POLICE INVESTIGATIONS OF INTIMATE PARTNER VIOLENCE INVOLVING STRANGULATION IN BRITISH COLUMBIA

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The Crime Reduction Research Program

The Crime Reduction Research Program (CRRP) is the joint-research model in British Columbia between academics, the provincial government, and police agencies operated by the Office of Crime Reduction – Gang Outreach. The CRRP is supported and informed by a Crime Reduction Research Working Group that includes representation from the Ministry of Public Safety Solicitor General (represented by Community Safety and Crime Prevention Branch and Police Services Branch), the Combined Forces Special Enforcement Unit of British Columbia, and the Royal Canadian Mounted Police "E" Division.

The CRRP focuses on investing in research that can be applied to support policing operations and informing evidence-based decisions on policies and programs related to public safety in British Columbia. Each year, the CRRP reviews submissions of research proposals in support of this mandate. The CRRP Working Group supports successful proposals by working with researchers to refine the study design as necessary, provide or acquire necessary data for projects, and advise on the validity of data interpretation and the practicality of recommendations.

The CRRP operates a $1M annual funding allocation in the form of grants that are dedicated to support university-led research at Canadian institutions. This project was supported through the 2020/21 CRRP funding allotment.

Executive Summary

Strangulation by an intimate partner is one of the most significant risk factors for future lethality. Often referred to by victims-survivors as “choking”, strangulation involves the external compression of airways and blood flow, for example by using hands (manual) or a belt or rope (ligature). Strangulation is a highly gendered form of intimate partner abuse, where more than 90% of the victims-survivors identify as females who were strangled by males (Brady et al., 2022; New Zealand Law Commission, 2016; Pritchard et al., 2018; Sharman et al., 2023; Strack et al., 2001; Thomas et al., 2014; Wilson et al., 2022). Research suggests that strangulation is more likely to be present in abusive relationships where the perpetrator engages in coercive control, makes threats towards the victim-survivor, displays signs of excessive jealousy, including stalking, isolates the victim-survivor from friends and family, and where the victim is fearful and more likely to believe their abuser will kill them (Bendlin & Sheridan, 2019; Messing et al., 2018b; Stansfield & Williams, 2018; Thomas et al., 2014). Strangulation is often a rage-filled overreaction to a perceived slight by a controlling and possessive abuser (Brady et al., 2022; Gwinn et al., 2022; Macgregor et al., 2016; Thomas et al., 2014).

On average, women report experiencing five prior incidents of strangulation by their partner (Brady et al., 2022; Wilbur et al., 2001). Experiencing multiple prior strangulations increases the risk of death, as well as experiencing other consequences, such as loss of consciousness, miscarriage, memory loss, weakness, and paralysis (Messing et al., 2018a; Smith et al., 2001). However, it only takes one experience of strangulation for the victim-survivor to be at risk of suffering significant health consequences, including a stroke, brain injury, or death, and to be at increased risk of being killed by their partner (Bichard et al., 2022; Clarot et al., 2005; De Boos, 2019; Douglas & Fitzgerald, 2022; Faugno et al., 2013; Glass et al., 2008; Hawley et al., 2001; McClane et al., 2001; Smith, 2009; Smith et al., 2001; Strack et al., 2020). Strangulation increases the risk of the woman being murdered by the same perpetrator by more than 700% (Glass et al., 2008; Spencer & Stith, 2020), making it one of the best predictors of lethality (Campbell et al., 2003; Matias et al., 2020; Spencer & Stith, 2020).

Despite the risks strangulation poses to a victim-survivor, research has suggested that many survivors of strangulation do not have any visible injuries (Joshi et al., 2012; Sharman et al., 2023; Strack et al., 2001; Wilson et al., 2021; Zilkens et al., 2016). However, there are many signs or symptoms that may indicate to a trained service provider that strangulation has occurred, including a hoarse or raspy voice, the loss of consciousness, feeling dizzy, neck pain, a sore throat or having trouble swallowing, or experiencing a headache following the assault (Bergin et al., 2022; Brady et al., 2023). These signs and symptoms can persist for several weeks following the strangulation (Joshi et al., 2012; Macgregor et al., 2016; Messing et al., 2018a; Patch et al., 2017; Wilbur et al., 2001). When trained to ask about and document these signs and symptoms, most strangulation victims-survivors will report one or more of signs or symptoms (Bergin et al., 2022; Brady et al., 2023). Unfortunately, police officers are often not trained to ask about the signs or symptoms of strangulation (O’Dell, 2007; Pritchard et al., 2017; Pritchard et al., 2018; Reckdenwald et al., 2017; Zedaker, 2018), and research has indicated that more than half of apparent strangulations are not identified as such in police data (Garza et al., 2021; Pritchard et al., 2018). When they are identified, the lack of documentation of the signs, symptoms, and injuries likely poses challenges to successful

prosecution. For example, in one study in Florida of 58 police files where officers had explicitly documented that strangulation had occurred, only three of the cases resulted in a felony conviction for strangulation (Reckdenwald et al., 2020).

Given the empirical risk for lethality, as well as the short- and long-term physical and mental health consequences associated with surviving strangulation, including brain injury, it is imperative that police are trained to recognize, investigate, and effectively document cases that involve strangulation. The current study sought to identify police officer awareness and understanding of strangulation in the context of intimate partner violence calls for service, with a focus on identifying areas where future training would be beneficial. In addition, given that strangulation often results in brain injury, and studies show that up to 93% of women survivors of intimate partner violence may have suffered at least one brain injury, police officer familiarity with intimate partner violence-related brain injuries was also assessed.

Anonymous survey data was collected from a sample of 172 police officers working with one of 12 municipal agencies or Royal Canadian Mounted Police detachments in British Columbia. Most participants were Caucasian males who had been in general duty for an average of 8.9 years. On average, the police participants reported responding to nearly two intimate partner abuse files in a typical shift. Most police officers had received prior training on strangulation, which may be because most had already completed the updated intimate partner violence curriculum released alongside the new Summary of Intimate Partner Violence Risk review tool in Fall 2021. When it came to additional training on strangulation, four-fifths or more of the participating officers suggested they would like training on how to investigate and document evidence of strangulation, how to recognize the signs and symptoms of strangulation, and when, how, and where to connect the victim-survivor to health, forensic nurse, or community supports. Overall, police officers showed excellent comprehension of the risks that strangulation posed, and correctly identified the possible signs and symptoms when they were provided in a list. However, when presented with two scenarios, one depicting a stated strangulation and one depicting an implied strangulation, police officers rated the stated strangulation scenario as significantly higher risk, despite both scenarios involving strangulation. Similarly, while both scenarios were rated as an above average need for a medical examination, the stated strangulation scenario was rated as a significantly greater need for a medical examination compared to the implied strangulation scenario. This finding suggested that when officers were provided with a victim-survivor who exhibited symptoms of strangulation but did not outrightly express that they had been strangled, officers were less likely to perceive that strangulation had occurred. Importantly, police officers who reported having completed prior training in strangulation rated the implied strangulation scenario as posing a significantly greater threat to life than did police officers without any prior training in strangulation. However, only one-third of officers identified the new offence code for assault by strangulation (Section 267c) as a relevant criminal charge in this case. A nearly equal proportion identified choking to overcome resistance (Section 246), which is not actually relevant to the described scenario. Another one-third of participants suggested a simple assault code that suggested that they did not perceive that strangulation was present. Similarly, in the stated strangulation scenario, which would most likely result in a criminal charge under Section 272(1)(c1) for sexual assault by strangulation, only 15% of officers assigned this criminal charge to the scenario. More commonly, participants relied on the old charge of Section 246, choking to

overcome, or gave a sexual assault offence code that did not involve strangulation. Some participants did not even reference sexual assault in the offence codes given for this scenario.

More than half of the officers in the current sample had never received training on brain injuries in intimate partner violence. Interestingly, nearly one-quarter did not desire any training on brain injuries among victims-survivors of intimate partner violence-related brain injury. However, when asked about specific areas for training, more than four-fifths desired training on how to investigate and document evidence of a brain injury, how to recognize the signs and symptoms of brain injury, and when, how, and where to connect the victim-survivor to health, forensic nurse, or community supports. Despite this, police officers did well at recognizing the potential signs and symptoms of a brain injury when provided to them in a list, although some officers were uncertain about the emotional signs that suggested a possible brain injury. Police officers in the current study perceived that brain injuries were very or somewhat uncommon among victims-survivors of intimate partner violence, which also suggested a need for more training. Police officers perceived the brain injury scenario to be significantly lower risk than the stated strangulation scenario, but higher risk than the implied strangulation scenario. Importantly, police officers with prior training on brain injuries rated the brain injury scenario as a significantly greater threat to the victim-survivor than those without prior training, which supports the value of providing brain injury training to frontline police officers. They also interpreted that having a medical examination for the brain injury scenario was between moderately to extremely important, which was significantly lower than the stated strangulation scenario but higher than the implied strangulation scenario. Generally, police officers recognized the importance of a medical examination in a variety of scenarios but expressed some uncertainty in a few situations, such as if the victim-survivor lost control of their bladder or bowels during the assault, which indicates that the victim-survivor was close to death.

While police officers in the current study understood that strangulation was a particularly significant risk factor for intimate partner lethality, and demonstrated excellent comprehension of the signs and symptoms of strangulation when asked directly about them, the results of the current study suggested that there was still room for training and education to improve their ability to recognize strangulation when not overtly disclosed to them, to understand the signs and symptoms of brain injuries in intimate partner violence, to document the signs, symptoms, and injuries that may be present in these cases, and to recommend appropriate and relevant criminal charges. Given this, recommendations include implementing a strangulation supplement to guide police office investigations where strangulation has occurred, implementing a brain injury screening tool, providing training on brain injuries resulting from intimate partner violence, providing training that involves more active exposure to strangulation and brain injury scenarios, providing training and quality control over the use of strangulation-specific sections of the *Criminal Code*, implementing a policing standard for strangulation investigations in British Columbia, providing training on strangulation and brain injuries to victim service workers, improving knowledge among other service providers and the general population about the signs, symptoms, and risks of strangulation and brain injury from intimate partner violence, flagging stranglers as high-risk individuals in police files, expanding and properly funding forensic nurse examiners in British Columbia, increasing access to health care by implementing co-response models to files where interpersonal violence, such as strangulation, have occurred, and conducting annual reviews of intimate partner violence-related fatalities.

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Introduction

Strangulation by an intimate partner has been established as one of the most significant risk factors for future lethality. Often referred to by victims-survivors as "choking", strangulation involves the external compression of airways and blood flow, for example by using hands (manual) or a belt or rope (ligature). Given the empirical risk for lethality, as well as the short- and long-term physical and mental health consequences associated with surviving strangulation, it is imperative that police officers are trained to recognize, investigate, and effectively manage files involving strangulation. The current study sought to identify police officer awareness and understanding of strangulation in the context of intimate partner violence calls for service with a focus on identifying areas where future training would be beneficial. The following report provides a comprehensive review of the existing literature on intimate partner violence-related strangulation followed by an analysis of survey data collected from an anonymous sample of frontline police officers in British Columbia. In addition, given that strangulation often results in brain injury, and studies show that up to 93% of women survivors of intimate partner violence may have suffered at least one brain injury, police officer familiarity with intimate partner violence-related brain injuries was also assessed.

Project Objectives

The objective of this project was to identify whether and where there may be gaps in awareness and practice among frontline police officers in British Columbia when it comes to strangulation in intimate partner violence police files.

Project Methodology

This study involved a survey of frontline police officers employed by either the Royal Canadian Mounted Police (RCMP) or independent municipal police agencies in the province of British Columbia. Jurisdictions from all four policing districts were invited to participate in the study via an in-person survey administered during shift briefing or an online survey completed at the discretion of the police officer. Regardless of the method of survey completion, the study was voluntary and anonymous for all police officers who chose to participate. For police detachments/agencies choosing the in-person briefing, hardcopy surveys were printed and mailed to a police designate from that detachment or agency (e.g., the Officer in Charge or Chief Constable, or domestic violence unit corporal) with a cover letter outlining the purpose and method of the study. Surveys were distributed during a briefing and officers were given approximately 15 minutes to complete and return the survey to the designate. Consent was given via completion and submission of the survey, which explored police officers' understanding of the signs and symptoms of strangulation and brain injury, their perceptions of the dangers of strangulation and brain injury in terms of repeat victimization and health consequences for victim-survivors, the Canadian *Criminal Code* charges that they perceived as relevant to strangulation files, and areas of training. The returned surveys were collected and mailed by the police designate to the research team. For police detachments/agencies choosing the online method, a survey link and brief study explanation was emailed to the police designate who was then asked to forward the email to their frontline police

officers. The online surveys were completed anonymously on Survey Monkey. Once the hardcopy surveys were received at the University, a research assistant entered them into the Survey Monkey platform. All surveys were then downloaded into an SPSS database for analysis by the research team.

The ethics of the research project, including the project methodology and surveys, were reviewed and approved by the University of the Fraser Valley's Human Research Ethics Board prior to any data being collected.

Literature Review

STRANGULATION VERSUS CHOKING

Strangulation refers to the restriction of airflow or blood flow that occurs when pressure is applied externally to the neck region (Faugno et al., 2013). Strangulation can occur manually, where one or both hands squeeze the neck, or a forearm or leg is pushed against the neck region. Strangulation can also occur by ligature where an item, such as a belt, leash, or scarf, is tightened around the neck. Research suggests that, in the context of intimate partner abuse, strangulation is most commonly manual, where the abuser places both hands around the neck of the victim and squeezes (e.g., Brady et al., 2022; Joshi et al., 2012; Macgregor et al., 2016; Patch et al., 2017; Patch et al., 2023; Sharman et al., 2023; Shields et al., 2010; Smith, 2009; Strack et al., 2001; Thomas et al., 2014; Wilbur et al., 2001). Regardless of the method used, strangulation can fully or partially prevent air from flowing and impede blood circulation. Strangulation is often referred to by victims-survivors as choking. However, choking more accurately refers to an internal blockage of the airway, such as when food is lodged in the throat. Another key difference is that choking is more typically an accidental occurrence, whereas strangulation is an intentional and highly gendered form of violence, where more than 90% of the victims-survivors identify as females who were strangled by males (Brady et al., 2022; New Zealand Law Commission, 2016; Pritchard et al., 2018; Sharman et al., 2023; Strack et al., 2001; Thomas et al., 2014; Wilson et al., 2022).

Strangulation is a form of coercive control, where the abuser uses strangulation – often multiple times – to threaten or exert control over the victim-survivor (Edwards & Douglas, 2021; Joshi et al., 2012; Myhill & Hohl, 2019; Stansfield & Williams, 2021; Thomas et al., 2014). Strangulation often co-occurs with other forms of possessive or jealous behaviours, such as stalking (Bendlin & Sheridan, 2019; Messing et al., 2018b; Thomas et al., 2014) or as part of a misogynistic and rage-filled attack (Gwinn et al., 2022). It may occur during a sexual assault or with other forms of physical assault (Adhikari et al., 2023; Wilson et al., 2022; Zilkens et al., 2016). Often, abusers will simultaneously verbally abuse or threaten the victim-survivor, scream obscenities or make degrading comments towards the victim-survivor while perpetrating the strangulation, or blame the victim-survivor for being strangled (Brady et al., 2022; Joshi et al., 2012; Macgregor et al., 2016; Stansfield & Williams, 2021; Strack et al., 2001; Thomas et al., 2014; Wilbur et al., 2001; Wilson et al., 2022). Brady et al. (2022) analyzed 130 strangulation supplements, which are detailed forms capturing additional information about the strangulation, completed by police officers with the Austin Police Department and found evidence of jealousy and control in most cases. More

specifically, 82.7% of the supplements indicated jealousy while 65% identified that the offender was controlling. Approximately half (52.4 per cent) of the victim-survivors reported that their partner had previously threatened to kill them, and threats to kill were made during nearly one-quarter (23 per cent) of the strangulations. Of note, an earlier study by Stansfield and Williams (2018) reported that offenders who threatened to kill their intimate partner were more than twice as likely to be arrested for strangulation at a later point. Although Brady et al. (2022) did not compare these trends to intimate partner files where strangulation did not occur, the general conclusion of this and other research is that strangulation tended to co-occur alongside other forms of coercive controlling behaviours (Bendlin & Sheridan, 2019; Brady et al., 2022; Myhill & Hohl, 2019). Overall, research suggests that strangulation is more likely to be present in abusive relationships where the perpetrator engages in coercive control, makes threats towards the victim-survivor, displays signs of excessive jealousy, including stalking, isolates the victim-survivor from friends and family, and where the victim is fearful and more likely to believe their abuser will kill them (Bendlin & Sheridan, 2019; Messing et al., 2018b; Stansfield & Williams, 2018; Thomas et al., 2014).

Using the strangulation supplements completed by police officers in Austin, Brady et al. (2022) reviewed victim statements to identify what events precipitated the strangulation event. In many cases, the strangulation appeared to occur as an overreaction to a perceived slight. For example, 29.4% of the incidents were instigated by the perpetrator suspecting that their partner was being unfaithful, 19.3% involved the perpetrator being upset about something that the victim said, did, or refused to do, while 28.6% involved some other form of disagreement or argument between the victim and the perpetrator. Examples included the perpetrator strangling a victim who wanted a sandwich, a perpetrator who strangled the victim because she was moving around in bed and disturbing his sleep, and a perpetrator who was angry that the victim did not want to go to the store with him. Nearly one-in-five strangulations (19.3 per cent) were triggered by potential loss of control over the victim; more specifically, the victim either stating that they wanted to leave the relationship or attempting to end the relationship. Less common were instances where the strangulation followed substance use, either alcohol or drugs by the victim or offender (14.3 per cent), and less than 1% of the strangulations occurred during sex (Brady et al., 2022). In reviewing what ended the strangulation, the most common reason was that the strangulation was interrupted by a bystander (30.3 per cent), while the second most common reason was victim self-defence (23.0 per cent). Less commonly the strangulation ended because of the victim losing consciousness or experiencing another injury (6.6 per cent). Similarly, interviews conducted with 15 women in Canada who had experienced strangulation by a current or former intimate partner found that the strangulation was triggered by the victim-survivor not agreeing to do something the abuser demanded or was triggered by potential separation, whereas the strangulation was less likely to be preceded by alcohol or drug use (Macgregor et al., 2016). Similarly, in a focus group conducted with 17 women at a shelter for victim-survivors of intimate partner violence, jealousy, a potential end to the relationship, and the man being angered that the victim-survivor was not complying with his demands were common occurrences leading to the strangulation (Thomas et al., 2014). In other words, most perpetrators who strangled their intimate partner appeared to do so as a form of coercive control, as an overreaction to a perceived slight or feelings of jealousy and would strangle

the victim multiple times during an attack while also making threats to kill, only stopping when either a bystander interrupted the strangulation, or the victim successfully fought back.

PREVALENCE OF STRANGULATION AMONG SURVIVORS OF INTIMATE PARTNER ABUSE

The most recent General Social Survey report on spousal violence suggested that approximately 14% of Canadian women aged 15 years and older had been strangled by their partner in the past five years (Conroy, 2021). Similarly, the 2016/2017 National Intimate Partner and Sexual Violence Survey in the United States concluded that approximately 16% of women had experienced strangulation or suffocation (Leemis et al., 2022). Higher rates of strangulation were reported among more vulnerable populations, including Indigenous women in Canada (Sorenson et al., 2014). According to the 2018 Survey of Safety in Public and Private Spaces data, 17% of Indigenous women reported having been strangled by their partner compared to 5.6% of non-Indigenous women (Heidinger, 2021). High rates of strangulation were also reported among women accessing shelters for survivors of abuse. While dated, one of the first studies on this topic identified that two-thirds (68 per cent) of women accessing a shelter or medical centre reported that their intimate partner had strangled them (Wilbur et al., 2001). More recently, a study with 17 women accessing a shelter for domestic violence survivors in the United States found that all 17 had previously been strangled by their intimate partner (Joshi et al., 2012; Thomas et al., 2014).

Similarly, research in other help-seeking settings identified high rates of strangulation. In a recent study of 205 women who received a forensic nurse examination between 2018 and 2020 in British Columbia following an assault or sexual assault by an intimate partner, Adhikari et al. (2023) found that 60% disclosed when asked that they had been strangled. King et al. (2023) collected data from 660 abused women accessing a hospital in New Zealand and found that half (49.7 per cent) had experienced a prior strangulation. Campbell et al. (2018) collected data from populations of women accessing primary care, prenatal clinics, or family planning clinics in Baltimore and the US Virgin Islands and found that more than one-third (36.1 per cent) of the 537 women who had experienced abuse had previously been strangled. In a study with just over 1,000 survivors of intimate partner violence who experienced a police response to their abuse, four out of five (79.7 per cent) reported having been strangled previously by an intimate partner (Messing et al., 2018a).

Unfortunately, strangulation is typically not a singular event, as research has concluded that nearly half of all survivors of intimate partner abuse had survived multiple strangulations (Brady et al., 2022; Messing et al., 2018a; Patch et al., 2023; Smith, 2009; Thomas et al., 2014; Wilbur et al., 2001). On average, women report experiencing five prior incidents of strangulation by their partner (Brady et al., 2022; Wilbur et al., 2001). Experiencing multiple prior strangulations increases the risk of death, as well as experiencing other consequences, such as loss of consciousness, miscarriage, memory loss, weakness, and paralysis (Messing et al., 2018a; Smith et al., 2001). However, it only takes one experience of strangulation for the victim-survivor to suffer ongoing health consequences and to be at increased risk of being killed by their partner.

SIGNS, SYMPTOMS, AND HEALTH OUTCOMES OF STRANGULATION

Although strangulation is not uncommon among victims-survivors of intimate partner abuse, it can be very difficult to identify when a victim-survivor has been strangled, as many of the signs and

symptoms are not immediately obvious to the naked eye or are not commonly interpreted as symptoms or signs of strangulation without prior training. Signs of strangulation include visible marks or injuries that can be objectively seen or heard, such as abrasions around the neck, a raspy voice when speaking, or petechiae, which are burst blood vessels (Brady et al., 2023). In contrast, symptoms are self-reported or subjective feelings that may indicate that strangulation has occurred. For example, a victim-survivor may report feeling faint or dizzy, or having a sore throat or headache (Brady et al., 2023). Research suggests that both signs and symptoms of strangulation are difficult to identify, even amongst health professionals (Donaldson et al., 2023; King et al., 2023; Zilkens et al., 2016). A ground-breaking research study by Gael Strack, who went on to co-establish the Training Institute on Strangulation Prevention in San Diego, concluded that few survivors of strangulation showed visible injuries. After reviewing 300 intimate partner violence files where strangulation had occurred, half of the victims-survivors showed no visible external injuries, and another one-third (35 percent) had injuries that were documented by police as too minor to photograph (Strack et al., 2001). More recent studies have drawn similar conclusions. A study with 17 survivors of strangulation, most of whom had been strangled multiple times by their intimate partners, found that survivors reported that there were often no visible injuries following the assault (Joshi et al., 2012). In a scoping review of medical evidence available following strangulation, while up to 83% of victim-survivors of strangulation reported symptoms, on average, nearly half (44 per cent) had no externally visible injuries from the strangulation (Sharman et al., 2023). In a text-mining study of police reports in Australia, Wilson et al. (2022) reported that 36.1% of intimate partner violence victim-survivors of strangulation did not have any observable injuries documented. In another sample drawn from Australia, nearly one-quarter (24.1 per cent) of women victim-survivors of sexual assault who attended a sexual assault clinic showed no signs or symptoms of their strangulation (Zilkens et al., 2016). Half (49.4 per cent) of the sample showed no visible external signs that they had been strangled during the sexual assault, though they did report at least one symptom, prompting the authors to recommend the use of a checklist to guide evidence collection of the signs and symptoms of strangulation (Zilkens et al., 2016).

When injuries are present following a strangulation, those that are externally visible are often minor or may not be interpreted as injuries from a strangulation (Joshi et al., 2012). For example, the victim-survivor may have abrasions to their chin or face while the abuser may have scratches or bitemarks on their hands or forearms from the victim-survivor. The victim-survivor may have petechiae, but this may not be easily visible, for example, occurring behind the ears or on the gums (Sharman et al., 2023). Some external injuries from strangulation may not be evident immediately, and so it is important for service providers to follow up with the victim-survivor 24 to 48 hours following the strangulation as new injuries may become visible (Clarot et al., 2005; De Boos, 2019; Douglas & Fitzgerald, 2015; Smith et al., 2001). However, following up with the victim-survivor after the fact does not appear to be a common practice (Donaldson et al., 2023). Unfortunately, survivors of strangulation may continue to experience symptoms, such as dizziness, sore throat or difficulty swallowing, ringing in the ears, neck pain, and headache for weeks or months following their victimization (Joshi et al., 2012; Macgregor et al., 2016; Messing et al., 2018a; Patch et al., 2017; Wilbur et al., 2001). Moreover, in one study, neither health care practitioners nor the women themselves were likely to identify the source of the issues as from a prior strangulation, suggesting a need for greater training and awareness (Joshi et al., 2012).

Visible injuries from strangulation are difficult to detect in general, and even more so when the victim-survivor has more melanin in their skin (Brady et al., 2023; Clarot et al., 2005; Hawley et al., 2001; Patch et al., 2017). A study by Brady et al. (2023) using data collected from the Austin Police Department concluded that visible injuries resulting from strangulation were significantly less likely to be detected among those with darker skin when compared to survivors with lighter skin tones. In contrast to self-report data suggesting that Indigenous women are at greater risk of experiencing strangulation by an intimate partner (Heidinger, 2021), Wilson et al. (2022) analyzed police reports in Australia and found that the odds of an intimate partner violence call involving strangulation were lower among Aboriginal victims and perpetrators than among non-Aboriginal victims and perpetrators. It is possible though that this finding was due to police officers not observing any visible injuries of strangulation amongst Aboriginal victims and perpetrators with darker skin tones and subsequently not asking whether the victims were strangled during the assault. It is important that **police officers and other service providers be better trained to ask about strangulation experiences in all calls for service involving intimate partner abuse**, regardless of whether there are visible injuries, and be **trained to identify other potential signs or symptoms that may indicate strangulation has occurred**, such as if the victim-survivor reports having difficulty swallowing or a headache, if their voice sounds raspy, or if they lost consciousness during the assault (e.g., Bergin et al., 2022; Brady et al., 2023).

Although visible injuries are not common, strangulation is likely to cause significant health consequences (McClane et al., 2001; Patch et al., 2017). As strangulation involves compression of the neck region, the arteries and veins in that area can be damaged resulting in the full (anoxic) or partial (hypoxic) impediment of airflow, as well as disrupted blood circulation (Clarot et al., 2005; De Boos, 2019; Faugno et al., 2013). These effects can result in a range of brain injuries. For example, the carotid artery carries oxygenated blood from the heart to the brain. Putting pressure on the carotid artery can result in a loss of oxygen travelling towards the brain (Clarot et al., 2005; De Boos, 2019; Hawley et al., 2001). As the brain does not store oxygen, a carotid injury can result in a loss of consciousness as quickly as 15 seconds following the onset of strangulation, and death can occur within four to five minutes (Bichard et al., 2022; De Boos, 2019; Faugno et al., 2013). Even if the pressure is released and the victim-survivor recovers, permanent brain injury may have occurred as brain cells begin to die off because of a lack of oxygen (Hawley et al., 2001). Blood flow through the jugular vein can also be impeded by strangulation (Clarot et al., 2005). The jugular vein returns deoxygenated blood from the brain to the heart (Hawley et al., 2001). Therefore, pressure on the jugular vein can result in petechia because the build-up of pressure from impeded blood flow can result in ruptures causing small red dots (petechiae) on the skin, eyes, or brain (De Boos, 2019; Faugno et al., 2013). Notably, it takes very little pressure to cause irreparable damage. Research has identified that the average man's handshake is approximately 90 pounds of pressure. Conversely, it only takes 11 pounds of pressure on the carotid artery and four pounds of pressure on the jugular vein for damage to occur (Faugno et al., 2013). Given the effects on air and blood flow, strangulation is a high-risk act that within minutes can result in loss of consciousness, loss of control over bladder and bowels, brain injury, and death (Bichard et al., 2022; Clarot et al., 2005; De Boos, 2019; Faugno et al., 2013; Hawley et al., 2001; McClane et al., 2001).

Another potential consequence reported in some samples is miscarriage of a pregnancy (Messing et al., 2018a; O'Dell, 2007; Shields et al., 2010; Strack et al., 2001; Wilson et al., 2001). Unfortunately,

strangulation during pregnancy is not uncommon. In a 10-year review of 102 strangulation cases in Southern Indiana and Kentucky where the victim survived, 9% of the victim-survivors were pregnant at the time they were strangled (Shields et al., 2010). In a sample of women accessing a shelter for intimate partner violence, approximately one in four reported that they had been strangled while pregnant (Joshi et al., 2012), while an earlier study reported that one-third (34 per cent) of pregnant women who had been abused had been strangled (Bullock et al., 2006). Sorenson et al. (2014) concluded that women who were abused by their partner while pregnant were more likely to experience strangulation than women who were not abused during their pregnancy. In addition, studies show that in a substantial proportion (ranging from 25 per cent to 41 per cent) of cases, children witnessed the strangulation of their mother (Shields et al., 2010; Strack et al., 2001), placing them at risk for developing their own mental health issues due to the exposure to violence (see McCormick et al., 2018). These findings suggest that men who strangle lack control and have a reckless disregard for the wellbeing of others and are, therefore, particularly dangerous compared to abusers who do not strangle.

Strangulation can also have delayed and ongoing consequences. As explained above, pressure on the neck can weaken or rupture the carotid artery resulting in a carotid dissection, which can lead to blood clots and strokes (Douglas & Fitzgerald, 2022; Smith, 2009; Smith et al., 2001; Strack et al., 2020). Notably, there are no obvious outward signs that a victim-survivor has experienced a carotid dissection, and this injury can only be confirmed through medical imaging, such as a computed tomography (CT) scan, which is a form of x-ray that can reveal tissue damage or blood clots, or a CT angiography (CTA), which combines a CT scan with an injection of contrast material that can reveal damage to the blood vessels. Magnetic resonance imaging (MRI), which provides a more detailed scan of blood vessels, organs, muscles, and bones, is also a useful tool in these cases. In a scoping review of medical injuries following strangulation, Sharman et al. (2023) reported that the use of MRIs resulted in the detection of otherwise invisible injuries. Similarly, use of alternate light source, which uses ultraviolet infrared waves, can result in otherwise invisible injuries being identified in body tissue, which enables the injuries to be photographed as evidence (Sharman et al., 2023). Unfortunately, given the lack of general awareness and training regarding strangulation, many victim-survivors are not referred for or seek out a medical exam (Gwinn et al., 2014; Smith et al., 2001; Strack et al., 2020). In fact, a significant proportion of victim-survivors decline medical care following strangulation (e.g., Brady et al., 2023). This could be due to not being aware of the potential effects or risks of strangulation, including carotid dissection, stroke, or brain injury (Donaldson et al., 2023). Alternatively, the victim-survivor may focus instead on other more 'obvious' injuries', such as broken bones (Donaldson et al., 2023). Moreover, victim-survivors may not recognize terms, such as strangulation, when asked about their victimization (Donaldson et al., 2023; Joshi et al., 2012). Victim-survivors also may not want to disclose that they were strangled out of fear of the legal repercussions for their partner, increasing the chances of involvement of the child welfare system, or due to embarrassment or shame (Patch et al., 2017; Patch et al., 2023; Shields et al., 2023). Consequently, those who have experienced an undetected carotid dissection may experience a stroke or heart attack in the days and weeks following the strangulation, potentially resulting in death (Clarot et al., 2005; De Boos, 2019; Faugno et al., 2013; Joshi et al., 2012; Patch et al., 2017; Smith, 2009; Strack et al., 2020). Given this, **it is essential that survivors of strangulation receive a medical exam to determine the extent of their injuries, and ideally**

a forensic nurse examination, where evidence of the offence can be detected and documented for use in court to hold the perpetrator accountable (New Zealand Law Commission, 2016; Sharman et al., 2023).

Unfortunately, there are many barriers to help-seeking among survivors of intimate partner abuse, including from health care systems. A recent study by Wilkes (2023) examined whether victim-survivors of strangulation where police responded either received medical care by being transported to emergency medical services or indicated that they would seek medical care. Overall, just under half (47.6 per cent) met one of these conditions. Importantly though, the study did not capture data on whether those who indicated that they would seek medical care did so, and so these results likely overestimated the proportion of victim-survivors who received medical care. Further, the sample was based on files that had reached the prosecutor's office, and prior studies suggest that medical evidence is more likely to result in a file moving forward with charges (Strack et al., 2001). As a point of comparison, only 29% of victim-survivors in Wilbur et al.'s (2001) original study reported that victim-survivors sought medical care, whereas Smith et al. (2001) found that health care seeking was more likely for victim-survivors of multiple strangulations. Still, for some survivors of strangulation by an intimate partner, health care does not appear to be their first consideration once the assault is over (Patch et al., 2023). Taken as a whole, research suggests that few victims-survivors of strangulation by an intimate partner seek out medical attention, and when they do, it may not be for several days after the incident, and they may not disclose the strangulation unless directly asked about it (Donaldson et al., 2023; Joshi et al., 2012; Macgregor et al., 2016; McClane et al., 2001; Mcquown et al., 2016; Messing et al., 2018a; Patch et al., 2017; Patch et al., 2023; Smith et al., 2001; Strack et al., 2001; Wilbur et al., 2001). However, without training to educate health care professionals about how common strangulation is among victims-survivors of intimate partner abuse, inquiring about whether one was strangled remains uncommon. A study by King et al. (2023) in New Zealand found that half (49.7 per cent) of the 660 survivors of intimate partner abuse who accessed hospital services because of intimate partner violence had experienced a prior strangulation, while over one-third (38.2 per cent) had lost consciousness as a result of the abuse. However, less than 1% (0.6 per cent) of victims-survivors of intimate partner abuse who had accessed hospital services were screened for strangulation while only 0.8% were screened for a brain injury. When screening occurred, it was more likely to be done by in-house social workers than by doctors or nurses (King et al., 2023). Therefore, there was a significant discrepancy between experiences of strangulation and detection of those experiences resulting in missed opportunities for intervention with the offender and proper medical care for the victim-survivor.

Research has demonstrated that detection of strangulation could be enhanced through training and the implementation of a strangulation protocol. Bergin et al. (2022) studied the effects of training and a health care protocol in a community-based emergency department in Maryland. Prior to the implementation of training and the protocol, few physicians would order medical exams of the neck region even if strangulation was reported. In fact, strangulation was more often disclosed to in-house domestic violence program advocates who would meet with the client to conduct risk assessment and safety planning, in addition to providing other services. In 2009, training for physicians was implemented with the introduction of a strangulation protocol that guided the medical staff, including physicians and nurse practitioners, to conduct a physical examination, then order neck imaging for patients who disclosed strangulation along with symptoms of neck pain, loss

of consciousness, loss of bowel or bladder control, dysphonia (hoarseness or other voice abnormalities), or dysphagia (difficulty swallowing). Following the implementation of the protocol, there was a statistically significant increase in the disclosure of strangulation reported by patients to hospital staff, as well as a statistically significant increase in the number of exams ordered. Between 2008 and 2016, 2,355 women were referred to the program because of experiencing intimate partner abuse. Over one-third (approximately 38 per cent) disclosed strangulation by an intimate partner. Whereas approximately 15% of patients would have received neck imaging prior to the training and protocol being implemented, following program implementation, 89% of patients received neck imaging. Internal injuries, including carotid dissection, stroke, and an intracranial hemorrhage were detected in 45 patients (Bergin et al., 2022). It is important to note that patients with these internal injuries did not display any distinguishing symptoms compared to patients who were strangled but did not sustain internal injuries. The most common symptoms associated with strangulation included neck pain (67.2 per cent), headache (45.8 per cent), dysphonia (26.7 per cent), breathing changes (26.4 per cent), or dysphagia (24.9 per cent). Two patients sustained a carotid dissection; their symptoms were neck pain and headache. The authors also observed that patients tended to focus more on other injuries that caused pain, such as facial fractures, and did not readily disclose the strangulation unless directly asked about it (Bergin et al., 2022).

In Canada, the Ottawa Hospital implemented a strangulation protocol via the Sexual Assault and Partner Abuse Care Program in 2016 whereby all patients aged 16 years and older who attended the emergency room and were seen by a Sexual Assault and Partner Abuse Care Program nurse were screened for strangulation (MacDonald et al., 2021). Nearly 12% of patients screened by the protocol between 2015 and 2018 reported having experienced strangulation. Just over one-in-ten (12.0 per cent) patients reported that they had lost consciousness, and common symptoms they were experiencing included a headache (41.6 per cent), dizziness (39.2 per cent), and dysphonia (hoarseness or other voice abnormalities; 23.9 per cent). Although over half (56 per cent) of the patients had neck tenderness when examined, only 6.2% were given a CTA of the head and neck region. More commonly, a CT of the head area only was given (22.5 per cent). Several of the patients were found to have more severe injuries, including a potential carotid dissection (MacDonald et al., 2021). While this study findings suggest that implementing a strangulation protocol can result in strangulation being detected among victim-survivors of intimate partner abuse, the authors acknowledged that the protocol was not followed as closely as it should have been, as many patients who should have been referred for a CT were not. Similarly, Bergin et al.'s (2022) study found that, over time, there was a decrease in the number of patients referred for medical imaging. It is possible that as few internal injuries are positively detected using medical imaging, such as CT scans, doctors do not persist in following the protocol, potentially due to the cost of these procedures. However, it is critical that protocols such as these are adhered to, given that there are no other clear ways to distinguish between patients with internal injuries that may pose a threat to their life. Of note, in a different paper examining three case studies of women who received a forensic nurse examination following strangulation by an intimate partner, none were found to have internal damage, despite the presence of other injuries, including severe neck pain, bruising, and petechiae (Scarlett, 2023). Still, returning to Strack and colleagues' earlier work analyzing 300 cases of strangulation, the authors compared fatal cases to non-fatal ones and concluded that when

injuries *were* visible, there were no obvious differences in the injuries when comparing cases resulting in death from those where the victim survived (Strack et al., 2001). Nonetheless, currently, there are no reliable external indicators of whether a victim-survivor may have experienced internal injuries, such as a carotid dissection. Given this, **the standard protocol for a strangulation victim in a health care setting should be to order medical imaging of the neck**.

What these various studies demonstrate is that strangulation can result in internal injuries that increase the risk for brain injury, stroke, and death, and there are no clear visible external signs or symptoms that might indicate when these internal injuries have been sustained. However, strangulation increases risk of fatality due to the injuries that are sustained, and **it is essential that frontline professionals learn about the signs and symptoms of strangulation, directly ask about and carefully document experiences with strangulation, and advocate for necessary health care interventions**, including medical imaging of the neck region when strangulation has been disclosed or suspected, as there are no clear external distinguishing symptoms that might otherwise indicate when an internal injury has resulted from strangulation (Clarot et al., 2005; Gwinn et al., 2014; Sharman et al., 2023). Notably, as mentioned above, **alternate light source has been shown to detect internal injuries that are not otherwise observable in the soft tissue and so is recommended for use** (Faugno et al., 2013; Patch et al., 2023; Sharman et al., 2023). This is important as prior research suggests that many, if not most, victim-survivors of intimate partner strangulation may experience soft tissue injuries (e.g., MacDonald et al., 2021; Wilson et al., 2022) that might not otherwise be detected.

Forensic nurse examiners play an important role when it comes to detecting and documenting injuries from strangulation (Faugno et al., 2013). Forensic nurse examiners are in a unique position where they serve both the health care and criminal justice systems (Dodd, 2023). As such, whereas physicians and nurses typically focus on treating medical injuries, forensic nurse examiners can give patients who are medically stable a thorough medical exam (the health component) while simultaneously carefully collecting and storing evidence that can be used in court if the victim-survivor wishes to report their victimization to the police (the criminal justice component). This includes a much more detailed exam where clothing may be photographed and collected, swabs and bodily samples (e.g., blood and urine) are taken, and alternate light source can be used to photograph injuries that are otherwise difficult to see (Dodd, 2023). Some police agencies have implemented a forensic nurse protocol in which police officers are trained to refer victim-survivors of cases involving strangulation and/or sexual assault for a forensic nurse examination (Higbee et al., 2019; Reckdenwald et al., 2019). For example, the Abbotsford Police Department and Mission RCMP Detachment in British Columbia have invited forensic nurse examiners to provide training and information sessions during shift briefings for frontline police officers. Police officers are trained about what strangulation is, the dangers it poses to a victim-survivor, the potential signs or symptoms of strangulation to be aware of, and are asked to first ensure that a victim-survivor is medically stable before recommending that the victim-survivor attend the hospital for a forensic nurse examination. In British Columbia, forensic nurse examiners work with victims-survivors of recent (within the past seven days) interpersonal violence, including victims-survivors of intimate partner abuse, sexual assault, and human trafficking (Adhikari et al., 2023; Dodd, 2023). Forensic nurse examiners are also available for victims-survivors to access without needing to be referred through the criminal justice system. For instance, Island Health offers forensic nurse examinations

in most emergency rooms throughout Vancouver Island for survivors of recent (within the past seven days) interpersonal violence, including intimate partner or sexual violence. In the Fraser Health region of British Columbia, victims-survivors can directly access forensic nurse examiners in two hospitals (Surrey Memorial Hospital and Abbotsford Regional Hospital). A victim-survivor can also receive post-assault support and medical care by nurse practitioners in the community through the Embrace Clinic, which is an outpatient clinic located in the City of Surrey (Dodd, 2023). Forensic nurses serve nearly two million people in the Fraser Health Region, and the demand for their services has been increasing (C. Simpson, personal communication July 2023). However, as forensic nurses in the province are primarily funded on an on-call basis to work out of hospital emergency rooms and are frequently short-staffed, victim-survivors seeking their services in a hospital setting may experience delays of 24 to 48 hours, if not longer, before receiving an exam. Moreover, according to HealthLinkBC, forensic nurse examiners work out of the Fraser Health, Vancouver Coastal Health, and Island Health regions, but none are listed in the Interior Health or Northern Health regions. Furthermore, those listed in the Vancouver Coastal Health region appear to focus on providing sexual assault nurse examinations, meaning that victim-survivors of other forms of intimate partner violence may need to travel to another community for care. These trends are very concerning given that physicians and nurses are not often trained in intimate partner violence and strangulation more specifically, and so may not identify a victim-survivor who has been strangled, know what the subsequent threats are to the victim-survivor's health, know what signs, symptoms, or injuries to look for, or know what the standard of care should be, for example, the importance of ordering neck imaging. Furthermore, as indicated above, forensic nurse examiners play an important role in conducting in-depth forensic exams that can provide the evidence needed for strangulation charges to be successful (e.g., Reckdenwald et al., 2020; Sharman et al., 2023). Reportedly, some women seek care from a forensic nurse examiner rather than an emergency department because they are less concerned or aware of the potential health consequences and more concerned about preserving evidence of their assault (Patch et al., 2023).

STRANGULATION IS A RISK FOR FEMICIDE

In addition to increasing the risk for death due to undetected internal injuries, strangulation also increases the risk of a female victim-survivor being murdered by the same perpetrator by more than 700% (Glass et al., 2008; Spencer & Stith, 2020). Glass et al. (2008) studied completed or attempted homicides between 1994 and 2000 (n = 506) using police and medical examiner records and interviews or proxy interviews. The authors compared this data to interview data collected from a stratified community sample of abused women (n = 427). Prior experiences of strangulation were found to be significantly more common among the sample of attempted (45 per cent) and completed (43 per cent) homicides when compared to the sample of less severely abused women (10 per cent). In effect, they calculated that strangulation increased the risk of lethality by 748% (Glass et al., 2008). Several studies have confirmed that a prior strangulation is one of the most significant and substantial risk factors for future homicide (e.g., Campbell et al., 2003; Matias et al., 2020; Spencer & Stith, 2020). In a meta-analysis of risk factors for intimate partner homicide, Spencer and Stith (2020) determined that strangulation was the third strongest risk factor, raising the odds of an intimate partner homicide by more than seven (odds ratio of 7.23). The only two factors with a greater risk were access to a firearm (odds ratio of 11.17) and having previously

made threats with a weapon (odds ratio of 7.36). Similarly, Matias et al. (2020) found that a previous strangulation raised the odds of intimate partner homicide by 6.7, which was the fourth strongest predictive factor following when the victim was threatened with a weapon (odds ratio of 18.5), when the victim was threatened in any kind of way (odds ratio of 11.36), or when the victim received a death threat (10.57 per cent). As most stranglers have been found to simultaneously threaten death, the likelihood that the victim-survivor is at risk for a subsequent femicide is quite substantial. For these reasons, strangulation has been referred to as a homicide waiting to happen (Brady et al., 2023).

Given this, it is no surprise that research has identified strangulation as a common cause of death in intimate partner homicides (Dobash et al., 2007; Edwards & Douglas, 2021; Glass et al., 2008). The Ontario Domestic Violence Homicide Review Committee has examined intimate partner violence-related deaths since 2002. Between 2002 and 2019, approximately 11% of intimate partner violence-related deaths were due to strangulation. More specifically, 7% were directly attributed to strangulation, while 2% were defined as "asphyxiation – airway obstruction" and 2% were defined as "asphyxiation – neck compression". This made strangulation the third most common method of intimate partner violence-related death after trauma from cutting or stabbing (33 per cent) and being shot with a handgun, rifle, or shotgun (27 per cent) (Ontario Domestic Violence Death Review Committee, no date). An additional 20% of cases were labelled as an "other" cause of death. Strangulation was not reported as one of the more common risk factors prior to intimate partner violence-related death, though it should be noted that 71% of cases had a history of intimate partner violence, prior threats were involved in 36% of cases, and there was evidence of controlling behaviour via isolation (29 per cent of cases), obsessive behaviour (45 per cent), and sexual jealousy (40 per cent), which, as previously discussed, all appear to be associated to the perpetration of strangulation. It is possible that strangulation was not among the more common risk factors noted prior to intimate partner violence-related death as victims-survivors often tend not to report this experience. Although the cause of death was not reported in nearly half (n = 25) of the 52 intimate partner femicides in 2022 collated by the Canadian Femicide Observatory for Justice and Accountability, which reviews femicides in Canada each year, where there was information available (n = 27), strangulation was identified as the method of killing in 4% of cases; stabbings (44 per cent) and shootings (26 per cent) were the most common forms of death (Canadian Femicide Observatory for Justice and Accountability, no date). More broadly, considering intimate partner femicide deaths between 2018 and 2022, more than twice as many (9 per cent) were due to strangulation, whereas nearly one-third (35 per cent) were due to stabbing, and slightly more than one-quarter (27 per cent) were by shooting (Canadian Femicide Observatory for Justice and Accountability, no date). In contrast, in a Canadian study by Bourget et al. (2010) of homicides and homicide-suicides involving older couples, strangulation was a more common form of lethality (30 per cent) than firearms (26 per cent).

While British Columbia has also conducted some reviews into intimate partner violence-related homicides and suicides, the 2010-2015 review of intimate partner violence-related deaths in British Columbia did not appear to consider the role of strangulation. Despite acknowledging this as a risk factor in the literature, strangulation was not reported in any of the findings regarding prior risk factors, and the manner of death was not reported at all (British Columbia Coroners Service Death Review Panel, 2016). Therefore, this is an area in need of much greater attention in British

Columbia, particularly as one study examining highest risk intimate partner violence files that were referred to a sample of British Columbia's Interagency Case Assessment Teams (ICAT) reported that four out of every five files (79.5 per cent) involved a history of strangulation (Kinney & Lau, 2018). A more recent study by McCormick et al. (2023) confirmed that ICAT members consistently viewed strangulation as a particularly high-risk factor for lethality, with 80% of surveyed ICAT members reporting that strangulation was "always relevant" in determining cases that were considered highest risk. Of course, strangulation needs to first be identified by the police or another referral source (e.g., victim services) for these cases to reach the ICAT level of management. Yet, there has been no prior published research on strangulation awareness among intimate partner violence service provider populations in British Columbia.

In a study from the United Kingdom, Dobash et al. (2007) reported that strangulation was the cause of death in 29% of intimate partner homicides. More recently, an analysis of 396 Domestic Homicide Reviews in England and Wales between 2011 and 2023 found that one-in-five (19 per cent) domestic homicides involved a prior history of strangulation (McGowan, 2024). Over half (59 per cent) of these prior strangulations were reported to the police, but very few resulted in the perpetrator being charged (n = 6) or convicted (n = 2) (McGowan, 2024). In fact, only one-third (32 per cent) of the originally non-fatal strangulation incidents involving intimate partners resulted in a domestic violence risk assessment being conducted by the police. When a domestic violence risk assessment was conducted, 72% were given a high-risk rating. Unfortunately, over half (53 per cent) of the victims-survivors who initially survived a strangulation ended up being killed by that person at a later point, most often by a cutting instrument. In another 29% of cases, the strangler went on to kill another person other than the original survivor of the strangulation (McGowan, 2024). While this data overestimates the relationship between strangulation and homicide because the analysis was based on a sample of domestic homicides, the data still suggested that there were missed opportunities to intervene and hold stranglers accountable and prevent fatalities from occurring.

Strangulation often co-occurs with other risk factors for lethality, including threats to kill, increased severity of violence, presence of weapons, and a belief that their partner will kill them (Mcquown et al., 2016; Messing et al., 2018a; Patch et al., 2023; Shields et al., 2010; Stansfield & Williams, 2018; Thomas et al., 2014). Given this, it is essential that **first responders, such as police, receive training that emphasizes the significant risk posed by strangulation, both in terms of recognizing the need for immediate medical intervention for the victim-survivor, and in understanding how the victim-survivor is at an elevated risk of experiencing lethal violence from their partner after a strangulation event**. In the United States, men who strangle also pose a risk to responding police officers, as many officers who are killed in the line duty were killed by a man with a history of intimate partner violence, often including prior involvement in strangulation (Gwinn et al., 2022). Several men with histories of intimate partner violence and strangulation have also gone on to commit mass murder (Gwinn et al., 2021). This has led Casey Gwinn and colleagues from the Training Institute on Strangulation Prevention to state that "[m]en who assault and strangle women are the most dangerous men on the planet" (Gwinn et al., 2022, p. 54).

MENTAL HEALTH CONSEQUENCES AND BRAIN INJURIES FROM STRANGULATION

Beyond the physical effects of surviving strangulation, many victims-survivors also experience significant mental health consequences (Patch et al., 2017; Valera et al., 2022; Wilbur et al., 2001). Being strangled is an intensely traumatizing experience, and research suggests that half or more of victims-survivors believe that they are likely to die when being strangled by their partner (Thomas et al., 2014; Patch et al., 2023; Wilbur et al., 2001). Numerous studies have documented that women who survived strangulation, particularly those who survived multiple strangulations, subsequently experienced depression, anxiety, and post-traumatic stress disorder, and higher rates of suicide (Bergin et al., 2022; Campbell et al., 2018; De Boos, 2019; Joshi et al., 2012; Macgregor et al., 2016; Messing et al., 2018a; Monahan et al., 2022; Patch et al., 2017; Smith, 2009; Smith et al., 2001; Toccalino et al., 2023; Valera et al., 2022; Wilbur et al., 2001). Joshi et al. (2012) found that women who survived multiple strangulations by their partners reported ongoing mental health issues, including nightmares, insomnia, fear, anxiety, and suicidal ideation. Similarly, in the inaugural study by Wilbur et al. (2001), most female strangulation victims-survivors reported experiencing anxiety (83 per cent), depression (81 per cent), nightmares (70 per cent), and insomnia (67 per cent), while one-third experienced suicidal ideation (31 per cent) or memory problems (31 per cent) two weeks following the strangulation. These outcomes may be due to the psychological effects of the traumatic experience, but many victims-survivors may also be recovering from a brain injury that was the result of the strangulation, which also increases the risk for mental health challenges (Toccalino et al., 2023; Valera et al., 2022).

Current research suggests that up to 93% of women victim-survivors of intimate partner abuse may have experienced a brain injury because of strangulation, blows to the head, suffocation, or being shaken (Haag et al., 2022; Toccalino et al., 2023). Symptoms of a brain injury can persist for weeks, months, or years following the injury. For example, neurological symptoms, such as feeling dizzy, experiencing headaches, being unable to focus, and impairments to memory, are common ongoing symptoms following a brain injury, as are mental health issues, including depression, anxiety, and post-traumatic stress disorder (Adhikari et al., 2023; Banks, 2007; Campbell et al., 2018; Cimino et al., 2019; Gagnon & DePrince, 2017; Iverson et al., 2019; Maldonado-Rodriguez et al., 2021; Smith et al., 2001; St Ivany et al., 2018; Valera et al., 2019; Valera et al., 2022). Making matters more complicated, many women who experience strangulation by an intimate partner are also simultaneously physically abused by them in a way that could cause a brain injury. For example, in a study in British Columbia with women receiving a forensic nurse examination, Adhikari et al. (2023) found that, of the 122 women who reported having been strangled by a current or former intimate partner, 30% were also shaken, 25% were smothered, and 23% lost consciousness during the assault, whether from the strangulation, the shaking or suffocation, or a combination of these actions. Research by Macgregor et al. (2016) with a small sample of women in Canada found that most victims-survivors who had been strangled by a current or former partner experienced head trauma, whether directly from the strangulation or from other assaults. Consequently, many women reported experiencing both short- and long-term symptoms, including having a headache (71 per cent) or feeling light-headed (85 per cent), as well as experiencing memory loss (57 per cent) and changes to their vision (50 per cent). Women may also experience ongoing behavioural struggles because of a brain injury, including increased aggression, anger, and

emotional instability (Bichard et al., 2022; Campbell et al., 2022; Cimino et al., 2019; Valera et al., 2019).

Unfortunately, similar to the research on strangulation, research suggests that screening for brain injury among victim-survivors of intimate partner abuse by frontline professionals, such as police or emergency room physicians, is very uncommon (e.g., Alvarez et al., 2017; Campbell et al., 2023; Costello & Greenwald, 2022; Haag et al., 2019; Higbee et al., 2019; King et al., 2023; Nemeth et al., 2019; Nicol et al., 2021). Service providers may inadvertently misinterpret the victim-survivor's behaviours, signs, or symptoms as indications of being impaired by alcohol or drugs, or that the victim-survivor was difficult to work with resulting in missed opportunities for interventions (Shackleford & Nale, 2016). As detailed above, the lack of detection and appropriate intervention when a victim-survivor has suffered an intimate partner violence-related brain injury puts the victim-survivor at risk of experiencing ongoing physical and mental health consequences, and delays their recovery process (Costello & Greenwald, 2022). Whereas recovery from a mild traumatic brain injury may generally take approximately four weeks, victim-survivors of abuse may not have fully recovered from a brain injury before experiencing another brain injury, which increases victims-survivors' vulnerability and presents added challenges or obstacles for their recovery (Campbell et al., 2018). In effect, research has indicated that experiencing a brain injury increases the likelihood that a victim-survivor of abuse will suffer concomitant mental health challenges, including post-traumatic stress disorder and depression (Campbell et al., 2018; Valera et al., 2022), which pose additional challenges for recovery. Furthermore, victim-survivors of strangulation are at higher risk of experiencing suicidal thoughts or ideation (Bergin et al., 2022) that could be a consequence of ongoing symptoms of a brain injury, especially given that many women who have been strangled by their partner have been strangled multiple times in the past. Overall, as it is difficult to separate the effects of a brain injury from the effects of strangulation, it is likely best to presume that **a woman who has been strangled has experienced some degree of brain injury and should be treated accordingly**.

LEGISLATIVE RESPONSES TO STRANGULATION

Given the increasing evidence-base regarding the severity of strangulation to a victim-survivor's health and safety, several jurisdictions have introduced legislation that specifically criminalizes this form of violence. Previously, strangulation-related offences were often subsumed under some level of assault based on the extent of the injuries (Edwards & Douglas, 2021; Laughon et al., 2009; Pritchard et al., 2017), which scholars have argued does not appropriately reflect the seriousness of this form of violence (Douglas & Fitzgerald, 2022). Furthermore, relying on injuries as evidence of the offence would prevent files involving strangulation from being prosecuted as more serious offences, if prosecuted at all, given that, as outlined above, research suggests that evidence or signs of strangulation are often not visible (Gwinn et al., 2014; Laughon et al., 2009; New Zealand Law Commission, 2016; Sharman et al., 2023).

Nearly all states in the United States of America have now reclassified strangulation from a misdemeanour to a felony offence, reflecting the greater seriousness and severity of this behaviour (Gwinn et al., 2014; Laughon et al., 2009; Pritchard et al., 2017). However, the language of the legislation appears to vary widely with some jurisdictions including reference to intent (e.g., that

the perpetrator intended to cause harm), the act (e.g., that pressure was placed on the neck constricting the airway), or outcomes (e.g., that the victim lost consciousness or was injured after being strangled) (Gwinn et al., 2014; Laughon et al., 2009). Regardless, these cases can be difficult to prove, especially considering that few survivors of strangulation have visible injuries and, because of the effects of the strangulation, some lack any memory of the incident (Douglas & Fitzgerald, 2022; Edwards & Douglas, 2021; Sharman et al., 2023; Shields et al., 2010; Strack et al., 2001). Laughon and colleagues' (2009) review of strangulation legislation in all American states concluded that strangulation offences were easier to prove in court when the legislation did not require that injuries from strangulation be demonstrated, or that intent to cause injury must be proven. Proving that an accused intended to cause injury or to impede airflow or blood circulation is difficult as this is not necessarily the underlying intention behind the accused's actions; rather, they strangle to assert power and control over the victim-survivor (Gwinn et al., 2014; New Zealand Law Commission, 2016). Given this, scholars have recommended that **the offence be defined by the act**, i.e., that the accused placed pressure on the victim's neck rather than be defined by the intention or the outcomes (Edwards & Douglas, 2021; Gwinn et al., 2014).

Unfortunately, some state legislation implies that a victim-survivor can consent to being strangled, for example, during sex (Sheehy et al., 2023). However, researchers have questioned the authenticity of this claim by arguing that truly consenting to strangulation during sex means that one must be informed of the potential risks, which most participants are not (e.g., Herbenick et al., 2022b). Furthermore, consent is something that must be ongoing. However, a substantial minority of women who are strangled lose consciousness because of the strangulation and, therefore, cannot provide the required ongoing consent (Adhikari et al., 2023; Bichard et al., 2022; Brady et al., 2022; Brady et al., 2023; Garza et al., 2021 Shields et al., 2001; Smith et al., 2001; Thomas et al., 2014; Wilbur et al., 2001). In addition, prior to losing consciousness, becoming dizzy or lightheaded can make the person incapable of communicating withdrawal of consent. Moreover, Herbenick et al.'s (2022b) research suggested that, for most participants who "consented" to strangulation during sex, the consent was sought during or after the act, rather than as part of an informed discussion ahead of time, and many did not give explicit consent.

Moreover, strangulation carries a high risk for bodily harm, which is not something that someone can typically consent to (Sheehy et al., 2023). England and Wales passed a stand-alone offence of strangulation that specifically provides the defence of consent. However, there are limitations to the use of this defence. For example, if the victim suffered serious harm because of the strangulation or similar act, and if the accused had either intended to cause serious harm or was reckless as to whether the victim would suffer serious harm, this defence does not apply (Edwards & Douglas, 2021). Elsewhere, serious harm was defined as causing grievous bodily harm, wounding, or causing actual bodily harm (Edwards & Douglas, 2021). However, proof of injury would then be required to prevent the defence of consent. Most problematically, strangulation is often used as a tactic to display power and control. Given this, it is worth considering whether the victim-survivor is truly capable of providing consent. For example, Edwards and Douglas (2021) identified that four Australian states allowed for consent as a possible defence. They questioned the rationality of this, given that three of the four states limited the offence of strangulation to situations of domestic violence and noted that in abusive relationships characterized by coercive control where the

victims-survivors have no power, victims-survivors were not in a position to give or withhold consent to being strangled.

Several Australian states were among the first jurisdictions to criminalize strangulation as a stand-alone offence (Edwards & Douglas, 2021). As reported by Douglas and Fitzgerald (2022), New South Wales first introduced specific strangulation offences in 2014. Interestingly, they introduced two separate offences with varying degrees of penalties. The first offence simply stated that a person was guilty of strangulation if they intentionally choked, suffocated, or strangled another person; however, the offence also stipulated that this was only an offence if committed without the victim's consent (Douglas & Fitzgerald, 2022). The maximum possible penalty for this offence was five years in prison. The second offence more specifically stated that a person was guilty of an offence if they either intentionally choked, suffocated, or strangled another person to the point that that person became unconscious, insensible, or incapable of resisting, *and* that the perpetrator was reckless as to cause the other person to become unconscious, insensible, or incapable of resisting. A conviction under this offence could result in the maximum of 10 years in prison. Although both strangulation offences involved the same physical act, the legislation considered that strangulation resulting in unconsciousness was a more severe act requiring a more severe penalty. However, the second offence would be much harder to prove, given that only a minority of victims of strangulation lose consciousness, and because the court would need to prove that the accused intended for the victim to become unconscious, insensible, or incapable of resisting, and did the act even knowing that this was a likely outcome. It is interesting that the legislation used 'and' rather than 'or' because the main element of proving this offence requires that the accused intended for this outcome to happen. However, if the legislation used the word 'or' instead of 'and', this would have allowed for an accused to be convicted for the act of strangulation itself, given that the perpetrator should have known that a possible outcome of their action was loss of consciousness, becoming insensible, or being unable to resist. It is also interesting that the legislation distinguishes between strangulation that does and does not result in loss of consciousness, given that strangulation poses significant risks to health and life safety regardless of whether the victim-survivor experienced loss of consciousness.

The Australian Capital Territory (ACT) introduced a strangulation offence in 2015 that was punishable by up to 10 years in prison. As with New South Wales, a concern with the language of this legislation was that it described a person who strangled another "so as to render that person insensible or unconscious" (Douglas & Fitzgerald, 2022, p. 273). The addition of this phrase requires proof that the accused caused the victim-survivor to experience these effects from strangulation. In contrast, Western Australia introduced their own strangulation legislation five years later (2020) with a maximum penalty of seven years in prison, where they defined the offence as when the accused impedes the victim-survivor's normal breathing or blood circulation either by suffocation (blocking their nose, mouth, or both) or strangulation (applying pressure on or to their neck). The implication here is that to prove the offence of strangulation, the prosecution would need to prove that the perpetrator did impede the victim-survivor's breathing or blood circulation, not just that the perpetrator placed pressure on the neck (Douglas & Fitzgerald, 2022).

As reported by Douglas and Fitzgerald (2022), two jurisdictions (Queensland in 2016 and South Australia in 2019) introduced a strangulation offence that was specifically and only applicable to

intimate partner violence. Both jurisdictions defined the offence as when the accused choked, suffocated, or strangled another person without their consent, but stipulated that this was only an offence when the perpetrator and the victim-survivor were in a domestic relationship. Again, this is problematic for several reasons, including the requirement that non-consent to be proven, and considering that strangulation can be used in other offence types, most notably sexual assaults, and between former intimate partners who were no longer in a domestic relationship.

The New Zealand Law Commission (2016) submitted a report recommending that strangulation be made a separate offence under the *Crimes Act 1961*. Furthermore, they recommended that the *Sentencing Act 2002* be updated to include strangulation as an aggravating factor. The report also recommended that the incident report used by police officers in family violence files be updated to include questions regarding strangulation, and that both police officers and judges receive education about strangulation in the context of intimate partner violence (New Zealand Law Commission, 2016). Prior to this, strangulation was not captured in the risk assessment tool used by the police, and there was no systematic way to investigate or record information about strangulation that occurred in the context of intimate partner violence (New Zealand Law Commission, 2016). In December 2018, New Zealand introduced Section 189a *Strangulation or Suffocation*, which is punishable by up to seven years in prison. The Law Commission report (New Zealand Law Commission, 2016) specifically acknowledged that because strangulation was generally not well understood, it was important to include a definition of strangulation in the new offence. As such, they recommended that the phrase "impedes normal breathing or circulation of the blood by intentionally applying force on the neck or by intentionally using other means" be included as the meaning of to strangle or suffocate (p. 37). Given this, rather than proving that the accused intended to injure or kill the victim-survivor, or that the victim-survivor lost consciousness or suffered other injuries, the offence of strangulation could be demonstrated by proving that the accused put pressure on the neck (New Zealand Law Commission, 2016). While this improves the legislation compared to many other jurisdictions, unfortunately, the Law Commission also recommended that strangulation done with consent, for example, during sex, should not be considered a criminal offence (New Zealand Law Commission, 2016).

In contrast to the trends seen elsewhere, in November 2015, the Law Commission of England and Wales called for the removal of an offence for attempting to choke because they considered the offence to be too specific and better able to be subsumed under other offence codes (New Zealand Law Commission, 2016). However, in June 2022, England and Wales introduced a specific non-fatal strangulation offence under their *Domestic Abuse Act*. This specific legislation was introduced because of concerns that strangulation was not otherwise being effectively prosecuted using the available offence codes. For example, because few victims-survivors showed visible injuries, it was perceived as challenging to prove the elements of an offence involving "actual bodily harm" (Ministry of Justice, 2022). Under the new law, people convicted of strangling can be penalized with up to five years in prison (Ministry of Justice, 2022). Of note, shortly after introducing the new legislation, the Home Office funded an Institute for Addressing Strangulation to increase awareness, knowledge, and skills related to strangulation and promote best practices among professionals. The Institute is also engaged in research and has released a number of resources and reports (https://ifas.org.uk/resources/). One such report, released in February 2024, identified that at

least 23,817[1] strangulation and suffocation offences were recorded by police in the year following the introduction of the standalone strangulation offence, 27% of which involved current or former intimate partners (Smailes, 2024).

In June 2023, Northern Ireland criminalized strangulation in what is arguably the most effective approach to date. Prior to this, strangulation was prosecuted as an indictable offence requiring the courts to prove that the accused intended to commit an indictable offence (Belfast Telegraph, 2023). The legislation, introduced in Section 28 of the *Justice (Sexual Offences and Trafficking Victims) Act (Northern Ireland) 2022*, states that an offence is committed when the accused intentionally applies pressure to the victim-survivor's throat or neck and when the accused either intended to impede the victim-survivor's ability to breathe or their blood circulation, or were reckless as to whether their actions would affect the victim-survivor's ability to breathe or their blood circulation. Importantly, the legislation states that it is still considered an offence even if the actions of the accused did not actually impede the victim-survivor's ability to breathe or their blood flow. In other words, strangulation offences should now be easier to prove in court, given that the prosecution will not need to prove the accused's intent to commit an indictable offence, but just the actions of the accused. Moreover, the legislation does not focus on the outcome of the strangulation, only that the strangulation occurred. The potential penalties upon conviction range from two years in custody if prosecuted in the Magistrate's Court, and up to 14 years in prison if prosecuted in the Crown Court. While the legislation states that consent would generally be a defence, this defence is not permitted if the victim-survivor experienced serious harm or if the accused was reckless as to whether their actions would result in serious harm. Given that strangulation has the potential to result in serious harm, it can be interpreted that the legislation does not allow for consent to strangulation as a defence. Although it was not specified how training occurred, it was important to mention that training on the new legislation was given to over 1,500 police officers (Belfast Telegraph, 2023). It is too early to tell what effect this training may have on increasing rates of detection or documentation of strangulation, what effects the legislation will have on prosecution of the new offence, or where there may be continued gaps in knowledge or skills. However, the Police Service of Northern Ireland is promoting awareness about the new legislation through a non-fatal strangulation toolkit that summarizes why this new offence is important, what actions constitute strangulation, and what will happen if reported to the police (https://www.psni.police.uk/sites/default/files/2023-06/Non-Fatal%20Strangulation%20Toolkit.pdf).

In 2006, a working group was established to review whether the *Criminal Code of Canada* should be amended to include a specific strangulation offence like the changes occurring in the United States (New Zealand Law Commission, 2016). While the working group concluded that strangulation was dangerous, they recommended not implementing a specific offence for strangulation, and instead argued for proceeding with charges under aggravated assault because strangulation endangered the life of the victim (New Zealand Law Commission, 2016). In Canada, strangulation was criminalized as part of Section 246 *Overcoming Resistance to the Commission of an Offence*. As

[1] This data is based on reporting of trends by 33 of the 43 police forces located in England and Wales.

outlined in the *Criminal Code of Canada*, if, in the context of another offence, the accused 'choked' (strangled) the victim to prevent them from resisting the offence, the accused would be guilty of this offence. In other words, Section 246 included an aspect of intent, where the accused choked, strangled, or suffocated a person (or attempted to) to "render [that] person insensible, unconscious or incapable of resistance" (Douglas & Fitzgerald, 2015, p. 238). For example, if the accused had strangled the victim to prevent them from resisting a sexual assault, the perpetrator could be convicted under section 246 and potentially receive a life sentence. However, requiring the strangulation to occur to facilitate the commission of a separate offence limited the use of this offence code. If an officer investigated a report of intimate partner abuse where the victim reported being strangled, the perpetrator would more likely be limited to a charge under section 266 (assault) or section 267 (assault causing bodily harm), depending on the degree of injury. Australia had similar legislation, though, in some cases, there was the requirement that the victim became unconscious (Douglas & Fitzgerald, 2015). This would limit the prosecution of these offences given that a minority of victims lose consciousness and many victims-survivors do not recall what happened during the strangulation, including whether they lost consciousness or not. This has led Douglas and Fitzgerald (2022) to criticize existing strangulation legislation arguing that, as currently drafted, current legislation does not fully appreciate the risks resulting from strangulation and how strangulation poses a threat to life safety.

In 2019, the Canadian government introduced two new offences under the *Criminal Code of Canada* that applied to the act of strangulation as a distinct offence. Strangulation was added to assault with a weapon or causing bodily harm (section 267), which is the middle category of Canada's three assault categories. The other two categories are assault (section 266), which is the least serious form of assault and aggravated assault (section 268), which is the most serious form. Section 267 subsection c refers to assault with a weapon or causing bodily harm where the offence is committed via choking, suffocation, or strangulation. A conviction can result in up to 10 years in prison. The second offence, pertaining to sexual assault, was introduced under Section 272(1)(c.1), which is sexual assault with a weapon or causing bodily harm where the accused chokes, suffocates, or strangles the complainant. A conviction under this section can result in a maximum of 14 years in prison. Given this, while Canada has introduced legislation that specifically penalizes the act of strangulation, it has lowered the potential penalty compared to what is available under the 'choking to overcome' legislation. Considering the large body of research establishing the significant risk to life that strangulation poses to the victim-survivor both during and following the strangulation, it is unclear why the Canadian government chose to criminalize strangulation as a form of bodily harm rather than a form of aggravated assault, which is defined as wounding, maiming, disfiguring, or endangering the life of the victim-survivor. Had strangulation been criminalized as aggravated assault under Section 268(1), the potential maximum penalty would have been 14 years in prison instead of the current 10 years in prison, whereas if sexual assault involving strangulation had been criminalized as aggravated sexual assault under Section 273(1), the potential penalty could be life in prison rather than 14 years in prison under Section 272(1)(c.1).

As these offence codes are relatively new in Canada, it is unclear whether convictions are resulting in sentences near the currently available maximum penalties. Notably, the Canadian legislation does not indicate that Crown Counsel must prove that the accused intended to cause injury or that the victims-survivors suffered any injury. As codified in the Canadian *Criminal Code*, to prove that

the accused committed a strangulation-offence, Crown Counsel need only to provide evidence that the act of strangulation occurred. Presumably, this should make it easier to obtain convictions than if Crown Counsel was required to demonstrate that the accused intended to injure the victim-survivor, or that the accused intended to cut off the victim-survivor's airway or impede their blood circulation, or that injuries occurred because of the strangulation. However, it is unknown what effect this very simple legislative language may have in conveying the seriousness of the offence to judges, or what factors judges should consider when determining how to sentence an accused who has been convicted of a strangulation-related offence. While there is limited research on court outcomes associated with strangulation, Edwards and Douglas (2021) discussed several court decisions in the United Kingdom and Australia. While they observed that some members of the judiciary seemed to appreciate the degree of risk posed by strangulation and the dangerousness of stranglers, how strangulation is interpreted by the courts is still largely left to judicial discretion. In some limited cases, judges have cited strangulation as an aggravating factor in deciding to lengthen the sentence given. However, Edwards and Douglas (2021) critiqued that many sentencing guidelines lacked clear reference to how strangulation should be considered. Furthermore, as these sections were added to the Canadian *Criminal Code* in 2019, it is not yet clear how well understood they are by police officers who are primarily responsible for assigning offence codes to files, providing evidence in support of the charge, and how many strangulation-related criminal charges are making their way to the Canadian court system.

While it is important to see that several jurisdictions have enhanced their legislative responses to strangulation, some question whether this recognition goes far enough. There are a wide range of potential penalties for strangulation-related offences in different jurisdictions, ranging from one year to 20 years in prison, and/or including fines (Laughon et al., 2009; New Zealand Law Commission, 2016; Pritchard et al., 2017). However, although research on sentencing for strangulation-related offences is limited, the research that has been published suggests maximum penalties are not often given. In one analysis of sentences for strangulation offences in Australia, Edwards and Douglas (2021) reported that the average sentence length was 1.9 years. Given this, some authors have argued that strangulation should be treated as an attempted homicide (Brady et al., 2022; Laughon et al., 2009). The reasons for this are the potential severity of the act and because many stranglers make threats of death to the victim during the strangulation. In effect, many victims believe they are going to die during the strangulation, and many stranglers only stop when interrupted. Given the high risk of severe injury and likelihood of death, treating strangulation as an attempted homicide has some merit. However, the difficulty of proving intent to kill has resulted in strangulation generally being considered a form of assault rather than an attempted homicide (Laughon et al., 2009; Law Commission of New Zealand, 2016).

EFFECTS OF TRAINING ON STRANGULATION IDENTIFICATION AMONG POLICE

As discussed, while there are many potential signs and symptoms of strangulation, clearly visible injuries, such as red marks or bruising around the neck, are quite rare in the immediate aftermath of strangulation (e.g., De Boos, 2019; Joshi et al., 2012; Strack et al., 2001). While there is legislation specifically criminalizing strangulation in many jurisdictions, without pairing this with training to educate police officers about the importance of asking a victim-survivor if they had been strangled by their partner, or to recognize the signs and symptoms of strangulation, it is possible that many

instances of strangulation are not detected or documented by police (e.g., Garza et al., 2021; Pritchard et al., 2018; New Zealand Law Commission, 2016; Reckdenwald et al., 2017; Reckdenwald et al., 2019; Strack et al., 2001). Furthermore, at times, survivors of non-fatal strangulation have been identified as the primary aggressor due to the injuries present on the male abuser that were inflicted when the victim-survivor fought back against the strangulation (Gezinski, 2022; O'Dell, 2007). Of note, Patch et al. (2023) found that, rather than go to the emergency department of a hospital after they were strangled, most of the women in their sample contacted the police. Therefore, education and training are crucial for frontline police officers, whose response to the call for service can directly affect the victim-survivor's safety, facilitate the victim-survivor's access to other relevant services, such as health care, and increase the likelihood of prosecution (Pritchard et al., 2017; Reckdenwald et al., 2020; Strack et al., 2001). Currently, it is unclear whether police officers understand the degree to which strangulation poses a significant risk for lethality and how they factor this information into case management decisions. Moreover, it is unclear how often police officers are trained to ask about strangulation as part of their review of risk in intimate partner violence calls for service (Pritchard et al., 2017, 2018). Notably, the Ontario Domestic Assault Risk Assessment (ODARA; Hilton et al., 2004), which is one of the most common risk assessment tools used in Canada by frontline police officers, does not directly reference strangulation. In contrast, the British Columbia Summary of Intimate Partner Violence Risk Factors used by all police officers in British Columbia does include a measure of strangulation.

Unfortunately, few police agencies appear to provide training on strangulation to frontline officers (O'Dell, 2007; Pritchard et al., 2017; Pritchard et al., 2018; Reckdenwald et al., 2017; Zedaker, 2018). Consequently, in contrast to other help-seeking populations, such as women accessing shelters or hospitals, the limited research on police response to strangulation identified a lower prevalence rate. For example, in a study using text-mining technology to analyze 182,949 intimate partner violence police reports in Australia, Wilson et al. (2022) identified only 3.8% of police reports as involving a non-fatal strangulation. However, this is likely an underestimation because the files reviewed did not include sexual assault or stalking/harassment. In an Australian study using family violence risk templates completed by police officers in stalking cases, 16.6% of the nearly 10,000 files documented a prior strangulation (Bendlin & Sheridan, 2019). Given this, strangulation may be more likely to co-occur among other high-risk forms of abuse. The findings of several other studies implied that police officers were not always identifying the occurrence of strangulation, even when the statement of the victim-survivor's suggested that this may have occurred.

Research with a police agency located in Brevard County, Florida, identified a large discrepancy between files where strangulation was documented by police and where strangulation was implied by evidence. Pritchard et al. (2018) studied nearly 600 intimate partner abuse reports recorded by the police agency. They recorded the proportion of cases where strangulation was explicitly documented by the police officer (e.g., where it stated that the victim was strangled or choked), and compared that to the proportion of cases where strangulation was implied (e.g., where the police officer documented that the victim stated they were grabbed by the neck, or stated that they could not breathe or reported other symptoms of strangulation) but where strangulation or choking was not specifically documented in the file. Overall, 11.5% of the files explicitly documented strangulation while another 17% of the files implied that strangulation may have occurred through

the evidence provided, though the police officer never explicitly drew this conclusion. There were some differences in the symptoms reported in the explicit strangulation cases when compared to the possible strangulation cases. Explicit strangulation cases were significantly more likely to record that the victim-survivor had neck injuries (50.0 per cent) compared to the possible strangulation cases (27.7 per cent). Explicit strangulation cases were also significantly more likely to record shoulder, chest, or back injuries (17.6 per cent as compared to 7.9 per cent). There was a substantial and significant difference when it came to breathing difficulties or challenges with breathing. This outcome was recorded in the majority (58.8 per cent) of explicit strangulation cases but in only 2.0% of the possible strangulation cases (Pritchard et al., 2018). It is unclear if the presence of injuries and breathing difficulties led the police officer to specifically ask whether strangulation had occurred, or whether they asked the victim-survivor about possible injuries or breathing difficulties after strangulation was reported. Cases involving explicit strangulation were also significantly more likely (67.6 per cent) than cases involving possible strangulation (58.4 per cent) to note that medical attention was sought. This suggests that training police officers to identify when strangulation may have occurred should increase the likelihood that the victim-survivor will receive possibly life-saving medical attention. Overall, over one-quarter (28.6 per cent) of these police files potentially involved intimate partner strangulation; however, over half of these (59.7 per cent) were not explicitly identified as strangulation by the frontline police officers. This signals the need for training and education. Further, when strangulation was documented by police officers, choking or another similar term was used in the majority (66.2 per cent) of files, which refers to a different mechanism of injury (Pritchard et al., 2018). Moreover, in more than one-third (36.8 per cent) of the files where strangulation was documented, there was no further information recorded regarding how the strangulation occurred. Presumably, this would lower the proportion of strangulation-related charges that would successfully move forward for prosecution.

Reckdenwald et al. (2020) conducted a subsequent analysis of the 58 files where police officers had explicitly identified the occurrence of strangulation in terms of prosecution and court outcomes. Unfortunately, just under half (46.5 per cent) of these files resulted in a formal criminal charge and of these, just over half (55.6 per cent) involved a felony charge for strangulation. In other words, of the 58 files where police had explicitly identified strangulation, only 27 resulted in a formal criminal charge, and only 15 concluded with a criminal charge of strangulation. Moreover, nine of the files resulted in a misdemeanor charge. It is unclear why police officers who explicitly identified that strangulation had occurred did not proceed with criminal charges for felony strangulation. Reckdenwald et al. (2020) concluded that they were not considered viable cases for prosecution, but did not elaborate on whether this was due to a lack of documentation of signs, symptoms, or injuries associated with the strangulation (e.g., Sharman et al., 2023; Strack et al., 2001), whether the victim-survivor did not wish to support a prosecution (e.g., Sharman et al., 2023), or whether this was due to the wording of the legislation in how strangulation is criminalized in Florida. Florida criminalized strangulation under Statute 784.041, felony battery; domestic battery by strangulation. Under the state statute, a person commits strangulation if they "knowingly and intentionally, against the will of another, impedes the normal breathing or circulation of the blood…so as to create a risk of or cause great bodily harm by applying pressure on the throat or neck of the other person or by blocking the nose or mouth of the other person" (Section 784.041(2a)). Given this, prosecutors must demonstrate that the accused intended to affect the

breathing or blood circulation of the victim-survivor without the person's consent which, as discussed, is more challenging to prove in court than if the offence were to be demonstrated simply by the accused having placed pressure on the throat or neck of the victim-survivor. Although most (92.6 per cent) of the 27 files where a criminal charge was laid resulted in a guilty plea, these were often plead down to a misdemeanor offence. Overall, of the original 58 cases where police officers explicitly identified strangulation, only three resulted in a felony conviction for strangulation (Reckdenwald et al., 2020). This research suggests a **significant need for training and education to improve police officer awareness about strangulation, knowledge regarding how to effectively investigate and document evidence of the strangulation, and training for prosecutors on how to effectively prove these cases in court**.

Similar findings were reported by Garza et al. (2021) in their study of intimate partner violence files reported to an urban police agency in the United States. In this study, the researchers determined that 14.4% of the files involved strangulation; however, only 6% of the files were formally identified as a strangulation file by the police. In other words, police officers identified less than half (41.9 per cent) of the apparent strangulation files. A limitation of this study is that, while the victim's and perpetrator's age were considered, race/ethnicity was not, and so it was unclear what role the victim's skin tone may have played in increasing or decreasing the odds that the officer would detect strangulation should the officers be relying on the presence of injuries rather than asking about symptoms of strangulation. However, the researchers captured some additional details regarding strangulation: whether the strangulation was done manually; whether the victim-survivor reported that they had lost consciousness; whether the victim-survivor reported difficulty breathing during the incident; and whether the victim-survivor had any visible injuries. Unlike prior literature, only one-quarter (25.6 per cent) of the strangulations in this study were done manually, and more than half (56.4 per cent) had at least one visible injury. Losing consciousness was uncommon (17.9 per cent); however, just over half (55.6 per cent) of the victims-survivors reported difficulty with breathing. The researchers compared these variables to the likelihood that police officers would formally identify the file as involving strangulation and to arrest outcomes. Police officers were more likely to identify that strangulation had occurred in cases involving younger victims, older perpetrators, where manual strangulation was the method used, and where the victim-survivor reported difficulty breathing during the incident. Whether the victim had lost consciousness or had any visible injuries were not predictive of police detection of strangulation. The strongest predictor of whether police would identify if strangulation had occurred was whether the victim reported difficulty breathing during the incident. This variable increased the odds of detecting strangulation by a factor of eight (Garza et al., 2021). However, given the cross-sectional nature of the study, it is unclear whether breathing difficulties reported by the victim-survivor led the police officers to subsequently ask about strangulation, or whether breathing difficulties were the most common symptom reported by victims-survivors who had already disclosed strangulation.

In this American jurisdiction, non-fatal strangulation offences are considered a felony and are defined as a form of aggravated assault. As Garza et al. (2021) explained, this means that if officers believe that a strangulation-related offence has occurred, they are expected to arrest the suspected perpetrator. However, in the study conducted by Garza et al. (2021), only two variables were predictive of whether the police officers made an arrest. Police officers were just over four times

more likely to arrest the perpetrator when there were visible injuries on the victim, and just over three times more likely to arrest the perpetrator when the officer formally identified the file as involving strangulation. In other words, police officers were more likely to arrest the perpetrator when strangulation occurred and when there was corroborating evidence of strangulation. Unfortunately, the police officers did not detect strangulation in just over half of the files where it was suggested to have occurred (Garza et al., 2021). Still, the fact that they were more likely to arrest in files involving strangulation suggests that police were aware that strangulation was a significant risk factor for lethality (Garza et al., 2021). Moreover, it was encouraging to find that visible injuries were not predictive of whether the police formally identified the file as involving strangulation. In this study, while over half of the victims did show at least one visible strangulation-related injury, prior research suggests that this is uncommon, and so it should not be used as a reliable indicator of whether strangulation occurred. Instead, inquiring about other signs and symptoms, in addition to breathing difficulties during the incident, should increase the proportion of intimate partner violence files that are identified as involving strangulation. Ideally, documenting these signs and symptoms would also increase the proportion of files where the police make an arrest and shift them away from a reliance solely on visible injuries. This can be enhanced by **a strangulation supplement tool that guides officers on what signs and symptoms to ask about and document** (e.g., Brady et al., 2023). Using such a tool should theoretically also increase the likelihood that the file can be successfully prosecuted.

Data from the Institute for Addressing Strangulation in England and Wales suggested that many of the strangulation cases documented by police in the first year following the implementation of the new legislation did not result in charges or prosecution. The 23,817 cases reported by police to the Institute included strangulation of intimate partners and in other family relationships, and 'other' or unknown relationships. Overall, 13% of these cases resulted in a charge or summons. More commonly, in 45% of cases, the offence outcome was denoted as "Evidential difficulties – suspect identified; victim does not support police action" (Smailes, 2024, p. 12). A further 20% were recorded as "Evidential difficulties – suspect identified; victim supports police action". In other words, 65% of the strangulation cases reported to the police did not proceed to charges or prosecution due to difficulties in proving that strangulation had occurred. While a large portion of these cases involved the victim not supporting the charge, these findings suggested that **police officers would benefit from using a strangulation supplement to guide the collection of evidence.**

While the evidence base to date is very limited, some research findings suggested that training could improve police officer documentation of strangulation, which should increase the likelihood that cases will proceed to prosecution (Reckdenwald et al. 2019). Reckdenwald et al. (2019) implemented a strangulation training and protocol in Brevard County, Florida, where an earlier study (Pritchard et al., 2018) suggested that police officers failed to identify strangulation in more than half of the cases where the research team believed it was present. The training focused on how to investigate and document evidence of strangulation, and involved the implementation of a protocol where police officers would refer strangulation cases for a forensic nurse examination. In terms of documenting evidence, police officers were trained to record victim statements and to ask about how the strangulation occurred, the presence of signs, symptoms, and injuries, to photograph any injuries on the victim or suspect, to explain the seriousness of strangulation and encourage the

victim-survivor to seek medical attention, and to refer them for a forensic nurse exam (Reckdenwald et al., 2019). Following training, there was a significant decline in the proportion of police officers who used 'choke' in their file documentation. However, there was also a reduction in the proportion of files where officers used strangle or a derivative; instead, officers used phrasing that may have been given by the victim, such as "grabbed neck and squeezed" (Reckdenwald et al., 2019; p. 1015). Surprisingly, the training did not result in more strangulation files being detected by police officers. As compared to the original data reported by Pritchard et al. (2018), there was not a statistically significant increase in the proportion of explicit strangulation cases identified by the police (11.5 per cent in Pritchard et al., 2018 compared to 12.4 per cent in Reckdenwald et al., 2019). However, the proportion of possible strangulation cases decreased from 17.1% in Pritchard et al. (2018) to 4.4% in Reckdenwald et al. (2019). It is possible that the training helped officers to investigate files where the victim-survivor made comments that suggested strangulation, or where they reported several symptoms of potential strangulation but where, after further investigation, strangulation did not occur. For example, it is possible that some of the symptoms previously interpreted by the research team as indicative of strangulation, such as dizziness, headaches, or memory loss, were symptomatic of a brain injury through a different mechanism. However, the researchers did not anticipate that the proportion of explicit strangulation files would remain approximately the same after having gone through in-depth training on strangulation. It is possible that the style of training did not translate effectively into practice and that use of a strangulation supplement would help officers to better identify and document when strangulation was present.

Some police agencies use a strangulation supplemental form to guide the investigation of a reported strangulation. As reported by Brady et al. (2022), police officers in Texas complete a two-page supplemental strangulation form that was created by the District Attorney's Office to document symptoms, signs, and injuries associated with strangulation. The form was designed to support collection of the evidence needed to prove the elements of the offence in court. In Texas, strangulation is considered a felony offence, and it occurs when the accused intentionally, knowingly, or recklessly impedes the normal breathing or circulation of blood of the victim through pressure to the neck or throat or by suffocation (Brady et al., 2022). To prove charges related to strangulation, prosecutors must provide evidence that normal breathing patterns or blood circulation was impeded. In a sample of 130 strangulation files completed using the strangulation supplement, 77% resulted in a conviction, mostly for felony strangulation (Brady et al., 2022). Whether this trend is attributable to the effects of the strangulation supplement is unknown because the authors did not provide comparison data of strangulation investigations and subsequent convictions without the use of a strangulation supplement to guide the documentation of signs and symptoms. Still, these outcomes were impressive, particularly when compared to the three felony convictions in Florida reported by Reckdenwald et al. (2019).

Some signs and symptoms of strangulation are more often reported by victims-survivors than others, and so while police officers should also inquire about less common signs and symptoms, including petechia, loss of consciousness, and vocal changes (e.g., Reckdenwald et al., 2020), police officers should be particularly aware of these as indicators that a potential strangulation has occurred. As described above, victims of strangulation attending a community-based emergency department most often presented with symptoms of neck pain followed by a headache, while a minority of victims-survivors reported changes to their voice or breathing, or difficulty swallowing

(Bergin et al., 2022). However, it is likely that more signs and symptoms of strangulation would be reported if police officers asked specifically about them. In a different study, an analysis of symptoms and signs reported by victims and recorded by police officers using a strangulation supplement in Austin, Texas revealed that symptoms indicative of breathing difficulties and blood circulation were commonly reported when officers were guided about what to ask (Brady et al., 2023). Using a sample of 133 strangulation supplements completed by police officers, 98% of victims-survivors were found to exhibit symptoms consistent with breathing difficulties, such as voice changes or difficulty swallowing. The most common symptoms of impeded breathing were breathing difficulties (96 per cent) and difficulty swallowing (72 per cent). Similarly, 87% of victims-survivors exhibited symptoms consistent with impeded blood circulation, such as loss of consciousness, dizziness, headache, and petechiae. The most common symptoms of impeded blood circulation were feeling faint (49 per cent), feeling dizzy (44 per cent), or having a headache (43 per cent). Conversely, in a separate article by Brady et al. (2022) analyzing the same data, loss of consciousness was less often reported (16 per cent), while approximately one-third of victims-survivors (36 per cent) reported either losing or feeling as though they were going to lose control of their bodily functions. Similarly, in the 2023 analysis, petechiae was rarely identified occurring in fewer than 10% of strangulation files (Brady et al., 2023). In contrast, 89% of victims-survivors of strangulation also exhibited external signs of strangulation, such as injuries on the neck (80 per cent), face (47 per cent), or chin (41 per cent) (Brady et al., 2023). Thus, while research suggests that few victims-survivors of strangulation exhibit externally visible injuries (Joshi et al., 2012; Strack et al., 2001; Sharman et al., 2023), Brady et al.'s (2023) research indicated that many signs and symptoms of strangulation were detectable when using a supplement to guide the strangulation investigation and documentation.

Of note, officers with specialized training on strangulation were significantly more likely to detect symptoms, but not signs, of strangulation compared to officers without specialized strangulation training (Brady et al., 2023). Another important finding was that significantly fewer injuries on the neck and torso were documented by police officers among victims with darker skin tones when compared to victims who were Caucasian, further emphasizing the importance of training police officers to recognize symptoms of strangulation rather than relying on visible signs of injuries. Furthermore, some signs and symptoms of strangulation will not be apparent until several days following the strangulation (Clarot et al., 2005; De Boos, 2019; Sharman et al., 2023) necessitating a follow-up visit by police officers to document any new visible injuries. Finally, the type of signs and symptoms exhibited by victims-survivors appeared to vary based on the method of strangulation. Manual strangulation was more likely to result in visible injuries on the neck compared to strangulation via chokeholds or where a forearm or knee was pressed against the throat. Conversely, strangulation by chokeholds, forearms, or knees was more likely to result in disrupted blood circulation than was manual strangulation (Brady et al., 2023). The findings of this research study provide support for the importance of providing police officers with specialized training to recognize the signs and symptoms of strangulation, and to support their investigation through the provision of a supplementary tool to guide their questions and documentation of evidence. **Police officers should be guided to explain the importance of a medical exam to the victim-survivor and to refer them to a forensic nurse examiner**, when available, for documentation of the

injuries and the detection of injuries not otherwise visible to the naked eye through use of alternate light sources (Sharman et al., 2023).

To date, strangulation research has been extremely limited in Canada, and no prior published studies have examined police officer understanding of or response to strangulation in intimate partner violence files. In a study preceding the current one, McCormick et al. (2022) conducted a survey on intimate partner abuse involving strangulation with a single Royal Canadian Mounted Police detachment in the Lower Mainland of British Columbia. The survey was conducted with all four watches of the police detachment during in-shift briefings to explore police officer awareness and understanding about strangulation in the context of intimate partner abuse. Anonymous surveys were collected from 75 frontline police officers, and the results suggested that police officers understood that strangulation was a significant high-risk factor, and that they desired more training about how to investigate and document these files. More specifically, strangulation was ranked as the first out of 19 different factors that elevate the risk for repeat or severe victimization by an intimate partner, with 93% of participating police officers rating this as a high-risk factor. However, when provided with examples of potential signs and symptoms of strangulation, police officers appeared not to recognize the significance of many of these features. For example, only 40% of officers indicated that they would be very likely to refer the victim-survivor for a medical exam if they had soiled themselves. If the victim-survivor's bowels or bladder released, this sign indicates that they were close to death (Gwinn et al., 2014; Strack et al., 2020). Just over half (54.3 per cent) of the police officers said they would be very likely to refer the victim-survivor for a medical exam if they had lost consciousness for a few seconds, while two-thirds (65.7 per cent) said they would be very likely to refer them for a medical exam if they had lost consciousness for a few minutes. Just over half (57.1 per cent) of the police officers would be very likely to refer the victim-survivor for a medical exam if they were having trouble breathing. Of concern, only two-thirds (64.3 per cent) would be very likely to refer the victim-survivor for a medical exam if they stated they had been strangled. These findings suggested there was room for improved understanding about the importance of encouraging medical attention following a strangulation given the high risk for internal injuries that may pose a threat to life.

Police officers in this prior study appeared to recognize that they would benefit for more education on strangulation (McCormick et al., 2022). Overall, 81.4% of the police participants agreed or strongly agreed that they would like more training on strangulation with an emphasis on recognizing the signs and symptoms of strangulation (83 per cent), knowing when or how to connect the victim-survivor to healthcare following strangulation (80 per cent), and knowing how to investigate and document evidence of the strangulation (74 per cent). Police participants were much less likely to perceive a need for training about how to talk to the victim-survivor about whether they had been strangled, with only 57% of the sample agreeing or strongly agreeing with this training topic. Presumably this finding was because both the previous British Columbia Summary of Domestic Violence Risk and current British Columbia Summary of Intimate Partner Violence Risk review tools include strangulation as one of the risk factors that police should ask a victim-survivor about as part of an investigation. Still, it is important to note that how a police officer asks about strangulation and what the victim-survivor understands strangulation to be may be two different things (e.g., Joshi et al., 2012). Rather than ask the victim-survivor whether their partner strangled them, the victim-survivor may instead express that their partner put their hands

around the victim-survivor's neck and squeezed, or that their partner choked them. Given this, it is **important for police to ask about strangulation in a variety of ways**, as the victim-survivor may not otherwise disclose that they were strangled. Moreover, while the risk review tool used by all police officers in British Columbia includes a space to document whether strangulation has occurred, there are no further questions that police officers are guided to ask about how the strangulation occurred, what else may have occurred or been said during the strangulation, or what signs, symptoms, and injuries are present because of the strangulation. This lack of detail likely poses challenges to successful charge approval in these files and would benefit from further study.

Current Study

Strangulation is recognized as one of the most significant factors elevating risk in intimate partner abuse files. The potential threats to both health and mental health of the survivor are substantial. It is imperative that frontline responders be made aware of how common strangulation is among victims-survivors of strangulation, the signs and symptoms that may indicate that strangulation has occurred, and the importance of obtaining medical care for the victim-survivor to lessen the threat to life. Similarly, strangulation must be acknowledged by police as a significant risk factor for subsequent abuse. Ideally, given the criminal charges now available in Canada's *Criminal Code*, an increasing number of intimate partner violence files should result in charges under either Section 267(c) or Section 272(1)(c1). However, as suggested by the results of the previous survey conducted by McCormick et al. (2022), police officers would benefit from further training and education on strangulation. As highlighted above, police officers desired training on the signs and symptoms of strangulation, how to investigate files involving strangulation, and when to refer the victim-survivor of a strangulation for a medical examination.

The original study by McCormick et al. (2022) was conducted in 2020. In the Fall 2021, a new curriculum on intimate partner abuse was released to all police officers in British Columbia, who were required to complete the curriculum by the following year. Within the content of the training was a new in-depth module on strangulation that discussed the differences between strangulation and choking, reviewed the signs and symptoms of a strangulation, discussed the importance of a medical intervention, and introduced the new offence codes of Section 267(c) and Section 272(1)(c1). Given this, it is possible that police officers in British Columbia exhibit much more familiarity with strangulation in intimate partner violence files than during the original study. The current study used survey data to measure police officer awareness and response to intimate partner violence files involving strangulation with a focus on recognizing the signs and symptoms of a strangulation, examining familiarity with the new *Criminal Code* charges, and understanding under what conditions a medical referral was considered important. In addition to measuring understanding of strangulation, given that a likely outcome of strangulation is a brain injury, and that up to 93% of survivors of intimate partner violence may have sustained a brain injury, several of the questions addressed police officer awareness of and response to brain injuries in the context of intimate partner violence.

Survey Findings

Data was collected from 172 frontline police officers employed by one of 12 municipal police or RCMP agencies in British Columbia. While survey participation was sought from all four policing districts, surveys were only completed by officers in the Lower Mainland (65.6 per cent), Southeast (5.7 per cent), and Island (28.7 per cent) districts. To maintain confidentiality, the specific detachment/agency location of the participant was not collected. Of those who identified their gender (n = 149), most (76.5 per cent) identified as male. Of those who identified their race/ethnicity (n = 140), most (77.1 per cent) self-identified as Caucasian. In addition, 11.4% identified as Asian, while 9.3% identified as South Asian. Less than 1% of participating officers self-identified as Indigenous (0.7 per cent), while the remaining 1.4% identified as an 'other' race/ethnicity. Participating officers had spent between one and 40 years in general duty[2] while the average length of time in general duty was 8.9 years. Officers were asked to estimate the average number of intimate partner violence files they received in a typical day shift versus night shift. Officers estimated that during a typical day shift (0700 hours to 1900 hours), they would receive an average of 1.39 intimate partner violence files (range of 0 to 10), while in a typical night shift (1900 hours to 0700 hours), they would receive an average of 1.8 intimate partner violence files (range of 0 to 10). These estimates varied significantly based on which district the participant reported working in. As shown in Table 1, officers working in the Lower Mainland estimated the largest average number of intimate partner files, regardless of whether it was a day shift or night shift, while officers in the Interior estimated the smallest average number of intimate partner violence files per shift.

TABLE 1: ESTIMATED NUMBER OF IPV FILES PER SHIFT (N = 134 TO 136)

	LMD	Island	Interior	Sig.
Average Number of IPV Files on Day Shift	1.62	1.08	0.38	.033
Average Number of IPV Files on Night Shift	2.02	1.55	0.5	.007

TRAINING

Police officers were asked about any training that they had received, in addition to training that they wanted to receive. Most police officers in the current study had received training on conducting trauma-informed investigations (84.6 per cent). Less commonly, but still a majority of officers indicated that they had received training on strangulation in intimate partner violence (66.3 per cent). While this may be due to taking courses directly through organizations, such as the Training Institute on Strangulation Prevention in the United States, it is likely that most officers were referring to the new strangulation module included in the updated intimate partner violence training that all police officers in British Columbia were required to complete. At the time this data

[2] This data was not distributed normally. Six officers who reported spending 30 or more years in general duty were considered outliers (extreme values).

was collected, three-quarters (74.7 per cent) of participating officers indicated that they had completed the new intimate partner violence curriculum that was released on the Canadian Police Knowledge Network. Interestingly, 19.8% of police officers were not sure whether they had completed the updated training yet, while 5.6% stated that they had not yet completed the training. When not considering those who were unsure about whether they had received training on strangulation or whether they had completed the new intimate partner violence curriculum, there was a statistically significant relationship between whether police officers had completed prior training on strangulation and whether they had completed the new intimate partner violence curriculum, with 82% of officers saying yes to both, x^2 (1) = 11.61, $p < .001$. Conversely, 18.0% of those who had completed the new intimate partner violence curriculum stated that they had not received training on strangulation in intimate partner violence suggesting that they did not recall there being a strangulation module in the new curriculum. In contrast, 33.3% of those who had not yet completed the new intimate partner violence curriculum reported that they had completed prior training on strangulation. In contrast to training on strangulation, very few officers reported that they had ever received training on brain injuries in intimate partner violence. More specifically, the majority (56.8 per cent) stated that they had not received any training in this area, while 24.1% stated that they had and 19.1% were unsure. While there are references to brain injuries in the new intimate partner violence curriculum, there is not a specific module dedicated to brain injuries like there is for strangulation.

Police officers were also asked about areas where they would like to receive more training, both in relation to strangulation as well as for brain injuries. One-fifth (20.6 per cent) of the officers indicated that they did not need any training on strangulation. Interestingly, there was not a statistically significant association between this statement and whether they had previously received training on strangulation (x^2 (1) = .70, $p > .05$) or between this statement and whether they had completed the updated training on intimate partner violence (x^2 (1) = 1.25, $p > .05$). There was also not a statistically significant association between not wanting any more training and the officer's gender (x^2 (1) = .06, $p > .05$) or whether the officer self-identified as Caucasian or not (x^2 (1) = 2.4, $p > .05$. However, there was a statistically significant association with the policing district. While the results should be interpreted with caution[3], officers in the Lower Mainland were most likely (27.3 per cent) to indicate that they did not need any training on strangulation compared to 16.7% of officers from the Interior, and 9.1% of officers from the Island. There was also a statistically significant difference when it came to years of service. Officers who did not want any more training in strangulation had worked significantly fewer years (X = 5.9, SD = 4.3) than officers who did want more training (X = 9.6, SD = 8.7), t (101.69) = 3.35, p = .001.

Although 32 participating police officers indicated that they did not need any further training on strangulation, all but two of them selected one or more areas where they did want training in relation to strangulation. As shown in Table 2, police officers most wanted to receive training on how to investigate and document evidence of strangulation. The next most common area where

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[3] Chi-square analyses presume no more than 20% of cells have an expected count less than 5. In the current study, 33% of cells had an expected count less than 5. This affects the reliability of the findings. More specifically, the issue is with having only six cases from the Interior.

training was desired was in recognizing the signs and symptoms of strangulation. This was surprising given that nearly all officers correctly identified these when provided with a list of signs and symptoms; however, it may reflect a lack of confidence in being able to pick up on these signs or symptoms when interacting with a victim-survivor as opposed to being tested on their knowledge. Approximately four-fifths of police officers also wanted training on how, where, and when to connect victims-survivors of strangulation for additional support, whether that comes from a health care setting, a forensic nurse examination, or other available community resources. While three-quarters of officers still desired training in this area, the least likely area where they desired more training was in how to ask a victim about whether they had been strangled or how it had occurred. Still, regardless of the area, police officers overwhelmingly indicated a desire for more training with respect to strangulation in intimate partner violence files.

TABLE 2: DESIRED AREAS FOR TRAINING IN STRANGULATION (N = 157 TO 158)

	% Yes
How to investigate and document evidence of strangulation	91.1%
Recognizing the signs and symptoms of strangulation in a victim of intimate partner violence	88.0%
How, where, and when to connect a victim of strangulation to health or forensic nurse resources	82.8%
How, where, and when to connect a victim of strangulation to other available community resources and supports	80.4%
How to ask a victim of intimate partner violence about whether and how strangulation occurred	74.7%

Police officers were also asked about desired training in relation to brain injury. Nearly one-quarter (23.4 per cent) felt that they did not need any training on brain injuries for victims-survivors of intimate partner violence. However, as with the questions regarding strangulation, all but two of these officers indicated at least one area where they would like training, despite overall saying that they did not need training on brain injuries in intimate partner violence. There was no association between the officer's gender and stating that they did not need any training on brain injury among victims-survivors of intimate partner violence, x2 (1) = .36, $p > .05$. Similarly, whether an officer was Caucasian or not was not associated with whether they stated that they did not need training in this area, x2 (1) = 1.5, $p > .05$. Unlike with strangulation, there was no difference in whether the officer stated they did not want training in brain injuries among victims-survivors of intimate partner violence and their policing district, x2 (2) = 3.9, $p > .05$. However, there was a significant difference in years of experience and whether one wanted training on brain injuries among victims-survivors of intimate partner violence. Officers who did want training on brain injuries among victims-survivors of intimate partner violence had significantly more (X = 9.62, SD = 8.79) years of experience than police officers who did not want training in this area (X = 6.27, SD = 4.55).

As with strangulation, nearly all participating police officers wanted training on how to investigate and document evidence of a brain injury among victims-survivors of intimate partner violence (see Table 3). Nearly the same proportion of police officers wanted training on recognizing the signs and

symptoms of brain injury in a victim of intimate partner violence. These are areas that police officers do not currently receive any training. Similarly, four-fifths wanted training on how, where, and when to connect a victim-survivor with a potential brain injury to health care, forensic nurse examinations, or community-based resources. While still a large percentage of police officers indicated that they would like training in this area, the least endorsed area where they reported wanting more training was in how to ask a victim of intimate partner violence about whether and how a brain injury may have occurred.

TABLE 3: DESIRED AREAS FOR TRAINING IN BRAIN INJURY (N = 154 TO 161)

	% Yes
How to investigate and document evidence of a brain injury	94.4%
Recognizing the signs and symptoms of brain injury in a victim of intimate partner violence	93.1%
How, where, and when to connect a victim with a potential brain injury to health or forensic nurse resources	85.7%
How, where, and when to connect a victim with a potential brain injury to other available community resources and supports	83.9%
How to ask a victim of intimate partner violence about whether and how a brain injury occurred	83.2%

Police officers were asked whether they agreed or disagreed that a supplementary tool would be helpful to guide their investigations of either strangulation or brain injury in intimate partner violence files. Most officers either agreed (63.4 per cent) or strongly agreed (19.3 per cent) with this statement.

POLICE OFFICER PERCEPTION OF RISK FACTORS FOR INTIMATE PARTNER VIOLENCE

As part of their response to files involving intimate partners, police officers in British Columbia are typically expected to complete the Summary of Intimate Partner Violence Risk factors template that measures 20 risk factors demonstrated by the research literature as increasing the risk for subsequent victimization by an intimate partner. Most of these risk factors were provided in a list on the survey and police participants were asked to rate them from lowest risk (1) to highest risk (5) for future victimization by an intimate partner. As shown in Table 4, of the 20 risk factors that police were asked to rate, the victim reporting that they had been strangled was given the highest average rating (4.82 out of 5). From these findings, participating police officers had a good appreciation of strangulation as a high-risk factor among several other important risk factors.

TABLE 4: POLICE OFFICER RATINGS OF RISK FOR FUTURE INTIMATE PARTNER VIOLENCE (N = 161 TO 163)

	Average
The victim reports that the perpetrator 'strangled' or 'choked' them	4.82
The victim reports that the perpetrator has threatened them with a weapon	4.69
The victim reports that the perpetrator threatened to kill them	4.67
The victim reports that the violence has been happening more often or more severely	4.67
The perpetrator has a history of violence in relationships	4.59
The victim is concerned that the perpetrator will kill or seriously harm them	4.56
The perpetrator controls aspects of their daily life, such as who they can see, what they can wear, and where they can go	4.47
The victim reports that they 'blacked out' or experienced loss of time during the event	4.46
The perpetrator has threatened to harm or has harmed a family pet	4.39
The perpetrator has previously violated their conditional release	4.22
The perpetrator has a history of substance abuse, including alcohol	4.13
The perpetrator has access to a firearm	4.09
The perpetrator has expressed suicidal ideation	4.07
The current incident involves a violation of a civil protection order (Family Law Act)	4.03
The victim reports that the perpetrator has been consistently communication with them even though they told the perpetrator not to	3.98
The victim and perpetrator are separating or are recently separated	3.71
The perpetrator has recently lost their job	3.65
The perpetrator has a history of depression	3.61
The victim is pregnant	3.43
The victim and perpetrator are separated but share custody of the children	3.15

PERCEIVED FREQUENCY OF STRANGULATION IN INTIMATE PARTNER VIOLENCE FILES

Officers were asked how common they believed strangulation was among female and male victims of intimate partner violence. As shown in Table 5, the participating officers clearly understood that strangulation is largely a gendered issue, as there was a statistically significant difference when comparing female and male victims of intimate partner violence and the likelihood of experiencing strangulation ($p < .001$). Only 6% of officers perceived that strangulation was somewhat or very common among male victims of intimate partner violence, whereas nearly half (46.7 per cent) perceived that strangulation was somewhat or very common among female victims. Overall, the most common responses were that strangulation was somewhat uncommon for female victims (43.0 per cent) while it was very uncommon for male victims (70.9 per cent). As this study was entirely survey-based, there is no way to validate whether these estimates were accurate. However, as mentioned above, police officers are expected to ask about strangulation as part of the risk factor template. Although it is unclear how officers query about strangulation, for example, in terms of what language is used and whether that is understood by the victim-survivor as strangulation, the fact that officers may regularly be asking victims-survivors about strangulation by an intimate partner provides some degree of confidence in the estimates presented in Table 5.

TABLE 5: PERCEIVED COMMONALITY OF STRANGULATION AMONG FEMALE AND MALE VICTIMS-SURVIVORS OF INTIMATE PARTNER ABUSE (N = 165)

	Very Uncommon	Somewhat Uncommon	Somewhat Common	Very Common
Female Victims of IPV	10.3%	43.0%	37.0%	9.7%
Male Victims of IPV	70.9%	23.0%	3.6%	2.4%

The data was recoded into uncommon (very or somewhat) versus common (very or somewhat) and compared by officer demographics. There was a statistically significant difference when comparing the self-identified gender of officers and whether they believed strangulation was common or uncommon among female victims (see Table 6). A significantly larger percentage of officers identifying as female felt that strangulation was common (very or somewhat) among female victims compared to male officers. Overall, male officers tended to feel that strangulation was uncommon (very or somewhat) while female officers tended to feel that strangulation was more common (very or somewhat) among female victims. Conversely, male and female police officers generally had the same opinion about how common it was for male victims of intimate partner violence to be strangled. Here, both self-identified male and female officers overwhelmingly agreed that strangulation was uncommon for male victims (see Table 6). Conversely, there were no statistically significant differences when comparing perceptions of how common or uncommon strangulation was among female or male victims according to the officer's ethnicity (recoded into Caucasian or not) or years of service in general duty policing.

TABLE 6: PERCEIVED COMMONALITY OF STRANGULATION BY OFFICER GENDER (N = 147 TO 155)

	Uncommon	Common	Sig.
Female Victims of IPV			
Male Officers	59.8%	40.2%	.003
Female Officers	31.4%	68.6%	
Male Victims of IPV			
Male Officers	95.6%	4.4%	ns
Female Officers	88.2%	11.8%	

STRANGULATION KNOWLEDGE AMONG POLICE OFFICERS

Police officers were given a list of true or false statements as a knowledge check on strangulation. As demonstrated in Table 7, the results indicated that police participants exhibited an impressive level of knowledge about strangulation, with nearly all of them answering the various statements correctly.

TABLE 7: KNOWLEDGE CHECK ON STRANGULATION (N = 162 TO 166)

	%
Strangulation can result in death within minutes (T)	98.8%
Someone who's been strangled but doesn't appear to have any injuries does not need to go to the hospital for further medical care (F)	98.8%
A non-fatal strangulation can result in a brain injury (T)	98.8%
There are always going to be visible signs of a non-fatal strangulation (F)	98.2%
Non-fatal strangulation is a form of coercive control	97.0%
A person who has been strangled will always show evidence of petechiae	96.4%
A person can lose consciousness from strangulation in less than 10 seconds	95.1%
Non-fatal strangulation is one of the best predictors of future lethal violence	92.1%

Participants were provided with a list of possible signs and symptoms that a person may display following strangulation (see Table 8). Most officers recognized all the signs and symptoms as indicative of possible strangulation, though to varying degrees. Nearly all agreed that red marks around the neck or a loss of consciousness were signs and symptoms associated with strangulation. Similarly, more than 90% of officers agreed that difficulty swallowing, difficulty speaking, persistent coughing, a sore throat, or petechiae were indicative of a possible strangulation, although anywhere from approximately 4% to 7% of officers indicated that they were unsure if these were symptoms of strangulation. Officers were most unsure about whether memory changes were a sign or symptom of strangulation. It is possible that some officers viewed this as a more direct result of a brain injury than the results of strangulation. Officers were least likely to agree that pain in the jaw or injuries to the suspect's hands or forearms could indicate that strangulation occurred. This suggests there is some room for further education about how strangulation may be indicated through different signs and symptoms. It was important to see that, for the most part, participating officers exhibited a strong degree of understanding about the different signs and symptoms following strangulation.

TABLE 8: PERCENTAGE OF OFFICERS WHO RECOGNIZED SIGNS AND SYMPTOMS OF STRANGULATION (N = 165)

	No	Yes	Unsure
Red marks around the neck	0.6%	98.2%	1.2%
Loss of consciousness	1.2%	98.2%	0.6%
Difficulty swallowing	1.2%	95.2%	3.6%
Difficulty speaking	0.6%	95.1%	4.3%
Persistent coughing	1.2%	93.9%	4.8%
Sore throat	1.8%	92.7%	5.5%
Petechiae in the eyes or on the skin	1.8%	91.5%	6.7%
Loss of control over bladder or bowels	3.0%	86.7%	10.3%
Feeling nauseous or vomiting	3.6%	86.1%	10.3%
Memory changes	3.6%	77.6%	18.8%
Pain in the jaw	7.9%	73.9%	18.2%
Injuries to the suspect's hands or forearms	11.7%	73.6%	14.7%

Whether this recognition during a survey translated into recognizing potential strangulation in the field was not tested in the current study. However, police officers were provided with three scenarios, two of which will be discussed below. Each scenario provided a short description of a call for service in relation to an offence between intimate partners. For each of the scenarios, police participants were asked to rate the perceived risk level of the scenario on a scale of 1 (no threat to life) to 5 (extreme threat to life). They were then asked to identify what *Criminal Code* section(s) they would record in relation to the offence. Finally, they were asked to identify the need for a medical exam, again on a scale of 1 (no need for medical follow up) to 5 (extreme need for medical follow up).

Two of the scenarios concerned an offence involving strangulation. The first scenario can be described as the *Implied Strangulation* scenario. This scenario, as outlined below, described a scene where the victim had been strangled; however, the victim did not overtly state this to the officer. Instead, the scenario implied that strangulation occurred through describing some of the potential signs and symptoms that a victim of strangulation might manifest when speaking with a police officer.

> You are taking the statement from the victim where she is explaining the incident that just occurred between her and her partner. While she's talking, she is coughing a lot, touching her throat, and her voice sounds rough/raspy – when asked if she's ok, she explains that her partner pushed her against the wall with his forearm against her throat and it's hurting her a bit to speak to you. You don't see any visible injuries.

The second scenario that was provided overtly included reference to strangulation. As described below, in this *Stated Strangulation* scenario, the victim explained that her partner sexually assaulted her while strangling her.

> You respond to a call for service where the complainant tells you that her partner sexually assaulted her the night before. Specifically, he pushed her to the floor and used his hands to strangle her while forcing her to engage in sexual intercourse. Looking at her neck, you can see that there are red marks around her throat.

Both scenarios involve a victim who is facing several risks due to experiencing strangulation. Regardless of whether injuries are visible, both scenarios should be interpreted by police officers as posing a risk to the victim's life safety because strangulation increases the risk of future lethality by more than 700% and increases risk for dangerous health outcomes, including a stroke or brain injury. Therefore, regardless of whether the victim specifically disclosed that they were strangled, police officers should be interpreting both scenarios as high risk indicating a more serious need for a medical intervention. Furthermore, as will be discussed below, both scenarios should result in strangulation specific offence codes being applied.

When presented with the *Implied Strangulation* scenario, officers rated the degree of risk posed to the victim at an average of 3.8 out of 5 (see Table 9). This was lower than anticipated given that police officers were most likely to identify strangulation as a significant risk factor for future victimization (see Table 4). This finding suggests that police participants may not have interpreted that strangulation occurred because it was only implied by the described symptoms and method of assault and not overtly stated by the victim. This conclusion is supported based on the responses to

the *Stated Strangulation* scenario. When the victim specifically stated to the officer that they had been strangled, the average degree of risk rating provided for this scenario was 4.4 out of 5. More specifically, police officers rated the scenario where the victim said they had been strangled as involving statistically significantly greater risk than the scenario where the victim had also been strangled but only described this through some of the possible symptoms even though in practice, these scenarios present a similar degree of (extreme) risk to the victim.

TABLE 9: POLICE OFFICER RATINGS OF SCENARIOS INVOLVING IMPLIED VS. STATED STRANGULATION (N = 167 TO 168)

	Implied Strangulation	Stated Strangulation	Sig.
Risk for threat-to-life (1 = None, 5 = Extreme)	3.81	4.41	$p < .001$
Need for medical exam (1 = None, 5 = Extreme)	4.21	4.65	$p < .001$

There was a relationship between prior training in strangulation and the implied, but not stated, strangulation scenario. Police officers who reported that they received prior training in strangulation rated the implied strangulation scenario as significantly more of a threat to life (X = 3.93, SD = 0.88) than did officers who did not report having prior training in strangulation (X = 3.56, SD = 0.84), t (143) = -2.31, p = .022. Conversely, officers who reported having prior training in strangulation rated the stated strangulation scenario as the same level of threat to life (X = 4.39, SD = 0.84) as officers without prior training in strangulation (X = 4.41, SD = 0.71), t (143) = .14, p > . 05. This suggests that prior training on strangulation may increase police officer awareness of the signs or symptoms that a victim-survivor of strangulation may present with and further supports the need for all officers to have training in strangulation.

While the importance of a medical exam should not vary between these scenarios, the perceived need for a medical exam also differed significantly according to whether the scenario implied strangulation (4.21) or stated it (4.65). In other words, police officers rated the scenario where the victim stated she had been strangled as a significantly greater need for a medical exam than the scenario where the victim did not outright disclose strangulation but described it and presented with signs or symptoms of it. Still, it was important to see that in both scenarios, police perceived that there was an urgent need for the victim to receive a medical exam. There was no statistically significant effect for prior training for either the implied strangulation (t (146) = =1.45, p > .05) or stated strangulation (t (144) = -.54, p > .05) scenarios. A subsequent section of this report will examine under what conditions the police would recommend a medical exam for a victim.

The final question that police were asked to address regarding the scenarios was regarding the potential *Criminal Code* offences. Given that the first scenario involved an implied strangulation during an assault (i.e., the forearm pressed against the victim's throat, the symptoms of a sore throat, voice sounding rough/raspy, coughing), an appropriate charge to consider would be Section 267(c) that applies when the accused has committed assault where they choked, suffocated, or strangled the complainant. Rather than providing the officers with a list to choose from, officers were asked to write out the relevant offence code(s). Some officers referenced specific codes (e.g.,

267c) while others wrote a description (e.g., assault or assault causing bodily harm). Some officers gave more than one possible offence code. These responses were recoded into categories, as shown in Table 10. Just over one-third of officers identified Section 267(c) in their response either by referencing the offence code specifically or by describing it (e.g., assault by choking). In fact, this was the most common response given by officers. However, given that all police officers in British Columbia should be aware of these offence codes because they have been in place since 2019 and are referenced directly in the updated intimate partner violence curriculum, it was discouraging to see that only a minority of officers recognized that Section 267(c) would apply in this scenario. It was also concerning that a nearly equal proportion of participants referenced the older offence code of Section 246, colloquially referred to as "choking to overcome". As discussed, this offence code applies when the strangulation occurs to facilitate the completion of another offence. Based on the first scenario described to the officers, the strangulation did not occur to facilitate a different offence. Therefore, Section 246 is not an appropriate offence code to recommend charges under. A general assault was also identified by more than one-third of officers as an appropriate offence code for the implied strangulation scenario. This suggests that the participating officers either did not identify that a strangulation had occurred or identified it but were unaware of the relevant legislation to use. Regardless, the findings point to a need for further training of police officers in British Columbia regarding Section 267(c).

TABLE 10: POLICE OFFICER-IDENTIFIED OFFENCE CODES FOR THE IMPLIED STRANGULATION SCENARIO (N = 169)

	Per Cent
Section 267c (assault by choking, suffocation, strangulation)	36.7%
Section 246 (choking to overcome resistance to offence)	34.9%
Section 267 (not otherwise specified)	29.4%
Section 265 / 266 (assault)	36.1%

The findings regarding the second scenario raised concerns regarding the familiarity of police officers with sexual assault legislation in general, in addition to a sexual assault that involves strangulation (see Table 11). This scenario involved a stated strangulation in the context of a sexual assault. In this case, police officers should have identified the new legislation under Section 272(1)(c.1), sexual assault where the accused chokes, suffocates, or strangles the complainant. However, less than one-fifth of officers identified this charge. Most commonly, police officers identified the lesser offence code of Section 271, sexual assault. Nearly half of the officers gave a response that referred to Section 246. While this may be a relevant offence code in this situation, it would require that the police officer demonstrate that the strangulation occurred to facilitate the sexual assault. Given this, Section 272(1)(c.1) would be a more relevant offence code as the evidence to support a charge would only require that strangulation occurred during a sexual assault. However, only 15% of officers referred to this offence code in their response. Of concern, several responses did not include reference to charges concerning sexual assault. Nearly one in five officers referred to Section 267, which concerns assault with a weapon, causing bodily harm, or committed by strangulation, while 13% referred more specifically to Section 267(c), which is

assault by strangulation. There is no reference to a sexual offence in Section 267, and it should not be the offence code of choice. Moreover, several officers combined the strangulation portion of Section 267(c) with sexual assault under Section 271 (see Table 11). This suggests that these officers were not familiar with the sexual assault by strangulation offence code available in Section 272(1)(c.1). Instead, they viewed the assault by strangulation as a separate offence in addition to the sexual assault. Overall, these findings point to the need for greater education of police officers of the legislation regarding sexual offence where choking, suffocation, or strangulation occurred, as well as training regarding sexual assault investigations more generally.

TABLE 11: POLICE OFFICER-IDENTIFIED OFFENCE CODES FOR THE STATED STRANGULATION SCENARIO (N = 169)

	Per Cent
Section 271 (sexual assault)	59.2%
Section 246 (choking to overcome resistance)	39.6%
Section 267 (assault with a weapon or causing bodily harm, not otherwise specified)	17.2%
Section 272(1)(c.1) (sexual assault with a weapon or causing bodily harm by choking, suffocation, or strangulation)	14.8%
Section 267c (assault with a weapon or causing bodily harm by choking, suffocation, or strangulation)	13.0%

BRAIN INJURY KNOWLEDGE AMONG POLICE OFFICERS

Given that brain injuries are a common outcome of strangulation, and research suggests that most women victims-survivors of intimate partner violence have likely sustained at least one brain injury resulting from abuse, it was important to assess the degree of awareness and knowledge that police officers had regarding brain injuries among victims-survivors. First, police officers were asked how common or uncommon it was for female or male victims-survivors of intimate partner violence to experience a brain injury. Regardless of the gender of the victim-survivor, police officers felt that brain injuries were very or somewhat uncommon (see Table 12). This reflects a gap in knowledge and an area for future training, given that the research on intimate partner abuse suggests that, depending on the sample, over 90% of female victims-survivors have likely sustained a brain injury because of strangulation.

TABLE 12: PERCEIVED COMMONALITY OF BRAIN INJURIES FROM INTIMATE PARTNER ABUSE AMONG FEMALE AND MALE VICTIM-SURVIVORS (N = 164)

	Very Uncommon	Somewhat Uncommon	Somewhat Common	Very Common
Female Victims of IPV	45.7%	42.7%	10.4%	1.2%
Male Victims of IPV	69.5%	26.8%	2.4%	1.2%

The responses were recoded into uncommon (very/somewhat) or common (very/somewhat) and compared between female and male victims-survivors. Despite police officers generally believing

that brain injuries were uncommon among victims-survivors of intimate partner abuse, police officers perceived that brain injuries were significantly more likely to occur among female victims-survivors (21.1 per cent) than among male victims-survivors (1.4 per cent, *Fisher's Exact Test p* = .002). Given that nearly all participating police officers believed that brain injuries from intimate partner abuse were uncommon for both females (88.4 per cent) or males (96.3 per cent), no additional comparisons could be conducted based on police officer demographics.

Officers were given three knowledge check questions regarding brain injuries among victims-survivors of intimate partner violence. Again, most officers answered these questions correctly, although two of the statements were slightly less likely than the strangulation questions to be answered correctly (see Table 13). Specifically, nearly one in five officers did not agree that if someone reported being struck in the head, shaken, or strangled that a brain injury was likely to have occurred. Just over one-in-ten officers agreed that if the person did not lose consciousness, a brain injury was unlikely. While most officers answered correctly, these results suggest there remains room for increased awareness about how common brain injuries are among victims-survivors of intimate partner violence and that a basic presumption should always be that the victim-survivor who experienced trauma to the neck or head region was likely to have experience some degree of brain injury and should be referred for a medical examination.

TABLE 13: KNOWLEDGE CHECK ON BRAIN INJURY AMONG VICTIMS-SURVIVORS OF IPV (N = 162-164)

	%
Victims who have experienced a brain injury are at risk of experiencing mental health issues like anxiety or depression (T)	**99.4%**
If the person does not lose consciousness, they are unlikely to have experienced a brain injury (F)	**87.7%**
If someone reports being struck in the head, shaken, or strangled, you should assume a brain injury is likely to have occurred (T)	**82.2%**

As with strangulation, police officers were provided with a list and asked to indicate whether they agreed that these were possible signs or symptoms of a brain injury (see Table 14). Compared to the earlier results on strangulation, there was more uncertainty among officers about these possible signs and symptoms. Most commonly, over 90% of officers identified memory loss and confusion as signs or symptoms of a brain injury. Conversely, 10% to nearly 27% of officers were unsure about whether the remaining signs or symptoms were indicative of a potential brain injury. More specifically, officers were unsure about many of the emotional symptoms of a brain injury, including emotional dysregulation, sadness or depression, anger, nervousness, or anxiety (see Table 14). Similarly, approximately one-quarter of participants were unsure whether sleep issues were indicative of a potential brain injury. It appears that police officers would benefit from additional education about how brain injuries may manifest among victims-survivors of intimate partner violence because these signs and symptoms may indicate the need for a medical assessment and brain injury screening. Particularly regarding the emotional symptoms of a brain injury, this education should encourage police officers to consider that the victim-survivor may be

suffering from a brain injury rather than viewing the victim-survivor as difficult to work with or impaired by drugs or alcohol, as discussed above.

TABLE 14: PERCENTAGE OF OFFICERS WHO RECOGNIZED THE SIGNS AND SYMPTOMS OF BRAIN INJURY (N = 164 - 165)

	No	Yes	Unsure
Memory loss	0%	93.3%	6.7%
Confusion	1.2%	92.1%	6.7%
Dizziness	1.8%	87.9%	10.3%
Stumbling	0.6%	86.7%	12.7%
Nausea or vomiting	1.2%	86.1%	12.7%
Difficulty concentrating	3.0%	81.2%	15.8%
Headache	6.7%	81.1%	12.2%
Emotional dysregulation	4.3%	75.0%	20.7%
Sadness or depression	10.3%	64.2%	25.5%
Sleep issues	10.3%	63.0%	26.7%
Anger	13.9%	61.2%	24.8%
Nervousness or anxiety	15.2%	59.8%	25.0%

As described below, the third scenario that officers were presented with described an assault where the victim likely sustained a brain injury.

> You respond to a 911 call where the complainant says that her partner attacked her in the living room. Her partner struck her in the side of her head with his fist and she blacked out for what she thinks was a few seconds. When she woke up, her partner had left the home and she called 911.

When asked to rate the degree to which this scenario posed a threat to the victim's life, where 1 indicated no threat and 5 represented an extreme threat, the average score given by officers was 3.99, indicating that they saw this situation as posing a moderate threat. This rating was statistically significantly lower than the average rating given by police officers in the stated strangulation scenario ($p < .001$) but was higher, although not significantly so, than the average rating given by police officers in the implied strangulation scenario ($p = .112$). As with strangulation, there appeared to be a positive effect of training. Police officers who stated that they had received prior training on brain injuries in intimate partner violence rated the brain injury scenario as a significantly greater threat to the victim-survivors life ($\bar{X} = 4.18$, SD = 0.95) than did police officers without prior training on brain injuries in intimate partner violence ($\bar{X} = 3.86$, SD = 0.72), $t\,(127) = -2.12$, p = .036.

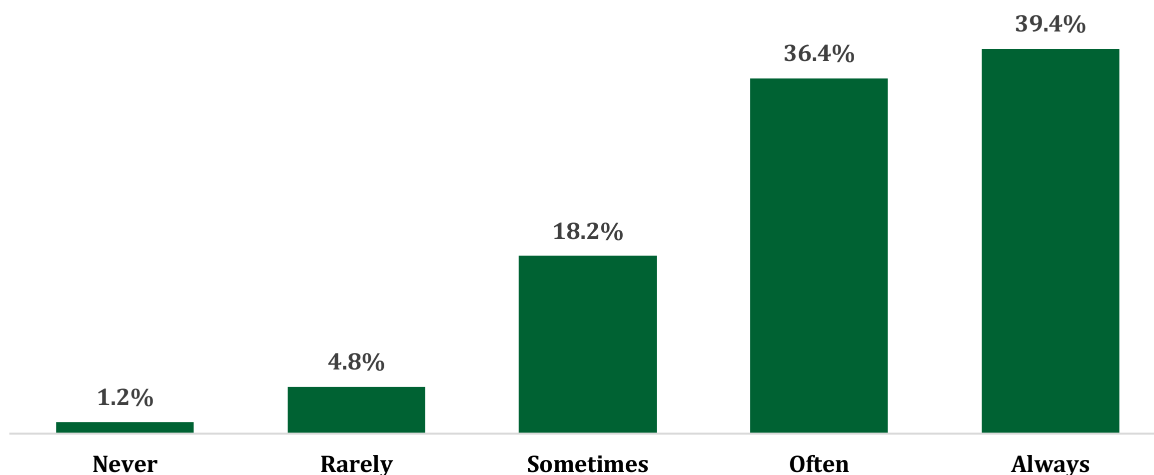
When asked to rate the importance of a medical exam, where 1 indicated no need for a medical follow-up and 5 indicated an extreme need for a medical follow-up, police officers rated the scenario as 4.35, indicating an above moderate need for a medical exam. Again, the scenario depicting a potential brain injury was rated in the middle of the three scenarios in terms of the importance for the victim-survivor receiving a medical exam. As with the interpretation of potential

threat to life, the police officers rated the stated strangulation scenario as representing a significantly greater need for a medical follow-up compared to the brain injury scenario ($p < .001$), but rated the brain injury scenario as a slightly, but not significantly so, greater need for a medical follow-up than the implied strangulation scenario ($p = .272$). Here, there was no apparent effect from training. Police officers with prior training on brain injuries in intimate partner violence rated the need for a medical exam as statistically equivalent ($X = 4.36$, SD = 0.85) to police officers with no prior training on brain injuries in intimate partner violence ($X = 4.24$, SD = 0.72).

VICTIM-SURVIVOR REFERRALS TO VICTIM SERVICES AND HEALTH CARE

Police officers were asked about their referral practices and how female and male victims-survivors of intimate partner violence or sexual assault typically responded to different kinds of referrals. First, officers were asked how often they made a proactive referral to victim services for a victim of intimate partner violence. A proactive referral was defined to the police officers as them telling the victim-survivor that the officer was going to connect the victim-survivor to victim services, rather than asking the victim-survivor if they would like the officer to make the referral. Interestingly, most officers reported that they either often (36.4 per cent) or always (39.4 per cent) made a proactive referral (see Figure 1). Although self-identified female police officers were more likely (55.9 per cent) than their male counterparts (34.2 per cent) to always refer a victim-survivor proactively to victim services, the overall differences between female and male police officers were not statistically significant, x^2 (3) = 5.58, p > .05. Similarly, there were no statistically significant differences when comparing the likelihood of making a proactive referral to victim services and whether the police officer was Caucasian or not, x^2 (3) = 2.95, p = .399, nor was there a significant relationship with years of service, F_{Welch} (3, 147), $p > .05$.

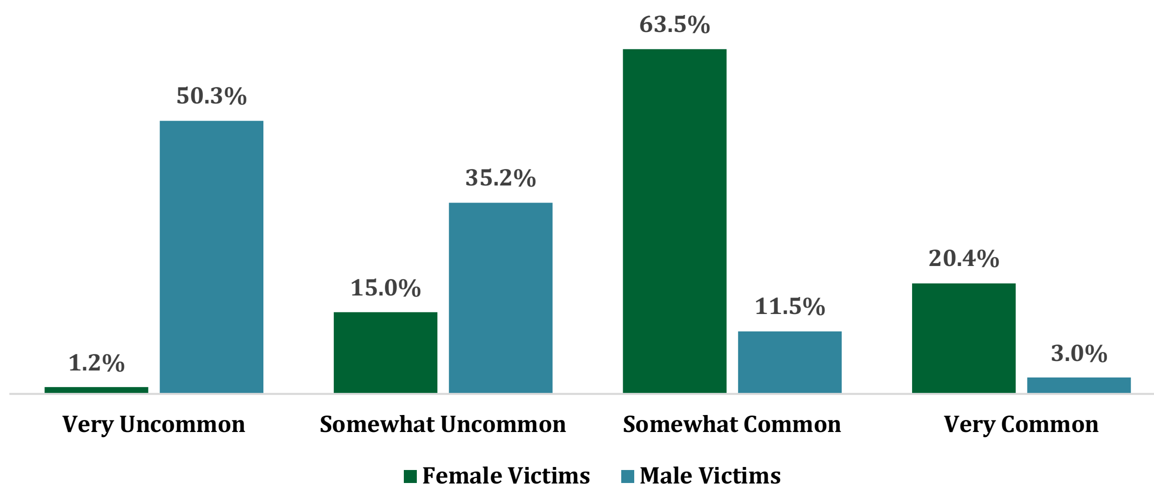
FIGURE 1: FREQUENCY OF PRO-ACTIVE REFERRALS TO VICTIM SERVICES (N = 165)



Police officers were also asked about how common it was for female and male victims-survivors of intimate partner violence to accept referrals to victim services. Generally, police officers felt that it

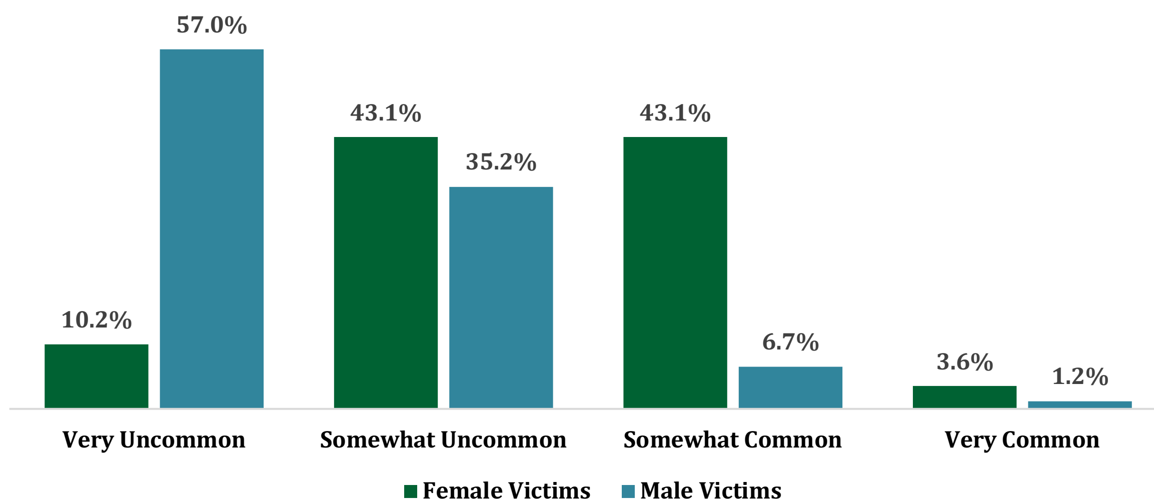
was somewhat common (63.5 per cent) for female victims-survivors of intimate partner abuse to accept referrals to victim services, but that it was very uncommon (50.3 per cent) for male victims-survivors of intimate partner abuse to accept referrals to victim services (see Figure 2). While this is a perception held by participating police officers, it is important to note that police officers generally perceived that female victims-survivors of intimate partner abuse were more willing than male victims-survivors to be referred to victim services who play an important role in supporting victims-survivors of abuse as they navigate through the various criminal justice, social service, and health care systems following a report of abuse. However, this finding also suggests that there remain barriers to support experienced by male victims-survivors as most participating police officers felt that it was uncommon for men to accept referrals to victim services.

FIGURE 2: HOW OFTEN DO FEMALE AND MALE VICTIMS-SURVIVORS ACCEPT REFERRALS TO VICTIM SERVICES (N = 167)



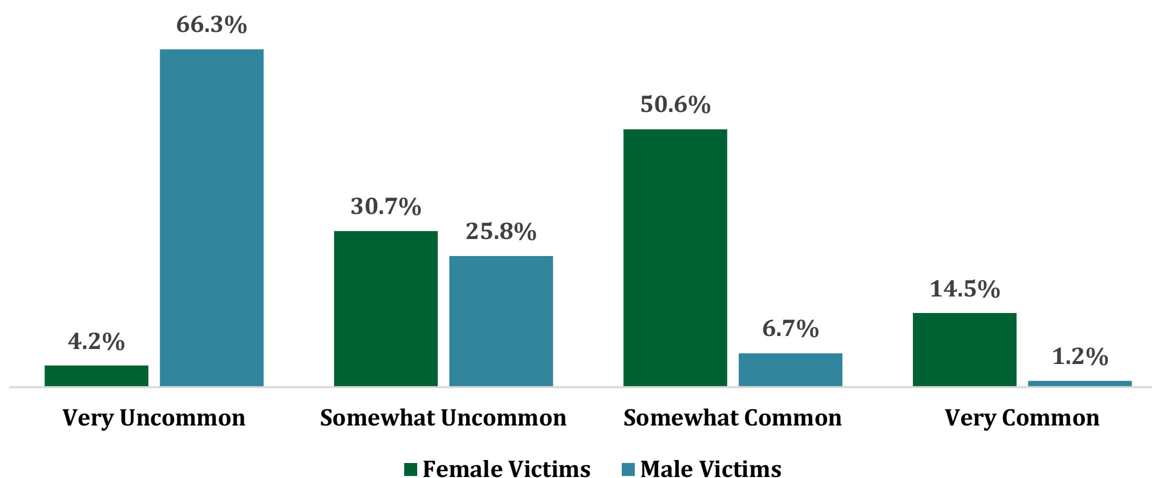
Similarly, there were gender differences when it came to whether female or male victims-survivors of intimate partner violence would be likely to accept a medical exam for either a physical or sexual assault. Unfortunately, police officers perceived that it was uncommon for both female and male victims-survivors to agree to a medical exam for a physical assault (see Figure 3). There was a statistically significant difference in that police officers viewed female victims-survivors as more commonly accepting a referral for a medical exam following physical abuse (14.1 per cent) compared to male victims-survivors (2.3 per cent), x^2 (1) = 7.89, p = .005. However, again, the most common response from police officers was that it was uncommon for female (53.3 per cent) and male (92.1 per cent) victims-survivors of a physical assault by an intimate partner to agree to a medical exam.

FIGURE 3: HOW OFTEN DO FEMALE OR MALE VICTIMS-SURVIVORS OF INTIMATE PARTNER ABUSE AGREE TO A MEDICAL EXAM FOR A PHYSICAL ASSAULT (N = 165 TO 167)



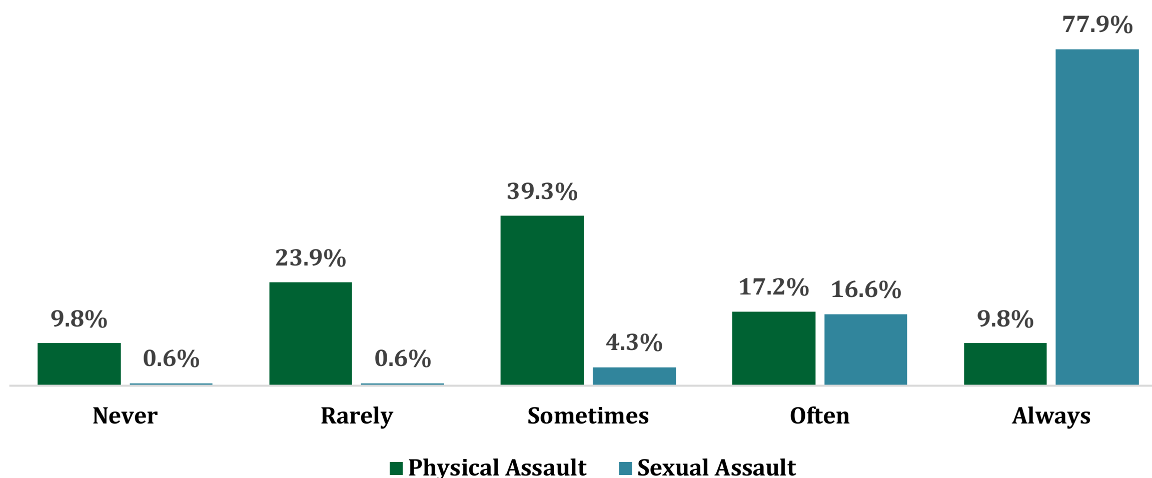
As demonstrated in Figure 4, police officers perceived that female survivors of intimate partner abuse involving a sexual assault were slightly more likely to agree to a medical exam. More specifically, half (50.6 per cent) of the police officers felt that it was somewhat common for a female victim of an intimate partner sexual assault to accept a medical exam. However, while the same proportion of police officers felt that male victims-survivors would somewhat or very commonly agree to a medical exam for either a physical assault or a sexual assault, a larger proportion of officers felt that it would be very uncommon for a male victim-survivor to agree to a medical exam for a sexual assault compared to a physical assault (see Figure 4). In other words, there are perceived barriers to health care access for male victims of intimate partner sexual assault. Police officers were also asked directly how important or unimportant they felt it was for a victim-survivor of a sexual assault to be referred for a medical exam. It was important to see that no officers selected the "not at all important" option. In fact, nearly all officers (97.0 per cent) stated that it would be "very important" for the victim-survivor to be referred for a medical exam. Given this, police officers appear to recognize the importance of a medical exam following a sexual assault but acknowledged that it was not common for male victims-survivors to agree to one, whereas it was somewhat common for female victims-survivors to agree to a medical exam following a sexual assault.

FIGURE 4: HOW OFTEN DO FEMALE OR MALE VICTIMS-SURVIVORS OF INTIMATE PARTNER ABUSE AGREE TO A MEDICAL EXAM FOR A SEXUAL ASSAULT (N = 163 TO 166)



Police officers were also asked how often they recommended that the victim-survivor have a forensic exam for either a physical or sexual assault. As shown in Figure 5, most police officers (77.9 per cent) indicated that they always recommended a forensic exam for a victim of sexual assault. However, the majority would only sometimes (39.3 per cent) or rarely (23.9 per cent) recommend a forensic exam for a physical assault. In fact, only 9.8% reported that they would always recommend a forensic exam for a physical assault. While not asked directly about how often they would recommend that the victim-survivor obtain a forensic exam for an assault involving strangulation specifically, **police officers should more consistently recommend that a victim-survivor obtain a forensic exam following a physical assault**, as forensic nurses look for and document signs and symptoms of strangulation, as well as other injuries that the victim-survivor may have sustained during the incident, such as a brain injury.

FIGURE 5: HOW OFTEN DO POLICE RECOMMEND A FORENSIC EXAM FOR PHYSICAL OR SEXUAL ASSAULT (N = 127 TO 163)



Not all jurisdictions have access to forensic nurse examiners. In the current study, most police officers (69.5 per cent) indicated that they did have access to forensic nurse examiners in their community through a hospital setting or a community-based clinic. It is somewhat noteworthy that some police officers (14.0 per cent) did not know if they had access to forensic nurses in their community. This finding suggests that **there may be a need for greater education about the role, mandate, and availability of forensic nurse examiners in British Columbia**. Officers from the Island district were significantly more likely (88.6 per cent) to report having access to forensic nurse examiners compared to officers from either the Lower Mainland (65.0 per cent) or Interior (33.3 per cent), x^2 (4) = 21.29, p < .001. A larger proportion of officers in the Lower Mainland (15.5 per cent) reported that they did not know whether they had access to forensic nurses compared to officers from the Island (11.4 per cent) or Interior (11.1 per cent).[4] This is important because there are forensic nurse examiners operating out of several hospitals in the Lower Mainland/Fraser Valley where police officers can transport a victim-survivor for a forensic nurse examination. Not all officers were aware that they could access this resource or perhaps they were unsure of how to access this service.

The participating police officers were provided with a list of signs or symptoms that a victim-survivor of intimate partner abuse might report following a violent incident that involved either strangulation or a brain injury and asked to rate whether it would be important or not to refer the victim-survivor for a medical exam if they were to present with any of these signs or symptoms. There was only one situation resulting in a single officer indicating that it was not at all important for a medical exam; this involved when the victim-survivor was becoming increasingly restless, agitated, or combative (see Table 15). Victims-survivors may act this way because of a brain injury so it is important to rule out a medical cause underlying the victim-survivor's behaviour. Overall, three-quarters or more of police officers agreed that it would be very important for the victim-survivor to have a medical exam for all the signs and symptoms provided. This was a very important finding suggesting that police officers were aware that these hidden forms of abuse might pose a danger to the health of the victim-survivor. While the overall percent of those reporting that they were unsure was very low across all the signs and symptoms, police officers were most likely to give this response in reference to when the victim-survivor lost control of their bladder or bowels during the incident. This sign may not be reported often to police officers because many victims-survivors might be too embarrassed or do not recall having lost control of their bladder or bowels. However, it is a significant risk factor for health because it indicates that the victim-survivor might have been close to death. In other words, victims-survivors of strangulation should be asked whether they experienced a loss of bladder or bowel control and, if so, it is critical that the victim-survivor receive a medical exam.

It is important to see that nearly all participating police officers recognized that a medical exam was very important in situations that were indicative of a possible brain injury, including when the victim-survivor lost consciousness during the incident, if the victim-survivor became slow to respond to the officer over time, and if the victim-survivor experienced double vision (see Table

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[4] This result should be interpreted with caution as the test assumptions were violated with 22.2% of cells having an expected count less than 5.

15). However, while the proportion of police officers recognizing the importance of a medical exam was very high across most symptoms of strangulation, there was room for improvement in some areas. For example, more than one-in-five officers felt it was somewhat, rather than very, important, for the victim-survivor to receive a medical exam if they had a husky or rough sounding voice, or if they complained of a sore or tender neck or throat area, while 17.7% perceived that it was somewhat, rather than very, important for the victim-survivor to receive a medical exam if they stated that they could not breathe during the incident (see Table 15). These are all situations that should trigger more direct questioning by the attending police officer about strangulation and a strong indicator that the victim-survivor should be referred to or taken to a medical facility for an exam to ensure there are no internal injuries.

TABLE 15: SIGNS AND SYMPTOMS OF STRANGULATION OR BRAIN INJURY AND PERCEIVED IMPORTANCE OF A MEDICAL EXAM (N = 164 TO 165)

How important/unimportant is it to be referred for a medical exam when the victim…	Not At All Important	Somewhat Important	Very Important	Unsure
Lost consciousness during the incident	0	0.6%	98.2%	1.2%
Is becoming slow to respond	0	2.4%	96.4%	1.2%
Is experiencing double vision	0	4.2%	94.5%	1.2%
Has weakness, tingling, or burning in their extremities	0	4.2%	93.3%	2.4%
Is vomiting	0	6.1%	91.5%	2.4%
Reports a severe or worsening headache	0	7.3%	91.5%	1.2%
Reports dizziness	0	8.5%	90.9%	0.6%
States that the perpetrator strangled or choked them	0	10.3%	89.1%	0.6%
Is coughing or having trouble catching their breath	0	10.3%	88.5%	1.2%
Has evidence of petechiae	0	12.1%	87.3%	0.6%
Lost control of their bladder or bowels during the incident	0	10.4%	86.6%	3.0%
Is becoming increasingly restless, agitated, or combative	0.6	12.7%	86.1%	0.6%
Was struck in the head (e.g., from a punch)	0	16.4%	83.6%	0
States that they 'couldn't breathe' during the incident	0	17.7%	80.5%	1.8%
Complains of a sore/tender neck or throat	0	22.4%	77.0%	0.6%
Has a husky/rough sounding voice	0	23.0%	76.4%	0.6%

Recommendations

While police officers in the current study understood that strangulation was a particularly significant risk factor for intimate partner victimization, and demonstrated excellent comprehension of the signs and symptoms of strangulation when asked directly about them, the results of the study suggested that there was still a need for training and education to improve their ability to recognize strangulation when not overtly disclosed to them, to understand the signs and symptoms of brain injuries related to incidents of intimate partner violence, to document the signs, symptoms, and injuries that may be present in these cases, and to recommend appropriate and relevant criminal charges. Given this, the following section provides several recommendations based on the findings of the current study and the current research literature.

1. IMPLEMENT A STRANGULATION SUPPLEMENT TO GUIDE THE COLLECTION OF EVIDENCE BY POLICE

An important finding from the research literature is that the use of a strangulation supplement by police can substantially increase the number of signs and symptoms of strangulation detected and documented (Brady et al., 2023). This will theoretically increase the likelihood that strangulation-related charges will move forward as the strangulation can be more easily established and corroborated. Forensic nurse examinations are the preferred approach to documenting strangulation-related injuries, but it can be difficult to access a forensic nurse examiner given the current funding and staffing model in the province (see Recommendation 9). While many signs or injuries of a strangulation may not be directly visible to a police officer, collecting additional information about the method of strangulation, how many times the victim-survivor was strangled, what else was said during the strangulation (e.g., threats to kill or other verbal abuse or demeaning language centring around power and control), what else occurred during the strangulation (e.g., sexual assault, being shaken or struck in the head, loss of consciousness, or loss of bladder or bowel control), what symptoms the victim-survivor is currently experiencing (e.g., neck pain, difficulty breathing), and any observable signs (e.g., redness, abrasions, petechiae) will be useful evidence in supporting strangulation-specific criminal charges.

Currently, the Summary of Intimate Partner Violence Risk review tool requires officers to ask about strangulation; however, there is no further guidance on the form related to what questions police officers should ask to collect evidence of the strangulation that could be used to support criminal charges under Section 267(c) or Section 272(1)(c1). It is strongly recommended that a strangulation supplement be adapted for use in British Columbia where strangulation is reported or alluded to by the victim-survivor. Examples exist elsewhere, such as the Vermont Criminal Justice Council Documentation of Strangulation form or Austin Police Department Strangulation Supplement that are used to record symptoms and injuries, as well as details about how the strangulation occurred. This information can improve the quality of police documentation of strangulation and may increase the likelihood of charge approval, as Crown Counsel may be more confident of their ability to prove the elements of the offence in court, particularly when they do not already have a medical exam from a forensic nurse examiner to supplement the file. Of note, when asked about whether they disagreed or agreed that a supplemental tool would be useful in intimate partner violence files involving strangulation or brain injury, most (82.7 per cent) police officers in this current study either agreed or strongly agreed with this. Furthermore, nearly all participants in this current study desired more training in how to investigate and document intimate partner violence files involving strangulation (91.1 per cent) or brain injury (94.4 per cent), including how to recognize the signs and symptoms of strangulation (88.0 per cent) or brain injury (93.1 per cent). In other words, there was a high level of support from police officers in this current study to have and use a supplemental tool to guide these types of investigations, and there are several additional research studies in the literature supporting the use of and documenting the benefits of police officers using a supplement for investigations of intimate partner violence. Of note, the strangulation supplement should be used in intimate partner violence cases where strangulation was disclosed and in other types of offences, such as sexual assault where strangulation occurred. However, police officers likely only ask about strangulation when guided to use the Summary of

Intimate Partner Violence Risk tool. It is important that police officers consider that strangulation may also occur in other forms of interpersonal violence.

2. IMPLEMENT A BRAIN INJURY SCREENING TOOL

Police officers are not expected to be physicians or medical experts; however, as frontline responders are typically the first to respond following an incident of violence, they are in an important position to be able to quickly screen a victim of interpersonal violence for a potential brain injury using a brain injury screen tool. Several such tools are available and could be used by a police officer who notices that a victim-survivor is reporting having lost consciousness, feeling dizzy or headachy, who reports being strangled or being assaulted in the head or neck region, among other potential signs and symptoms. For example, the CHATS tool was created by the Ohio Domestic Violence network to measure exposure to strangulation or brain injury, including documentation of possible signs and symptoms. While tools such as these may need some adapting for use by frontline police officers in British Columbia, using a brief screening tool in intimate partner violence files would increase the number of victims-survivors identified as having a possible brain injury, whether from strangulation or another form of violence, that could ensure that the victim-survivor receives the appropriate medical care, and would enhance the documentation of signs and symptoms by the police that could be useful in a future criminal case.

3. PROVIDE TRAINING ON BRAIN INJURIES FROM INTIMATE PARTNER VIOLENCE

As previously discussed, most (56.8 per cent) of the police officers who participated in the current study reported that they had not received any prior training on brain injuries in relation to intimate partner violence. Given that up to 93% of victims-survivors of intimate partner abuse may have sustained at least one brain injury, and likely experienced multiple brain injuries given the repetitive nature of intimate partner violence, it is imperative that police officers receive training on intimate partner violence-related brain injuries. While police officers appeared to be aware that strangulation could result in brain injury (98.8 per cent answering correctly), and that these victims-survivors required medical intervention, there was some lack of familiarity with some of the potential symptoms of a brain injury, particularly those concerning emotional signs or symptoms where approximately one-quarter of participants were unsure whether these were signs or symptoms of a brain injury. Furthermore, police officers are not guided to ask about brain injury or otherwise document this as part of their initial response to the call. However, the presence of a brain injury may put the victim-survivor at increased risk of revictimization, may impede their ability to engage with service providers, such as victim services, may result in a wide range of additional medical issues or complications, and may result in the victim-survivor requiring specific accommodations in how service providers offer their services. For example, a survivor of an intimate partner violence-related brain injury may struggle to pay attention to instructions, may experience fragmented memories, may miss appointments, or may become easily overwhelmed that can have significant effects on their ability to heal and increase the risk that they will disengage from the criminal justice and social service systems. Being aware that the victim-survivor is

recovering from a brain injury is, therefore, extremely important for service providers involved in the file.

Courses, such as the Concussion Awareness Training Tool for Women's Support Workers, can provide police officers with preliminary exposure to the prevalence of intimate partner violence-related brain injuries and why it is important to be aware of these injuries. Going forward, it would be beneficial to add more content regarding brain injuries to the intimate partner violence curriculum provided to all police officers on the Canadian Police Knowledge Network website. Moreover, it is essential that this curriculum be developed with the input of medical-forensic experts who have specialized knowledge and training about the mechanisms of brain injury, possible signs and symptoms, short- and long-term effects of experiencing a brain injury, and implications for engaging with the victim-survivor as they go through recovery.

4. PROVIDE TRAINING THAT INCLUDES EXPOSURE TO STRANGULATION AND BRAIN INJURY SCENARIOS

Most police officers reported that they had completed the new intimate partner violence training curriculum (74.7 per cent) and that they had completed prior training on strangulation (66.3 per cent). Although the authors of this report did not set out to test the effects of intimate partner violence training on police officers, the timing of this study allowed for a comparison of the results to data collected before this training was updated that suggested that there were improvements in police officer understanding about the various signs and symptoms of strangulation and when to recommend that a victim-survivor of strangulation receive a medical exam. The same could be done going forward for brain injury. However, it would be beneficial for police officers to receive more than an asynchronous course on these issues. There are multiple hidden forms of abuse, and suggested by the findings of this study, being able to identity the list of signs or symptoms does not translate into being able to pick up on these signs or symptoms in real world settings, such as a call for service involving intimate partner violence.

In the current study, police officers showed excellent comprehension of the signs and symptoms of strangulation when these signs and symptoms were provided in a checklist; however, they rated the implied strangulation scenario as significantly lower risk than the stated strangulation scenario. Moreover, they rated the implied strangulation scenario as lower risk than the brain injury scenario, despite previously identifying that strangulation was the most relevant risk factor for revictimization. Given this, one conclusion that can be reached was that police officers in the current study were aware of the signs and symptoms of strangulation on paper, but were not necessarily recognizing them when presented as they may be in the field, suggesting that they would benefit from specific training that demonstrated how a victim-survivor of strangulation may present various symptoms or signs of strangulation. For example, recognition of signs and symptoms may be enhanced after watching a video presentation of a "typical" victim who experienced strangulation and being asked about what signs or symptoms the police officer observed or heard the victim-survivor report. Police officers in British Columbia do ask about strangulation as part of the risk review process, but it is unclear how they describe this to victims-survivors who may not understand the term strangulation or choking. Furthermore, brain injuries

can occur from actions other than strangulation, such as if the victim-survivor was pushed down, hit in the head, or shaken. Therefore, being aware of the typical signs or symptoms that a victim may present with would enable police officers to know when to use the strangulation supplement or brain injury screening tool.

5. TRAINING AND QUALITY CONTROL REGARDING THE STRANGULATION-SPECIFIC OFFENCE CODES

Future training should provide more in-depth information and examples of the new strangulation charges available under the *Criminal Code*. Only a minority of police officers reported that they would use these charges in either the stated or implied strangulation scenarios suggesting that there was a possible lack of awareness about these available offence codes. While they are mentioned in the new intimate partner violence training that all police officers in the province are required to complete, examples of why these are beneficial to use and when to use them, along with training for supervisors to ensure they are reviewing files for the proper use of these new offence codes is important.

Even when strangulation was overtly stated by the victim, only a small percentage of participants (15 per cent) in the current study identified the relevant strangulation-specific *Criminal Code* offence as a possible criminal charge they would recommend. This finding clearly points to the need to better educate officers regarding the availability of strangulation-specific legislation. This finding also raises questions for future research. Given the relative recency of strangulation-specific legislation, there is no currently available research on charge outcomes associated with these offence codes. To be able to proceed with strangulation-specific charges under the *Criminal Code*, Crown Counsel will need to have confidence in their ability to prove that strangulation did in fact occur, which will require clear documentation by police and others, such as from forensic nurse examinations, detailing how the strangulation occurred and what injuries were sustained. It is unclear whether and how police are currently investigating strangulation to the extent that this would support related charges under the *Criminal Code*, but it is anticipated that this would be enhanced by using a supplemental tool.

While not an objective of the current study, police officers in British Columbia would benefit from training on conducting sexual assault investigations. In March 2024, provincial policing standards for sexual assault investigations were released, and presumably this will come with a required training component. It was alarming to see that some of the officers reviewing a sexual assault scenario identified non-sexual assault *Criminal Code* charges as what they would use in this case, and it was unclear why they would do so rather than using a sexual assault-based code.

6. IMPLEMENT A PROVINCIAL POLICING STANDARD FOR STRANGULATION INVESTIGATIONS IN BRITISH COLUMBIA

Police officers in British Columbia receive training on strangulation, which is important and vital to improving the police response to these types of calls for service. However, significant gaps remain

in practice that can be addressed by a Provincial Policing Standard with a protocol for strangulation incidents reported to the police. The following components should be part of this Policing Standard.

Research has consistently demonstrated that prior strangulation increases the risk for subsequent lethality by a factor of seven. Strangulation is one of the best predictors of intimate partner femicide. Women who have been strangled have a higher average Danger Assessment score than women who have not been strangled, and those who have been strangled multiple times have a higher Danger Assessment score than those who have been strangled once suggesting that multiple incidents of strangulation further raise the risk for lethality (Messing et al., 2018a). While this data comes from a study with samples from the United Kingdom, it was concerning that 28% of domestic abuse cases in the United Kingdom involving strangulation that were risk assessed by police were not considered highest risk for lethality (McGowan, 2024). Similar research has not been conducted in Canada. While Kinney and Lau (2018) found that 79.5% of ICAT cases involved strangulation, no study has looked at what proportion of intimate partner violence files investigated by the police where strangulation is present were referred to ICATs or other Highest Risk Domestic Violence Teams (HRDVT). However, given the significant risk that strangulation poses, it would be beneficial to implement a strangulation policing standard in British Columbia so that police responses to intimate partner violence where strangulation has occurred automatically result in a medical intervention, a request to deny bail, and a referral to an ICAT or an HRDVT. The updated Summary of Intimate Partner Violence Risk review tool used by police in intimate partner abuse files directs police officers to seek medical attention for the victim-survivor if strangulation occurred. It would be beneficial to amend this tool to also indicate that a recent strangulation should trigger an automatic referral to an ICAT or an HRDVT. The Best Practices Guide published by the Ending Violence Association of British Columbia could also be updated to stress the importance of a referral to an ICAT or an HRDVT should strangulation be identified in a report of intimate partner abuse and should also encourage police officers to request that the accused be held and not released under conditions when there is evidence that a strangulation has occurred. Similarly, domestic violence units and supervisors who review intimate partner abuse police reports should be trained to ensure that when strangulation is documented on the Summary of Intimate Partner Violence Risk review tool that there is also a notation that the file has been referred for an ICAT or an HRDVT review, that a medical intervention was offered, that efforts have been made to document the signs, symptoms, or injuries associated with the strangulation, and that the police officer has requested that the accused be detained in custody.

Brady et al. (2023) recommended that agencies should implement a policy requiring emergency medical services be dispatched to police calls for service where the victim-survivor reported symptoms of strangulation, including neck pain, difficulty breathing, or signs of impeded blood circulation. Given current challenges with adequate staffing of paramedics, this is likely not a feasible recommendation for many communities in British Columbia. However, an alternative response model, discussed in more depth in Recommendations 9 and 10 below, are to create a regional response team, to co-locate forensic nurse examiners within police agencies, or to develop a co-response model pairing a police officer with a nurse practitioner, like the co-response models used in some jurisdictions to respond to mental health calls for service. This model pairs a police officer with a mental health professional and is designed to provide immediate response to mental health crisis situations and a follow-up response after a person in crisis has interacted with

frontline police officers and hospital staff. Given the significant health risk that recent strangulation poses to a victim-survivor, it is imperative that victims-survivors receive immediate medical attention. Given this, some jurisdictions, such as California,[5] have adopted a duty to warn protocol for strangulation, where police officers are required to inform victims-survivors of strangulation that they are at risk of being killed by their partner, and that they may have suffered internal injuries that could lead to their death or other significant health consequences, including stroke or miscarriage. However, while intended to motivate victims-survivors about the importance of seeking medical care following strangulation and accessing services to promote safety, this approach needs to be done carefully because it has the potential to further traumatize the victim-survivor. While it is essential that police officers who detect a recent strangulation stress the importance of a medical intervention and provide options for the victim-survivor to access health care, this needs to be done while also recognizing that there are many real barriers to accessing such care, and choosing not to access care should not be held against the victim-survivor in the future. If the victim-survivor chooses not to access medical care immediately following the incident, it is recommended that police officers or others assigned to the file (e.g., victim service workers) check in regularly with the victim-survivor to ensure they are doing well, and to refer them again for a medical intervention or to offer to transport them to the hospital for a physician or forensic nurse examination should the victim-survivor complain of any symptoms resulting from the strangulation.

Given the above, it is recommended that a Provincial Policing Standard for Strangulation Investigations be introduced that provides the following protocol for police in British Columbia to follow in all files where strangulation has been detected.

A) If Strangulation in the Current Incident is Identified as part of the Summary of Intimate Partner Violence Risk Review Process

Offer a Medical Intervention

The responding police officer should explain that while there may not be any obvious injuries from the strangulation, internal injuries may have occurred putting the victim-survivor at risk of other health issues, including the risk of stroke, brain injury, or miscarriage. Given that many victims-survivors decline medical care following strangulation, it is imperative that barriers to health care seeking be reduced. For example, if available, a **paramedic should be called to the scene or transportation should be offered to take the victim-survivor to the hospital** for a forensic nurse examination (if available) or examination by a physician, either by the responding police officer or, if possible, a victim service worker or social worker. Alternatively, if the co-response model suggested in Recommendation 10 is implemented, a **forensic nurse examiner or nurse practitioner should be called to all scenes involving intimate partner abuse** to screen the victim-survivor for exposure to strangulation or other potential sources of brain injury and to

[5] https://www.familyjusticecenter.org/resources/suggested-language-for-sb40-strangulation-advisal/

recommend that the victim-survivor access medical care through a formal forensic nurse examination or examination by an emergency room doctor.

If medical care is declined, the police officer should leave information with the victim-survivor that clearly summarizes why a forensic or medical exam is important and where they can go to have this examination. Over the following days and weeks, the police officer holding the file and/or any victim service worker or other support staff assigned to the file should **regularly check in with the victim-survivor** and continue to encourage them to seek medical care, including offering transportation to the hospital if possible.

Complete a Strangulation Supplement

As part of completing the Summary of Intimate Partner Violence Risk review template, police officers will ask a victim-survivor about recent and past experiences of strangulation by the intimate partner. **If strangulation is disclosed, the police officer should fill out the strangulation supplement**, capturing more information about how the strangulation occurred, what else happened or was said during the strangulation, any signs or symptoms of strangulation as reported by the victim-survivor, and any visible injuries should be documented immediately, including with photographs when possible, as well as over subsequent days as new visible injuries may emerge. Completing the strangulation supplement at the scene versus during a follow up will depend on the status of the victim-survivor. The priority should always be to obtain immediate medical attention if the victim-survivor does not appear to be medically stable. While similar information may be collected by a forensic nurse examiner, currently few victims-survivors are able or willing to access a forensic nurse examination given barriers to care and because forensic nurse examiners are not widely available throughout British Columbia. As the forensic nursing service is funded on an on-call basis, a forensic nurse examiner may not be available when a victim needs or is ready to obtain a forensic nurse examination. Therefore, having a police officer complete a strangulation supplement will provide a baseline of the signs, symptoms, and injuries reported by the victim-survivor. This will not only be important in supporting charge recommendations, potentially with the added medical evidence collected during a forensic nurse examination, but it can also be used in the more immediate term to support a request to detain the perpetrator in custody as it corroborates that strangulation occurred, which, as discussed throughout this report, puts the victim-survivor at high-risk for revictimization or lethal victimization.

Document the Case as High-Risk and Refer to an ICAT or an HRDVT

Given the empirical research linking strangulation with increased risk of intimate partner femicide, as well as increased risk of violence towards others, including police officers, incidents of intimate partner violence with strangulation should be considered and responded to automatically as high-risk. **The police officer should immediately refer the file to an ICAT or an HRDVT for consideration**, which will trigger information sharing protocols between a wide variety of criminal justice, health care, community, and social service agencies who will work collaboratively to address the risk and prevent escalation of violence (McCormick et al., 2023).

Under the provincial Violence Against Women in Relationships policy, police officers are directed to arrest the suspect without warrant when an indicatable offence, such as strangulation, has occurred. Following arrest, police officers are expected to review whether the suspect/accused can

be released, ideally under conditions, or whether they can hold the suspect/accused for a bail hearing. According to the policy, "In all cases where police determine there is a significant risk of violence, police should hold the accused for a bail or adjournment hearing…" unless they feel that the risk can be managed through conditions. Given that several studies have supported that strangulation greatly increases the odds of lethality, and many women who have been strangled by an intimate partner have experienced multiple strangulations, **there should be a presumed significant risk of future violence when strangulation has occurred, and the police officer should seek to have the suspect/accused detained in custody**. The information collected in the Strangulation Supplement will be useful at this time to corroborate that strangulation occurred and that the victim-survivor is consequently at greater risk of being hurt or killed by the suspect/accused.

Given that people who strangle are also at risk of violence towards others, including the police, the **police officer should also use the Flag Record in the Police Record Information Management Environment (PRIME) database to identify the individual as high-risk due to strangulation.** A Flag Record enables police to set an alert for a particular individual as a way of warning other police officers about a particular risk or issue. For example, Flag Records can be used for gang members, sex offenders, or to flag another potentially dangerous person (South Coast British Columbia Transportation Authority Police Service, 2009). Flag Records must be reviewed every 12 months to ensure the information is still accurate.

Reports of strangulation should result in recommended charges for a strangulation-specific offence. Police officers should presume that the appropriate charges will include Section 267(c) or Section 272(1)(c1), which should also be supported by the information collected in the Strangulation Supplement. Supervisors should also be trained to check that these charges have been recommended or that a rationale has been given for why other charges were sought.

B) If Strangulation Occurred during a non-Intimate Partner Sexual Assault

Strangulation will more likely be detected in an intimate partner violence file than in other areas where it may occur, such as sexual assault, because police officers are required to ask about it as part of the Summary of Intimate Partner Violence Risk review. However, police officers are not otherwise trained or required to ask about exposure to strangulation in other types of files, as they do not use similar templates to guide their investigations. Given this, police officers should be aware that strangulation also commonly occurs during sexual assault, and they should routinely screen for strangulation as part of an investigation of a sexual assault. In the recently released Provincial Policing Standard for Sexual Assault Investigations, strangulation is mentioned only once. Under "Intake", police officers are instructed to encourage the victim to seek medical care, to explain why this is important, and to assist them if required. More specifically, it states that "the victim should seek immediate medical attention if major trauma, such as brain injury or strangulation, are suspected" (Subject 5.4.2.c). However, police officers may be depending on the victim-survivor to report to them that strangulation occurred, which research suggests is not likely to happen. Therefore, it is recommended that **police officers be trained to ask about strangulation as part of their standard investigation of a sexual assault**, and if the victim-

survivor reports that they were strangled, to **complete the Strangulation Supplement, to call in the co-response team if one has been implemented, or to refer or transport the victim-survivor for a medical or forensic nurse exam**.

C) If Strangulation was Not Reported on the Summary of Intimate Partner Violence Risk Review

If strangulation was not reported by the victim-survivor as part of the Summary of Intimate Partner Violence Risk review process but there is evidence that a physical assault occurred, the police officer should **use a brain injury screening tool** to assess whether the victim-survivor may have suffered a brain injury and offer a medical intervention, including having a paramedic or co-response team attend the scene or assisting the victim-survivor with transportation to the hospital if any indications of exposure to brain injury are present. Again, a forensic nurse examination would be extremely beneficial in terms of documenting evidence of the injuries and recommending resources to aid the victim-survivor in their recovery.

7. PROVIDE TRAINING ON STRANGULATION AND BRAIN INJURY TO VICTIM SERVICE WORKERS

It is beneficial to provide strangulation and brain injury training to victim services workers who will support the victim-survivor following the incident of violence. Given that visible injuries or signs and symptoms of a strangulation or brain injury may not appear immediately following the incident but may appear within 24 to 48 hours of the incident, ensuring that both victims-survivors and victim service workers are aware that the effects of strangulation may not be immediately evident may result in more cases of strangulation and brain injury being identified and more health interventions occurring. A victim-survivor may not initially be interested in receiving a medical examination. Training a victim service worker to understand the effects and manifestations of strangulation and brain injury means that as the victim-survivor processes the trauma of the immediate incident and begins to recover, yet continues to experience ongoing symptoms, such as sore throat, difficulty swallowing, memory difficulties, and headaches, victim services workers may be able to explain to them what might be happening and encourage them to see a forensic nurse examiner or other health care provider in the days following the assault. Given that it can take quite some time before a forensic nurse examiner is able to conduct an examination of a victim-survivor in the hospital setting, victim service workers could also play a role in transporting the victim-survivor to the hospital and waiting with them for the examination to occur. It is important that victim service workers be given training on strangulation and brain injuries and collaborate with police officers on files involving these issues to ensure that victims-survivors are provided with a supportive response following their traumatic assault for an extended period.

8. EMPLOY DUTY TO WARN IN FUTURE RELATIONSHIPS

The preliminary data reviewed in the literature for this study not only suggested that people who strangle were at increased risk of killing their current or former intimate partner, but also that perpetrators were at increased risk of killing a future intimate partner. Given this, police officers can follow duty to warn procedures with future partners of the suspect/accused. In British Columbia, under Section 25 of the *Freedom of Information and Privacy Act*[6], police officers have a duty to warn and disclose when someone is at high risk of significant harm. To do so, there must be a risk that is likely to happen, and which poses a potential significant impact to the health or safety of a person. As people who strangle tend to do so multiple times and appear to be at increased risk for killing a future intimate partner, police officers can warn a new intimate partner about their partner's history with strangulation, informing them about the risk that they now face, and referring them to potential supports in the community where the potential victim can get assistance and engage in safety planning. This process can be aided by the PRIME Flag previously discussed. For example, as PRIME Flags need to be reviewed every year, a review of the file may reveal that the suspect/accused is in a new relationship which could trigger the Duty to Warn process.

9. EXPAND AND PROPERLY FUND FORENSIC NURSE EXAMINERS IN BRITISH COLUMBIA

Forensic nurse examiners play an important role for victims-survivors of interpersonal violence. As experts in both the health and criminal justice systems, they have the training and skills to be able to conduct a forensic examination collecting evidence of violence, including injuries that are not otherwise visible. In British Columbia, forensic nurse examiners can examine persons affected by interpersonal violence who are medically stable and collect evidence in a manner that would allow the evidence to be used in a future court case. Forensic nurse examiners also have access to technology, such as alternate light source, that enables detection of injuries not otherwise visible. Whereas physicians and nurse practitioners typically do not have specialized training in strangulation, forensic nurse examiners do, and are trained to document the signs, symptoms, and injuries associated with surviving strangulation and how to maintain custody of that evidence so that it can be admitted in court. Whereas physicians are primarily concerned with the medical treatment of the individual, forensic nurse examinations are focused on documenting what happened, how it happened, and what the effects to the body have been. A standard forensic nurse examination may take four hours to complete properly because the forensic nurse examiner will take photographs, collect swabs, and collect information from the patient. Forensic nurse examiners can store this evidence for one year, or if there is an associated criminal court case, can write a report for use in court that documents their observations and the evidence collected. Given this, forensic nurse examiners are frequently called as expert witnesses in criminal cases involving interpersonal violence. However, the forensic nursing service in British Columbia is struggling because of a lack of permanent funding for these positions. Forensic nurse examiners typically work on-call, which means that when a victim-survivor comes to the hospital for a forensic nurse

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[6] https://www.oipc.bc.ca/guidance-documents/2265#:~:text=by%2Dcase%20basis.-,Section%2025(1)(a)%20%2D%20Duty%20to%20warn%20of,that%20is%20likely%20to%20happen.

exam, there may not be a forensic nurse available to meet with them. Furthermore, they are generally only present in select hospitals across British Columbia, thus requiring some victims-survivors to travel great distances to access them, while others, such as those in remote or more rural areas, are unable to access them at all.

It is essential that the province of British Columbia recognize the value and importance of forensic nurse examiners in responding to gender-based violence and commit sufficient funding to ensure greater and more reliable access to forensic nurse examiners across the province. Failure to do so in other provinces has led to the collapse of the forensic nursing system. For example, four Sexual Assault Nurse Examiners (SANE) resigned from the underfunded and understaffed forensic nursing service in New Brunswick after they were blamed by the Premier for being unable to see a victim-survivor of sexual assault because no SANE were available[7]. This resulted in the system being overhauled. Similarly, Manitoba has recently reported several situations where sexual assault victims-survivors have been denied care and told to go home and not shower or change their clothes until a forensic nurse was available to see them, which may not be for 48 hours or longer.[8] This has resulted in the province committing funding to hire forensic nurse examiners into permanent positions. British Columbia recently released their Gender Based Violence Action Plan where they discussed funding to support five sexual assault centres in the province (Victoria, Prince George, Surrey, Vancouver, and Kamloops). While this is important, these centres need to also deliver services to survivors of other forms of gender-based violence, including intimate partner violence where sexual assault has not occurred. Further, while increasing access to forensic examinations in hospital emergency departments was a goal mentioned in the action plan, there was no commitment of funding to support the permanent staffing of forensic nurse examiners in these settings, which is greatly needed.

There are several ways that creating more permanent positions across the province can be achieved. The province could simply commit more funding to support hiring forensic nurse examiners into permanent positions throughout British Columbia. There is some confusion about where forensic nurse examiners should be situated, as they serve both the legal and health systems. Forensic nurse examiners in British Columbia currently primarily work out of a hospital setting; however, they also serve the legal system through the collection of evidence that can be submitted to court and through participation in court as expert witnesses. Given this, it is unclear who would or should primarily hold the funding and oversight of their work. Still, providing sufficient funding to enable hospitals throughout the province to offer victims-survivors of intentional violence, including by intimate partners, 24-7 access to a forensic nurse examiner is one way to resolve the issue of insufficient access to forensic nurse examinations, and it would also address issues with burnout and lack of adequate pay that are a consequence of the current on-call staffing model.

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[7] https://www.cbc.ca/news/canada/new-brunswick/sexual-assault-nurse-examiners-resigned-fredericton-upper-river-valley-horizon-1.6599107#:~:text=Two%20nurses%20have%20left%20the,the%20actual%20number%20is%20three and https://horizonnb.ca/news-releases/horizon-introducing-series-of-enhancements-to-forensic-nurse-examiner-services/

[8] https://www.cbc.ca/news/canada/manitoba/manitoba-sex-assault-nurse-examiners-1.6729435

However, there are still many barriers to accessing medical care through the hospital, including lengthy wait times, lack of transportation, and childcare concerns.

A different model that has been successfully implemented in other jurisdictions[9] is a community-based multi-disciplinary team where forensic nurse examiners are co-located among other service providers involved in supporting victims-survivors of gender-based violence, such as intimate partner abuse, sexual assault, and sexual exploitation. For example, police officers, social workers, victim service workers, shelter/transition home staff, and Crown Counsel can come to the community hub to meet with the victim-survivor, while forensic nurse examiners would have a dedicated sterile space to conduct their work and store evidence. These centres can offer childcare and a safe space for the victim-survivor to leave their children while they receive necessary care and services. By offering wraparound services, the victim-survivor can attend the hub, receive a forensic nurse examination, and meet with those who can help design and implement a safety plan. This would help with chain of custody as evidence could be collected and stored onsite at the community hub until needed for court. The province could commit funding to establish regional community hubs like these throughout the province beginning with one for each health authority, particularly in areas where there is not already a sexual assault centre. As mentioned, funding has recently been given to sexual assault centres; however, it is important to expand this type of community-based program to other victims-survivors of gender-based violence. For example, Winnipeg recently funded two community-based centres to enable victim-survivors of sexual assault or intimate partner abuse to access forensic nurse examiners outside of a hospital setting, along with cultural support workers and knowledge keepers.[10] The benefits of creating a regional hub include that they are victim-centred and trauma-informed, and being located in the community removes some of the barriers to accessing services associated with hospital care. Although they could be costly to operate, regional hubs may offer long-term cost savings by reduced victimization, fewer long-term physical health and mental health consequences, and improved victim-survivor participation in the criminal justice response to their victimization. Moreover, services offered at a regional level may also reduce transportation barriers to at least some of those who would otherwise use this service.

10. IMPROVE VICTIM-SURVIVOR ACCESS TO FORENSIC NURSE EXAMS OR MEDICAL CARE THROUGH A CO-RESPONSE MODEL

The updated Summary of Intimate Partner Violence Risk review tool used by police in intimate partner abuse files directs police officers to seek medical attention for the victim-survivor if strangulation occurred; however, research has suggested that many victims-survivors often do not access medical services following strangulation, and, in the current study, half (53 per cent) of the participants felt that it would be uncommon for a female victim-survivor of a physical assault by an

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[9] Family Justice Centers in the United States have been identified as a best practice in intervening and preventing domestic violence. https://www.familyjusticecenter.org/affiliated-centers/family-justice-centers-2/

[10] https://www.winnipegfreepress.com/breakingnews/2024/01/16/community-led-forensic-nurse-program-officially-launched

intimate partner to accept a referral for a medical exam. Therefore, more must be done to enhance victim-survivor willingness and ability to access potentially lifesaving medical care. While improving access to forensic nurse examiners in the community offers one solution to this issue, another solution would be to bring medical attention directly to the victim-survivor in their home.

One option to increase access to forensic nurse examiners would be to co-locate forensic nurse examiners directly with the police and deploy them to incidents where violence has occurred. As discussed above, like police mental health cars that pair police officers with mental health nurses to respond to calls involving persons with mental illness, forensic nurse examiners could respond to calls involving intentional violence to provide preliminary medical support. In terms of collecting evidence and documenting injuries in a way that would be useful for court, this would require access to a sterile space, potentially through a mobile forensic unit if a community hub were not available. The benefits of this approach would be increased access to forensic nurse examinations for a wide variety of crimes involving intentional violence and more immediate care that comes to the individual rather than requiring victims-survivors to leave home to access a forensic nurse examination. However, there would be additional challenges to consider, such as how to collect evidence in a sterile space and where to store collected evidence while waiting for the case to come to court. Moreover, there are likely not enough forensic nurse examiners currently available in British Columbia to implement this model at the agency or detachment level.

Alternatively, the co-response model could involve a specially trained nurse practitioner who could be partnered with a victim service worker. The co-response team would be deployed by a police officer following a file, such as intimate partner violence, where some form of intentional violence was suspected to have occurred. The co-response team would provide a trauma-informed medical response where the nurse practitioner could screen the victim-survivor for possible exposure to strangulation, brain injury, or other forms of injuries, explain the possible outcomes of these injuries, explain the role of a forensic nurse examiner, and offer to transport them for a forensic nurse examination or offer to transport the victim-survivor to the hospital for a medical exam. Concurrently, the victim service worker would be able to create safety planning that considers the victim-survivor's injuries and how this may affect access to services, provide emotional support to the victim-survivor, and, if needed, provide support to the victim-survivor's children because childcare concerns can pose a barrier to medical help-seeking. Through this response model, more victims-survivors of intimate partner abuse would receive at least an initial health care screening, while more victims-survivors might be willing to access a forensic nurse examination or hospital-based examination of their injuries as they learn about the importance of these examinations and are supported in accessing them.

11. BROADER EDUCATION ABOUT THE RISKS, SIGNS, AND SYMPTOMS OF STRANGULATION AND BRAIN INJURY

Research has demonstrated that implementing education and a strangulation protocol in emergency care settings increased the detection of strangulation and improved the medical response (Bergin et al., 2022). Even beyond this though, there are other populations that would benefit from education and training. For example, women may seek out their family practitioner,

dentist, or pharmacist when continuing to experience what to them are unexplained symptoms, such as a persistent sore throat or difficulty swallowing (Joshi et al., 2012). As one in four women reported being strangled during pregnancy, pre-natal providers would also benefit from increased awareness (Joshi et al., 2012). These populations may not receive much training on intimate partner violence in general, let alone more specifically strangulation or brain injury training, and would benefit from knowing about the signs and symptoms and where to refer a patient who has potentially experienced one or both issues. Community based victim service workers, social workers, shelter workers, and other service providers who work with victims-survivors of intimate partner abuse would also benefit from increased knowledge and skills in understanding the prevalence, signs, symptoms, and consequences of strangulation and brain injury in intimate partner violence, as many victims-survivors never report their victimization to the police but seek support at the community level. Of note, all these service providers can make a referral to an ICAT and should be encouraged to do so if the victim-survivor reports strangulation to them. In addition, educating the public more broadly about the prevalence of these injuries is important, especially considering the common use of strangulation during "consensual" sexual encounters (Herbenick et al., 2022a). As discussed, it takes very little pressure on the neck to increase the risk of death and brain injury, yet many of those who "consent" to being strangled are completely unaware of these risks (Herbenick et al., 2022b). A public awareness campaign about the dangers of strangulation is recommended, particularly for youth and young adults who may be at greater risk of engaging in these practices.

12. CONDUCT ANNUAL DEATH REVIEWS IN BRITISH COLUMBIA

Several jurisdictions have established Domestic Violence Death Review Committees to review deaths resulting from intimate partner abuse, as well as other forms of domestic violence, such as the Domestic Homicide Reviews in England and Wales discussed previously in this report. Domestic Violence Death Review Committee's also exist in Canada. For instance, Ontario's Domestic Violence Death Review Committee was established in 2002 to annually review all deaths that occurred because of domestic violence and to make non-binding recommendations to the Office of the Chief Coroner to enhance practices and reduce the likelihood of future deaths occurring for similar reasons. The non-binding nature of the recommendations and the lack of follow up on whether and how recommendations of the committee have been implemented are ongoing concerns (Quenneville, 2022); however, the information that has resulted from death review committees provides important insights regarding where there is a need to enhance policies, practices, or knowledge. Similarly, Alberta's Family Violence Death Review Committee conducts annual reviews that includes in-depth reviews of select cases. They publish annual reports and more specific case review reports. Manitoba also released yearly summary reports between 2011/12 and 2018/19.

British Columbia has conducted two ad hoc domestic violence death review reports. The first report was issued in 2010 following a review of 11 domestic violence cases that resulted in 29 deaths (British Columbia Coroners Service, 2010). These 11 cases were selected for review out of more than 100 files coming to the attention of the Chief Coroner of British Columbia's office since 1995. A second review was completed in 2016, where the committee reviewed 100 intimate partner violence-related deaths from 75 cases that occurred between 2010 and 2015 (British Columbia Coroners Service Death Review Panel, 2016). The report provided a descriptive summary of the

demographics of those involved and their risk factors but did not describe the manner of death. In other words, strangulation as a risk-factor or cause of death was not reported in either of the two death reviews conducted to date in British Columbia.

Given the role strangulation plays as a significant and substantive risk factor for lethality, the fact that intimate partner-violence related deaths continue to happen and have possibly increased since the COVID-19 pandemic (e.g., Nelson et al., 2022), and that the most recent information available in British Columbia regarding risk factors and patterns for intimate partner lethality is nearly one decade old, it is recommended that British Columbia commission a new domestic violence death review study. Moreover, as the 2016 report suggested that approximately a dozen cases of intimate partner violence resulting in fatalities occurred every year in British Columbia, there would be value in commissioning a standing committee to conduct an annual in-depth review of these cases to understand current patterns and systemic gaps in practice and education, to make targeted recommendations to enhance practice, and to conduct an annual review of past recommendations to explore challenges to implementation and, when implemented as recommended, to understand the effects these recommendations are having.

Limitations

This study is the first in Canada to examine police officer awareness of and response to intimate partner violence files where strangulation and brain injury may have occurred. However, much more research is needed to extend these findings to populations outside of British Columbia. Police officers in British Columbia use a unique tool compared to other jurisdictions within Canada with respect to reviewing for intimate partner violence, and the tool that is used (the Summary of Intimate Partner Violence Risk) includes reference to strangulation, whereas tools used in other parts of Canada (namely the ODARA) do not appear to include a risk factor for strangulation. Currently, studies, such as those conducted by Pritchard et al. (2018) and Garza et al. (2021), have not been replicated in Canada, so there is limited knowledge regarding the accuracy of police officer identification of strangulation in reports of intimate partner violence to the police. It is possible that because the Summary of Intimate Partner Violence Risk guides officers to ask about strangulation, police officers will do a better job of identifying strangulation in their investigations of intimate partner violence. However, the degree to which police officers comply with appropriately using the Summary of Intimate Partner Violence Risk in intimate partner violence files and the methods by which they ask about strangulation has not been studied. Even within British Columbia, there is limited generalizability to the findings because, while more than 150 police officers participated in the current study, there were no participants from the North District and very few from the Interior District. Still, the study is the first to provide insights into where training would be of benefit to provide police officers with more knowledge and skills to investigate and document evidence of strangulation and brain injury in intimate partner violence. Moreover, it is the first study in Canada to identify what police officers understand about brain injury in the context of intimate partner violence, and more research is needed to explore how these issues are being documented or reported by police officers.

It is important to note that police interpreted both scenarios involving strangulation (implied and stated) as having an above average need for a medical examination. When given a scale where 1 represented no need for a medical exam and 5 represented an extreme need, the average ratings for both the implied and stated strangulation scenarios exceeded a 4. Still, though the difference was not substantive, police did rate the scenario involving the stated strangulation as statistically significantly more in need of a medical examination than the scenario involving the implied strangulation. One limitation in this current study to consider is that participants were not asked to explain their ratings. One interpretation is that participants viewed the stated strangulation scenario as involving a greater need for a medical exam as this scenario involved a sexual assault, whereas the implied strangulation scenario described an assault. Furthermore, the implied strangulation scenario described strangulation in which a forearm was pressed against the neck, which police officers may not recognize as involving strangulation compared to the stated scenario where the strangulation was described as occurring by hands around the victim-survivor's neck. Future research should explore these trends in greater depth, including capturing information on the reasons for police officer decision making in these types of files.

Similarly, while the study yielded important findings about the apparent lack of familiarity with the new strangulation-specific offence codes in Canada's *Criminal Code*, participants were given limited time and information to consider what charges might be appropriate in the provided scenarios. It is possible that in a real-life scenario with a greater degree of investigation and detail, more police officers would have used a strangulation-specific offence code. Moreover, as British Columbia is a charge approval province, it is possible that Crown Counsel will change the recommended charge to one involving strangulation meaning that a police officer's failure to identify these codes may not be as potentially damaging to the subsequent prosecution of the case as it might be in other provinces that do not use a similar charge approval process. However, when they submit their Report to Crown Counsel with recommended charges, it is expected that police officers lay out the evidence to support those charges. If they investigate an assault by strangulation as a simple assault, there may not be the necessary detail in the file to support Crown Counsel proceeding with charges related to strangulation. This means that perpetrators of strangulation will not be held as accountable as they could be under the current legislation. Further study of actual police file data and charging practices in these cases would be beneficial.

Conclusion

Out of 20 provided risk factors, strangulation was given the highest average rating by police participants in terms of future risk for victimization by an intimate partner. This is consistent with the empirical literature that has established that strangulation increased risk for lethality by over 700%. Similarly, in this current study, the scenario where the victim directly disclosed strangulation to the police officer was rated as the most severe threat to life of the three scenarios presented. Police officers in this study clearly had an appreciation for the risk that strangulation posed, at least when the strangulation was directly disclosed to them by victims-survivors. However, there is a need for further training and education regarding the new *Criminal Code* charges available for strangulation-related offences, and further research should explore why these

are not being used more often, and whether their use can be enhanced by the implementation of a strangulation supplement and protocol in British Columbia.

Although not a direct test of the effects of the new training curriculum for police officers in British Columbia, the results of the current study suggested that the education provided to police officers improved their basic level of understanding of strangulation in intimate partner violence. Compared to the data collected in an earlier study by McCormick et al. (2022), police participants in the current study demonstrated a strong comprehension about the risks and potential consequences of strangulation, including how quickly a victim-survivor could lose consciousness and die as a result of strangulation, that there were often no visible signs that strangulation occurred, that strangulation could result in a brain injury, and that it was important for the victim-survivor to receive medical care following a strangulation, even if they had no apparent injuries. This knowledge is critical for police officers because they often represent the first intervention point for a victim-survivor of intimate partner abuse and have the potential to recommend care that can change the trajectory of recovery for the victim-survivor.

The results of the current study also pointed to areas where ongoing education was needed. In particular, the results suggested that police officers might recognize the signs and symptoms of a potential strangulation when asked directly about it, but when those signs or symptoms were described or implied, police officers were not necessarily picking up on the potential for a strangulation to have occurred. While this is survey data, which does not necessarily translate into real world situations, the results of the current study were consistent with the data collected in prior research studies in the United States where a substantial proportion of files contained evidence of strangulation that was not detected by the police officer. In the current study, police participants rated implied strangulation files as significantly less serious than files where the strangulation was overtly reported. This highlights the importance of using a supplement to ask about and document the potential signs and symptoms of strangulation, as well as asking about experiences with strangulation in different ways. While police officers in British Columbia are instructed to ask about strangulation as part of the Summary of Intimate Partner Violence Risk factors template, they are not provided with a list of questions to ask or a supplementary guide to assist them in recording the signs or symptoms present. Currently, it is unclear what questions police officers ask in the field, how they record observations about strangulation signs or symptoms, whether and when they photograph evidence of injuries, and what effects this has on charge approval for offences relating to strangulation.

This is the first study in Canada to examine police understanding and response to intimate partner abuse files involving strangulation or brain injury, and it yielded some important insights about police officer knowledge and the apparent effects of training. Given the risk that strangulation poses to the health and life safety of victims-survivors of intimate partner abuse, it is imperative that further training be given to police officers to continue to strengthen their understanding of these issues and enhance their responses to these types of files, which can have the effect of reducing the likelihood of repeat victimization and the chance that a victim-survivor will experience life altering or life ending consequences because of being exposed to strangulation or another source of brain injury through intimate partner violence.

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