a therapist”, and “counselling”.

Utilizing social support was the second most prevalent theme, with a total of 90 participants mentioning this coping mechanism. Talking and/or spending time with friends, family, and colleagues appeared to be a source of stress relief for many teachers. Numerous participants reported that their main method to cope with the burnout/stress associated with teaching was “talking with friends and family,” having “family time,” or “venting to colleagues.” Others would lean on connections of others in the teaching profession, such as one participant who described “driving to and from school with my sister who is also a teacher.”

Maintaining boundaries between personal life and work was also reported as a coping method among Canadian teachers. A total of 85 participants described the importance of “taking breaks,” creating “boundaries,” “limit time spent at school,” and “not taking work home.” This was highlighted in one participant’s response, who described implementing work-life boundaries by having “strict personal rules about keeping work and home separate, never work at home and taking evening and weekends to take care of myself as needed.” Similarly, another participant mentioned they maintained boundaries by “putting the computer away instead of working through the weekend. I refuse to work in the evenings.”

Engaging in various activities and/or hobbies were also common coping mechanisms for 72 teacher participants. For some teachers it was utilizing “humour,” “watching TV,” or simply “going out in the fresh air” that served as a source of coping. For others, it was a matter of taking time to enjoy activities that are personally meaningful. This was highlighted by two participants

who mentioned “doing something I love to do” and “doing things I enjoy during my time off” as their coping mechanisms.

For 15 participants, there were no particular coping mechanisms that helped them manage the possible burnout or stress associated with teaching. Some teachers responded with “none” or “nothing,” highlighting a lack of coping. Time was an issue for other teachers, as emphasized by one participant who expressed “it feels like I never have time to use any of my strategies.” Others described their method of coping was to leave the profession altogether. As two participants expressed, “moved to part-time and planning on leaving the profession altogether” and “leave, I have a new job lined up.” Lastly, a total of 14 participants utilized distraction as a form of coping. Several teachers expressed “watching mindless videos” and “drinking alcohol” as distractions and a coping method for their role as a teacher.

Table 11

Frequency and Quotes for Themes Associated with Teachers’ Coping Methods

Theme and Frequency Count	Example Quotes
Well-being (119)	
Self-determined supports (90)	“Working out to relieve the stress.”
	“Keep moving every day to release stress from work.”
Professional supports (39)	“Regular therapy and acupuncture appointments.”
	“Weekly therapy /psychologist.”
Social support (90)	“Talking about it with my partner (who is also a teacher), talking with admin and colleagues.”
	“Having a strong network of other teachers.”

	"Family and friends who are willing to hear me vent."
Work-life boundaries (85)	"I personally don't work past 4 unless it's report card time. I don't take work home. I have a life outside of school."
	"Trying my best not to take a huge workload home with me and accepting that not everything will get done."
	"Strict personal rules about keeping work and home separate, never working at home and taking evenings and weekends to take care of myself as needed."
Activities/Hobbies (72)	"Doing things I enjoy during time off."
	"Humour, alone time, focusing on my kids, getting out and staying busy."
	"Disconnecting from social media platforms, sleep, spending time outside."
Lack of coping (15)	"I am currently burned out."
	"Fundamentally I am leaving the profession because nobody should have to work this hard to overcome stressors from work."
Distraction (14)	"Ignore it."
	"Distracting myself watching tv shows that are very different from my own life, drinking alcohol."

Teaching Problems and Concerns

In addition to the above question, participants were also asked to "please describe your biggest problem or concern related to your role as a teacher." A total of 280 participants responded to this question, and two primary themes along with eight subthemes were created from the data. Professional concerns is the first theme and includes lack of support and resources, workload, classroom factors, administration concerns, student well-being, and

systemic issues as the subthemes. Personal concerns is the other main theme and includes personal well-being and teaching efficacy as subthemes. These themes and subthemes are described in further detail below. A frequency count of each theme can be found in Table 12 and a word cloud highlighting the prevalence of common words reported by participants can be found in Appendix J.

Professional Concerns

Workload was the most prevalent concern for teachers, with a total of 98 participants identifying concerns in this area. Statements highlighting "the never-ending workload," "demands piling on," and "too much with not enough time" were emphasized by numerous participants. Some teachers expressed the workload continued to increase without "removing something." As one teacher highlighted, "more things keep getting added to my plate – keep on going because I have to, but eventually the plate is going to break." For others, it was the extra demands on top of regular teaching duties that are problematic. From "managing parent emails and requests," "1000 word report card comments," and "staff meetings" to "mandated assessments" and "professional development," many teachers described facing an "overwhelming workload that continues to grow."

In addition to experiencing an immense workload, a total of 74 teachers described concerns over a lack of support and resources. Teachers expressed a lack of support from "admin" and "for students who need it," including a "lack of counselling and mental health support." Some teachers described a lack of support "within the classroom" in that "students have so many emotional and academic needs and there's not enough support to help them all." Furthermore, the lack of resources for "struggling students" and of "people and materials" was a commonly reported concern among participants.

Classroom factors – including class size, student behaviours, and diverse student needs – was a concern described by 68 participants. Many teachers expressed the "composition of classes and class size" to be problematic in addition to the "impossibility of meeting the HUGE range of abilities/needs in a classroom." Moreover, teachers described having "very complex" and "dysregulated" students with behavioural challenges such as "physical violence" and "learning disabilities." One teacher's experience highlights many of the concerns mentioned throughout this theme:

> "How one teacher can feel competent in meeting the diverse needs within one classroom (i.e., Non-verbal, ELL, trauma history, FASD, ASD, ADHD, ODD, anxiety, learning disability, cognitive disability, hearing impaired, typically developing, gifted). Most classrooms have many (or all) of those learners in one class. How can teachers possibly have expertise in all of those areas and have enough time to address all students' needs. This impossible task leads many to feeling overwhelmed and incompetent. Burnout almost seems inevitable when I look at it all written down."

Administration concerns was another theme expressed by 23 participants. Experiencing "expectations that are unclear" and a "lack of communication" were among some of the administration concerns teachers reported. Others described administration issues such as "incompetence," "gaslighting," and "overworked administrators that pass blame onto teaching staff." A total of 19 teachers also described various systemic issues such as working within a system that is "underfunded and colonial" and focuses more on "data," "new initiatives, and grades" with a "loss of focus on students." For some teachers these systemic issues meant feeling like "we've lost all the meaning of teaching" and being "unable to really make a difference in student's lives due to lack of expectations and consequences."

Lastly, a total of 19 participants indicated that student well-being was the biggest problem or concern related to their role as a teacher. This theme included student "mental health," "neglect," and those who "experience trauma." For some teachers, these concerns created challenges in "managing students mental health and increased academic pressure to catch kids up" along with the feeling of being "unable to help my students suffering and problems."

Personal Concerns

Concerns surrounding personal well-being was a theme for 24 participants. Experiencing "burnout," "stress," "anxiety," and "fatigue" were some common problems reported by teachers. Having a career as a teacher led some participants to feel "that my job is a bigger priority over my health" and question "whether it is a sustainable career because it takes most of my emotional and physical energy."

A total of 11 participants described concerns pertaining to their teaching efficacy. This included concerns related to student's learning such as "teaching all new subjects, some of which are outside of my areas of expertise" and "feeling like I'm not teaching them well enough." Others expressed concerns about their ability to support students such as "not being able to help someone who really needs it, or missing signs that someone might need help."

Table 12

Frequency and Quotes for Themes Associated with Teachers' Primary Concerns

Theme and Frequency Count	Example Quotes
Workload (98)	"Not enough time to plan. Need to do this during evenings and weekend. The work seems endless, you have to be ok with not finishing everything."
	"Amount of work necessary to meet the high standards that are desired. I have too many

	classes to teach (8 this year) to do a good job at all of them."
	"Workload, specifically, the work required outside of working hours such as preparing classes and marking."
Lack of support and resources (74)	"43% of my students are designated with special needs and are on an IEP, yet I only have a part-time shared EA. The students do not get the support they need, and I can't do it all myself."
	"Lack of support at a school board level (constantly covering classes due to no supply teacher availability is my biggest stressor)."
	"My students have so many emotional and academic needs and there's not enough support to help them all."
Classroom factors (68)	"I can't meet all the diverse needs of my students. Having to prioritize who gets what support and accept that some needs can't be met is difficult."
	"Classroom complexity. Feeling the need to help all students learn but not having the capacity or staff to do so."
	"Composition of classes and class size. Dealing with violent students who have no consequences for their behaviour."
Administration concerns (23)	"Overworked administrators that pass blame into teaching staff."
	"Terrible administration."
	"Administrative reaction versus administrative proactive initiative to solve problems before they become my problem."
Systemic issues (19)	"I feel as though I am a part of a system in which I am unable to really make a difference in student's lives due to lack of expectations and consequences."

	"It gets worse every year. More societal needs that school is not designed to meet."
Student well-being (19)	"Trying to support kids who have experienced trauma. It can affect their learning and the biggest one I see- their behaviours."
	"Students are coming in with so many mental health challenges from home and pandemic. Affecting their physical well-being as well."
Personal well-being (24)	"Burn out - the more I do, the more I am expected to do. Setting boundaries between work and personal time can be difficult."
	"I struggle to balance ADHD with my teaching career."
	"My own traumatic experiences of constant violence. Not knowing if I'm going to get hurt at work."
Teaching efficacy (11)	"Teaching all new subjects, some of which outside of my area of expertise."
	"Feeling like I'm not teaching them well enough. lessons aren't good enough or engaging enough or relevant enough or differentiated enough- that I'm leaving kids behind and can't be there for one on one support that majority of my 26 students need."

CHAPTER 5: DISCUSSION

Exposure to high stress and trauma in the workplace can result in work-related stress including burnout, STS, and/or VT. Past research has demonstrated that work-related stress in teachers has personal and occupational impacts, including negative implications for students (Hoglund et al., 2015). Resilience has been suggested as a possible process to help reduce vulnerability to burnout, STS, and VT (Stanley et al., 2021; West et al., 2020). Building off research in other professions (e.g., Cummings et al., 2020), the current study aimed to bridge the gap in the literature by examining work-related stress in K-12 Canadian teachers as well as exploring associations with resilience.

Prevalence of Work-Related Stress in Canadian Teachers

The first research question was to determine the prevalence of work-related stress among Canadian teachers. It was found that experiencing work-related stress was common in the current sample, with the majority of participants falling within the moderate range of burnout and STS, and in the high range for VT. This aligns with previous literature indicating that not only are teachers experiencing burnout (e.g., Kutsyuruba et al., 2019), but also adds that teachers are facing a moderate to high degree of STS and VT, respectively. Previous research has suggested that teachers are experiencing an epidemic of burnout, even prior to the COVID-19 pandemic. High workloads, excessive stress, and diminished job satisfaction are all too common experiences among teachers (Rankin, 2022). However, research has shown that teachers have expressed a greater desire to leave the profession after the pandemic (Hanover Research, 2021). Therefore, the current findings highlight that teacher burnout is an issue persisting beyond the pandemic. As evidenced by participants short-answer responses, there are many stressors and challenges that teachers are facing as a part of their job. The high workload, lack of support,

classroom difficulties, and personal challenges that teachers described may all be contributing to burnout levels. Although the present study did not assess the relationship between individual burnout levels and short-answer responses, these types of experiences have been shown to contribute to burnout. Research has found that a heavy workload, including giving assignment feedback, evaluation preparation, and work pressure, predicts burnout (Dorman, 2003). Similarly, as highlighted by El Helou and colleagues (2016), lack of support and classroom-related factors predict burnout. For example, lack of emotional support from administrators has been shown to predict all burnout dimensions (Zhongying, 2008). Moreover, teachers with large classroom sizes show more burnout symptoms compared to those with smaller class sizes (Bümen, 2010). These issues were frequently mentioned by participants in the current study and may be possible reasons why this sample of Canadian teachers are experiencing moderate levels of burnout.

Few studies have examined the prevalence of STS in teachers, and those that have demonstrated varying results. For example, Koenig et al. (2017) found that 43% of teachers had STS symptoms, whereas Borntrager et al. (2012) found nearly 75% of school personnel reported STS. This study showed that 76% of participants fell within the moderate range of STS, indicating that Canadian teachers are also experiencing STS. Several factors may be contributing to this prevalence, including an increase in childhood mental health issues. Mental health and substance use concerns among Canadian adolescents have shown a documented increase since April 2020, with approximately half of teens experiencing an increase in anxiety and depression symptoms (Cost et al., 2021). Findings from British Columbia showed that adults at school were among the most commonly accessed mental health supports for adolescents (Gorfinkel et al. 2023). This rise in youth mental health concerns may be contributing to the levels of STS found

in this study. Similarly, majority of participants fell within the “high” range of VT, which could be accounted for from the increase in youth mental health challenges. However, as previously described, VT results from the accumulation of multiple indirect traumatic experiences (Cummings et al., 2020; Stamm, 2010). Given that a teacher supports multiple students at a time, it may be that VT is higher than STS in the current sample because of the nature of a teacher’s work. Therefore, as mental health issues increase within schools, and teachers potentially being a primary source of support, it may account for the prevalence of STS and VT seen among this sample of Canadian teachers.

Another factor that may be contributing to the prevalence of STS and VT is the trauma that has resulted from the COVID-19 pandemic. Research suggests that the pandemic itself was a traumatic stressor (Bridgland et al., 2021), with both parents and children reporting pandemic-related traumatic stress symptoms, such as hyperarousal and hypervigilance (Hagan et al., 2022). Although childhood trauma was a problem prior to the pandemic, the measures taken in response to COVID-19 impacted the risk factors for child maltreatment. For example, quarantines and school lockdowns would have only forced some children to spend more time with their abusers (Park & Walsh, 2022). Thus, the collective experience of the pandemic for children and the consequent trauma that ensued may contribute to the rates of STS and VT seen in teachers. Moreover, 47% of the current sample reported they did not complete trauma-informed training. Given that STS is especially salient if the person is not trained to deal with trauma (Everall & Paulson, 2004; Lee, 2022), it may also be that teachers are experiencing moderate to high rates of STS and VT because they lack the training needed to work with children exposed to trauma. When taken together, the increase in child mental health issues and trauma, along with a lack of

preparation to deal with trauma, may explain the prevalence of STS and VT in Canadian teachers.

Interestingly for burnout and STS, it was found that only 1% of participants fell within the high range. This may be due, in part, to resilience serving as a protective mechanism. Research suggests that resilience may play a protective role against burnout and secondary trauma (e.g., Muomah et al., 2021; Richards et al., 2016). To understand whether this may be the case for teachers, the relationship between resilience and work-related stress was examined as a part of the second research question.

Relationships Between Resilience and Burnout, STS, and VT in Teachers

The second research question sought to determine whether there were any relationships between resilience and burnout, STS, and VT. It was found that resilience was negatively associated with burnout, STS, and VT, suggesting that as resilience increases, work-related stress decreases. This aligns with the existing literature showing that resilience can help people cope with stress (Richards et al., 2016), and therefore may act as a buffer for teachers who are facing work-related stress. According to Gu and Day (2007), resilient teachers have the ability to manage stress and overcome stressful work conditions. However, they further describe resilient teachers as having the "strength and determination to fulfill their original call to teach and to manage and thrive beyond professionally" (Gu & Day, 2007; p. 1314). Similar to what Gu and Day (2007) describe, the current findings suggest that, despite the challenges teachers face, resilience may buffer against the negative effects of work-related stress.

These findings also align with previous research suggesting that teachers who have higher levels of resilience have lower perceived burnout levels (Burić et al., 2019; de Vera Garcia & Gambarte, 2019; Richards et al., 2016). The current study was one of the first to

examine associations between resilience, STS, and VT in teachers. Findings suggest that resilience may be protective against these trauma reactions in teachers, as resilience was negatively correlated with both STS and VT. This is congruent with past research in other professions indicating that resilience plays a protective role against trauma (Muomah et al., 2021). Resilience has been suggested to provide the ability to bounce back after experiencing adversity (Garcia & Calvo, 2012), which may also be the case for teachers experiencing STS and VT.

Differences Between Burnout, STS, and VT Scores in Teachers with Low, Intermediate, and High Resilience

The associations between resilience and each work-related stress variable also differed depending on a teacher's level of resilience. It was found that teachers with high resilience were more likely to have lower STS and VT compared to those with low or intermediate resilience. Similarly, teachers with high and intermediate resilience were more likely to have lower burnout. These findings suggest that resilience may not only protect against work-related stress, but that one's specific level of resilience plays a role in the protective mechanism that resilience provides. High resilience appears have an effect on lower STS and VT, whereas both high and intermediate resilience have an effect on lower burnout. Therefore, higher resilience may also be needed to protect from trauma symptoms, whereas intermediate resilience is enough to provide the same benefit for burnout. Based on previous research, this may be due to resilience helping teachers to adapt and overcome challenges faced in the field (Beltman et al., 2011; Kangas-Dick & O'Shaughnessy, 2020). This study shows that the same may also be true for burnout, STS, and VT in that resilience helps teachers adapt when faced with adversity.

The question remains why burnout appears to be affected by both high and intermediate resilience, whereas the trauma variables of STS and VT only show differences when resilience is high. Recent research has found that more resilient teachers do not get burnt out and that resilience reduces one's vulnerability to burnout (de Vera Garcia and Gambarte, 2019; Richards et al., 2016). However, these studies did not examine different levels of resilience. Therefore, this study may have captured further specificity as to the level of resilience that is required to protect against burnout. In this regard, it may be that burnout allows for a lower level of resilience to provide protective benefits, whereas STS and VT require higher levels of resilience due to the more complex nature of trauma.

Although resilience was found to be associated with lower work-related stress, there is no way to ascertain the chronology of the variables. In other words, it was not possible to determine whether resilience was developed before or after any trauma or burnout that occurred. For example, it is possible that some teachers experienced post-traumatic growth, or positive psychological change that results from experiencing trauma or challenging circumstances (Jayawickreme et al., 2021). The process of post-traumatic growth can occur after an individual experiences a major life crisis and can be influenced by various factors including a person's personality traits, social system, and cognitive engagement with the trauma (Tedeschi & Calhoun, 2004). Therefore, post-traumatic growth may be at play for some teachers in the current study. This would mean that, despite resilience playing a protective role, it could have arisen as a result of the trauma rather than preceding it.

Exploratory Findings

In addition to the primary research questions, it was found that resilience was a significant negative predictor of burnout, STS, and VT, even when controlling for variables that

have been demonstrated to play a role in work-related stress. This suggests that resilience may be a powerful mechanism to help reduce work-related stress, even when other possible protective factors are in place. Previous research has suggested that social support, workplace support, and years in the field are associated with work-related stress (e.g., Adams et al., 2001; Maslach et al., 2001; Rankin, 2022; Slattery & Goodman, 2009). For example, social support has been associated with better adjustment after experiencing a traumatic event (De Jong et al., 1999). The current finding is consistent with previous research in other professions and in teachers. In human service professionals, Harker and colleagues (2016) found that resilience significantly predicted lower levels of burnout and STS. Similarly, resilience was found to be significantly predictive of burnout in a sample of nurses (Guo et al., 2017). In teachers, higher levels of perceived resilience were predictive of burnout and psychopathological symptoms (Burić et al., 2019). This finding adds to the literature in teachers showing that resilience predicts lower burnout, as well as STS and VT. Although various predictor variables that have been associated with work-related stress were included, a more extensive analysis is needed to determine the extent to which resilience serves as a protective factor. For example, including perceived self-efficacy and student-teacher relationships as predictor variables would be beneficial as research has identified these as protective factors involved in teacher resiliency (Beltman et al., 2011; Kitching et al., 2009).

Teacher Coping and Concerns

Themes generated from participants' short-answer responses revealed that teachers are using various coping mechanisms to help manage the possible burnout and stress associated with their job. Well-being was the most frequently reported theme, with participants describing coping strategies pertaining to physical and mental well-being and utilized either self-determined

or professional supports. According to the Centers for Disease Control and Prevention, some of the healthy ways to cope with stress include taking care of yourself and your body through exercise, taking breaks, getting enough sleep, and speaking to a professional (CDC, 2021). Self-determined supports were more frequently utilized compared to professional supports, suggesting that most teachers are supporting their physical and/or mental health through their own independent strategies. Perhaps this is due to barriers of cost and accessibility for seeing professional sources of support, or teachers are finding self-determined sources of support effective at sustaining their well-being. However, participants were not asked whether they felt their sources of coping were effective for managing the burnout and stress associated with their job. This would be an important area for future research to explore in order to determine how teachers perceive the effectiveness of their coping strategies.

Another theme of maintaining work-life boundaries emphasized the importance of separating work and personal life for many participants. It appears that teachers in the current study were adopting coping strategies congruent with the suggestions for healthy ways to cope, whether it was engaging in regular exercise, speaking to a psychologist, or taking breaks from classroom duties. Other themes included utilizing social support or partaking in an activity or hobby. Numerous studies have detailed the benefits of social support to help manage stress. For example, Loseth and colleagues (2022) found that social support can bolster resilience and promote stress recovery. Similarly, engaging in enjoyable activities has been linked to higher psychological and physical functioning (Pressman et al., 2009). Regardless of the source of social support or type of activity, it appears that these two themes are serving as an important way of coping for many Canadian teachers. However, it is unknown how participants perceived these coping mechanisms to help. It would be beneficial for future research to ask teachers the

extent to which they believe their coping strategies help them manage or overcome the stress and burnout associated with their job.

In contrast, it was revealed that some teachers coped through distraction or had a lack of coping strategies. As described by Chang (2009), avoidance is potentially the worst coping mechanism for teachers working in stressful environments. For some teachers, their form of coping was planning on leaving the profession altogether. According to Hanover Research (2021), pre-existing teacher shortages were exacerbated due to the COVID-19 pandemic. After the pandemic, 33% of teachers expressed they were somewhat or very likely to leave the profession, in contrast to 8% prior to the pandemic. Prior research in Canada has shown that over 46% of teachers leave the profession within the first five years (Karsenti & Collin, 2013). In alignment with the increasing concerns over teacher attrition, participants in the current sample expressed no particular coping mechanisms, with some planning to leave the field as a solution to the burnout and stress they faced.

A combination of professional and personal concerns was found for teachers' biggest problem or concern pertaining to their job. It was evident that many teachers felt they lacked professional supports, were overworked, and overwhelmed with managing their classroom. Concerns over administration, student well-being, and systemic issues were also highlighted by this sample of Canadian teachers. Many of these issues have been discussed in prior research, underscoring issues in the teaching profession that require further attention. According to the Canadian Teachers' Federation (see Froese-Germain, 2014), teacher workload is a well-documented problem. In addition to their regular teaching duties, it is estimated that teachers work an additional 10 – 20 hours per week outside of school hours, contributing to burnout and exhaustion (Naylor & White, 2010). The nature of work as a teacher is also highly complex,

requiring planning and multitasking which may distract from regular teaching duties. Moreover, teachers lack the supports necessary to help the diverse learning needs of their students (Alberta Teachers' Association, 2012). It is apparent that the current sample of teachers are facing issues that have previously been highlighted by teacher associations across Canada (Froese-Germain, 2014).

Personal well-being and teaching efficacy were also among the main concerns expressed by teachers in this study. Poor mental health has been a consistent issue among teachers (Kidger et al., 2016), and has been linked to higher rates of teacher absenteeism and poor student-teacher relationships (Jamal et al., 2013). Furthermore, poor mental health and the presence of major depressive disorder, panic disorder, and anxiety disorder are associated with higher intentions to quit among teachers (Mack et al., 2019). Teaching efficacy, or the teacher's perception of effectiveness with their students, also has been shown to impact teacher retention (Ingersoll & Smith, 2003). Several participants in this study expressed they felt an inability to support students in both learning and mental health, indicating that intrinsic variables may be influential in contributing to these teacher's biggest concern in their job. Perrachione and colleagues (2008) found that intrinsic variables (e.g., working with students, personal teaching efficacy) and extrinsic variables (e.g., teacher support, school environment) appeared to play a role in teacher job satisfaction. Although further research is required to elucidate the role of teaching efficacy in teacher work dissatisfaction, this study discovered some of the personal factors that are contributing to teachers' current problems and concerns.

Limitations

As with all research, this study is not without limitations. One limitation is that this study relied on self-report data, which is prone to social desirability bias. Social desirability bias can

occur in self-report surveys and refers to participants providing responses in such a way that frames themselves in favourable ways instead of selecting responses that represent their true feelings or behaviours (Grimm, 2010). Since social desirability bias is typically problematic in studies assessing socially sensitive issues (Grimm, 2010), it may be possible that the current study was affected by this bias. Subsequent studies could implement a social desirability bias scale to test for this issue.

Another limitation of the current study is the amount of internet bots that completed the survey. Despite integrating Qualtrics data protection tools (e.g., fraud detection, reCAPTCHA), the online survey rendered a large sample size which included many bot responses. It is suspected that these bots were created to fill out surveys for potential financial reward (Pozzar et al., 2020). The current study included incentives for participation in the form of a gift card draw, which may have drawn bots to the survey link. Research has indicated that careful articulation of incentives should be considered in survey research, which should be taken into account for future studies implementing gift card draws. For example, Griffin et al. (2021) discuss how switching from describing the incentive amount in the recruitment materials to offering a raffle without mentioning the amount considerably reduced the amount of bot responses. Although efforts were made to remove fraudulent responses accurately and effectively using a variety of metrics, it is possible that the data integrity may have been compromised. Given the advanced ability of internet bots, there is a possibility that some bot responses evaded all data integrity metrics and were included in the final analysis.

Although participants were recruited through social media in an attempt to achieve a diverse sample, the current study is limited by the gender and provincial distribution within the sample. Over 87% of the final sample size identified as female which created an unequal gender

distribution within this sample of teachers. However, this unequal distribution aligns with the Canadian teaching profession as a whole because majority of teachers are female. According to Statistics Canada (2014), when looking at the total number of teachers and professors in Canada, 68% were women and 32% were men. Furthermore, 84% of all elementary school and kindergarten teachers identified as female in 2011. Approximately 60% of the current sample also taught at the elementary school level, which may have contributed to the lack of gender diversity in the current study. Additionally, despite contacting and posting on various social media groups across Canada, majority of the sample was drawn from Alberta, British Columbia, and Ontario. This may be due to the size of the various groups that were posted in. For example, many of the Facebook groups in Alberta, British Columbia, Quebec, and Ontario consisted of approximately 10,000 members, whereas other provinces had smaller groups (e.g., 2,000 members). This aligns with the distribution of teachers across Canada, with Ontario and Quebec having over 100,000 teachers, and Alberta and British Columbia consisting of around 40,000 in 2016/2017 (Statistics Canada, 2018). It may also be that, because these provinces have more teachers, there were more teacher-specific groups on social media platforms. In turn, teachers in Alberta, British Columbia, and Ontario may have been more accessible to recruit and therefore comprised majority of the current sample.

Lastly, aspects of the study design are also a limitation to the current study. Specifically, some of the demographic questions were designed in such a way that the participants responses generated unclear results. One demographic question asking participants what grade they taught caused confusion during the analysis. Given that many teachers teach multiple grades at once or have a split class, this question caused many participants to select “other” as an option and type out their response since multiple select was not provided as a choice for this question. In

hindsight, allowing participants to select several grades as an option should have been integrated into the study as this would have provided clarity for analysis purposes. Other questions (age, years in the teaching profession, years in current position) were limited in their design as they were made into categorical rather than continuous variables. It would have been useful to determine the mean of these variables, which was not feasible given the questions were made into categories for the survey. Another limitation of the study design is the use of quantitative scales to measure complex human constructs. Although the scales used in this study allowed for empirical measurement of work-related stress and resilience, the nuance that is lost when parceling human experience into an instrument should not go unnoticed. The addition of qualitative methods is important for future research to consider in an attempt to capture the complexities of human consciousness and experience. Altogether, future research on teachers should keep these limitations in mind when developing the study design.

Future Directions

This study determined that there is a relationship between resilience and each work-related stress variable. Given this study was one of the first to examine all three work-related stress variables in teachers, future research could benefit from replicating these results in a larger sample size. Furthermore, since the current study was a Canadian sample, future research could explore whether there are any differences in teachers from other countries. Since school structures and dynamics vary from country to country (e.g., Fang & Gopinathan, 2009), and even within a given country (e.g., Volante & Ben Jaafar, 2008), it may be useful to examine how resilience and work-related stress varies between and within different countries. As mentioned previously, the current study was limited by the provincial/territorial dispersion of participants.

By obtaining a more geographically diverse sample, future research could more closely investigate differences in resilience and work-related stress within Canada.

The current study implemented short-answer questions to gain further insight into participants' experiences as a teacher. However, these questions were supplementary to the primary focus on resilience and work-related stress. Future research would benefit from a full qualitative or mixed-methods study to garner in-depth interview data about resilience and each work-related stress variable. This would enable participants to describe their personal experiences with resilience, burnout, STS, and VT rather than looking at overall associations. According to Boon (2020), most research on teacher resilience is based on self-report surveys which, when used alone, may be unreliable sources of evidence for teacher resilience. Thus, a qualitative or mixed-methods analysis would expand on the findings from the current study while adding to the existing literature on teacher resilience and work-related stress.

The CD-RISC was used in this study as a well-validated measure of personal resilience. As such, it was a teacher's personal resilience that was measured, rather than teacher-specific resilience. Although resilience is considered a personal trait that is developed in order to cope with hardship or adversity, it may be that teachers can develop resilience to manage work-related challenges (Boon, 2020). Research suggests that teacher resilience may develop in teachers who stay in the profession because it is crucial to handling the demands of their work environment (Athota et al., 2019; Boon, 2020). Thus, it would be useful for future research to elucidate the role of teacher resilience on work-related stress. For example, subsequent studies could use the Teachers' Resilience Scale developed by Daniilidou and Platsidou (2018), which assesses four aspects of teacher resilience including personal competencies and persistence, spiritual influences, family cohesion, and social skills and peer support. Using a different measure of

resilience would provide further information about the role resilience plays in potentially protecting teachers against the perils of work-related stress.

Lastly, it was previously discussed that despite resiliency being associated with STS and VT, there is no way to determine the chronological order of the variables. Due to this, future research has the potential to explore the chronology of resilience and trauma, as well as the role of post-traumatic growth. Conducting a longitudinal study would allow future research to follow teachers over an extended period of time and potentially decipher whether the resilience preceded the trauma, or vice versa. Moreover, the current literature on the associations between post-traumatic growth and resilience is mixed. Some studies suggest highly resilient individuals to be less impacted by trauma, therefore not having the need for growth, whereas other studies the more likely someone is to experience post-traumatic growth, the more likely they are to be resilient as well. Exploring the nuances between resilience and post-traumatic growth while factoring in work-related stress would extend beyond the findings of the current study.

Implications and Recommendations

Despite the limitations of this study, the results offer insight and implications that extend beyond the individual teacher and the classroom to the educational system as a whole.

Implications and Recommendations for Teachers

Compared to other professions, teachers are frequently reported to be at a higher risk for common mental health disorders (Kidger et al., 2016), burnout, and occupational stress (de Heus, 2009). This study showed that burnout, STS, and VT are indeed common experiences for Canadian teachers. Research has highlighted the importance of helping people recognize that they are not alone in their experiences with trauma (Bell et al., 2003). It will be important for teachers to not only build awareness and knowledge of work-related stress, but to spread this

information to their fellow teachers and school colleagues. This will allow individuals to recognize their symptoms and take the necessary steps to get help. There is strength in numbers, so by spreading awareness of these issues more teachers will have the ability seek and receive support. A first step for teachers may be completing an individual assessment of burnout, STS, and VT levels. Various free resources exist for teachers to access, including the ProQOL-5 measure used in this study, which is available through the ProQOL website (https://proqol.org/). Determining one's levels of burnout, STS, and VT would help clarify the next steps to be taken in addressing possible symptoms.

As described by Rankin (2022) and Chang (2009), there is no single coping strategy that is effective at ameliorating extreme stress. As evidenced by many participants' short-answer responses, various coping strategies may serve as an initial course of action to help with burnout, STS, and VT. Research has shown that self-care practices may help alleviate or manage STS and other mental health symptoms (NIMH, 2022; Rankin, 2022). Physical exercise, social engagement, therapy, or prioritizing personal or family time are among some self-care techniques that may be of benefit (Rankin, 2022). Thus, teachers will require a myriad of techniques and supports to help them avoid succumbing to different forms of work-related stress.

This study also revealed a relationship between resilience and work-related stress, demonstrating that resilience may serve as a potential protective mechanism against burnout, STS, and VT. Therefore, teachers should consider ways to foster their personal resiliency. As previously mentioned, social connections, emotional regulation, positive emotions, spirituality, active coping, hardiness/grit, and adaptability have all been associated with resilience (Joseph & Linley, 2006). If teachers can learn how to promote personal resilience in their life, it may help to buffer the negative effects of work-related stress.

Implications and Recommendations for School Administration and Leadership

In addition to implications for the individual teacher, this study also highlights important issues for schools, including those in administrative and leadership roles. Once work-related stress is recognized within the school system, both teachers and school leaders can work towards empowering one another to help mitigate negative stress reactions. In their short-answer responses, numerous teachers described how they felt overworked, unsupported, and unable to manage the complexities of their classrooms. Research has indicated that teachers' work conditions have direct effects on their teaching ability, and by extension, students' learning (Froese-Germain, 2014). Given the concerns expressed in this study, in addition to the burnout, STS, and VT being faced, it is apparent that teachers are calling for support and changes to be made in their work environment. However, research has also shown that those in school leadership roles (e.g., principals) experience the challenges of burnout and stress (DeMatthews et al., 2021). Therefore, systemic changes may need to occur so that reducing vulnerability to work-related stress does not just fall onto a single person, but rather is a collective effort. For example, school districts, boards, and associations could provide education and resources about work-related stress to help school personnel who may be facing burnout, STS, and/or VT. This may enable both teachers and school leaders to better recognize the signs of work-related stress in both themselves and their colleagues. These findings highlight the need for organizational changes to be implemented so that teachers and school personnel can be better supported.

In alignment with Hanover Research's (2021) recommendations, there are several steps that school leaders and administrators can implement to help teachers with work-related stress. Similar to what was previously mentioned, schools can educate teachers and staff about work-related stress and offer opportunities to help address these issues. Providing training

opportunities, such as TIC, will not only better equip teachers to work with traumatized students, but will also provide them with a foundation to protect themselves from trauma reactions, including STS and VT. TIC offers psychological and physical safety for both the consumer and provider, in addition to providing benefits to the organization as a whole (Rankin, 2022; Trauma Informed Care Project, 2010). Hales et al. (2017) found that implementing TIC in the workplace led to an increase in job satisfaction and retention. As the research suggests, it appears that investing in teachers through TIC training may lead to positive outcomes for both the individual and the workplace.

Given that these findings suggest resilience may serve as a protective mechanism against work-related stress, it could be worthwhile for school leaders and administrators to explore how to foster resilience in themselves as well as in teachers and other school personnel (e.g., principals and educational assistants). Not only can resilience be influenced at the individual level, but also through the classroom. Promoting contextual protective factors such as school, mentor, and peer support is one example of how schools can work to foster resiliency. Moreover, support from school administration through strong, open, and well-organized leadership and mentor relationships can serve as protective factors (Kitching et al., 2009). Taking steps to create a work culture that is physically safe and secure and has enough support and supervision can help develop an environment that protects teachers against work-related stress (Hanover research, 2021). Furthermore, having a workplace that supports work-life balance, such as by recognizing the importance of prioritizing personal demands in addition to work demands, may help promote resiliency in teachers and school staff.

Implications and Recommendations for Mental Health Professionals

The results of this study also have implications for mental health professionals such as psychologists and school counsellors. It will be important for those working with teachers to be aware of the prevalence of work-related stress among those in the teaching profession. Moreover, mental health professionals should be aware of and understand the relationship between resilience and burnout, STS, and VT. Mental health professionals should also receive training in the treatment of burnout and trauma to be able to best support their clients who are teachers. For example, therapists could take part in TIC training to help create a foundation for providing safe and supportive services for teachers facing trauma. Furthermore, it would be beneficial for those working in mental health care to understand the potential protective mechanism that resilience has on work-related stress in teachers. Understanding interventions that are effective at enhancing resilience can potentially help teachers cope with burnout and trauma. As mentioned previously, resiliency intervention programs have been shown to help teachers with positive interpersonal relations and manage emotional distress (Wolmer et al., 2016). Adopting these types of resilience-based programs in counselling psychology practice could lay the groundwork in supporting teachers facing work-related stress.

School counsellors typically work in close proximity to and in collaboration with teachers. Understanding the pervasiveness of work-related stress will be important for school counsellors as it may foster opportunities to educate and support teachers. For example, while school counsellors may primarily work with students, they could also develop webinars/seminars, workshops, or group therapy sessions focused on work-related stress for teachers at their school. School counsellors could also educate teachers on potential self-care strategies and tools to help promote resilience. Similarly, psychologists, counsellors, and therapists working in community settings could host education and training opportunities on

work-related stress and resilience. Although not the direct focus of this study, mental health professionals should be aware of work-related stress for their own well-being, as research has found it to diminish one's capacity to practice and potentially impair ethical practice (Everall & Paulson, 2004). Thus, by understanding work-related stress and associations with resilience, mental health professionals will be better able to support those clients who are in the teaching profession, and by extension, their well-being as a helping professional.

Conclusion

The current study examined work-related stress (burnout, STS, and VT) and associations with resilience in Canadian K-12 teachers. The results indicated that work-related stress is a relatively common experience for Canadian teachers, with majority experiencing moderate levels of burnout and STS, and high levels of VT. There was also a negative correlation found between resilience and burnout, STS, and VT, showing that there is a relationship between resilience and work-related stress. Significant differences were found between the level of resilience and each work-related stress variable. This suggests that not only does resilience have a potential protective mechanism against work-related stress, but that the *level* of resilience may matter in providing this protective benefit. Additional exploratory analyses revealed that resilience is a significant predictor of burnout, STS, and VT when factoring in other variables, further suggesting the protection that resilience may provide against work-related stress. Lastly, participants' short-answer responses highlighted that coping strategies focused on well-being and social support are among the most common mechanisms teachers are using to help manage burnout and stress. A combination of professional and personal concerns arose as the primary concerns pertaining to teachers' jobs. These findings show the challenges that teachers are facing, as well as the methods they are using to help cope with stress and burnout. Future

research should expand on the current findings by examining teacher specific resilience and establish the chronology of trauma and resilience. Given the negative psychological and professional effects of work-related stress, further research and action is needed to protect the well-being of teachers.

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APPENDIX A

Recruitment Notice

My name is Moriah, and as a part of my master's thesis at the University of Lethbridge, I am conducting a study to examine work-related stress and resiliency in Canadian teachers. This study is an anonymous survey that will take approximately 20 minutes to complete. Participation is completely voluntary and confidential. For all data collected, the information will be summarized and remain anonymous for any presentation or publication of results. The survey asks Canadian teachers about their symptoms of work-related stress reactions and levels of resilience and will help to inform our knowledge of teacher mental health and well-being. In compensation for your time, participants have the option to enter a draw for a chance to win one of four $50 Amazon gift cards.

If you are a currently a teacher in Canada, please consider following the link below and/or sharing this post with other teachers you may know. Thank you!

APPENDIX B

Demographic and Teacher Information Questions

Are you a currently employed K-12 teacher?

- Yes
- No

Are you a certified teacher, as defined by your jurisdiction of employment?

- Yes
- No
- If not, please explain:_____

What is your current teaching assignment with the school district you work for?

- Full-time teacher
- Part-time teacher
- Substitute teacher
- Other contract: _____

What best describes the school system you are a part of?

- Public
- Private
- Not sure
- Prefer not to say

What is your highest level of education?

- High school diploma or equivalent
- Some post-secondary education
- Post-secondary (bachelor's) degree
- Master's degree (e.g., MA, MEd, MSc)
- Professional doctorate degree (e.g., JD, MD)
- Doctorate degree (e.g., PhD)
- Do not know
- Other: _____

Have you completed any certifications/trainings (e.g., professional development training)?

- Yes
    - Please list the certifications/trainings that you have completed: _____
- No
- Prefer not to say

What grade are you presently teaching?

- Kindergarten
- Grade 1
- Grade 2
- Grade 3

- Grade 4
- Grade 5
- Grade 6
- Grade 7
- Grade 8
- Grade 9
- Grade 10
- Grade 11
- Grade 12
- Other: _____

How old are you?

- 18-25
- 26-34
- 35-44
- 45-54
- 55-64
- 65+

What is your gender?

- Female
- Male
- Non-binary
- Other: _____
- Prefer not to say

What is your sexual orientation?

- Heterosexual
- Asexual
- Bisexual
- Lesbian
- Gay
- Bisexual
- Trans man
- Trans woman
- Pansexual
- Queer
- Two-Spirit
- Other: _____
- Prefer not to say

What is your ethnicity?

- Arab
- Black
- Caribbean

- Chinese
- Filipino
- Indigenous
- Japanese
- Korean
- Latin American
- South Asian (e.g., Pakistani, East Indian, etc.)
- Southeast Asian (e.g., Thai, Vietnamese, etc.)
- White
- West Asian (e.g., Iranian, Afghan, etc.)
- Biracial
- Not listed above: _____

What is your marital status?
- Unmarried, no partner
- Unmarried, partner
- Living, common-law
- Married
- Separated
- Divorced
- Widowed
- Other: _____
- Prefer not to say

How many children do you have?
- 0
- 1
- 2
- 3
- 4
- 5
- 6+
- Prefer not to say

What province/territory do you currently reside in?
- Alberta
- British Columbia
- Saskatchewan
- Manitoba
- Ontario
- Quebec
- Prince Edward's Island
- Nova Scotia
- New Brunswick
- Newfoundland and Labrador
- Northwest Territories

- Yukon
- Nunavut

What is your perceived level of social support (e.g., from family, friends, colleagues)?
- Very high
- High
- Moderate
- Low
- Very low
- N/A
- Other: _____

How many years have you been in the teaching profession?
- Less than a year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 20+ years

How many years have you been in your current position?
- Less than a year
- 1-2 years
- 3-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 20+ years

What school level are you currently teaching at?
- Elementary School
- Middle School
- High School
- Other: _____

What is the geographic region of your job?
- Urban (e.g., city over 100,000 people)
- Rural (e.g., small town under 100,000 people)
- Prefer not to answer

Have you ever completed a trauma informed care program/course?
- Yes
- No
- Not sure
- Prefer not to answer

If so, was this program/course part of your teacher training or job?

- Yes, as a part of university training
- Yes, a job requirement/recommendation
- No

Do you intend to leave the field of education? (i.e., to pursue a different profession)

- Yes
  - When are you planning to leave the field? _____
  - What is your primary reason(s) for leaving the field? _____
- No
- Unsure

What is your perceived level of workplace *administrative* support?

- Very high
- High
- Moderate
- Low
- Very low
- Other:_____

What is your perceived level of workplace *mental health* support?

- Very high
- High
- Moderate
- Low
- Very low
- Other:_____

What is your perceived level of workplace *educational assistant* support?

- Very high
- High
- Moderate
- Low
- Very low
- Other:_____

What is your perceived level of *overall* workplace support?

- Very high
- High
- Moderate
- Low
- Very low
- N/A
- Other:_____

In general, how would you rate your overall mental health at the present time?

- Excellent
- Good
- Average
- Poor
- Terrible

Do you have a history of childhood trauma/adverse childhood experiences? (Select all that apply):

- Experienced violence
- Experienced abuse
- Experienced neglect
- Witnessed violence in the community
- Witnessed violence in the home
- Family member attempted or died by suicide
- Parental substance use problems
- Parental mental health problems
- Household member incarceration (jail/prison)
- Other: _____
- None of the above
- Prefer not to say

In the past 12 months, have you experienced a traumatic incident(s) that occurred as a part of your role as a teacher? (e.g., student violence, death)

- Yes
    - Please describe the incident(s): _____
- No
- Prefer not to say

APPENDIX C

The ProQOL 5 Scale

Professional Quality of Life Scale (ProQOL)

Compassion Satisfaction and Compassion Fatigue
(ProQOL) Version 5 (2009)

When you *[help]* people you have direct contact with their lives. As you may have found, your compassion for those you *[help]* can affect you in positive and negative ways. Below are some-questions about your experiences, both positive and negative, as a *[helper]*. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the *last 30 days*.

1=Never 2=Rarely 3=Sometimes 4=Often 5=Very Often

_____ 1. I am happy.
_____ 2. I am preoccupied with more than one person I *[help]*.
_____ 3. I get satisfaction from being able to *[help]* people.
_____ 4. I feel connected to others.
_____ 5. I jump or am startled by unexpected sounds.
_____ 6. I feel invigorated after working with those I *[help]*.
_____ 7. I find it difficult to separate my personal life from my life as a *[helper]*.
_____ 8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I *[help]*.
_____ 9. I think that I might have been affected by the traumatic stress of those I *[help]*.
_____ 10. I feel trapped by my job as a *[helper]*.
_____ 11. Because of my *[helping]*, I have felt "on edge" about various things.
_____ 12. I like my work as a *[helper]*.
_____ 13. I feel depressed because of the traumatic experiences of the people I *[help]*.
_____ 14. I feel as though I am experiencing the trauma of someone I have *[helped]*.
_____ 15. I have beliefs that sustain me.
_____ 16. I am pleased with how I am able to keep up with *[helping]* techniques and protocols.
_____ 17. I am the person I always wanted to be.
_____ 18. My work makes me feel satisfied.
_____ 19. I feel worn out because of my work as a *[helper]*.
_____ 20. I have happy thoughts and feelings about those I *[help]* and how I could help them.
_____ 21. I feel overwhelmed because my case [work] load seems endless.
_____ 22. I believe I can make a difference through my work.
_____ 23. I avoid certain activities or situations because they remind me of frightening experiences of the people I *[help]*.
_____ 24. I am proud of what I can do to *[help]*.
_____ 25. As a result of my *[helping]*, I have intrusive, frightening thoughts.
_____ 26. I feel "bogged down" by the system.
_____ 27. I have thoughts that I am a "success" as a *[helper]*.
_____ 28. I can't recall important parts of my work with trauma victims.
_____ 29. I am a very caring person.
_____ 30. I am happy that I chose to do this work.

Note. From Stamm, B. (2010). *The concise ProQOL manual* (2nd ed.). https://proqol.org/

APPENDIX D

Vicarious Trauma Scale

Appendix 1
Vicarious Trauma Scale

1. Strongly disagree
2. Disagree
3. Slightly disagree
4. Neither agree nor disagree
5. Slightly agree
6. Agree
7. Strongly agree

Please read the following statements and indicate on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*) how much you agree with them.

1. My job involves exposure to distressing material and experiences.
2. My job involves exposure to traumatized or distressed clients.
3. I find myself distressed by listening to my clients' stories and situations.
4. I find it difficult to deal with the content of my work.
5. I find myself thinking about distressing material at home.
6. Sometimes I feel helpless to assist my clients in the way I would like.
7. Sometimes I feel overwhelmed by the workload involved in my job.
8. It is hard to stay positive and optimistic given some of the things I encounter in my work.

Note. For questions 2, 3, and 6, the term "client" was replaced with "student." Scale from Vrklevski, L., & Franklin, J. (2008). Vicarious trauma: The impact on solicitors of exposure to traumatic material. *Traumatology, 14*(1), 106-118.

APPENDIX E

Ethics Approval Certificate

Notification of Approval

Date:	August 25, 2022
Study ID:	Pro00122924
Principal Investigator:	Moriah Edge-Partington
Study Supervisor:	Thelma Gunn
Study Title:	An Examination of Work-Related Stress and Resilience in Canadian Teachers
Approval Expiry Date:	August 24, 2023

Thank you for submitting the above study to the Research Ethics Board 2. Your application has been reviewed and approved on behalf of the committee.

Approved Documents:

Recruitment Materials

Social Media Recruitment Notice Clean Version.docx

Teacher Associations Recruitment Notice Clean Version.docx

Consent Forms

Debriefing form.docx

Informed Consent Form Clean Version.docx

Questionnaires, Cover Letters, Surveys, Tests, Interview Scripts, etc.

Professional Quality of Life Scale Version 5

Vicarious trauma scale.docx

Demographic and Teacher Information.docx

CD-RISC content.docx

Protocol/Research Proposal

Research Proposal.docx

Any proposed changes to the study must be submitted to the REB for approval prior to implementation. A renewal report must be submitted next year prior to the expiry of this approval if your study still requires ethics approval. If you do not renew on or before the renewal expiry date, you will have to re-submit an ethics application.

Approval by the REB does not constitute authorization to initiate the conduct of this research. The Principal Investigator is responsible for ensuring required approvals from other involved organizations (e.g., Alberta Health Services, Covenant Health, community organizations, school boards) are obtained, before the research begins.

Sincerely,

Carol Boliek, PhD
Associate Chair, Research Ethics Board 2

Note: This correspondence includes an electronic signature (validation and approval via an online system).

APPENDIX F

Informed Consent Form

University of Lethbridge

Name of Researcher, Faculty, Department, Telephone & Email:

Moriah Edge-Partington
Faculty of Education, University of Lethbridge
Counselling Psychology

Email: moriah.edgepartingto@uleth.ca

Supervisor: Dr. Thelma Gunn
Faculty of Education, University of Lethbridge
Email: thelma.gunn@uleth.ca

You are being invited to take part in a research study. Before you take part, a member of the study team is available to explain the project and you are free to ask questions about anything you do not understand. Please take the time to save a copy of this form for your records.

This study has been approved by the U of A research ethics board. U of A ethics ID # Pro00122924

Why am I being asked to take part in this research study?

You are being asked to participate in this study because you are a K-12 teacher in Canada. This research is being conducted to better understand stress-related experiences and resilience in Canadian teachers. The goal of this study is to determine the prevalence of work-related stress (burnout, secondary traumatic stress, and vicarious trauma) in Canadian teachers and to identify the relationships between work-related stress and resilience. The results of this study can potentially be used to inform school systems on the importance of resilience interventions and trauma-informed care training for teachers.

What is the reason for doing the study?

You are invited to participate in a study called An Examination of Work-Related Stress and Resilience in Canadian Teachers, which is being conducted by Moriah Edge-Partington under the supervision of Dr. Thelma Gunn. The purpose of this study is to investigate work-related stress (burnout, secondary traumatic stress, and vicarious trauma) that may be experienced by teachers and determine any relationships with resiliency. This research will help us understand stress experienced by teachers and inform interventions to help improve the well-being of teachers.

What will I be asked to do?

As a voluntary participant in this study, you will be asked to respond to a series of questions regarding your experience with teaching, exposure to secondary trauma, quality of life, and resilience. You will be asked about your history of trauma and current mental health. This study will take approximately 20 minutes to complete. Your participation in this study is completely voluntary, and you may refuse to participate at any time if you feel uncomfortable continuing with the study. While all participants shall remain anonymous for the purposes of data analysis, your gender, age, ethnicity, teaching status, and teaching information will be collected in this study. You may withdraw from the study at any time without penalty or explanation. Participants will have the option to be entered into one of four $50 draws for an e-gift card from Amazon. Your email address will be requested for entry into the draw, but it will not be connected to your data in any way.

What are the risks and discomforts?

The content of the survey may be potentially distressing for some participants as there are questions relating to personal experiences with trauma. If this study caused you any undue distress and you would like immediate mental health support, please contact Crisis Services Canada at 1(833)456-4566 or text 45645. If you would like to speak with a counsellor in your area, please consult the Canadian Mental Health Association at cmha.ca or find support in your area on this website: https://myhealth.alberta.ca/Health/Pages/conditions.aspx?hwid=abo4579.

It is not possible to know all of the risks that may happen in a study, but we have taken all reasonable safeguards to minimize any known risks to you.

What are the benefits to me?

By participating in this study, you will be providing data that will help inform research and practices on teacher well-being. While there may not be any direct benefit to you, results from this study may help up learn about work-related stress and resilience in teachers and may benefit others in the future.

Do I have to take part in the study?

Being in this study is your choice. If you decide to be in the study, you can change your mind and stop being in the study at any time before you complete the survey. Due to the anonymous nature of participation, you can withdraw your data up until the time of submission. Simply close your browser/do not submit your data and nothing will be recorded. Once your data is submitted, your data is not possible to remove.

Please be advised that you do not have to answer any questions that you are not comfortable with.

Will I be paid to be in the research?

When you complete this study, you will have the option to click on a link separate from your anonymous survey data to enter your email address if you wish to be entered into one of four $50 draws for an Amazon gift card so that you may be contacted to arrange delivery of your gift card should you win. If you choose to withdraw from the study prematurely, you will still have the option to enter the gift card draw. The odds of winning this draw are approximately 1 in 50.

Will my information be kept private?

During this study we will do everything we can to make sure that all information you provide is kept private. No information relating to this study that includes your name will be released outside the researcher's office or published by the researchers unless you give us your express permission. The information from this study will only be seen by members of the research group. On occasion, this data will need to be checked for accuracy. For this reason, your data may be looked at by people from the Research Ethics Board or by the University of Alberta auditors. Because this survey is hosted via Qualtrics, it may be subject to privacy legislation of the USA.

What Happens to the Information I Provide?

Participation is completely voluntary and confidential, and your responses are completely anonymous. To protect your privacy, your data will be assigned a number instead of your personal identity. Only the investigator and her supervisor will have access to the data collected for this study. It should be noted that the questions regarding traumatic stress and resilience are non-diagnostic and will not be shared. For all data collected, only group information will be summarized for any presentation or publication of results.

The data will be stored on an encrypted secure server under password protection and will be retained for a minimum of 5 years. Should you choose to withdraw from the study, all data collected from you will be anonymous and therefore unable to be retrieved. Given that responses are anonymous, data withdrawal following submission of responses is not possible. In order to minimize the risk of security breaches and to help ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser and locking your screen or device when you are no longer using them/when you have completed the study. While all efforts will be made to ensure your privacy is protected, given that this is an online electronic survey, privacy cannot be fully guaranteed.

The results of this study will be part of Moriah Edge-Partington's Master's thesis at the University of Lethbridge. The results of this study are also anticipated to be disseminated in academic presentations, conferences, and papers. If you are interested in the overall results of this study, please contact the researcher by email using the information provided below.

Below you will be asked whether you consent to participate in this study. By clicking "yes", you are indicating 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to submit your anonymous data for inclusion in this study. **Please print a copy of this form for your records.**

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project at any time. You should feel free to ask for clarification or new information throughout your participation.

If you do not wish to consent to participate in this study, please click "no".

What if I have questions?

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Moriah Edge-Partington

Faculty of Education, University of Lethbridge
Moriah.edgepartingto@uleth.ca

Questions regarding your rights as a participant in this research may be addressed to the University of Alberta Research Ethics Office at reoffice@ualberta.ca and quote Ethics ID: Pro00122924. This office is independent of the study investigators.

APPENDIX G

Debriefing Form

Name of Researcher, Faculty, Department, Telephone & Email:

Moriah Edge-Partington
Faculty of Education
Counselling Psychology
moriah.edgepartingto@uleth.ca

Supervisor: **Dr. Thelma Gunn**

Title of Project: An Examination of Work-Related Stress and Resilience in Canadian Teachers

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Debriefing:

You just participated in a study called An Examination of Work-Related Stress and Resilience in Canadian Teachers, which is being conducted by Moriah Edge-Partington under the supervision of Dr. Thelma Gunn. The purpose of this study is to investigate work-related stress (burnout, secondary traumatic stress, and vicarious trauma) that may be experienced by teachers and whether resiliency is related to any of these reactions. Past research has indicated that burnout and secondary traumatic stress is common among teachers (Christian-Brandt et al., 2020; Hydon et al., 2015; Skaalvik & Skaalvik, 2010), yet there has been little focus on protective factors. This study examined resilience, as research in other professions suggests resiliency may mitigate the negative effects of burnout, secondary traumatic stress, and vicarious trauma (Stanley et al., 2021; West et al., 2020). This research will help us understand the stress experienced by teachers and inform interventions (e.g., trauma informed care) to help improve the well-being of teachers.

As a voluntary participant in this study, you responded to a series of questions regarding your experience with teaching, exposure to secondary trauma and vicarious trauma, quality of life, and resilience. If this study caused you any undue distress and you would like immediate mental health support, please contact Crisis Services Canada at 1(833)456-4566 or text 45645. If you would like to speak with a counsellor in your area, please consult the Canadian Mental Health Association at cmha.ca or find support in your area on this website: https://myhealth.alberta.ca/Health/Pages/conditions.aspx?hwid=abo4579.

The results of this study are anticipated to be disseminated in academic presentations, conferences, and papers. If you are interested in the overall results of this study, please contact the researcher by email using the information provided below.

Where can I find more information about this topic?

For more information about secondary traumatic stress in teachers: https://www.ascd.org/el/articles/the-impact-of-secondary-trauma-on-educators

For more information on vicarious trauma: https://www.bma.org.uk/advice-and-support/your-wellbeing/vicarious-trauma/vicarious-trauma-signs-and-strategies-for-coping

For more information on burnout: https://www.wgu.edu/heyteach/article/teacher-burnout-causes-symptoms-and-prevention1711.html

For more information on resilience: https://phecanada.ca/programs/teach-resiliency/building-resilience-0

Thank you for taking the time to participate in this study. If you wish to enter your name in a draw for a chance to win one of four $50 Amazon gift cards, please do so below.

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Moriah Edge-Partington
Faculty of Education, University of Lethbridge
Moriah.edgepartingto@uleth.ca

Questions regarding your rights as a participant in this research may be addressed to the Office of Research Ethics, University of Lethbridge, Phone: 403-329-2747 or Email: research.services@uleth.ca

If you wish to be entered for a chance to win a $50 Amazon gift card, please follow the link below (this will not be attached to your responses from this survey in any way):

Link inserted here

APPENDIX H

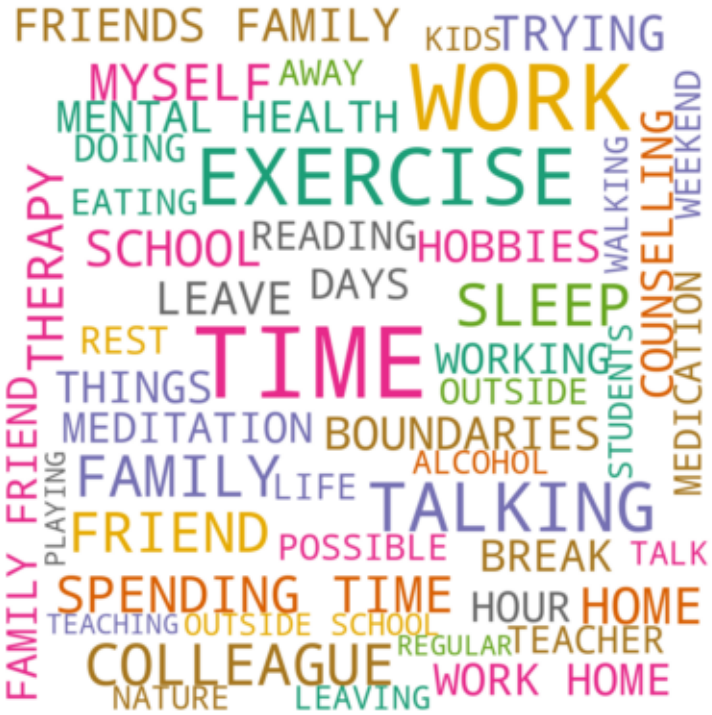
Qualitative Data Analysis Method

Qualitative Analysis	Thematic Analysis phases (Braun & Clarke, 2006)
Survey data collected and transported into Microsoft Excel	
Read, re-read, and familiarization with data	Phase 1
Identification of initial codes and themes	Phases 2 and 3
Colour-coding of each cell to match specified theme	Phases 3, 4, and 5
Filter data by appropriate cell colour (thematic area)	Phases 3, 4, and 5
Additional passes over data, refining and redefining as needed	Phases 4 and 5
Creation of data summary and key thematic points	Phase 6

Note. Chart and method of analysis from Bree, R., & Gallagher, G. (2016). Using Microsoft Excel to code and thematically analyse qualitative data: a simple, cost-effective approach. *All Ireland Journal of Higher Education*, *8*(2).

APPENDIX I

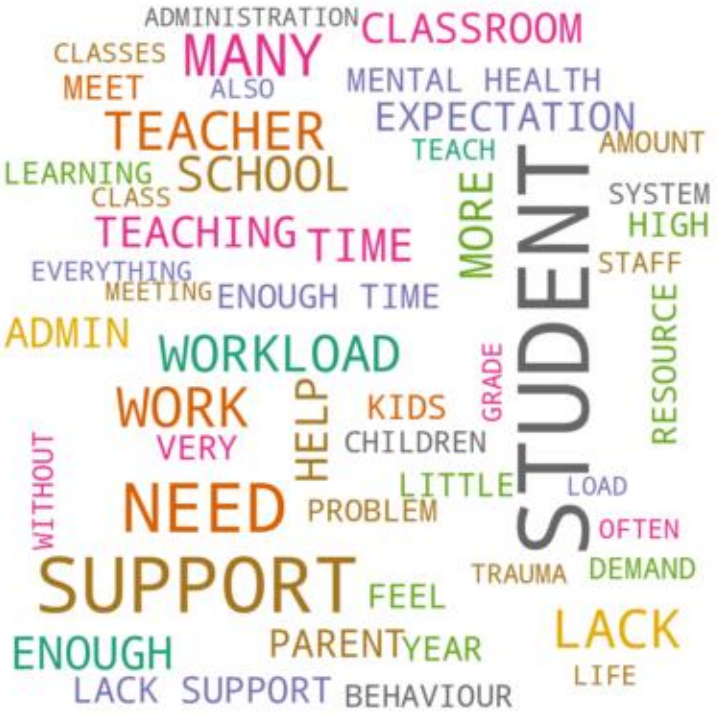
Word Cloud for Teachers' Coping Mechanisms



Note. Word size corresponds to how frequently that word was mentioned in participants' short-answer responses.

APPENDIX J

Word Cloud for Teachers' Primary Work-Related Concerns



Note. Word size corresponds to how frequently that word was mentioned in participants' short-answer responses.