MENTAL HEALTH AND MINDFULNESS AMONG POLICE OFFICERS

by

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Abstract

There has been a recent focus on mental health issues among police officers, as the operational and occupational stressors of police work can affect a person's ability to cope and increase the risk of post-traumatic stress disorder, anxiety, and depression. Despite the increasing evidence in support of the positive effects of mindfulness, few studies to date have examined officer use of mindfulness as a potential coping strategy. The objective of this study is therefore to examine mindfulness practice as a potential coping strategy for reducing mental health issues among police officers by exploring police officers' awareness and use of mindfulness. A sample of 61 police officers from the Lower Mainland of British Columbia completed an online survey regarding mental health and mindfulness. Although the current sample demonstrated lower levels of depression and stress than in past research, the prevalence of possible PTSD (34%) appeared to be higher. Most reported being familiar with mindfulness and using it at least some of the time. Given previous research indicating that stigma and police culture influences whether individuals seek resources, it may be worthwhile to offer mindfulness programming through an online or hybrid format, so that participants feel less stigmatized for help-seeking. It might make sense to offer mindfulness practice during recruit training or early in an officer's career as the research suggests that it can improve resilience. The current study shows that while some officers already do practice mindfulness, there is room to improve on the methods by which it is offered.

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Table of Contents

List of Tables

List of Figures

Glossary, Acronyms & Symbols

AUD - Alcohol Use Disorder

COPE - Coping Orientation to Problems Experienced

DASS-21 -Depression Anxiety and Stress Scale - 21

DSM – Diagnostic and Statistical Manual of Mental Disorders

EMDR - Eye Movement Desensitization and Reprocessing

FFMQ - Five Facet Mindfulness Questionnaire

IES-R - Impact of Event Scale-Revised

KIMS - Kentucky Inventory of Mindfulness Skills

MBCT - Mindfulness-Based Cognitive Therapy

MBI - Mindfulness-Based Intervention

MBRT - Mindfulness-Based Resilience Training

MBSR - Mindfulness-Based Stress Reduction

PC-PTSD-5 -The Primary Care PTSD Screen for DSM-5

PROMIS - Patient-Reported Outcomes Measurement Information System

PSQ - Police Stress Questionnaire

PTG - Post-Traumatic Growth

PTGI - Post-Traumatic Growth Inventory

PTSD - Post-Traumatic Stress Disorder

R2MR - Road to Mental Readiness

RCMP - Royal Canadian Mounted Police

Introduction

Recent Canadian research suggests that issues with first responders' mental health are significant and require attention (Carleton et al., 2019). Police officers are typically one of the first responders to any given social crisis or emergency, increasing their risk for exposure to critical incidents. They also experience multiple occupational stressors in their day-to-day professional lives, such as shift work and physical injury risk due to exposure to violence (Carleton et al., 2020). To deal with these stressors, police officers may utilize a variety of coping strategies, which are behavioural and psychological efforts (e.g., feelings, thoughts, and actions) employed to reduce, minimize, and tolerate stressful events (Zulkafaly et al., 2017; Lambert & Lambert, 2008). Addressing stressors with positive coping strategies is important both psychologically and physically for officer wellbeing and performance (Zulkafaly et al., 2017).

This major paper will explore mental health issues amongst a sample of Canadian police officers from the Lower Mainland of British Columbia and the range of strategies they currently use to cope. One of this study's main objectives is to examine mindfulness practices as a potential coping strategy for addressing mental health issues among police officers. Mindfulness is showing increasing promise as a useful coping tool and resilience technique in among criminal justice professionals (Christopher et al., 2020; Grupe et al., 2019; Krick & Felfe, 2020; Márquez et al., 2021; Trombka et al., 2018). This paper will therefore also explore the extent to which police officers in the current sample are familiar with, and practice, mindfulness techniques. The goal of the current study is to help police officers understand the

effects of trauma and mental health issues and manage them through an approach such as mindfulness.

Literature Review

Trauma, Mental Health, and Policing

The American Psychiatric Association (APA) defines trauma as exposure to threatened or actual death, serious injury, or sexual violence (Carleton & Beshai, 2016). A person may either directly experience or witness the traumatic event or have learned that it occurred to a close family member or friend. Trauma may also consist of repeated exposure to triggers or the event itself. An incident may be characterized as traumatic if it causes significant distress or impaired functioning in the person that experienced or witnessed the incident, or if they experience a challenge in coping with the incident (Carleton & Beshai, 2016). Essentially, traumatic events are 'critical incidents' (Maguen et al., 2009, p. 755). First responders, such as police officers, regularly experience critical operational incidents that could be considered traumatic (e.g., witnessing sudden death or severe injury) (Carleton & Beshai, 2016). Police are routinely exposed to trauma yet appear to have little in the way of interventions or supportive programming to help them cope with this (Carleton & Beshai, 2016; Evans et al., 2013).

As van der Kolk (2014) indicated in their book, *The Body Keeps the Score,* not dealing with trauma can lead to detrimental physiological effects. Many people with histories of trauma experience an extreme disconnection from the body through the process of dissociation (van der Kolk, 2014). There may be a lack of connection in the thoughts, memories, actions, and feelings a person experiences. Dissociation involves the suppression of feelings, thoughts, and

emotions, leading an individual to numb overwhelming experiences (Brand & Lanius, 2014). Through dissociation, the person may experience emotional or physical numbness, a loss of knowledge or skills, or depersonalization (i.e., the feeling of being detached from the body, being unable to recognize themselves) (van der Kolk, 2014). A consequence of trauma is that individuals seek to escape reality in the present moment (van der Kolk, 2014). Although reliving the trauma is terrifying and destructive, the lack of being and living in the present moment can be more damaging to the physical and mental wellbeing of the individual in the long-term (van der Kolk, 2014). Moreover, traumatized people may experience more extreme bodily sensations, such as pressure and tension, due to the body being hypervigilant or over sensitive (van der Kolk, 2014). The implications of this to police officer wellbeing and trauma is that this may present as somatic concerns (Drew & Martin, 2020), which then leads to physical ailments, including muscle tension, spasms, migraines, headaches, back strain, and other types of pain (van der Kolk, 2014). Conditions such as chronic neck pain, digestion issues, chronic fatigue, and asthma may occur among those that do not deal with their trauma. If an individual is not aware of what their body requires to function properly, it will be difficult for them to take care of it (van der Kolk, 2014). Furthermore, they may use a lot of energy to suppress their feelings (van der Kolk, 2014). As a result, there may be less energy to pursue meaningful life goals and the individual may feel aimless, lost, or shut down (van der Kolk, 2014). A lack of self-awareness further results in increased stress and burnout (Posluns & Gall, 2020).

Recent research suggests that dissociation and trauma are linked with mental health issues among police officers (Kerswell et al., 2020; McCanlies et al., 2017; Potard et al., 2017). About half (50.2%) of Royal Canadian Mounted Police (RCMP) participants in a non-

representative Canadian national study self-reported or screened positive for a mental disorder (Carleton et al., 2017). In contrast, a smaller proportion, approximately one-third (36.7%), of municipal or provincial police self-reported or screened positive for mental disorders (Carleton et al., 2017). Police officer responsibilities, the nature of police work, and the demands of the job can contribute to chronic levels of stress and traumatization (Violanti et al., 2009). Furthermore, operational and organizational stressors can further contribute towards chronic stress and exacerbate trauma in officers (Carleton et al., 2020). Operational stressors are associated with work content or duties. Some examples include job-related injuries, shift-work fatigue, traumatic events, and limited outside social activities (Carleton et al., 2020). Organizational stressors refer to stressors associated with the job setting or context. Some examples include staff shortages, lack of training or resources, inconsistent leadership styles, poor management and policies, and a lack of support between leaders and coworkers (Carleton et al., 2020).

These stressors can lower police officer resilience, increasing the risk of developing mental health disorders (e.g., anxiety, depression, post-traumatic stress disorder or PTSD) following exposure to critical incidents (Maran et al., 2018; Queirós et al., 2020; Violanti et al., 2017). Some of the common mental health issues identified among police officers in Carleton and colleagues' (2017) research were alcohol use disorder (AUD) (67.3%), panic disorder (PD) (54.6%), PTSD (45.6%) generalized anxiety disorder (GAD) (39.2%), major depressive disorder (MDD) (37.5%), and social anxiety disorder (SAD) (24.8%). The likelihood of experiencing mental health issues may differ according to variables like gender, years of service, and age (Carleton et al., 2017). For instance, single, separated, divorced, or widowed police officers had a higher risk

for suicidal behaviours than married officers (Carleton, Afifi et al., 2018). Married male officers experienced fewer psychological stress symptoms than single male officers (Carleton, Afifi et al. (2018). Therefore, it is essential to understand how these factors and other demographic characteristics might affect mental health issues and experiences.

Police officers may experience multiple sources of trauma as they provide services and duties to vulnerable communities and traumatized individuals (Figley, 2002; Hakik & Langlois, 2020; May & Wisco, 2015). Police work often consists of exposure to unpredictable situations and events (Carleton, Korol et al., 2018; Rees & Smith, 2008). Moreover, police officers frequently encounter violent or threatening situations that might trigger PTSD or exacerbate the symptoms of existing PTSD (Smith, 2009). Hence, when officers do not effectively deal with these events, they may become entrenched in a traumatic cycle. Unfortunately, police officers do not often appear to seek out and/or accept resources to help them deal with trauma (Jetelina et al., 2020). For example, in a survey of 434 police officers from a large, urban police department in Dallas-Fort Worth, Texas, 54 of the 434 officers (12%) had been diagnosed with a lifetime mental health concern, while 114 of the 434 officers (26%) had current symptoms of a mental health issue. Out of the 114 officers with current symptoms, only 17% of them had sought mental health care services (Jetelina et al., 2020). The main barriers to accessing mental health services were identified as a lack of self-awareness regarding mental health issues, concerns about whether their mental health issues would be kept confidential, and concerns related to police culture, such as whether the psychologist would be able to understand the officer's experiences and perspectives, and whether police officers who sought help for mental health issues would be viewed as unfit for duty.

Ignoring the effects of trauma and the associated emotions may therefore be a consequence of a negative police culture (Drodge & Murphy, 2002; Smith, 2009; Stogner et al., 2020). When officers come across traumatic incidents, such as infant death, sudden death, or fatal accidents, and subsequently try to reach out to other officers to manage their emotional response, they may be teased or receive resistance (Smith, 2009) as reaching out for help may be considered a sign of weakness. This experience may be associated more with police organizations that are defined by a masculinity culture, which is more likely to value being stoic and 'strong' (Berdahl et al., 2018; Smith, 2009). Thus, officers may numb the symptoms of trauma using negative coping strategies, such as drinking alcohol, using substances, and engaging in aggressive behaviours, which may further increase the risk of developing PTSD as the underlying trauma is not being effectively managed (Smith, 2009; Waters & Ussery, 2007).

Police culture consists of a shared understanding at a group level about what it means to be a police officer (Alvesson & Sveningsson, 2015; van Steden et al. 2015, as cited in Hakik & Langlois, 2020). Ultimately, police culture can influence how an officer identifies themselves and behaves on the job. For example, police officers may develop a tendency to believe that everyone is a suspect until proven otherwise, which may be due to their routine exposure to danger and violence (Skolnick, 1996, as cited in Hakik & Langlois, 2020; van Steden et al., 2015, as cited in Hakik & Langlois, 2020). Furthermore, police cultures may feature authoritarianism, cynicism, suspicion, masculinity, and solidarity (Hakik & Langlois, 2020). It may further contribute towards officers being more suspicious and socially isolated, leading to an 'us versus them' mentality (Hakik & Langlois, 2020). Finally, if police officers feel suspicious of and vigilant towards others, they may begin to feel isolated, which further disconnects them from the social

world. That leads them to only engage with people working in the occupation, which also contributes to the 'us versus them' mentality (Hakik & Langlois, 2020). This further decreases the likelihood that police will seek out resources and support in response to being traumatized, due to the fear of being ridiculed or mocked from their surrounding culture and peers (Hakik & Langlois, 2020). However, this is problematic as it results in the suppression of emotions and makes existing feelings worse, leading to negative coping mechanisms (Hakik & Langlois, 2020).

Post-Traumatic Stress Disorder (PTSD)

The Diagnostic and Statistical Manual of Mental Disorders (DSM) characterizes PTSD as the onset of psychiatric symptoms after an individual is exposed to one or more events of a traumatic nature (e.g., actual or threatened death, serious injury, or sexual violence) (APA, 2013). PTSD symptoms are classified by four domains: intrusion, avoidance, alterations in cognition and mood, and alterations in arousal and reactivity (APA, 2013). Before an individual receives a PTSD diagnosis, a qualified medical practitioner assesses them based on several criteria (APA, 2013). For instance, the individual must have had direct exposure to the event, witnessed it, or learned of the event occurring to someone close to them (APA, 2013). Next, symptoms must be intrusive, recurrent, involuntary, distressing, and intense, with a possibility of disturbing dreams, flashbacks, or physiological reactions to external or internal cues that resemble the traumatic event (APA, 2013). Furthermore, an individual must persistently avoid stimuli associated with the traumatic event (e.g., distressing memories, thoughts, or feelings) or avoid external reminders (e.g., people, places, objects, or situations) that arouse distressing thoughts, feelings, or memories associated with the event (APA, 2013). An inability to experience positive emotions or general feelings of detachment, fear, anger, guilt, shame, or

self-blame are indicative of negative alterations in cognition and mood (APA, 2013). Finally, symptoms of irritable behaviour, recklessness, hypervigilance, concentration problems, sleep disturbances, and significant distress in social, occupational, and other areas of functioning are also indicative of PTSD (APA, 2013). The disturbances and symptoms must be present for more than one month in order to be considered as a potential diagnosis for PTSD (APA, 2013).

As mentioned previously, police officers frequently experience exposure to critical incidents in their work, contributing to risk for traumatization. Traumatization occurs when an individual experiences a threatening or intense event that can cause harm to the physical and emotional well-being of an individual (Rees & Smith, 2008). As a result of the inability to effectively process the event, the body and mind can remain in a sustained state of heightened alertness and awareness (Rees & Smith, 2008; van der Kolk, 2014). When police officers are exposed to acute stressors, such as violence, their heart rate and blood pressure can increase. Similarly, when exposed to a single threatening event, an increased level of the stress hormone cortisol enables the body to enter fight or flight mode, which in the short-term can be protective (Thau et al., 2021). However, cortisol secretion under chronic stress conditions may have harmful effects as over time, chronic exposure to stress results in long-term physical effects, such as heart issues and hypertension (Hannibal & Bishop, 2014; van der Kolk, 2014).

Trauma does not necessarily lead to PTSD but can occur if other circumstances are present. For example, 359 officers from the New York Police Department (NYPD) participated in a study on exposure to trauma due to their work (Hartley et al., 2013). Overall, three-quarters of the male and female officers reported a traumatic event that occurred over the last month (Hartley et al., 2013). Similarly, an American study by Boyd et al. (2018) on US first responders,

military members, and veterans with PTSD examined major symptoms and experiences. Boyd et al. (2018) sought to develop a better understanding of the symptoms associated with reduced daily functioning. Their study revealed that dissociation symptoms, and in particular, derealization, which is the feeling that things around an individual feel unfamiliar or unreal, accounted for the relationship between PTSD symptoms and an impairment of day-to-day functioning (e.g., an interference with the ability to complete activities such as work or getting enough sleep) (Boyd et al., 2018). Fortunately, recent research suggests that mindfulness-based approaches help to develop an increase in awareness and a connection to somatic experiences and internal or external cues, which can contribute to post-traumatic growth (Boyd et al., 2018).

Mindfulness

Mindfulness is a state of being attentive and its practice involves an array of skills that all come back to an ability to remain present in a given moment (Chopko & Schwartz, 2013). Mindfulness consists of various facets: observing (perceiving inner and outer experiences), accepting without judgment (being free from evaluating experiences in the present moment), acting with awareness (being aware of present behaviours and actions), and being non-reactive (accepting experiences without eliciting a response) (Chopko & Schwartz, 2013; Krick & Felfe, 2020). For example, one common mindfulness practice is a full-body cognitive internal scan. This entails paying mental attention to bodily sensations, in gradual sequence from the feet to head (Gibson, 2019). Mindfulness practices might also consist of sitting or walking meditation and mindful moments (Christopher et al., 2020). A mindful moment consists of acknowledging

present emotions, rather than controlling the negative experience (Chopko & Schwartz, 2009; Keng et al., 2011).

The roots of mindfulness trace back to ancient and spiritual traditions, most systematically emphasized in Buddhism, a nearly 2,550-year-old spiritual tradition (Keng et al., 2011). There are, however, differences between how the Buddhist and Western cultures conceptualize mindfulness (Keng et al., 2011). Contextually, mindfulness in Buddhism is an interconnected practice vital to attaining liberation from suffering and is cultivated by following an ethical lifestyle (Keng et al., 2011). The concept of mindfulness in the West is not limited to a code of ethics or certain philosophical approaches. In terms of the process in Buddhism, the practice maintains mindfulness of bodily functions, sensations, consciousness, and feelings while observing object impermanence (Keng et al., 2011). However, Western practices do not place much emphasis on non-self or impermanence. Finally, in terms of content, in Buddhism, mindfulness refers to introspective awareness of physical and psychological experiences and processes (Keng et al., 2011). Western conceptualization views mindfulness as awareness that encompasses all object forms in the internal and external experience, including sights and smells (Keng et al., 2011). In Buddhist teachings, mindfulness is concerned with observing perceptions and reactions toward sensory objects rather than focusing on their features (Keng et al., 2011). Although research on mindfulness meditation started in the 1960s, it became a concept of interest to researchers as a psychological intervention to enhance wellbeing in the 1970s.

A key element in a successful treatment approach is replacing past negative experiences with acknowledging present emotions (Chopko & Schwartz, 2009). Hence, a strategy designed

to assist clients in experiencing the present moment is considered promising for treating trauma-related disorders, rather than avoiding and escaping traumatic internal and external cues (Chopko & Schwartz, 2009). Also, utilizing approach coping (including the judgment of personal experiences) helps produce post-traumatic growth (PTG) compared to the use of avoidance or non-judgmental acceptance (Chopko & Schwartz, 2009). PTG is used to describe the positive personal changes resulting from a survivor's struggles in dealing with trauma. PTG is a process that can result in improved relationships, increased compassion and appreciation for life, personal strength, and spiritual growth (Chopko & Schwartz, 2009). PTG has been observed in various populations, including clinicians affected by vicarious trauma, disaster survivors, children who experienced complex trauma, and those suffering from chronic illnesses (Kilmer & Gil-Rivas, 2010). The process of PTG unfolds when a person emotionally processes the tragedy either through therapy or working through the trauma. Once that occurs, people are able to move into the opportunity for change and growth (i.e., improved relationships, personal strength, emotional regulation, and partaking in new possibilities) (Kilmer & Gil-Rivas, 2010). Paying increased attention and observation to a traumatic memory is considered necessary for revising schemas and allowing PTG to occur, which will be discussed further in a subsequent section.

Furthermore, increased acceptance levels without judgment (a mindfulness component) are typically predictive of lower levels of PTSD severity as well as less severe avoidance and hyperarousal symptoms (Chopko & Schwartz, 2012). For example, Chopko and Schwartz (2012) administered the Kentucky Inventory of Mindfulness Skills (KIMS) and the Impact of Event Scale-Revised (IES-R) to a convenience sample of 183 police officers in a midwestern American

state. The KIMS measured participants' general tendency to be mindful during everyday life along four mindfulness dimensions: observing (noticing internal or external stimuli such as sounds, smells, emotions, and cognitions); describing (applying words to label or note observed phenomena); acting with awareness (focusing on one thing at a time); and accepting without judgment (being non evaluative of the present moment and not attempting to alter the experiences) (Chopko & Schwarz, 2012). The IES-R measured three PTSD symptom constructs: intrusion (thoughts that can cause distress as a result of their potential upsetting, disturbing, or violent nature); hyper-arousal (body kicks into high alert due to thinking about the trauma, although danger may not necessarily be present); and avoidance (actions taken or not taken in order to avoid difficult thoughts and feelings). The results of the cross-sectional study revealed that decreases in intrusion symptoms were associated with increases in acceptance without judgment, likely because mindfulness practice encouraged participants not to judge but rather shift their attitudes towards openness and acceptance of the process and themselves (Chopko & Schwartz, 2012). Accepting without judgment was also associated with a significant decrease in hyperarousal symptoms because mindful non-judgment helped individuals allow an experience to be as it was without attempting to avoid or change it, leading them to be more resilient to the effects of stress (Chopko et al., 2018; Chopko & Schwartz, 2012). Non-judgmental awareness during exposure to a distressing situation leads to more effective emotion regulation at the neural level, and is effective as it balances emotional arousal, while further promoting resilience and emotion regulation (Chopko et al., 2018; Chopko & Schwartz, 2012).

Research shows that mindfulness can benefit those coping with operational and organizational stress (Bergman et al., 2016). In terms of operational stressors, mindfulness can help police officers prevent rumination, which is the mental state of dwelling on an experience or event. In particular, becoming aware of thoughts and emotions is the first step to stop ruminating (Keng et al., 2011). Furthermore, present moment awareness, acknowledging thoughts non-judgmentally, and approaching challenges in a grounded manner help foster patience and acceptance towards the traumatic thoughts and feelings (Bergman et al., 2016; Keng et al., 2011). Overall, this awareness helps prevent an individual from ruminating and getting stuck in their emotions (Bergman et al., 2016). The same research also identified that officers who practice mindful awareness during routine activities can help reduce their organizational stress and increase resilience. An individual can also lower their levels of organizational stress when they act with awareness, which is a facet of mindfulness (Bergman et al., 2016). By practicing activities such as mindful eating and breathing, officers can become more aware of their actions. There is also the possibility that acting with awareness can help officers cultivate acceptance and compassion for their coworkers, further reducing organizational stress (Bergman et al., 2016).

Mindfulness practice also leads to lower levels of anger and aggression in criminal justice professionals, such as police officers (Bergman et al., 2016). Anger seems to aggravate mental health issues, including major depressive disorder, bipolar disorder, panic disorder, generalized anxiety disorder, obsessive-compulsive disorder, PTSD, and substance use disorders (Reinard, 2020; Sahu et al., 2014). For instance, having depression with comorbid anger is more closely linked to suicidal behaviour as compared to having depression alone (Bergman et al.,

2016; Fawcett, 2012). Furthermore, anger negatively correlates with constructive problem-solving and ethical decision-making (Bergman et al., 2016). Anger is also positively associated with the attribution of hostile intention and a tendency to punish (Bergman et al., 2016). Research has made it evident that anger is linked to selective attention towards hostile social cues, a tendency to ruminate over anger-provoking experiences, and interpreting behaviour as hostile (Bergman et al., 2016). Anger also contributes to emotional exhaustion and is one of the most commonly suppressed emotions among law enforcement officers (Bergman et al., 2016). However, increased non-judgment of inner experiences, a facet of mindfulness, helps officers defuse thoughts, events, or situations that may contribute to anger arousal (Bergman et al., 2016). Thus, the cultivation of mindfulness can help reduce the duration and frequency of anger (Arslan, 2010). In one study, applying curiosity and decentring were associated with less anger after a mindfulness-based intervention (MBI) was applied (Bergman et al., 2016). MBIs, such as Mindfulness-Based Resilience Training (MBRT) and Mindfulness-Based Cognitive Training (MBCT) are meditation-oriented intervention practices that have shown promising results when utilized as a coping strategy. Overall, mindfulness practice appears to be a positive way to develop resilience and overcome the challenges associated with trauma (Ortiz & Sibinga, 2017).

Mindfulness-Based Stress Reduction (MBSR)

MBSR is a group-based intervention (Kabat-Zinn, 1982). The program is an eight-to-ten-week course that provides intensive training on mindfulness meditation to help individuals be more accepting and non-judgmental towards their psychological and physical conditions (Keng et al., 2011). Up to thirty participants meet for approximately two hours a week for mindfulness

meditation training. They are further encouraged to engage in mindfulness practice at home. MBSR aims to help individuals become less reactive and judgmental towards their experiences. It also aims to free people from maladaptive thinking and behaviours (Keng et al., 2011). Studies utilizing randomized controlled trials on the general population found MBSR helped lower levels of anxiety, depression, rumination, anger, cognitive disorganization, and general psychological distress (Keng et al., 2011). Furthermore, it improved positive affect, a sense of spirituality, empathy, mindfulness, and self-compassion, and quality of life (Keng et al., 2011).

Mindfulness-Based Cognitive Therapy (MBCT)

MBCT is an eight-week group intervention program that helps prevent relapses in depression (Keng et al., 2011). It combines mindfulness with cognitive therapy to target processes of vulnerability that maintain depressive episodes. The program helps individuals view thoughts as mental events rather than facts while recognizing the role of automatic negative thoughts that maintain depressive symptoms. It also helps disengage the occurrence of negative thoughts from their adverse psychological effects. It aims to change an individual and their awareness of and relationship to emotions and thoughts as participants learn to observe feelings and thoughts in a non-judgmental manner. Overall, people with a higher level of mindfulness have lower stress levels and mood disturbance, leading to better overall wellbeing (Williams et al., 2010).

The theoretical rationale of MBCT is that when negative thoughts accompanying depression become linked with the state of depression, a pattern of negative thinking reactivates as depressive episodes increase (Keng et al., 2011). Then, the negative thoughts increase depression and lead to an increased risk of relapsing into major depressive episodes.

The purpose of MBCT is to weaken the link between automatic negative thinking and depression, by teaching people to pay attention to their feelings and thoughts consciously, and without judgment (Keng et al., 2011). Also, instead of perceiving thoughts as reality, they should be viewed as a temporary mental event (MacKenzie & Kocovski, 2016). Studies on the general population have found that MBCT helps improve psychosocial outcomes and depressive symptoms (Keng et al., 2011). However, those that have a larger number of previous depressive episodes may benefit most from this intervention (Keng et al., 2011; MacKenzie & Kocovski, 2016).

While cognitive-behavioural therapy (CBT) (a psychological treatment that is effective for problems such as depression, anxiety, eating disorders, marital issues, and mental illness) helps reduce anger (Bergman et al., 2016), treatment rates among law enforcement officers are low (Jetelina et al., 2020). Although research shows that CBT is effective, police officers may feel a lack of comfort with the process, and hence, may choose not to continue with it (Bergman et al., 2016). CBT helps individuals to develop alternative ways of thinking and behaving (whereas MBCT is more specific to depressive thoughts), which in turn reduces psychological distress (Mathieson et al., 2015). Furthermore, CBT helps individuals deal with overwhelming problems in a positive manner, by making them aware of negative thinking, so that challenging situations can be addressed and responded to in a clear and effective manner (Mathieson et al., 2015). Given the growing body of research supporting the positive effects of mindfulness on resilience and reduction of trauma symptoms, it would be worthwhile to explore whether and to what extent police officers already use, or are open to using, MBIs.

Bergman et al. (2016) studied whether an increase in mindfulness facet scores accounted for a reduction in organizational and operational stressors and anger. The study was conducted with a small sample of 47 participants from a municipal police department in Northwestern USA. The sample consisted of 64% male officers who were an average age of 42.75 years old, who generally identified as Euro-American (85%), and on average, had 13.83 years of experience (Bergman et al., 2016). The procedure consisted of providing an 8-week MBRT course to officers to help participants cultivate mindfulness to manage daily stressors (Bergman et al., 2016). The study measures included the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), Patient-Reported Outcomes Measurement Information System (PROMIS; National Institute of Health, 2002, as cited in Bevans et al., 2014), which is designed to assess the health and quality of life of patients, and Police Stress Questionnaire (PSQ) (McCreary & Thompson, 2006). Overall, the study results showed that MBRT significantly reduced the perception of operational and organizational stressors as well as the severity and frequency of anger experienced among the police officers (Bergman et al., 2016). Overall, although the stressors themselves did not change, how the officer identified and responded to them changed (Bergman et al., 2016).

Moreover, the study determined that acting with awareness and non-judgment accounted for a statistically significant reduction of anger, which was found as a change from week one (baseline) to week eight (post-training) of the MBRT intervention (Bergman et al., 2016). Furthermore, the results revealed that participants' objectivity towards work tasks increased when they acted with awareness. Likewise, increased use of non-judgment helped officers quickly diffuse thoughts or situations that otherwise led to maintaining anger arousal

(Bergman et al., 2016). However, the study did not have a control group and there were very few participants who were drawn from only one police department. Therefore, the findings cannot be generalized to other law enforcement agencies.

Typically, mindfulness treatments are focused on the elimination of the harmful and obtrusive aspects of trauma. Nevertheless, overtime, some people who have experienced and suffered from trauma are able to find personal growth (Chopko & Schwartz, 2009). Treatments incorporating mindfulness principles (e.g., MBSR, MBCT) typically show successful outcomes in those that suffer from stress, depression, sleep issues, anxiety, or chronic fatigue (Keng et al., 2011). Thus, the literature reveals that although many coping mechanisms exist, mindfulness-based practices in particular have shown promise (Chopko & Schwartz, 2009; Christopher et al., 2020; Eddy et al., 2019).

Post-Traumatic Growth (PTG)

Chopko and Schwartz's (2009) study sought to determine the relationship between PTG and mindfulness over a 10 year period in a sample of 183 police officers from city police departments in a Midwestern state. Several different participant ranks, including patrol officers, sergeants, captains, detectives, and lieutenants, were asked to rate their effort towards personal relationships and spiritual growth (Chopko & Schwartz, 2009). The purpose was to gather information on life changes that could impact PTG. The Posttraumatic Growth Inventory (PTGI) was then used to assess positive outcomes after experiencing traumatic stress. Additionally, the KIMS was used to assess mindfulness. Findings from the study indicated that spiritual growth and individual effort towards personal relationships led to a significant increase in the process of PTG.

Chopko and Schwartz's (2009) findings indicated that to have PTG, individuals must cognitively process the trauma and/or be open to spiritual change. Furthermore, people using approach coping (a strategy to manage and actively focus on the problematic situation or event) and non-judgmental acceptance demonstrated more PTG than people using avoidance coping (behavioural and cognitive efforts made towards minimizing or denying the stressful situation) (Chopko & Schwartz, 2009). The study results indicated that some aspects of mindfulness had a positive link to PTG. For example, the observing subscale on the KIMS was indicative of a positive correlation, suggesting that 'openness', which is a personality trait, and observing stimuli, both may be helpful for PTG (Chopko & Schwartz, 2009). In addition, deliberate cognitive processing and acceptance of a traumatic event is essential in the development of PTG.

The formulation of altering perspectives is part of the cognitive process that results in PTG (Grace et al., 2015). Paying attention to and observing the traumatic memory is necessary to revise schemas, allowing PTG to occur. Another essential factor that helps develop PTG is accepting that a traumatic event occurred, which is part of approach coping. Further, utilizing nonjudgmental awareness while accepting feelings, thoughts, and sensations, regardless of how positive or negative they are, is a form of acceptance and crucial for PTG (Chopko & Schwartz, 2009). The sense of psychological control over the traumatic experience may result in positive coping and the development of PTG.

Overall, Chopko and Schwarz's (2009) study argued that aspects of mindfulness, including observation and experiencing the present moment, are beneficial in PTG. Furthermore, acceptance can help reduce experiential avoidance (the attempt or desire to

suppress unwanted internal experiences including, thoughts, emotions, memories, and sensations) (Chopko & Schwartz, 2009). Mindfulness therefore currently shows promise as a positive coping strategy to enhance resilience and reduce the effects of exposure to trauma. Currently, however, it appears other coping strategies are more commonly used by public safety personnel and police officers.

Coping Strategies

Difficulties coping with job stress can result in mental disorders, emotional disturbance, social isolation, and unhealthy behaviours (Zulkafaly et al., 2017). Although there are positive and negative coping strategies, positive coping (e.g., approach coping) is essential to function well in life and to enhance individual development (Grant et al., 2014). An inability to use appropriate coping strategies could cause an individual to experience psychological, physical, and psychosocial disturbances (Zulkafaly et al., 2017). Negative coping strategies, such as aggression, substance use, and avoidance, can result in issues as over time they intensify the stress and lead to poorer decision-making (Jopp & Schmitt, 2010; Zulkafaly et al., 2017). Coping strategies consist of behavioural and cognitive efforts to reduce and manage stress; some are learned, while others are ingrained (Queirós et al., 2020). This suggests that officers can be taught new coping strategies.

Regardless of what employment setting an individual is in, suppressing emotions is not a good strategy because it can result in poor short-term and long-term mental and physical effects. For instance, it can result in problems with blood pressure, memory, self-esteem, heart disease, anxiety, and depression (Chapman et al., 2013; Chopko & Schwartz, 2012). Furthermore, it leads to hyperarousal symptoms in individuals who are already traumatized

(Chopko & Schwartz, 2012). When an individual suppresses a particular thought, they can further intensify what they are trying to avoid (Williams et al., 2010), referred to as mental hypervigilance. Unfortunately, mental hypervigilance translates to harmful autonomic nervous system arousal. This occurs because the individual becomes more sensitive and overly responsive to surrounding stimuli and events, leading the body and brain to respond. When an individual has experienced a threat, it may be overwhelming to their autonomic nervous system, leading them to remain in a state of activation (Williams et al., 2010). Similarly, suppressing a mood can further amplify the emotions and thoughts (Williams et al., 2010).

In general, positive coping strategies are considered most appropriate for dealing with operational and organizational stress (DeLongis & Holtzman, 2005). Positive coping may include social and interpersonal strategies such as accepting and learning from mistakes, managing time, working harder, planning, and seeking help (Subasi, 2020). It can consist of a mastery goal orientation in which the individual has a goal of learning and mastering the task based on standards that are set by the individual themselves, with the purpose of developing and improving skills and gaining more knowledge and experience (Subasi, 2020). Although positive coping strategies should be used, people may utilize different coping strategies based on the situational context and their personality traits (DeLongis & Holtzman, 2005). For instance, the Big 5 personality traits (extraversion, agreeableness, openness, conscientiousness, and neuroticism) can affect how one responds to stress (DeLongis & Holtzman, 2005). Openness refers to the level of imagination and insight an individual has; those high in this trait tend to have varied interests and are curious about others and their surroundings, while also being eager to learn about new things and experiences (DeLongis & Holtzman, 2005).

Conscientiousness consists of thoughtfulness, impulse control, planning, and goal-oriented behaviours (DeLongis & Holtzman, 2005). Extraversion refers to the level of sociability, talkativeness, assertiveness, and emotional expressiveness of an individual; one who is high in extraversion is considered as outgoing and energetic in social situations (DeLongis & Holtzman, 2005). Agreeableness is attributed to things such as trust, kindness, affection, and other prosocial behaviours; those that are high in agreeableness generally are cooperative and caring (DeLongis & Holtzman, 2005). Neuroticism is characterized by emotions such as sadness, emotional instability, and moodiness; those that score higher on this trait tend to experience anxiety, irritability, mood swings, and sadness (DeLongis & Holtzman, 2005). Research suggests that someone with a high level of neuroticism may be unable to use adaptive coping, as their negative emotions may take precedence and prevent them from using appropriate coping strategies (DeLongis & Holtzman, 2005). Those that have higher levels of extraversion may be more effective in utilizing adaptive coping and benefiting from engaging in cognitive reframing compared to those that are low in extraversion (DeLongis & Holtzman, 2005). Furthermore, those with higher scores on openness are able to deal with and respond to stressful situations and others in an empathetic manner and tend to report lower levels of isolation (DeLongis & Holtzman, 2005). In terms of agreeableness, those with higher levels are more likely to engage in support seeking and are less likely to use confrontive coping (DeLongis & Holtzman, 2005). Finally, those that are higher in conscientiousness report less escape and avoidance in comparison to those that are lower in conscientiousness; they are also more likely to use planful problem solving to cope with stressful situations (DeLongis & Holtzman, 2005).

Zulkafaly et al. (2017) classified coping strategies into four main classifications: cognitive coping, behaviour coping, emotion coping, and external coping. Cognitive coping strategies consist of active coping, positive reappraisal coping, and problem-focused coping. Cognitive coping occurs when one thinks positively about the problem, confronts the problem, and believes that the problem can be solved (Zulkafaly et al., 2017). However, people may resort to using negative cognitive coping, such as rumination, which occurs when one has intrusive thoughts about negative feelings or experiences (Smith & Alloy, 2009). Rumination occurs when one has involuntary, repetitive, and self-defeating thoughts about themselves and their trauma or stressors (Smith & Alloy, 2009). Furthermore, it is a negative coping process that individuals may deal with as a result of experiencing difficult emotions arising from stressors (Smith & Alloy, 2009). Utilizing a problem-focused strategy, problem-solving, decision-making, confrontation, or social support may be used to modify the sources of stress (Queirós et al., 2020). In general, problem-focused coping strategies are the most common cognitive coping strategy among police officers (Zulkafaly et al., 2017). Over time, police officers with more experience on the job appear to develop more resilience and are more likely to use problem-focused strategies (Queirós et al., 2020). This coping strategy is associated with better job satisfaction, lower burnout levels, less cynicism, and a high level of personal accomplishment (Wiese et al., 2003).

A second form of coping is behavioural. Behavioural coping consists of adaptive coping combined with healthy behavioural methods, such as exercise and attending counselling (Alexander & Walker, 1994). However, it can also consist of maladaptive coping with unhealthy methods, such as drinking alcohol, smoking, eating or drinking excessively, or gambling

(Acquadro Maran et al., 2015; Leino et al., 2011). Behavioural coping may also include negative distractions, denial, blame, passive coping, and avoidance coping. These strategies may be perceived as useful when dealing with intolerable circumstances or feelings (Leino et al., 2011). Avoidance strategies are also related to using alcohol or substances to cope with stress (Queirós et al., 2020). Avoidance has a positive association with psychological stress, chronic fatigue, exhaustion, negative feelings, cynicism, and work-family conflict (Zulkafaly et al., 2017). Overall, this maladaptive coping strategy can reduce emotional, cognitive, or behavioural strain in the short-term. However, it typically results in more long-term distress as the underlying stressor is not appropriately dealt with (Ménard & Arter, 2013). Moreover, experienced police officers with higher levels of job stress due to cumulative effects or job demands, or less experienced officers with higher levels of job stress due to a lack of developed resilience or more frontline work that exposes them to trauma, may resort to employing maladaptive coping strategies (Acquadro Maran et al., 2015; Papazoglou & Tuttle, 2018; Patterson, 2003; Stepka & Basinska, 2014; Zulkafaly et al., 2017). Maladaptive strategies are more likely to be linked with negative mental health outcomes because they prevent an individual from engaging in mental, physical, and emotional situations, further leading to social isolation, passive-aggressiveness, self-harm, anger, and substance use (Acquadro Maran et al., 2015; Enns et al., 2018; Thompson & Drew, 2020).

A third form of coping is emotion-based. There are both positive and negative emotion-based coping styles. A negative emotion-based coping style includes emotional regression, which occurs when an individual reacts with an unconscious, emotional defence mechanism in which their personality reverts to an earlier version of development; the person may showcase

behaviour from childhood when they are confronted with a threatening or objectionable situation (McCutcheon, 2018). Examples of emotional regression can include chewing on a pen cap, rocking and crying in a fetal position, throwing a temper tantrum, and behaving in an improper or immature manner (McCutcheon, 2018). Positive emotion-based coping consists of managing the distressing, intense emotions derived from the problem or situation and may involve meditation, mindfulness, and awareness (Zulkafaly et al., 2017). This positive strategy helps an individual focus on regulating negative and emotional reactions to stress, including sadness, anger, fear, and anxiety (Zulkafaly et al., 2017). It is typically useful when the stressor cannot be changed (Zulkafaly et al., 2017). It can help shift how an individual experiences potential stressors and further help reduce their negative impact (Zulkafaly et al., 2017). Emotion-based coping allows the individual to think clearly and access solutions without feeling overwhelmed (Zulkafaly et al., 2017). Hence, it may be a better strategy to utilize before shifting to problem-focused techniques (Zulkafaly et al., 2017).

Finally, external coping includes the use of social support strategies, including positive social interactions to gather advice or reassurance, as well as negative social support (Zulkafaly et al., 2017). Negative social support strategies can include people discouraging the feelings or expressions of an individual, making critical remarks, or invading privacy; all of this can cause an individual to experience further adverse psychological reactions (Lee et al., 2018). On the other hand, positive social support strategies can stem from various sources, including family, friends, and peers. Such support can include sympathy and understanding (Cofini et al., 2015). Jackman et al. (2020) reported that there is a positive correlation between psychological wellbeing and perceived support, and that social support can reduce negative health consequences. Hence,

receiving support is crucial to reduce the negative effects of work-related stressors in policing (Jackman et al., 2020). However, the receptiveness to support may also depend on the Big 5 personality traits. Those that have higher levels of extraversion, agreeableness, conscientiousness, and openness to experience, and lower levels of neuroticism may be more likely to perceive social support as positive and be receptive to it (Hayes & Joseph, 2003). Peer support programs are also useful to cope with stress and trauma; however, their use by police officers is limited because officers are often reluctant to seek help (Jackman et al., 2020). While there is limited research on this type of programming, it appears to be more common in the United Kingdom (Jackman et al., 2020).

Existing Crisis Interventions

Although the evidence-base for mindfulness as an effective tool to enhance resilience prior to exposure to field-related critical incidents is building, police organizations currently tend to use alternative crisis intervention programs to respond to post-critical incidents. The following section reviews the literature on these programs.

Crisis-Focused Psychological Intervention Programs

Critical incident stress debriefing/management programs are the more typical psychological interventions used in the public safety sector (Anderson et al., 2020, Pack, 2012; Richards, 2001). These programs require personnel involved in a critical incident to take part in a debriefing session. Officers can discuss their experience, provide support to peers, and discuss coping strategies through Critical Incident Stress Debriefing (CISD) or Critical Incident Stress Management (CISM) (Pack, 2012; Richards, 2001). CISD is a one-time debriefing that helps the

affected person in processing their emotions and feelings, and it encourages traumatized individuals to share thoughts and feelings about the incident, while helping make sense of the trauma (Pack, 2012). CISD is a highly structured peer-driven group crisis intervention that represents one of eight core components that are recommended for a more fulsome CISM program (Carleton & Beshai, 2016). The purpose of CISD is to allow participants to manage their initial reactions to a critical incident (Carleton & Beshai, 2016; Everly et al., 2002). On the other hand, CISM is a longer-term process of which CISD is one part, and its purpose is to help people deal with trauma by further allowing the individuals to talk more about the incident(s) and its effects and bring about eventual closure (Pack, 2012). CISM involves a system of activities and interventions that are designed to prevent and mitigate the impact of a critical incident before, during, and after the occurrence. This process is facilitated by trained mental health professionals (Carleton & Beshai, 2016). A 2002 meta-analysis by Everly et al. (2002) reviewed the findings of eight empirical studies on CISM and concluded that overall, there appeared to be positive benefits resulting from its use, particularly in reducing feelings of distress (Everly et al., 2002). A systematic review by Anderson et al. (2020) however, identified some limitations with the CISM research. In their study, only one CISM based study was found that met their inclusion criteria, but it had a number of issues. For instance, there was no pre-post test, inconsistent program implementation, and a lack of adequate outcome measures. Hence, although there is some support for CISM, there should be better designed studies to more adequately assess the outcomes associated with CISM. Further, peer debriefers may not necessarily be professionals and might often be trained co-workers from their agencies; hence, it is important to ensure that individuals are fully trained and certified before they offer CISM

support (Clements & Casani, 2016). For example, peer providers may fail to recognize that everyone has a different type of emotional response to trauma and may only provide support to those displaying obvious or dysfunctional responses (Center for Substance Abuse Treatment, 2014). Despite these limitations, the programs may support increased wellbeing and mental health of the members (Carleton & Beshai, 2016), and police officers have typically perceived this intervention as useful due to the inclusion of peers (Carleton & Beshai, 2016; Feuer, 2021).

As for peer support programs in general, Feuer (2021) reported that these interventions have been employed to mitigate the effects of adverse physiological and psychological reactions of first responders to intense traumatic incidents. Carleton and Beshai's (2016) report looked at the literature on peer support programs and found that there was no empirical evidence to support them, but when they surveyed Canadian public safety participants, they found that peer support programs were common as part of programs like CISM (23%), as part of a stand-alone CISD (22%), or simply as a stand alone program themselves (20%). The remaining (35%) did not include any form of peer support programming. Furthermore, peer support workers have an opportunity to build trust and rapport with clients via understanding their feelings, discussing their problems, and being efficient and reliable with sharing resources and information (Hendry, 2019). However, the evidence base for peer support programming is limited and there is no clear evidence for or against its use. It is difficult to get a clear answer on their effectiveness because they are often not implemented as intended (Carleton & Beshai, 2016; Hawker et al., 2011). Additionally, it can involve challenges, such as requiring organizational resource support (e.g., training, supervision, workload, and support of peer supporters) (Carleton & Beshai, 2016). In sum, improvements made to assessing peer support

program effectiveness and increasing standardization and incorporating methodological designs that are rigorous in nature are vital (Carleton & Beshai, 2016).

Road to Mental Readiness (R2MR)

Canada's Mental Health Commission coordinated an effort to bring the military-based Road to Mental Readiness (R2MR) program to policing organizations across Canada (Mental Health Commission, 2021). R2MR programming educates about and reduces stigma surrounding mental health and helps build awareness of mental illness and operational stress injuries (OSIs) (Mental Health Commission, 2021). The goal of R2MR is to increase understanding and support for such conditions and improve mental health outcomes (Mental Health Commission, 2021). The program is composed of a Mental Health Continuum Model (made up of colour zones), which helps people identify whether their or others' mental health is declining. If the person moves towards the red, they may be suffering and could require improvement, and if they are in the green phase, they are in the healthier phase. Overall, each phase allows the individual to decide what action is required to improve their mental state. The program also consists of cognitive behavioural therapy techniques, which help individuals in adapting to stress, bettering their psychological well-being, and increasing resiliency. The Big 4 techniques are positive self-talk, visualizing, breathing tools, and goal-setting. All of these strategies are designed to help improve the mental state of distressed individuals (Mental Health Commission of Canada, 2018). Although the results to date are limited, early evaluation results suggest that R2MR training appears to contribute to reductions in stigma towards mental health issues. In a study by Szeto et al. (2019), the R2MR program was tested through a pre-post design, in which 16 different Canadian police sites were studied over three months.

The study results (Szeto et al., 2019) revealed that R2MR was effective in increasing the perception of resilience in participants and decreasing attitudes towards stigma. This difference was observed both when comparing pre- and post-program scores, and at the three-month follow up (Szeto et al., 2019). Both quantitative and qualitative data suggested that the R2MR program reduced stigma towards mental illness and increased the tendency for officers to support other peers as well (Szeto et al., 2019). The benefit of this type of program is the potential reversal of mental health concerns and the building of resilience if treatment is sought earlier. Furthermore, it is a program designed to help supervisors provide the resources and tools to support and manage their employees (Mental Health Commission of Canada, 2018). Therefore, while R2MR is a relatively recent program for policing, it has shown some early signs of mental health stigma reduction. However, further research is needed to demonstrate its utility in increasing resilience to mental health issues and trauma in the field of policing (Cohen et al., 2019).

Gender Differences in Coping and Therapeutic Interventions

There are differences in how women and men in the general public utilize coping mechanisms. Whereas women tend to utilize emotional coping or social support, men are more likely to rely on maladaptive coping (e.g., drugs and alcohol) (Cofini et al., 2015; Liddon et al., 2018). It is more typical for women to engage in activities that maintain social networks and their behavioural response may be connected to their bodily levels of oxytocin and estrogen (Liddon et al., 2018). Consequently, women tend to cope with stress through talking about feelings more so than do men (Liddon et al., 2018). Additionally, men may perceive barriers differently with regards to help-seeking. Men may consider stigma and embarrassment as a

deterrent to seeking help, and they may only open up about personal issues when it affects their work or if a family member's or partner's behaviour and actions are a source of their stress (Liddon et al., 2018). Since police officers often work in stressful conditions and may be less likely to use coping mechanisms such as approach coping or social support, higher rates of maladaptive coping mechanisms, such as substance use, may be expected (Allison et al., 2019).

While police officers may be more historically resistant to interventions, research shows these can be beneficial for groups at higher risk of trauma exposure (Lewis-Schroeder et al., 2018; Violanti et al., 2017). Several interventions help promote positive coping among survivors of trauma (Lewis-Schroeder et al., 2018). Such interventions include those designed to prevent avoiding emotions, behaviours, and thoughts linked to the trauma, and that help clients experience the present moment (Boyd et al., 2018; Chopko & Schwartz, 2009). These can include exposure therapy (psychological therapy utilized to help people overcome fears or anxiety disorders); eye movement desensitization (EMDR) (psychotherapy utilized with the assistance of specific eye movements directed by the therapists, to help patients recover from trauma and distressing experiences); brief eclectic therapy (incorporates psychodynamic and cognitive-behavioural treatment, applied over a limited number of sessions to address an issue and change emotions of shame and guilt); and MBIs (delivery of mindfulness techniques to help improve mental and physical wellbeing) (Boyd et al., 2018; Khan et al., 2018; Shapiro, 2014). However, research has not assessed all these techniques and their use in a policing environment. Nevertheless, research suggests that acceptance, mindfulness, and emotional awareness are effective 'anti-avoidance' strategies for coping (Williams et al., 2010). Furthermore, such strategies are associated with better mental health (Williams et al., 2010).

Mindfulness in a Policing Environment

Williams et al. (2010) conducted a study with 60 American police trainees who were transitioning from recruitment to the workplace to determine if approach strategies (e.g., seeking guidance, problem-solving) were predictive of more positive mental health and wellbeing after recruits served a year in the workforce. The study measures included the following: Acceptance and Action Questionnaire (higher scores indicating a willingness to accept psychological experiences and experiential avoidance); White Bear Suppression Inventory (higher scores indicating higher thought suppression); Toronto Alexithymia Scale (measures deficiency in identifying and communicating feelings, and external thinking); mindful attention awareness scale (higher scores indicating a greater tendency to be mindfully aware); General Health Questionnaire-12 (a higher score indicating better mental health); and the DASS-21 (higher scores indicating greater depression, anxiety, and stress) (Williams et al., 2010). Participants completed the measures in the final week of police training and again 10-12 months after training. Hence, the employees were trainees during Time 1 and probationary constables during the second data collection, Time 2.

At follow-up (Time 2), the level of mindfulness was measured to understand whether it helped reduce depression, and additionally, whether mental health could be determined by the skill of being able to identify emotions (Williams et al., 2010). There was a statistically significant difference between means on the DASS-21, indicating depression, anxiety, and stress generally declined from Time 1 to Time 2 (Williams et al., 2010). Moreover, a lower mindfulness score, difficulty in identifying feelings, and generally suppressing thoughts were all associated with poorer mental health (Williams et al., 2010). There was also a significant correlation

between difficulty in identifying feelings and poorer mental health (as measured by the GHQ-12) at Time 2. Furthermore, at Time 2, there was a negative correlation between mindfulness and depression (Williams et al., 2010). Overall, lower mindfulness scores during Time 1 were related to higher scores on depression at Time 2 (Williams et al., 2010). Additionally, acceptance was moderately negatively correlated at Time 2 with depression, as those that used mindfulness strategies tended to identify feelings, did not suppress their thoughts, and were less likely to suffer from depression (as acceptance levels rose, depression decreased) (Williams et al., 2010). In contrast, recruits who were less open to present moment experiences had a higher level of depressive symptoms (Williams et al., 2010). In sum, the results suggested that new police officers can benefit from interventions that focus on approach strategies (Williams et al., 2010). More specifically, police officers may benefit from identifying their emotions as this appeared to be associated with lower levels of depression (Williams et al., 2010).

Unfortunately, police organizational cultures can lead officers to utilize avoidant coping strategies and prevent them from being emotionally expressive (Arble et al., 2018; Queirós et al., 2020; Williams et al., 2010). Maladaptive coping strategies (in particular, avoidance coping) may lead police officers to feel emotionally detached (Waters & Ussery, 2007; Williams et al., 2010). Therefore, police have a higher risk of developing detached and cynical personality styles (Williams et al., 2010). Furthermore, they may block out emotions, even during situations that do not involve crises (Williams et al., 2010). Although blocking emotions may be beneficial in crises, they are not necessarily beneficial during other situations, like in regular work interactions or interpersonal relationships (Williams et al., 2010). Since police officers may suppress or avoid emotions, they may have challenges identifying or using their emotions to

effectively guide their behaviour (Williams et al., 2010). One alternative to experiential avoidance is acceptance. This refers to active realization and experiencing memories, feelings, and thoughts without avoiding or escaping from them. It is an openness to experience and a willingness to remove barriers to personal experiences. In sum, the results of Williams et al.'s (2010) study indicated that thought suppression and mindfulness could predict wellbeing and mental health in police officers during their first service year.

Barriers to Interventions and Overcoming Challenges

Since their social working environment tends to suppress emotional reaction expression, police officers might have challenges in managing the emotional output resulting from job stressors (Deschênes et al., 2018; Evans et al., 1993). As a result of minimizing their need for emotion-focused coping, they may eventually experience depersonalization by "becoming cynical, suspicious, authoritative, and aloof" (Evans et al., 1993, p. 244). Overall, not utilizing emotion-focused strategies may worsen police officers' psychological reactions to stress and trauma (Evans et al., 1993). Therefore, it is important to examine the potential barriers to adopting more positive and effective coping strategies.

Practical Barriers

Although MBIs appear to offer some positive strategies to cope with stress, trauma, and other symptoms of mental health issues, research has identified barriers to partaking in mindfulness-based resilience training (MBRT). For instance, officers on shifts who experience a regular change in schedule may find it difficult to enroll in and complete MBRT due to how the program sessions are typically run (Eddy et al., 2019). If they have a graveyard schedule,

attending a daytime program can disrupt their routine leaving them unrested for their shift and they may consequently choose not to attend the scheduled MBRT session (Eddy et al., 2019). Likewise, being forced or requested to stay behind for overtime at work, or being stuck in a call, can make it difficult to partake in MBRT program sessions when offered during scheduled in-person sessions (Eddy et al., 2019). However, this critique is specific to the study by Eddy et al. (2019). If the session offerings were in a different format, it would not necessarily be a barrier for police officers. This is particularly true if the workplace sessions were offered online or in a self-paced format. In those scenarios, program availability could work around the officers' schedules.

Once individuals learn mindfulness skills through training, they can apply those tools in day-to-day life (Keng et al., 2011). For instance, they can take a few moments during certain times of the day, such as when driving to a lower priority call for service or preparing to complete their written report post-call for service, to have mindful awareness or focus and concentrate on their breath (Keng et al., 2011). Zeller and Levin (2013) mentioned that mindfulness-training assists front-line nurses with shift-work. That is because the practice helps increase situational awareness and the development of positive responses to stressful situations (Zeller & Levin, 2013). The shift-work trait is common between nurses and police officers, as is a high-stress work environment. Hence, police officers may benefit from mindfulness-based interventions as it promotes better mental health and personal effectiveness (Williams et al., 2010).

Police Culture

As previously mentioned, police culture can produce barriers to help seeking. One type of police culture is known as the masculinity contest culture. This occurs when four cultural norms exist within the organization and its leadership (Berdahl et al., 2018). The first, 'showing no weakness', characterizes a workplace that demands confidence, never admitting doubt or mistakes, and suppressing emotions (Berdahl et al., 2018). Next, there is 'strength and stamina', which describes a workplace that awards strong people or those who show off endurance (e.g., working long hours) (Berdahl et al., 2018). Third, 'putting work first' is typical of a workplace where nothing outside the organization (e.g., family) interferes with work, or where taking a break or leave represents lack of commitment (Berdahl et al., 2018). Finally, 'dog eat dog' means a workplace filled with competition, where the winners are more masculine and are focused on defeating the losers, the less masculine, and essentially, where no one is trusted (Berdahl et al., 2018). Unfortunately, organizations that directly or implicitly endorse these norms can contribute to an unwillingness to partake in mental health or wellbeing strategies. That can further lead officers to develop maladaptive coping strategies and can worsen their mental health symptoms (Berdahl et al., 2018; Cohen et al., 2019; Zulkafaly et al., 2017). Ultimately, when police culture consists of perspectives, norms, and values that inform police officers' conduct, the beliefs can shape police officers' behaviours both on and off the job (Hakik & Langlois, 2020). These make it difficult for the organization to accept an open, compassionate, and understanding workplace in terms of mental illnesses (Carleton et al., 2017; Rees & Smith, 2008).

Unfortunately, some officers may be more susceptible to internalizing their emotions and feelings in an attempt to maintain their display of strength (Skolnick, 1996, as cited in Hakik & Langlois, 2020). A Canadian Standing Committee on Public Safety and National Security report revealed that the nature of police work could place officers at a greater risk for developing PTSD. When officers display masculinity at work, they are likely to portray emotional and physical toughness, which may lead them to develop an aggressive persona, further leading them to potentially engage in behaviours such as heavy drinking and displaying anger (Cheema, 2016). The aggressive persona may pose a barrier when officers struggle to seek assistance or treatment for mental health concerns. Moreover, even when police personnel feel something is wrong, they face challenges in accepting the mental illness and believe it is a physical problem (Berg et al., 2006). Overall, the police culture, and in particular the masculinity contest culture, can cause officers to be fearful of seeking assistance (Rees & Smith, 2008; Smith, 2009).

Police are often resistant to change, which also presents a barrier to implementing programming such as mindfulness (Rees & Smith, 2008). Rees and Smith (2008) indicated that participants in their research revealed resistance to change due to peer pressure and cynicism, which is related to masculinity culture. From the account of one participant, speaking about difficulties within the police service would lead other officers to make fun of the individual and use the information against them. This would lead to fear of showing weaknesses and being honest in the police environment (Rees & Smith, 2008).

Two common negative aspects of police culture are resistance to change and cynicism (Caplan, 2003). Likewise, group dynamics, such as informal organizational processes, peer

socialization, and prior life experiences all may have led to resistance, defensiveness, or negativity exhibited by members (Ingram et al., 2013; Rees & Smith, 2008). These are additional factors that can further contribute to negative police culture (Ingram et al., 2013; Rees & Smith, 2008). The National Officer Safety Initiatives (2018) has similarly indicated that police officers might avoid discussing mental health issues or suicide, or related educational prevention programs or treatment. Police officers may be fearful of job actions (e.g., being placed on desk duty or losing their job) if others become aware that they are experiencing a mental health issue and perceive them as being 'unfit', and hence, may avoid asking for help (Jetelina et al., 2020; National Officer Safety Initiatives, 2018; Waters & Ussery, 2007). Further, they may be concerned about not receiving a promotion if the guidelines require that the officer must be free from mental or emotional problems to qualify (Waters & Ussery, 2007). If an individual believes that they are unable to change or control their situation, they are less likely to reach out for help (Rees & Smith, 2008). A negative police culture, with poor interactions and lack of support, where, for example, there are instances of taunts and negative remarks made at officers that courageously speak about their struggles, will make officers less likely to seek help for mental health conditions (Hakik & Langlois, 2020). Therefore, the modelling of positive behaviours from the top down will start to shift this and reduce the stigma surrounding mental health (Cohen et al., 2019; Hakik & Langlois, 2020).

Stigma

Society stigmatizes mental health issues (Canadian Mental Health Association, 2021; Corrigan & Watson, 2002; Markowitz, 1999). Mental health stigma consists of a negative social attitude towards an individual experiencing mental challenges (Canadian Mental Health

Association, 2021). Hence, individuals suffering from mental health issues may experience discrimination or stereotypes (Hakik & Langlois, 2020). This may be experienced either through 'public stigma' (e.g., public reactions to mentally ill populations) or 'self-stigma' (e.g., prejudice towards oneself when coping with mental illness) (Canadian Mental Health Association, 2021; Corrigan & Watson, 2002; Markowitz, 1999). When people are labelled as mentally ill, adverse effects may lead people with a mental illness to feel discriminated against or devalued (Hakik & Langlois, 2020). Consequently, the effects of stigma are harmful as it can be an obstacle for seeking treatment or help (Hakik & Langlois, 2020). Ultimately, stigma can lead to low self-esteem, depression, less social interaction, and lower quality of life (Hakik & Langlois, 2020). Hence, addressing stigma is crucial, particularly where it is connected to a police culture characterized by traits such as masculinity contest cultures, where showing signs of weakness can make an individual an outsider to the culture, as it significantly affects the likelihood of police officers suffering in silence (Hakik & Langlois, 2020).

A content analysis of a Canadian government report (i.e., *Task Force on Governance and Change, Standing Senate Committee on National Security and Defence*) and newspaper articles from 2007 to 2016 explored the accounts and perspectives of police and whether there was a connection between police culture and PTSD (Hakik & Langlois, 2020). The findings indicated that some police cultures, such as those described above, are associated with a hostile work environment (Hakik & Langlois, 2020). Barriers such as an absence of communication and a negative police culture can increase stressors and reduce the overall psychological wellbeing of police officers (Hakik & Langlois, 2020). As a result of stigma, officers become fearful and hesitant to speak up about their mental health issues. Ultimately, the culture and stigma

present themselves as barriers. Managers, supervisors, and police officers should deliver sympathy, empathy, and acceptance and understanding towards mental health (Cohen et al., 2019; Hakik & Langlois, 2020). Strategies that allow organizations to express openness and positivity are essential (Hakik & Langlois, 2020). Overall, cultural transformation in the police environment may help prevent systemic barriers such as poor leadership and training on mental health issues. Furthermore, it is important to normalize occupational stress indicators (OSIs) and treat them as any other physical illness would be treated (Cohen et al., 2019). However, that discussion needs to begin from the top-down, so that frontline police officers understand the importance of 'taking a knee' and understand that they will not be shunned for it (Cohen et al., 2019; Hakik & Langlois, 2020).

The Current Study

Research shows that mindfulness increases resilience and is a helpful coping strategy for mental health. However, given the lack of previous research, it is unclear whether police officers at risk of developing mental health issues due to occupational and organizational stressors are familiar with or utilize these practices. The current study therefore examined the extent to which a sample of police officers are familiar with and practice the facets of mindfulness. The study also collected screening data on some of the more common mental health issues identified in the literature (anxiety, depression, and PTSD) to understand the need for mindfulness practices in local agencies. The study also examined officers' current coping styles and how these may relate to using a mindfulness-based approach. Overall, measuring and understanding these components may help develop better mental health treatment and a

positive police culture for officers. With this in mind, the current study explored the following main research questions:

1) How familiar are police officers with mindfulness and to what extent do they currently use these practices?
2) How is mental health related to the practice of mindfulness amongst a sample of police officers?
3) What are the coping styles that police officers currently utilize to cope?

Within these broad questions, the study also addresses whether and what relationships exist between mindfulness practices, mental health issues, and coping styles, and examined access to work-related resources.

Methodology

Participants

Participants included a convenience sample of 61 front-line police officers from British Columbia. The survey link was sent to eight RCMP detachments and municipal police agencies, from which six agreed to participate. All participating agencies were from the Lower Mainland. Originally there were 81 participants, however 20 participants were omitted as they did not complete all parts of the survey.

The 61 participants were mostly male (75%); the remaining 25% identified as female. Most participants were constables (63.8%) while the remainder were senior management (34.5%), which included sergeants, staff sergeants, inspectors, senior managers, and deputy chiefs, and corporals (1.7%). Frontline police officers are primarily responsible for protecting

the public and detecting and preventing crime from occurring (Government of British Columbia, 2021). Police senior management have the role of reporting on updates and issues within the organization, supervision, monitoring progress, and providing recommendations about procedures and issues (Government of British Columbia, 2021).

Participants ranged in age from 24 to 59 years, with a mean age of 42.80 years (SD = 8.60). In terms of race/ethnicity, participants were Caucasian (94.1%), South Asian (3.9%), and Asian (1.6%). This sample seemed to be quite unrepresentative of the larger population of police officers. There were far more white males in the current study than reflective of the population of police in British Columbia, where approximately one-quarter (23%) of police employed by BC municipal agencies or RCMP detachments identify as a visible minority or Indigenous (Culbert, 2020). Participants' years of service ranged from two months to 362 months (approximately 30 years), with a mean of 173.28 months (approximately 14 years; SD = 110.85 months or 9.24 years). Most participants had a bachelor's degree (56.4%) while approximately one-third had some college or university education, such as a two-year diploma (32.7%). Fewer than one-in-ten had only a high school diploma (7.3%) and very few had a Master's degree (3.6%).

Measures

Data was collected and analyzed using a series of mostly closed-ended (quantitative) as well as several open-ended (qualitative) survey questions about mental health symptoms, coping styles, access to mental health resources and programming, and familiarity with and use of mindfulness practices. As described below, validated tools were used when available.

Five-Facet Mindfulness Questionnaire (FFMQ)

The Five-Facet Mindfulness Questionnaire (FFMQ) assessed the extent to which officers engage in mindfulness-based practices. Baer et al. (2008) originally developed the 15-item version (FFMQ-15), which includes three items for each facet. The five mindfulness facets are observing, describing, acting with awareness, non-judging inner experience, and non-reactivity to inner experience. Each item was measured using a 5-point Likert-type scale that ranged from 1 (very rarely true) to 5 (almost always true). Higher scores are indicative of increased mindfulness. The FFMQ has demonstrated good internal consistency and convergent validity (Baer et al. 2006, 2008). Furthermore, the FFMQ has shown high levels of construct validity and reliability (Sung-Youl, 2015).

DASS-21 (Depression, Anxiety and Stress Scale)

The Depression, Anxiety, and Stress Scale-21 (DASS-21) has been used in previous studies to assess the severity of mental health symptoms amongst police officers (e.g., Boyd et al., 2018; Di Nota et al., 2020). Studies have indicated that the DASS-21 can be utilized to screen for mental health symptoms or disorders, but these are not diagnostic assessments and so should be interpreted with some caution (Di Nota et al., 2020). The DASS-21 is a set of three self-report scales designed to measure the emotional states of depression, anxiety, and stress over the past 30 days. Each of the three scales contains seven items and each statement is rated from 0 to 3 (0 = not applicable at all; 1 = applicable sometimes; 2 = applicable often; 3 = almost always applicable).

Primary Care PTSD Screen for DSM-5 (PC-PTSD-5)

The Primary Care PTSD Screen for the DSM-5 (PC-PTSD-5) is a 5-item screen designed to identify individuals with probable PTSD and potential exposure to any traumatic event(s) (Prins et al., 2015). On the off chance that a participant has not been exposed, the remaining 5-items that screen for experiences of PTSD symptoms are not completed. If they respond 'yes' to trauma history, they answer an additional five questions about the past month. Past research comparing the PC-PTSD-5 against DSM diagnoses of PTSD has indicated that those scoring three or higher on the additional five questions meet the criteria for 'probable' PTSD (Prins et al., 2016). The PC-PTSD-5 has shown excellent internal consistency, test-retest reliability, and concurrent validity (Jung et al., 2018).

Brief COPE

The Brief COPE (Carver, 1997) is a revised self-report scale that measures how an individual copes with stress in their life. It consists of 28 items that measure 14 coping factors. The coping factors include active coping, planning, positive reframing, acceptance, humour, religion, emotional support, instrumental support, self-distraction, denial, venting, substance use, behavioural disengagement, and self-blame. The Brief COPE has shown fairly acceptable reliability and validity. More recent research has identified a four-factor structure (Baumstarck et al., 2017). These four factors include the 14 strategies that Carver (1997) identified. The first domain, social support, consists of emotional support, instrumental support, venting, and religion. The second domain is problem solving, which includes active coping and planning. The third domain, avoidance, includes substance use, self-blame, self-distraction, denial, and behavioural disengagement. The last domain is positive thinking, which includes humor,

acceptance, and positive reframing. In the current study, both the 14 factors and revised four factors were examined.

Procedure

The study data were collected using an anonymous online survey on SurveyMonkey. The agencies were initially contacted via email and phone call, after which the researcher proceeded to communicate the purpose of the study and provided the survey link to the facilitator. The facilitator then disseminated the survey to police members who had the option of participating in the survey. The landing page of the survey was the consent document. Participants were instructed that completion of the survey constituted their consent to participate. Ethics approval was obtained from the University of the Fraser Valley's Human Research Ethics Board prior to the start of the study (Appendix A). Access to the survey was provided between February 18 and March 26, 2021.

Results

Descriptive Results

The descriptive data for each of the validated measures are reported below in Table 1 for the entire sample size and by gender (males versus females). The Five Facet Mindfulness factor scores, Brief Cope factor scores, and PTSD-5 total score were all normally distributed on the basis of their skewness and kurtosis falling within the range of -1 to +1. None of the three subscales of the DASS-21 were normally distributed: Anxiety had a skewness value of 2.45 and kurtosis value of 6.54; Depression had a skewness value of 1.997 and kurtosis value of 4.09; and Stress had a skewness value of 1.12 and kurtosis value of 0.729. Outlying scores appeared to be

contributing to the non-normal distributions, as Anxiety had five extreme scores (>=9), Depression had 8 extreme scores (>=8), and Stress had 3 extreme scores (>=15). For most subscales, there were no significant differences by gender, with the exception of the Brief COPE Problem Solving factor, whereby females scored higher than males. The average PTSD score was more than one point below the cut-off for probable PTSD. Although not statistically significant, females had a higher PTSD score (M = 2.09, SD = 2.12) in comparison to males (M = 1.80, SD = 1.66). Using a cut-off score of three or higher out of five, approximately one-third (34%) of the participants who have been exposed to at least one critical incident have probable PTSD. When broken down by gender, 31% of males and 55% of females had probable PTSD; this difference was not statistically significant.

Table 1: Total and Subscale Scores

Scale	Total (n = 50-61)		Males (n = 35-42)		Females (n = 11-14)	
	Mean (SD)	**Range**	**Mean (SD)**	**Range**	**Mean (SD)**	**Range**
FFMQ						
Observation	9.49 (2.69)	4-15	9.38 (2.81)	4-15	9.43 (2.62)	7-12
Description	11.15 (2.14)	5-15	11.14 (2.16)	5-15	10.57 (2.51)	7-14
Awareness	10.42 (2.55)	6-15	10.76 (2.51)	6-15	8.93 (2.40)	6-14
Non-Judgmental	11.78 (2.66)	5-15	11.76 (2.55)	5-15	11.64 (2.95)	8-15
Non-Reactivity	10.15 (2.45)	4-15	10.24 (2.51)	4-15	9.57 (2.03)	4-15
PTSD	1.74 (1.75)	0-5	1.80 (1.66)	0-5	2.09 (2.12)	0-5
Brief COPE						
SS	19.37 (5.21)	9-31	19.05 (4.66)	9-26	21.43 (5.80)	10-31
PS*	12.98 (2.32)	7-16	12.81 (2.51)*	7-16	13.29 (1.54)*	11-15
AV	17.40 (3.94)	10-29	17.02 (3.80)	10-29	18.86 (4.07)	13-20
PT	17.90 (3.10)	10-24	18.10 (2.84)	12-24	17.71 (3.41)	11-23
DASS-21						
Depression	2.88 (4.07)	0-19	2.49 (3.87)	0-19	3.86 (4.50)	0-11
Anxiety	2.31 (3.64)	0-18	2.07 (3.18)	0-14	3.50 (5.10)	0-7
Stress	4.78 (4.38)	0-17	4.62 (3.90)	0-15	6.23 (5.48)	1-17

Note. SD=Standard deviation; FFMQ=Five Facet Mindfulness Questionnaire (Baer et al., 2006); PTSD Checklist=Posttraumatic Stress Disorder Checklist for DSM-5 (Prins et al., 2015); DASS-21=Depression, Anxiety, Stress Scale (Lovibond & Lovibond, 1995); Brief COPE=Brief Coping Orientation to Problems Experienced (Carver, 1997); SS=Social Support; PS=Problem Solving; AV=Avoidance; PT=Positive Thinking; * = Indicates a statistically significant difference, whereby means with the same subscript indicate a significant difference at the $p < .05$ level.

Mindfulness

The first research question explored participants' familiarity with, and practice of, mindfulness. Nearly all participants (95.1%, *n* = 58) were familiar with the concept of

mindfulness. Of these participants, just over half (55.7%; n = 34) practiced mindfulness some of the time, approximately one-quarter (23%, n = 14) practiced mindfulness most of the time, and nearly one in ten (8.2%, n = 5) practiced mindfulness all of the time. Only 6.6% (n = 4) of those who were familiar with the concept reported that they never practiced mindfulness. Overall, participants in the current study were generally familiar with mindfulness and practiced it at least some of the time. When looking at the Five Facets of Mindfulness, police scored the highest on the Non-Judgmental Facet and lowest on the Observation Facet (see Table 1). As noted above, using an independent samples t-test, male and female police officers did not differ significantly on their FFMQ scores.[1]

The second main research question addressed whether mental health screening scores were related to the practice of mindfulness. The next set of analyses therefore examined the bivariate correlation coefficients between the FFMQ facets and each of the PTSD-5 and DASS-21 subscales (Table 2). PTSD-5 scores were significantly negatively correlated with the FFMQ Non-Judgmental facet. Regarding the DASS-21 scores, Depression, Anxiety, and Stress scores were significantly negatively correlated with the FFMQ facets of Awareness, Non-Judgmental, and Non-Reactivity. There were strong negative correlations between the FFMQ Non-Judgmental and Awareness facets and all three DASS-21 subscale scores.

[1] Mindfulness scores were also compared for other demographics but no significant differences were found. Pearson correlations indicated no significant finding for months of service. A one-way ANOVA indicated no differences between education levels. An independent sample t-tests did not identify any significant differences based on rank. All significance tests were run using an alpha of .05.

Table 2: Correlations Among Mindfulness and Mental Health

	FFMQ Subscales				
	Observation	**Description**	**Awareness**	**Non-Judgmental**	**Non-Reactivity**
PTSD	-0.132	-0.064	-0.235	-0.448**	-0.250
DASS-21					
Depression	-0.047	-0.59	-0.392**	-0.727**	-0.295*
Anxiety	-0.062	-0.143	-0.365**	-0.633**	-0.270*
Stress	-0.252	-0.043	-0.543**	-0.644*	-0.320*

Note. FFMQ=Five Facet Mindfulness Questionnaire (Baer et al., 2006); PTSD=Posttraumatic Stress Disorder Checklist for DSM-5 (Prins et al., 2015); DASS-21=Depression, Anxiety, Stress Scale (Lovibond & Lovibond, 1995). * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Coping Styles

The third main research question focused on the coping styles currently used by police. While the four factor scores were presented above in Table 1, these scores cannot be directly compared given the different range of possible scores on each of the four factors. Therefore, in order to understand what coping styles police officers tend to use, and to enable comparisons with past research using the Brief COPE with policing samples, scores on the 14 scales were computed and are presented below in Table 3. The scores are presented first for the full sample of 61 officers and then by gender. Using an independent samples t-test, only one statistically significant difference was observed between male and female officers, where female officers scored significantly higher than male officers on the Self-Distraction scale. Overall, the more common coping strategies used by police in the current sample were Planning, Positive Reframing, and Acceptance, whereas the least common coping strategies were Substance Use,

Denial, and Behavioural Disengagement. Overall, police officers in the current sample therefore appear to be using more positive and active strategies to cope.

Table 3: Brief COPE Scale Scores

Brief COPE Scales (Carver, 1997)	Total Mean (SD)	Males (n=41-42) Mean (SD)	Females (n=14) Mean (SD)
Self-Distraction*	5.45 (1.61)	5.20 (1.49)	6.43 (1.22)
Active Coping	4.98 (1.20)	4.83 (1.10)	5.36 (1.45)
Denial	2.36 (0.75)	2.36 (0.82)	2.43 (0.65)
Substance Use	2.70 (1.19)	2.83 (1.21)	2.50 (1.29)
Emotional Support	5.84 (1.74)	5.88 (1.69)	6.29 (1.68)
Instrumental Support	5.53 (1.80)	5.41 (1.71)	6.14 (1.92)
Behavioural Disengagement	2.36 (0.80)	2.29 (0.77)	2.57 (0.94)
Venting	4.54 (1.39)	4.50 (1.29)	4.93 (1.64)
Positive Reframing	6.16 (1.43)	6.17 (1.48)	6.29 (1.27)
Planning	6.31 (1.43)	6.17 (1.53)	6.64 (1.01)
Humour	5.62 (1.75)	5.79 (1.68)	5.57 (1.83)
Acceptance	6.11 (1.29)	6.14 (1.20)	5.86 (1.46)
Religion	3.48 (1.88)	3.26 (1.58)	4.07 (2.43)
Self-Blame	4.51 (1.77)	4.33 (1.69)	4.93 (1.98)

* = Indicates a statistically significant gender difference at the $p < .05$ level.

The next set of analyses examined the association between the four-factor model of the Brief COPE and mindfulness scores (Table 4). On the Brief Cope, Problem Solving was significantly positively correlated with all five of the FFMQ facets. Positive Thinking was only significantly correlated, again in a positive direction, with the FFMQ Observation facet. In

contrast, Avoidance was significantly negatively correlated with the FFMQ Awareness and FFMQ Non-Judgmental facets.

Table 4: Brief COPE and FFMQ Correlations

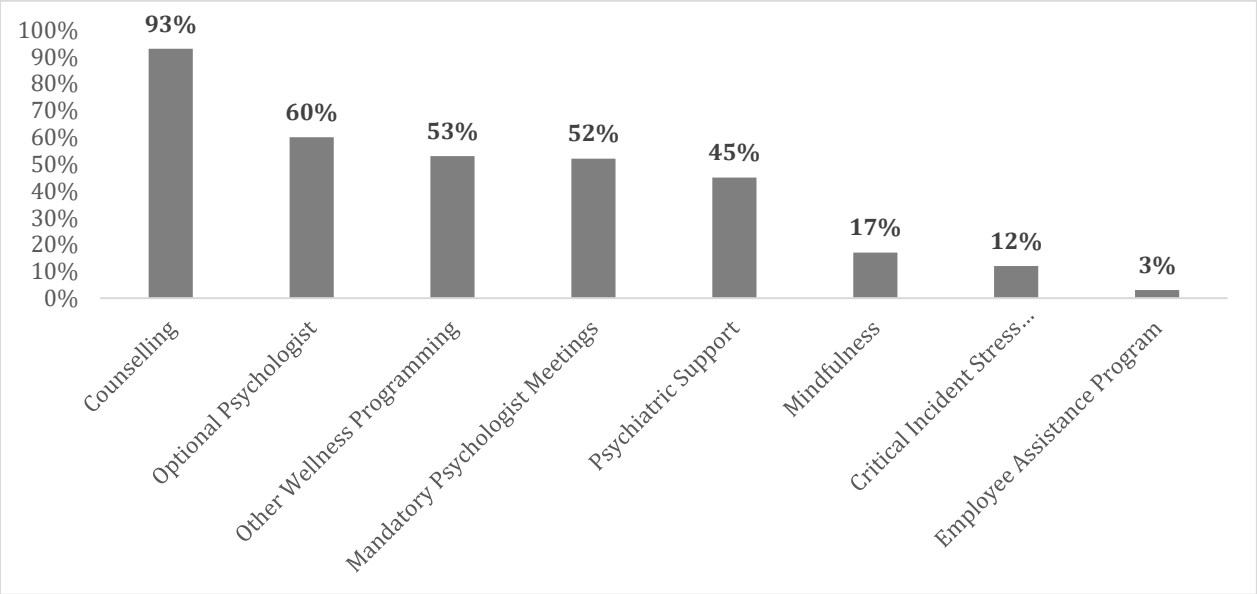
	FFMQ Subscales				
Brief COPE	**Observation**	**Description**	**Awareness**	**Non-Judgmental**	**Non-Reactivity**
SS	0.212	0.239	0.118	0.142	-0.139
PS*	0.340**	0.293*	0.257*	0.460**	0.284*
AV	-0.017	-0.162	-0.522*	-0.618**	-0.176
PT	0.257*	0.178	0.050	0.114	0.157

NOTE: FFMQ=Five Facet Mindfulness Questionnaire (Baer et al., 2006); Brief COPE=Brief Coping Orientation to Problems Experienced (Carver, 1997); SS=Social Support; PS=Problem Solving; AV=Avoidance; PT=Positive Thinking.

Access to and Use of Work Resources

As discussed in the review of the literature, police officers may have access to work resources, such as work-funded counselling and psychologist treatments. In the current study, officers were asked about access to and use of a variety of work resources. As shown in Figure 1, the more common resources they reported having access to included counselling (93%), optional psychologist meetings (60%), other wellness programs (53%), and mandatory psychologist meetings (52%). The less common resources they reported having access to included mindfulness (17%), critical incident stress management (12%), and their Employee Assistance Programming (3%). There were no significant gender differences in terms of access to the different types of mental health resources.

Figure 1: Access to Work Provided Mental Health Services



When asked how often participants used various resources in the past 12 months, the results indicated that service use for the entire sample varied amongst the participants (Table 5). Participants' responses were categorized as follows: never, rarely (once or twice a year or a few times a year), sometimes (once every few months or about once a month), and often (about once a week). The use of resources was not examined for other wellness programs as this category comprised a variety of different activities, nor was it examined for critical incident stress management or employee assistance programs as few participants mentioned these resources. Most participants never used work-provided psychiatric support (95%), mindfulness (78%), optional psychological services (62%), work-funded counselling (60%), or mandatory psychological services (58%) in the past year. Although the programs used by the participants varied between males and females, there were no significant gender differences in the frequency of resource use. Overall, work-funded counselling and optional psychologist meetings were used to a greater extent compared to the other resources; however, less than

one-quarter of participants reported using these resources sometimes (15% and 9%, respectively).

Table 5: Use of Work Provided/Funded Resources

	Total (%)	Males (%)	Females (%)
Work-funded counselling			
Never	60%	61%	57%
Rarely	25%	22%	36%
Sometimes	15%	17%	7%
Often	----------	----------	----------
Mindfulness training			
Never	78%	83%	64%
Rarely	17%	12%	29%
Sometimes	2%	2%	0%
Often	3%	2%	7%
Mandatory psychologist sessions			
Never	58%	57%	64%
Rarely	38%	41%	36%
Sometimes	3%	2%	0%
Often	----------	----------	----------
Optional psychologist sessions			
Never	62%	63%	54%
Rarely	29%	29%	31%
Sometimes	9%	7%	15%
Often	----------	----------	----------
Psychiatric support			
Never	94.5%	95%	92%
Rarely	5.5%	5%	8%
Sometimes	----------	----------	----------
Often	----------	----------	----------

Discussion

Policing environments are often unpredictable and can consist of different workplace stressors, such as paperwork, lack of peer support, and exposure to traumatic events (Queirós et al., 2020; Violanti et al., 2017). However, research is accumulating regarding the positive benefits associated with the practice of mindfulness. As such, the current study sought to identify the coping strategies used by police, and to what extent they are familiar with and engage in mindfulness practice. These findings may provide police agencies with information about the perceived value of mindfulness as a coping strategy and how to implement such practices.

The first research question this study addressed was how familiar police officers were with mindfulness and how often they practiced it. The results from the current study demonstrated that police were quite familiar with mindfulness. Almost half practiced it some of the time and just under one-third practiced it most or all of the time. Moreover, almost all study participants indicated that they were familiar with the concept of mindfulness. Although mindfulness is a recent and emerging topic in the field of criminal justice, this is an important finding as it indicates that its awareness and practice are present in populations that could benefit from its use. Based on the literature review, some police officers may utilize maladaptive strategies to cope with trauma (Acquadro Maran et al., 2015; Ménard & Arter, 2013; Papazoglou & Tuttle, 2018; Patterson, 2003; Stepka & Basinska, 2014), which may further exacerbate the issue. However, a growing body of research suggests that if mindfulness practices are implemented, these can assist police in reducing the effects of depression and anxiety. Mindfulness allows police officers to focus on the present moment using non-

judgment, non-reactivity, observation, and description, while also using present moment awareness to tackle negative thoughts and feelings. However, it should also be acknowledged that less than one-in-five police officers reported having access to mindfulness through work-provided programming. Therefore, while police officers in the current study were generally familiar with mindfulness and used it to some extent, it appeared they did so on their own volition.

The second research question examined whether mindfulness was related to mental health. The current study results indicated that individuals with a higher level of present moment Awareness, Non-Judgment, and Non-Reactivity as measured on the FFMQ had lower scores on the DASS-21 measures of Depression, Anxiety, and Stress. While this result was correlational and cannot be interpreted to indicate that the practice of mindfulness leads to lower rates of mental health issues, it is possible that participants who have a tendency to be mindfully aware, non-judgmental, and non-reactive to present moment experiences and situations may have a reduced likelihood of experiencing negative thought processes and feelings, which may reduce their likelihood of experiencing symptoms of depression, anxiety, or stress. However, those with higher levels of Awareness, Non-Judgment, and Non-Reactivity also reported higher levels of Problem Solving as a coping strategy and those with higher levels of Awareness and Non-Judgment also reported lower levels of Avoidance as a coping strategy. Therefore, it is unclear whether mindfulness strategies or other coping strategies contributed to lower levels of depression, anxiety, and stress. Further research that examines how mindfulness, coping styles, and mental health are interrelated is needed, in addition to further

research assessing how mindfulness scores influence symptoms of mental health over a longer period of time to better understand these relationships.

The practice of mindfulness consists of being non-judgmental towards experiences (past, present, or future), without labeling or perceiving them in a positive or negative manner. Furthermore, being non-reactive allows an individual to accept the experience as it is without trying to alter it, which can further explain a reduction in mood symptoms, because the individual is not reacting based on the emotion they may be feeling or the experience that they are going through. Lastly, an increased level of present moment awareness may reduce rumination and worry, which are traits common in mental health issues such as anxiety and depression. The other two FFMQ scales, Observation and Description, although important, may not be as closely related to the DASS-21 scores because an individual could still produce negative thoughts and feelings via their way of perceiving a situation through observation and/or by way of describing it. Similarly, research by Christopher et al. (2016) with a sample of 43 police officers in the Northwestern United States found that after an eight-week MBRT program, officers experienced reductions in several measures of mental health issues. In addition, they also displayed increased physical health, emotional intelligence, and resilience, while scores on burnout and stress were reduced. While they were unable to directly attribute these findings to the observed increases in mindfulness, these findings, together with those from the current study, suggest that use of mindfulness may be associated with enhanced mental health. It is possible that individuals who acknowledge stressful or distressing situations, feelings, or sensations without engaging in an evaluation may be less likely to feel overwhelmed, as they may be able to disengage from their thoughts by viewing them as mental

events and not the present reality. Further research should address this association in more depth.

The current study found that one-third of police officers may be suffering from PTSD. This prevalence is higher than past research by Carleton et al. (2017), who found that 19.5% of municipal police officers and 30% of RCMP officers suffered from PTSD. The differences found may be due to sample size and measurement of PTSD. A 5-item checklist was used in the current study, whereas Carleton et al. (2017) used the 20-item PCL-5, amended for use with law enforcement. Carleton et al. (2017) suggested that the amendments (e.g., removing the screening item of "sudden and unexpected death of someone close to you", adjusting "transportation accident" to "a serious transportation accident") may have slightly reduced the proportion of public safety personnel who would have met the criteria for probable PTSD.

In contrast, the current sample demonstrated lower levels of depression and stress compared to officers in a different study by Carleton, Korol et al. (2018). In that study, they examined DASS-21 scores over time, before and after being exposed to an R2MR program. At the 12-month follow up, participants in Carleton, Korol et al.'s (2018) study reported a mean depression score of 4.21 (versus a mean score of 2.88 in this study) and a mean stress score of 5.38 (versus a mean score of 2.31 in this study). It is possible that access to resources, the general tendency to use positive coping strategies, and/or the use of mindfulness in the current sample of police officers explains these differences. However, these findings cannot be attributed to the practice of mindfulness given the correlational nature of the data. Therefore, this would be an important question to consider exploring in future research using a prospective, longitudinal research design. Future research should also examine what other

factors may have contributed to these results, such as the nature and severity of occupational and organizational stressors.

Mindfulness is only one possible coping strategy that police may use to cope with feelings of stress or symptoms of mental health issues. The third research question therefore addressed the coping strategies used by police. Police in the current sample appeared to use active or positive coping strategies more so than passive or negative strategies. Specifically, the highest average scores were identified for the Brief COPE Planning, Positive Reframing, and Acceptance scales whereas the lowest average scores were identified for Substance Use, Denial, and Behavioural Disengagement. Similarly, a past research study involving Italian police officers indicated that the most common positive coping strategies used were Active Coping, Planning, and Acceptance (Acquadro Maran et al., 2015). Likewise, Della-Rossa's (2014) study with police officers from British Columbia reported the highest scores for male police officers in Active Coping, Acceptance, and Planning. However, it was unexpected to find that unlike these past two studies, Active Coping did not appear in the top three coping strategies reported in the current study. Instead, Positive Reframing was more commonly reported. It is possible that the unexpectedly high levels of familiarity with and practice of mindfulness among police officers in the current study may have had an effect on the reported coping strategies, in particular, when considering the use of Positive Reframing (perceiving and thinking about a negative situation in a positive manner). The parallels between the practice of Positive Reframing and the practice of mindfulness include using present-moment awareness and non-judgment towards a challenging situation and altering a negative perception to a more positive one.

An important finding was that the Brief COPE Problem Solving factor was significantly and positively correlated with all five of the FFMQ facets. Again, as these results were correlational, they cannot be interpreted to mean that the practice of mindfulness contributes to more of a problem solving approach to coping because an alternative explanation is that the development of a problem solving approach contributes to the practice of mindfulness. However, future research should explore this result further because if mindfulness contributes to a problem solving approach to coping, it would provide even more reason as to why police agencies should consider implementing mindfulness programming for their employees. In other words, higher levels of awareness, observation, non-judgment, acceptance, and non-reactivity may help an individual to feel calmer and to be able to think in a more logical and appropriate manner, allowing them to problem solve concerns and issues more efficiently and effectively. Notably, scores on the Avoidance factor were negatively associated with the FFMQ Awareness and Non-Judgment facets. One possible interpretation of this is that a lack of awareness and increased judgment towards present moment experiences, thoughts, emotions, or feelings can lead to overall avoidance, which is maladaptive in nature.

Although mental health intervention programming is provided in policing agencies, it may not be used to its full extent. It is possible that there are barriers to uptake, which may be caused by several different factors. For instance, police officers may feel ashamed for seeking help or there may be stigma surrounding the topic of mental health in the workplace. In addition, it is possible that other officers may want to 'tough it out' on their own instead of seeking help for their situation. Therefore, due to such barriers, it would be important to encourage more uptake of programming to improve their wellbeing. For instance, suggestions

to remove such barriers could include expanding the conversation around mental health and trauma in the workplace, adding and improving existing workplace policies on mental health of employees, and engaging broader group discussions on the topic of mental health. Most importantly, tailoring interventions towards individual needs is essential. In the current study, participants had access to several programs and used them with varying frequencies. The programs that were used most often were optional psychologist sessions and work-funded counselling**.** Overall, not a lot of police officers made significant use of any particular resource, indicating the potentiality of workplace barriers to seeking help. Regardless, the findings were limited by the small sample size and future research should examine how gender influences access and use of work-funded resources.

Limitations

The current study examined an understudied topic: familiarity with and use of mindfulness practice amongst a sample of police officers. However, other relevant constructs, such as workplace culture, were not measured. This is an important limitation as research suggests that police culture can have a detrimental effect on officer wellbeing (e.g., Buhrig, 2021) and the uptake of mental health resources (Jetelina et al., 2020). Understanding the presence and effects of workplace culture on mental health and the practice of mindfulness in the current study would have allowed for an assessment of culture as a possible barrier to the practice of mindfulness and the overall wellbeing of police officers.

The results reported in the current study were correlational and it would be beneficial for future research to study the relationships between these variables in a more causal manner.

That could be done by investigating the effect of either one or more variables on the outcome variable(s) using a longitudinal research design. For example, collecting scores on coping strategies and mental health screens prior to and then following exposure to mindfulness-based programming would allow for these relationships to be better understood.

It is possible that the current sample is not reflective of the general population. For instance, the relatively high rate of mindfulness practice amongst this sample of police was unexpected, given that mindfulness has only recently become a more mainstream practice, and it was surprising that so many officers were aware of it and practicing it. It is possible that the officers in this study were drawn to the survey due to the subject matter, as the survey was presented as a study on mindfulness and mental health. If this sample reflects the population, then it suggests that there is a greater potential for mindfulness programming to be accepted by police on a broad scale, as they are already aware of it and in many cases, using it at least some of the time. Regardless, future research should recruit a more representative sample of frontline police officers, with a mix of those who do and do not practice mindfulness. This will allow more variability in the study sample so that the relationships between mindfulness, mental health, and coping strategies can be better understood.

Another limitation that affected the ability to more fully interpret the findings was the lack of variation in demographics. In particular, the sample consisted of mostly Caucasian participants. Larger samples would be of benefit to be able to explore whether and how ethnicity interacts with any of the variables, as that has not been explored in past research. Similarly, while some of the analyses compared the results by gender, there were only male and female police officers in the current study, and the number of female officers was

comparatively low, which may have influenced the non-significant results of the analyses. A comprehensive analysis of how gender influences mindfulness, mental health, and coping strategies may be helpful in tailoring interventions and how to best implement the use of mindfulness and other resources.

Finally, future researchers should determine where mindfulness is best used. It would be important to question whether the practice is best used to prepare recruits with heightened resilience, or if it is best used in conjunction with CISM or CISD post-incident. Furthermore, future research could determine what the implications are for the effectiveness of mindfulness for reducing symptoms of trauma specifically among police. For instance, if police do not experience dissociation, it might be worthwhile to consider what benefits mindfulness will add.

Recommendations

Given that the literature shows that police officers are exposed to high rates of critical incidents (Carleton et al., 2017; Drew & Martin, 2020; Violanti et al., 2017) and at least 23.2% meet the criteria for probable PTSD (Carleton et al., 2017), there is potential value in mindfulness programming being adopted, particularly as the research has shown that mindfulness is at least somewhat effective in building resilience (Boyd et al., 2018; Christopher et al., 2020; Williams et al., 2010). Mindfulness programming could be offered in several different ways. For instance, since police officers get access to some educational programs, mindfulness options could be integrated into annual programming leave. For example, in British Columbia, mindfulness programming could potentially be offered through the Pacific Regional Training Centre or the Justice Institute of British Columbia for RCMP and municipal officers,

respectively. It would also be beneficial for police agencies to look at the potential of adding mindfulness training to recruit training, as previous research with children, such as by Kallapiran et al. (2015) and Zenner et al. (2014), has stated that mindfulness training may be a promising approach to improving resilience and negative mental health outcomes over time. However, given the barriers to accessing programming identified by previous research with police officers (Fox et al., 2012; Jetlina et al., 2020), it may also be beneficial to offer mindfulness programming through online courses. The officers could then complete mindfulness training during their own time, while still being on the job. This would address the previously identified challenges of not being able to attend courses due to workload, overtime, or other resource demands. Still, research should first examine whether mindfulness programming offers the same benefits when offered in an online format.

Another suggestion to consider is assessing whether MBSR is a feasible option to implement. If police have access to training courses and are able to take five days for training, the program could be scheduled accordingly. Then, they could be sent away and be able to focus on full days of MBSR (or similar) training. The programming could also be mandated for those who are on a duty to accommodate (i.e., injured, ill, or pregnant). If these officers are typically accommodated somewhere else in a desk job, it may present a good opportunity for them to complete this training. Finally, those that are exposed to a critical incident could be required to take paid days off work during which they attend this kind of training and also simultaneously receive crisis/peer support.

Unfortunately, access to mindfulness programming through work may present itself with barriers. The literature indicated that barriers such as workplace culture, a lack of time,

resistance to change, and stigma are typical and can prevent an individual from using mindfulness-based practice as a coping strategy. Further, there may not be enough funding to facilitate the program, police officers' schedules may not align with in-person training, and there may be a lack of motivation to attend training after work and still having to make time for other extracurricular activities or family. Others may perhaps believe that their progress in the program is not fast enough or that their mind has difficulty in calming down, and hence, they may drop out of the program without staying consistent with it. Also, there may be workplace culture barriers that result in those who attend the programming feeling judged or stigmatized for partaking in mindfulness training. Some suggestions to address these barriers include endorsing and modelling positive behaviours, ideas, and attitudes at the management and leadership level, which could then be passed down to the frontline level (Cohen et al., 2019). Furthermore, following-up after interventions and ensuring that employees take accountability for their wellbeing and that of those around them is an essential component for a better and healthier work environment (Cohen et al., 2019). That will then allow employees to hopefully feel more open and willing to learn about interventions such as mindfulness practice.

Conclusion

The mental health of police officers is crucial to a well-functioning criminal justice system and society. Without sound mind and body connection, there is little meaning and value to the tasks that one partakes in. Bringing awareness, non-judgment, observation, description, and non-reactivity to the present moment are all powerful traits to enhancing inner peace and productivity. As this paper has described, police officers are subject to several occupational and

operational stressors, along with other stressors from outside work. When they are unable to take time to recover and heal from those stressors and other traumas, their work becomes difficult to manage, complete, and cope with. Although there are many different coping strategies that police may use to cope with trauma and stress, research has supported mindfulness practice as an effective approach. Mindfulness could therefore be useful to implement alongside current interventions to better support the resilience and wellbeing of police officers.

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Appendix A

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Human Research Ethics Board - Certificate of Ethical Approval

HREB Protocol No: 100670
Principal Investigator: Miss Danshpreet Gill
Team Members: Miss Danshpreet Gill (Principal Investigator)
Dr. Amanda Mccormick (Supervisor)
Dr. Zina Lee (Co-Supervisor)

Title: Mental Health & Mindfulness Amongst Police Officers
Department: College of Arts - Social Sciences

Effective: February 18, 2021
Expiry: February 17, 2022

The Human Research Ethics Board (HREB) has reviewed and approved the ethics of the above research. The HREB is constituted and operated in accordance with the requirements of the UFV Policy on Human Research Ethics and the current Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2).

The approval is subject to the following conditions:
1. Approval is granted only for the research and purposes described in the application.
2. Approval is for one year. A Request for Renewal must be submitted 2-3 weeks before the above expiry date.
3. Modifications to the approved research must be submitted as an Amendment to be reviewed and approved by the HREB before the changes can be implemented. If the changes are substantial, a new request for approval must be sought. *An exception can be made where the change is necessary to eliminate an immediate risk to participant(s) (TPCS2 Article 6.15). Such changes may be implemented but must be reported to the HREB within 5 business days.
4. If an adverse incident occurs, an Adverse Incident Event form must be completed and submitted.
5. During the project period, the HREB must be notified of any issues that may have ethical implications.
***NEW** 6. A Final Report Event Form must be submitted to the HREB when the research is complete or terminated.

****Please submit your Research Continuity Plan to REGS@ufv.ca before beginning your research. The plan can be found here: https://www.ufv.ca/research/

Thank you, and all the best with your research.
UFV Human Research Ethics Board