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Exploring the Differences Between Domestic Homicide and Homicide-Suicide: Implications for Risk Assessment and Safety Planning

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Abstract

Domestic homicide, the killing of an individual by their current or former intimate partner, is a tragic and pervasive event. Research supports the finding that a history of domestic violence within a relationship acts as a strong predictor of domestic homicide (DH) and domestic homicide-suicide (DHS). At present, there is limited research that examines patterns in risk factors used to distinguish perpetrators of domestic homicide from domestic homicide-suicide. The present study aims to differentiate perpetrators of domestic homicide and domestic homicide-suicide according to prevalent risk factors and case characteristics. In this paper, case reports were examined from the Domestic Homicide Death Review Committee database that has been developed in collaboration with the Coroner's Office in Ontario. A multivariate analysis using demographic information and identified risk factors within the cases was conducted in order to explore key differences between the perpetrators. The study supports the development of more refined risk assessment and risk management strategies in order to prevent deaths in similar circumstances from occurring in the future.

Keywords: domestic homicide, domestic homicide-suicide, risk factors, Domestic Violence Death Review Committee, depression, suicide, age, risk assessment, safety planning

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Exploring the Differences Between Domestic Homicide and Homicide-Suicide: Implications for Risk Assessment and Safety Planning

Domestic violence refers to violence between intimate partners (Statistics Canada, 2013) and can take the form of physical, sexual, emotional, financial, and verbal abuse. In 2013, there were more than 175,000 female victims of police reported violence committed by their current or former intimate partner, accounting for 52% of all victims of violent crime (Statistics Canada, 2013). Domestic violence is a reality for many women both nationwide and globally. In Canada, domestic violence is a gender-stratified problem with women in 2013 accounting for nearly 80% of domestic violence victims (Statistics Canada, 2013). The most extreme form of domestic violence is domestic homicide. In 2014, 67 Canadian women were murdered by their current or former intimate partner (Statistics Canada, 2015). This number translates to one woman being killed by domestic homicide every six days. An overwhelming number of these and other domestic homicide cases have a known history of domestic violence within the relationship (Belfrage & Rying, 2004; Bourget, Gagne, & Whitehurst, 2010; Campbell, Webster, Koziol-McLain, & Black, 2003; Dutton & Kerry, 1999). In the cases that have been reviewed by the Ontario Domestic Violence Death Review Committee (DVDRC), more than 72% had a documented history of domestic violence between the perpetrator and the victim (DVDRC, 2014). In these cases, this pattern of abusive behaviour eventually led to the death of the victim.

The Present Study

Past research recognizes domestic violence as a major risk factor for domestic homicide. Furthermore, the escalation of violence is an important indication of lethal risk (DVDRC, 2014). This research will outline risk factors for domestic homicide (DH) and domestic homicide suicide (DHS) that are important indicators of harm. By exploring the varying risk factors both within and between cases of DH and DHS it becomes evident that there is not a homogenous population

of people who commit acts of domestic violence, DH, or DHS. This research will review domestic violence and domestic homicide perpetrator profiles that have been proposed. In analyzing past research, the researcher will highlight a gap in the literature that pertains to the different risk factors and demographic variables that vary between perpetrators, and the need for domestic homicide and domestic homicide-suicide perpetrators to be distinguished in risk assessment, risk management, and safety planning strategies.

Literature Review

Domestic Homicide

Domestic homicide is defined as the killing of a person by a current or former partner (Oram, Flynn, Shaw, Appleby, & Howard, 2013). Stockl and colleagues (2013) provided a report on the global prevalence of intimate partner homicide. Their report included 66 countries with results indicating that intimate partners commit one in seven homicides globally (Stockl, Devries, Rotstein, Abrahams, Campbell, Watts, & Moreno, 2016). Men and women are both at risk of being victims of domestic homicide, however, domestic homicide is also a gender-stratified problem. Intimate partners commit almost half of all female homicides globally (Stockl et al., 2013). In Ontario, Canada, women made up 82% of the victims in the domestic homicide cases that occurred between 2002-2013 (DVDRC, 2014). Bourget and colleagues (2000) reported that women are six times more at risk of being murdered by a spouse than by a stranger. From 2003 to 2013 domestic homicide was highest for women between the ages of 20-44, with the most frequent victims being in their mid-twenties (Statistics Canada, 2015). It is important for health care professionals and agencies to be aware of risk factors identified in previous domestic homicide cases, in order to prevent similar fatalities from occurring.

Domestic Homicide-Suicide

Acts of domestic homicide-suicide (DHS) differ from acts of domestic homicide (DH). Domestic homicide-suicide can be understood as the killing of one or more individuals followed by the suicide of the perpetrator (Panczak, Geissbuhler, Zwahlen, Killias, Tal, & Egger, 2013). There were 344 reported cases of homicide-suicide in Canada between 2001 and 2011, 54% involved a male killing his current or former legal or common-law spouse (Brennan & Broyce, 2013). Additionally, 9% involved a male killing only his children, 9% involved a male killing the victim's current intimate partner, and an additional 12% involved a male killing an acquaintance of the victim (Brennan & Broyce, 2013). Some researchers restrict the classification of "domestic homicide-suicide" to cases where the homicide and suicide occur within a specified time frame. The most commonly cited time restriction between the homicidal and suicidal act is 24 hours (Banks, Crandall, Sklar, & Bauer, 2008; Barber, Azrael, Hemenway, Olson, Nie, Schaechter, & Walsh, 2008; Lund & Smorodinsky, 2001; Malphurs, 2005). Cases of DHS may be underreported for several reasons. The homicidal and suicidal act may fall outside of the specified time frame, or there may be a lack of sufficient evidence connecting the violent actions. Viewing these acts as separate events restricts prevention and intervention strategies. Different risk factors, motives, and precipitating events have been identified in cases of DH and DHS. General Strain Theory can aid in conceptualizing the different predictors in these criminal cases.

General Strain Theory

General Strain Theory (GST) is a theory of criminology that was developed by Robert Agnew based on the early work of Robert Merton (Agnew, 1992). General Strain Theory has been further adapted in recent years to explain male and female perpetrators of domestic homicide. More specifically, GST for intimate partner homicide accounts for different strains, or stressors, experienced both within and between male and female perpetrators. GST focuses on the

emotional reactions and coping strategies that mediate adverse experiences and criminal involvement (Eriksson & Mazerolle, 2013). At the center of GST is the assertion that experiences of strain increase the likelihood of criminal behaviour (Agnew, 1992; Eriksson & Mazerolle, 2013).

GST discusses three main categories of strain that play a role in criminal behaviour and more specifically, in domestic homicide. These categories include: experiencing adverse events, losing something positively valued, and being prevented from achieving one's goals (Agnew, 1992; Eriksson & Mazerolle, 2013). Furthermore, strains can be categorized as objective or subjective to the perpetrator, where subjective strain refers to the perpetrator's evaluation of the event or condition (Eriksson & Mazerolle, 2013). Subjective strain is proposed to have a stronger correlation with criminal behaviour than objective strain (Eriksson & Mazerolle, 2013).

Furthermore, GST asserts that not all strains are equally likely to result in crime. Characteristics that are particularly meaningful in explaining criminal behaviour, including DH, are magnitude, duration, recency, centrality, and clustering (Agnew, 1992; Eriksson & Mazerolle, 2013). Magnitude refers to the degree, or severity of the strain, duration refers to how long and often the strain is experienced, and as is implied, recency refers to how recent the strain(s) occurred (Agnew, 1992; Eriksson & Mazerolle, 2013). Additionally, centrality examines how important the goal, value, or activity is to the individual that is experiencing strain and lastly, clustering refers to the number of strains that have occurred within a short time frame (Agnew, 1992; Eriksson & Mazerolle, 2013).

GST proposes that the amount and type of strain experienced by a perpetrator, coupled with their self-efficacy and coping resources may signify the degree of risk posed to potential victims (Eriksson & Mazerolle, 2013). The present study asserts that demographic variables, as well as identified risk factors can be sources of strain to the perpetrator. For example, separation

is a well-documented risk factor for DH. Separation can be understood as a strain for perpetrators due to a perceived loss of control, or loss of something valued (Eriksson & Mazerolle, 2013). Additionally, it is well documented in the literature that women are at the greatest risk of DH within three months following a separation from the perpetrator (Wilson et al., 1993). Recent separation can be even more strenuous due to its perceived magnitude, recency, and centrality to the perpetrator's life. Furthermore, negative emotions such as anger, sexual jealousy, and possessiveness may exacerbate real or perceived strains (Eriksson & Mazerolle, 2013). These emotions may mediate the perpetrator's experience of strain and desire to carry out the DH (Eriksson & Mazerolle, 2013).

This study focuses exclusively on instances of DH and DHS that involved a male perpetrator and a female victim. However, GST identifies different strains experienced between male and female DH perpetrators, which further supports the notion of heterogeneity within perpetrators.

As a result of the variability of risk factors evident in incidents of DH and DHS, policy makers and community agencies struggle to accurately predict and prevent these tragedies from occurring. The Ontario DVDRC notes that in 80% of the cases reviewed between 2003-2014 there were seven or more risk factors that precipitated the acts of domestic homicide or domestic homicide-suicide (DVDRC, 2014). These risk factors may represent different subjective and objective strains to the perpetrator and contribute to the destructive act(s) based on the amount and impact they have on the perpetrator's perceived ability to maintain things that are positively valued or resist undesirable outcomes. The frequency and severity of domestic violence may be a result of the perpetrator's subjective experience of strain. The violence may be an attempt to maintain control and reduce the impact the strain has on their life. Perpetrators perceive different situations and events as strenuous and the impact it has on them will vary as a result (Eriksson &

Mazerolle, 2013). There is no single type or profile of a domestic homicide perpetrator (Greene, Coles, & Johnson, 1994; Hamberger, Lohr, Bonge, & Tolin, 1996; Juodis, Starzomski, Porter, & Woodworth, 2014; Kivisto, 2015) because of varying subjective experiences. Viewing perpetrators of domestic homicide and domestic homicide-suicide as a homogenous group is precarious, as it is too general to best inform prevention efforts. The most common risk factors will be discussed in the following sections.

Risk Factors Common to Domestic Homicide

Cases of domestic homicide and domestic-homicide suicide appear to differ in regards to relevant risk factors, demographic, and psychosocial variables. One of the most significant risk factors contributing to domestic homicide is separation (Belfrage & Rying, 2004; Campbell et al., 2003; Dutton & Kerry, 1999; Ety, Yael, & Moshe, 2010; Johnson & Hotton, 2003; Juodis et al., 2014; Sheehan, Murphy, Moynihan, Dudley-Fennessey, & Stapleton, 2015; Wilson & Daly, 1993). Belfrage and Rying (2004) noted that in their sample of 150 perpetrators, 40% of the sample killed the victim for motives related to a separation between the perpetrator and the victim. Juodis and colleagues (2014) examined 115 perpetrators who were incarcerated in Canadian federal correction facilities. They found relationship separation to be a factor in over 70% of the domestic homicides they reviewed (Juodis et al., 2014). Sheehan and colleagues (2015) noted that the victims who were separated from the perpetrator were at a threefold increased risk of domestic homicide than those victims who were never married or separated. Furthermore, research indicates an increased risk if the victim left the perpetrator for a different partner (Campbell, 2003).

The literature has found that women are at the greatest risk of domestic homicide within the first three months after separating from the perpetrator (Dawson & Gartner, 1998; Johnson & Hotton, 2003; Wilson & Daly, 1993). Johnson and Hotton (2003) reviewed 73 cases and noted

that 49% of femicides occurred within 2 months of the separation, 32% occurred between 2-6 months, and 19% occurred more than one year after the relationship was terminated.

As was briefly mentioned, a past history of domestic violence is a prominent risk factor for domestic homicide, especially an escalation in the frequency and severity of violence (DVDRC, 2014; McFarlane, Campbell, Wilt, Sachs, Ulrich, & Xu, 1999). Campbell (2003) found that in their sample of 307 victims, the perpetrator had physically abused 70% before they were killed. Furthermore, women who are abused during pregnancy are at particular risk of lethal violence (Campbell et al., 2003; McFarlane, Parker, & Soeken, 1995). McFarlane and colleagues (1995) reported that women who are abused during pregnancy are at nearly three times greater risk of homicide than women who report a cessation of abuse during pregnancy.

Relatedly, having a criminal record may be an important risk factor in DH cases. The literature suggests that perpetrators of domestic homicide often have a criminal record (Belfrage & Rying, 2004; Eke, Hilton, Harris, Rice, & Houghton, 2011; Oram et al., 2013; Sharps, Campbell, Campbell, Gary, & Webster, 2001). However, a criminal record is less common in domestic homicide-suicide cases (Eliaison, 2009). Some perpetrators are on parole at the time of the DH and DHS and are restricted from having access to the victim (DVDRC, 2014). A criminal record and history of violence may uniquely differentiate perpetrators of DH and DHS.

The literature is mixed on whether unemployment is a risk factor for domestic homicide (Belfrage & Rying, 2004; Campbell et al., 2003; Liem & Roberts, 2009; Oram et al., 2013; Panczak, et al., 2013). Belfrage and Rying (2004) noted that 80% of the DH perpetrators in their sample were employed at the time of the destructive act, whereas Campbell and colleagues (2003) found unemployment to be the most important demographic risk factor in acts of intimate partner femicide. The role employment has on perpetrators carrying out acts of domestic violence and domestic homicide is not well established.

Perpetrators and victims have been found to access community services prior to the DH. A study conducted between 2000-2009 analyzed 122 intimate partner homicides that occurred in Victoria, Australia. The result indicated that in 75.8% of the cases either the victim or the perpetrator had contact with a community service within the 12 months preceding the fatal event (Murphy, Liddell, & Bugeja, 2016). In 53.8% of these cases there was contact with a single service type, and the remaining 46.2% of cases had contact with multiple services (Murphy et al., 2016). The most frequently contacted services were the justice system ($n = 51$) and the healthcare system ($n = 48$) (Murphy et al., 2016). Sadly, the majority of service contacts (70.8%) occurred within one month of the homicide (Murphy et al., 2016), which speaks to the importance of service providers detecting signs and risk factors for domestic homicide.

Although DH cases are most commonly carried out using a firearm, there is more weapon variability in DH cases compared to DHS cases (Banks et al., 2008; Bourget et al., 2000). Other common methods of DH include stabbing, asphyxiation, burning, and poisoning (Banks et al., 2008; Bourget et al., 2000). Studies show that gun access and ownership are important risk factors for domestic homicide (Campbell et al., 2007; Hepburn & Hemenway, 2004).

Other risk factors that have been reported for domestic homicide include the presence of a stepchild in the home (Campbell et al., 2007), more frequent substance use at the time of the act (Bourget et al., 2000; Campbell et al., 2003), and stalking (Campbell et al., 2003; Campbell, Glass, Sharps, Laughon, & Bloom, 2007; McFarlane et al., 1999). Common stalking behaviours that have been reported by victims include being followed or spied on, the perpetrator sitting in a car outside of their work or home, and receiving unwanted phone calls (McFarlane et al., 1999). The above-mentioned risk factors are associated with domestic homicide and place victims at greater risk of harm.

Risk Factors Common to Domestic Homicide-Suicide

Although there are risk factors that are commonly reported in cases of DH and DHS, there are several differences that have also been identified. Perpetrators of DHS have been found to make more threats and attempts of suicide before the violent act (Knoll & Hatters-Friedman, 2015; Koziol-McLain, Webster, McFarlane, Block, Ulrich, Glass, & Campbell, 2006; Liem & Roberts, 2009; Yip, Wong, Cheung, Chan, & Beh, 2009). Of particular interest, many perpetrators have been found to be in contact with a mental health professional prior to the domestic homicide-suicide (Bourget et al., 2010). This finding suggests that mental health professionals may have missed opportunities for appropriate risk assessment strategies. Health care professionals need to be aware of a potential risk of homicide when a client discloses thoughts of suicide.

Perpetrators of DHS have been found to kill their intimate partner more frequently for reasons related to separation and estrangement than perpetrators of DH (Barber et al., 2008; Dawson, 2005; Eliason, 2009; Johnson & Hotton, 2003; Knoll & Hatters-Friedman, 2015; Koziol-McLain et al., 2006; Liem & Roberts, 2009; Rosenbaum, 1990; Starzomski & Nussbaum, 2000; Yip et al., 2009). Liem and Roberts (2009) examined 341 case reports of DH and DHS that occurred between 1980-2006 in the Netherlands. The reports included investigations, witness statements, police reports, and psychological and psychiatric assessments. They found that the perpetrators of DHS were more likely to be motivated to kill the victim after the victim indicated they wanted to terminate the relationship (Liem & Roberts, 2009).

Dawson (2005) examined intimate femicide cases in Ontario between 1974 and 1994. Her results indicated that cases of intimate partner femicide-suicide were more likely to involve premeditation (more than 50%) than cases of intimate femicide only (20%) (Dawson, 2005). Dawson (2005) found that jealousy, ill health, and other life stressors were more frequent in

intimate partner femicide-suicide cases. Disclosing an explicit plan to complete suicide to a professional may indicate an increased risk of harm to the current or former partner.

Furthermore, the literature suggests that, on average, perpetrators of DHS tend to be older than perpetrators of DH (Banks et al., 2008; Belfrage & Rying, 2004; Bourget, Gagne, & Moamai, 2000; Bourget et al., 2010; Dawson, 2005; Eliason, 2009; Koziol-McLain et al., 2006; Logan, Hill, Black, Crosby, Karch, Barnes, & Lubell, 2008; Lund & Smorodinsky, 2001; Panczak et al., 2013). Banks and colleagues (2008) reported that the mean age of both the victims and perpetrators in DHS cases were older than DH cases. Furthermore, the perpetrator tended to also be significantly older than the victim in cases of DHS (Banks et al., 2008). This indicates a unique risk factor of age disparity between the victim and perpetrator in cases of DHS.

The risk factor of older age may be connected with the literature that suggests that these men have been found to have a higher prevalence of psychiatric and medical diagnoses (Belfrage & Rying, 2004; Bourget et al., 2000; Bourget et al., 2010; Eliason, 2009; Knoll & Hatters-Friedman, 2015; Logan et al., 2008). In her sample of DH and DHS cases, Dawson (2005) found that perpetrators who were motivated by sickness, as evidenced by declining health, health-related stressors, or a suicide pact, were seven times more likely to commit suicide following the homicidal act. Bourget and colleagues (2010) examined coroner's files on cases of domestic homicide in Quebec between 1992 and 2007. They found that 86% of DHS perpetrators over the age of 65 had a psychiatric diagnosis (Bourget et al., 2010). A higher prevalence of depression has also been found in perpetrators of DHS (Bourget et al., 2000; Eliason, 2009; Knoll & Hatters-Friedman, 2015; Liem & Roberts, 2009; Malphurs & Cohen, 2005; Rosenbaum, 1990; Salari & Sillito, 2016). Malphurs and Cohen (2005) found that 65% of homicide-suicide perpetrators reported depressed mood before the violent acts.

In addition to the perpetrator's poor and declining health, Bourget and colleagues (2010) found that older perpetrators (ages 65+) of DHS were often the primary caregivers for the victim. Malphurs and Cohen (2005) echoed their results when reporting that 40% of the homicide-suicide perpetrators in their sample were caregivers for their wives. Research suggests that suicidal men who commit domestic homicide-suicide may view their current or former spouse and children as "property" or an "extension of self" (Salari & Sillito, 2016). The perpetrator may believe that their partner or family cannot, or should not go on without them (Salari, 2007). Similarly, the victim's illness has also been found to be a precipitating factor in cases of domestic homicide-suicide (Barber et al., 2008). Past research has used the term *mercy killings* to describe acts of homicide-suicide in which the perpetrator, victim, or both, had declining physical or mental health (Barber et al., 2008; Campbell, 2007; Logan, 2008; Salari & Sillito, 2016). Salari and Sillito (2016) reject the concept of *mercy killings* and report that none of the cases of homicide-suicide they reviewed had evidence of the victim's consent. Furthermore, the authors state that the victim's declining or poor health does not indicate a willingness to die simply by virtue of their condition (Salari & Sillito, 2016).

In opposition to domestic homicide perpetrators, DHS perpetrators have been found to be more likely to be unemployed at the time of the destructive acts. Liem and Roberts (2009) found that perpetrators who completed suicide following an act of DH were more likely to be unemployed than DH perpetrators [58% versus 43%]. However, this is not a well-documented and endorsed risk factor in the literature.

The most common weapon used to carry out the acts of homicide and suicide is a firearm (Barber et al., 2008; Bourget et al., 2000; Dawson, 2005; Koziol-McLain et al., 2006; Logan et al., 2008; Lund & Smorodinsky, 2001; Malphurs & Cohen, 2005; Salari & Sillito, 2016). Logan (2008) reported that 88.2% of their sample used a firearm to commit the violent acts. Similarly,

Banks and colleagues (2008) indicated that DHS cases were carried out significantly more by use of a firearm (89.1%) compared to cases of DH (44.9%). Access to a firearm poses a significant risk factor to victims' and perpetrators' safety.

Furthermore, Banks and colleagues (2008) indicated that the victim and perpetrator in DHS cases were more commonly married or formerly married compared to DH cases. Their sample showed that nearly 70% of the couples in DHS cases were married or formerly married, compared to approximately 50% in DH cases (Banks et al., 2008). Lund and Smorodinsky (2001) and Panczak and colleagues (2013) reported similar findings.

Other risk factors that have been reported in DHS cases include having fewer instances of prior violence against the victim (Belfrage & Rying, 2004; Dawson, 2005) and the perpetrator being less commonly under the influence of alcohol or drugs at the time of the acts (Belfrage & Rying, 2004). At present, there is sparse research analyzing the difference between perpetrators who are motivated by the act of homicide or the act of suicide in cases resulting in DHS (Salari & Sillito, 2016).

Primary Intent of Perpetrators of DHS. Salari and Sillito (2016) have provided initial research on the motives of perpetrators of DHS. They examined 728 incidents of domestic homicide-suicide to determine the primary intent of the acts as either homicidal or suicidal. Additionally, they separated the cases into three age groups: young (ages 18-44), middle-aged (ages 45-59) and elder adults (ages 60 and older) (Salari & Sillito, 2016). Their results indicated that cases with primarily homicide intentions were characterized by a known history of domestic violence, prior police involvement, and victims who were more frequently isolated and feared the perpetrator (Salari & Sillito, 2016). Cases with primarily suicidal intent were characterized by perpetrators who were depressed, had previous thoughts or attempts of suicide, and victims who were unaware of their risk of harm (Salari & Sillito, 2016). The authors also found that

perpetrators in the younger and middle-aged categories were more often motivated by homicide, whereas perpetrators in the elder-aged group were commonly motivated by suicide (Salari & Sillito, 2016). Perpetrators or victims with poor health, depression, and caregiver burden were common in cases within the elder-aged group (Salari & Sillito, 2016).

It is apparent that there are varying risk factors and demographic variables that have been documented in instances of domestic violence, domestic homicide, and domestic homicide-suicide. Although no two cases are the same, risk factors can be identified in almost every case of DH and DHS. Past research has been conducted to better understand the distinct profiles of perpetrators of domestic violence and domestic homicide in order to prevent these destructive acts. Some of the common profiles will be discussed in the subsequent sections.

Domestic Violence Perpetrator Profiles

Studies have been conducted to better understand the profiles of men who perpetrate domestic violence. Holtzworth-Munroe and Stuart (1994) have developed one of the most well established theories of domestic violence perpetrator typologies. They determined that perpetrators could be classified along three major constructs: the severity and frequency of the domestic violence, the generality of the violence and the batterers' psychopathology (Holtzworth-Munroe & Stuart, 1994). From these dimensions the authors developed three different profiles of domestic violence perpetrators: family-only, dysphoric/borderline and generally violent/antisocial (Holtzworth-Munroe & Stuart, 1994).

The family-only perpetrator (type I) is proposed to be the least likely to abuse anyone other than a family member, have the highest marital satisfaction, be the least psychologically abusive, report low levels of anger and depression, and their violence is commonly associated with their alcohol use (Holtzworth-Munroe & Stuart, 1994).

The dysphoric/borderline perpetrator (type II) is suggested to be less violent than the generally violent perpetrator profile, but is reportedly the most psychologically abusive and dissatisfied with their marriage out of the three profiles (Holtzworth-Munroe & Stuart, 1994). This perpetrator profile reportedly has the highest levels of anger, depression, jealousy, the most reported suicidal ideation, and is the least likely to abuse in relation to being under the influence of alcohol (Holtzworth-Munroe & Stuart, 1994).

Lastly, the generally violent perpetrator profile (type III) is reportedly the most likely to be abusive outside of the family and engage in the most severe family violence out of the three profiles (Holtzworth-Munroe & Stuart, 1994). This perpetrator is the most likely to have been abused in their childhood and have a criminal record for drunk driving and violence-related incidents (Holtzworth-Munroe & Stuart, 1994). Furthermore, this perpetrator profile reports moderate marital satisfaction, low levels of anger and depression, and holds the most negative attitudes towards women (Holtzworth-Munroe & Stuart, 1994).

Holtzworth-Munroe and Stuart's (1994) domestic violence perpetrator typology has been empirically validated in the literature (Langhinrichsen-Rohling, Huss, & Ramsey, 2000; Dixon & Browne, 2003; Tweed & Dutton, 1998; Hamberger et al., 1996). Saunders (1992) reported a similar domestic violence typology with overlapping characteristics for the typologies. One of the major differences is that Saunder (1992) classified the second typology as "Emotionally Volatile" rather than "Borderline/Dysphoric".

Johnson proposed a domestic violence typology in 2008 that includes three subtypes: intimate terrorist, violent resistant, and situational couple violence. Extensive violence and control tactics used to control one's partner is characteristic of the intimate terrorist subtype (Johnson, 2008). This subtype most commonly includes male perpetrators and female victims. The violent-resistant subtype most commonly involves women who resist the violence and

control of the intimate terrorist (Johnson, 2008). This subtype aligns with the characteristics of the female perpetrator outlined in General Strain Theory (Eriksson & Mazerolle, 2013). Lastly, the situational couple violence subtype often involves violence that arises in relation to a specific conflict (Johnson, 2008). This subtype commonly includes both genders, as opposed to the prevalence of males in the intimate terrorist subtype and females in the violent-resistant subtype. Salari (2007) reports that the intimate terrorist is likely primarily motivated by the homicidal act when perpetrating a DHS.

Other theories have been proposed, none of which have been shown to be as reliable as Holtzworth-Munroe and Stuart's typology. For example, Greene and colleagues (1994) evaluated 40 men who had been court mandated for anger-management psychotherapy. Their results indicate that the subjects' anger expression could be distinguished into three types: under-controlled, over-controlled, and suppressed (Greene et al., 1994). As a result of the varying expressions of anger in these men, the authors developed four types of domestic violence perpetrators: histrionic personality, depressed personality, normal personality, and disturbed personality (Greene et al., 1994). The results of Greene and colleagues have not been empirically validated. The domestic violence typologies do not claim to generalize to cases resulting in domestic homicide or domestic homicide-suicide.

Domestic Homicide Perpetrator Profiles

At present there is no empirically validated typology of domestic homicide perpetrators. Kivisto (2015) has developed a preliminary typology based on past literature on DH perpetrators that focuses on the demographic, psychiatric, and motivational characteristics of homicidal acts. Kivisto (2015) has proposed four profiles of DH perpetrators: mentally ill, under-controlled/dysregulated, chronic batterer, and the over-controlled/catathymic type. Kivisto

developed these preliminary perpetrator profiles by examining studies that reviewed intimate partner homicides in the United States between 2008-2012 (Kivisto, 2015).

The mentally ill DH perpetrator profile (type I) is characterized by severe psychotic disorders, severe mental illness, and a minimal history of domestic violence or substance abuse (Kivisto, 2015). This profile tends to be older than the other perpetrator types (Kivisto, 2015).

The under-controlled/dysregulated perpetrator profile (type II) is characterized by having a mood or anxiety disorder, episodic violence, and is motivated by fear of abandonment and jealousy (Kivisto, 2015). Severe borderline personality disorder is prevalent in this perpetrator type (Kivisto, 2015). These perpetrators commonly have a history of substance abuse and are at an increased risk of suicide following the act of domestic homicide (Kivisto, 2015).

The chronic batterer perpetrator profile (type III) is characterized by having antisocial or narcissistic personality disorder and is persistently violent both generally and within the family (Kivisto, 2015). This perpetrator type is motivated by feelings of abandonment and is more likely to kill the victim's current partner if there are associated deaths with the act of domestic homicide (Kivisto, 2015).

Lastly, the over-controlled/catathymic perpetrator profile (type IV) is the highest functioning perpetrator pre-homicide. This perpetrator type is more likely to be employed, have minimal previous history of violence, and is likely to have dependent personality disorder, if a diagnosis is present (Kivisto 2015). This type is motivated to commit an act of domestic homicide out of envy rather than jealousy or fear of abandonment (Kivisto, 2015).

The typology proposed by Kivisto is based on previous findings and studies that have analyzed domestic homicides carried out by a male perpetrator. Although cases of domestic homicide frequently have a known history of domestic violence, this connection has not been established in the typology literature. Holtzworth-Munroe and Stuart (1994) and Kivisto (2015)

both distinguish profiles using their history of violence, the generality of the violence, the presence of mental illness, the perpetrator's substance use, the motive of jealousy, as well as their risk of suicide. There appears to be overlap between the profiles proposed by Holtzworth-Munroe and Stuart (1994) and Kivisto (2015), however, this has not been examined to date.

Rationale and Purpose of the Current Study

This study explored potential differences in perpetrator characteristics and risk factors for domestic homicide and domestic homicide-suicide cases. The purpose of the study was two-fold. First, this study compared cases of DH and DHS based on demographic, psychosocial, and risk factors that have been established in the literature. The Ontario Domestic Violence Death Review Committee (DVDRC) has identified 39 risk factors that can be used to identify points of intervention to prevent the potential for lethality within the examined relationship (DVDRC, 2015). The identified risk factors are dynamic (i.e. "actual or pending separation"), static (i.e. "history of separation") or victim-focused (i.e. "extreme fear of the perpetrator") (Centre for Research and Education on Violence Against Women and Children, 2012). See Appendix B for a complete list of risk factors identified by the Ontario DVDRC (DVDRC, 2014). There are a limited number of studies that explicitly compare cases of DH and DHS. Relatively new research has been conducted that compares DH and DHS in the older population, however more research is required across all cases of DH and DHS in order to evaluate and build off of previous findings. Such knowledge will inform current risk assessment and safety planning strategies for women who are found to be at risk of lethal violence, as well as risk management strategies to deal with identified perpetrators of domestic violence.

Secondly, this study aims to evaluate how certain risk factors, in combination, distinguish between cases of domestic homicide and domestic homicide-suicide. Discovering what factors in combination predict cases of DH and DHS, as well as identifying the primary motive in cases of

DHS using the method outlined in Salari and Sillito (2016) will assist in developing more refined risk assessments in the community.

Hypotheses

Based on previous literature, the following findings were expected.

Differences between Domestic Homicide and Homicide-Suicide Perpetrators

1. Domestic homicide perpetrators will have more prior criminal involvement than domestic homicide-suicide perpetrators.
2. Domestic homicide perpetrators will have more history of domestic violence than domestic homicide-suicide perpetrators.
3. Domestic homicide-suicide perpetrators will have a higher frequency of reported mental health problems (diagnosed by mental health professionals and/or reported by friends and family) than domestic homicide perpetrators. Depression is expected to be more prevalent in DHS cases.
4. Domestic homicide-suicide perpetrators will have made more prior threats and attempts of suicide than perpetrators of domestic homicide.
5. Domestic homicide-suicide perpetrators will have more contact with community agencies than perpetrators of domestic homicide. Specifically, more contact with health care and mental health agencies is expected.

Differences between Domestic Homicide and Homicide-Suicide Cases

6. Domestic homicide-suicide cases will have less known risk factors than domestic homicide cases.
7. There will be a large age disparity between perpetrators and victims involved in domestic homicide-suicide cases, as evidenced by an age gap of nine or more years.

8. The perpetrator and the victim will more frequently be older in domestic homicide-suicide cases, as evidenced by being over the age of 55.
9. Domestic homicide cases will have more relationship separation and termination between the perpetrator and the victim.

Additional Research Questions

1. Can case type (DH versus DHS) be predicted based off of the cumulative variance explained by four predictor variables (age difference between the perpetrator and victim, total number of risk factors, perpetrator professional or non-professional diagnosis of depression, and perpetrator prior threats and/or attempts of suicide)?
2. Do differences with regard to DHS perpetrators' primary intentions vary across age groups (young, middle-aged, and elder adults)?

Method

Data Collection

The data were obtained from the Ontario Domestic Violence Death Review Committee (DVDRC). The DVDRC was established in 2003 in the Office of the Chief Coroner located in Toronto, Ontario. Domestic Violence Death Review Committees have been established in multiple provinces and states throughout Canada and the United States. These committees perform in-depth analyses of domestic homicide and domestic homicide-suicide cases to determine trends and risk factors that can inform risk management and prevention efforts. The Ontario DVDRC only reviews cases once all investigations and court proceedings have been completed (DVDRC, 2014). The amount of information contained in a case varies depending on the amount of prior agency involvement by the victim(s) and perpetrator, as well as the sensitivity of the police investigation. The DVDRC utilizes a coding form to review all cases (see Appendix A). A DH or DHS case may include any and all of the following reports: coroners report, police

report(s), witness statements, health care professional documents, counselling professional documents, probation and parole officer documents, and family and service agency statements (DVDRC, 2014).

Cases. At the time the 2014 report was published, the Ontario DVDRC had reviewed 199 cases resulting in 290 deaths (DVDRC, 2014). Of the cases that have been reviewed, 122 were classified as a homicide or multiple homicide, and 77 were classified as a homicide-suicide or multiple homicide-suicide (DVDRC, 2014). The homicide incidents that were reviewed occurred between 2002 and 2012 and were fairly evenly distributed across the years. The majority of homicide cases occurred in 2002 ($N = 30$), 2003 ($N = 24$), 2004 ($N = 24$) and 2005 ($N = 30$). The cases were reviewed between 2003 and 2013, with the highest number of cases being reviewed in 2011 ($N = 32$). Cases vary regarding their availability to be reviewed by the committee as a result of court proceedings and police investigations. Due to the nature of domestic homicide-suicide cases, these cases are often available to be reviewed more quickly than domestic homicide cases because there are often no court proceedings.

Omitted Cases. Of the 199 cases reviewed by the DVDRC, a male offender perpetrated 181 cases and a female offender committed the remaining 18 homicides. Past literature highlights key differences between domestic homicide and domestic homicide-suicide incidents that are perpetrated by a male or female offender (Weizmann-Henekius, LicPhil, Putkonen, Eronen, Lindberg, & Hakkanen-Nyholm, 2012). General Strain Theory posits that male and female perpetrators experience different types of strains and subjective experiences (Eriksson & Mazerolle, 2013). They suggest that men tend to externalize their blame more onto others, whereas women tend to internalize blame (Eriksson & Mazerolle, 2013). As a result, it is suggested that men and women engaged in different forms of violence (Eriksson & Mazerolle, 2013). Past research suggests that previous victimization is a risk factor for female perpetrators of

domestic homicide (Katz, 2000). Additionally, child abuse, escalating partner violence, and fear have been found in females who perpetrate domestic homicide (Eriksson & Mazerolle, 2013). As a result of the different strains and subjective experiences between male and female perpetrators, in addition to the low number of female-perpetrated cases, only DH and DHS cases that were committed by a male offender were included for analysis.

There were only two cases where the perpetrator and the victim were of the same sex. In both cases the relationship between the victim and perpetrator was common-law. These cases were omitted as a result of the different risk factors and safety planning that may be relevant to domestic homicide and domestic homicide-suicide involving current or former same-sex partners.

Cases that were classified as “attempted homicide” or “attempted homicide-suicide” were omitted from analysis ($N = 19$). The literature is limited on how these cases may differ from cases resulting in a completed DH or DHS. As a result, these cases were removed in order to more confidently interpret the results of the analyses.

A death of one or more children occurred in 17 cases that were perpetrated by a male offender ($N = 18$ child deaths). Paternal filicide research indicates that children are often killed in the context of retaliation and in order to punish the victim for terminating the relationship (Bourget et al., 2007). This concept of a “retaliatory filicide” has not been applied to the killing of adult children, and therefore these cases were removed from the dataset. Four of the cases resulting in the death of a child were removed from analysis as a result of the child being an adult (age range = 37-41 years). Thirteen cases involving the death of a child victim were included in the final dataset.

In conclusion, the final dataset contained 158 cases (94 homicide or multiple homicide; 64 homicide-suicide or multiple homicide-suicide). The perpetrators ranged in age from 17-89 years ($M = 42.76$) and the primary victims ranged in age from 15 to 85 years ($M = 39.71$). The

perpetrators were most frequently between the age groups of 35-39 and 45-49 ($N = 22$ respectively). Only four perpetrators fell within the age range of 15-19 years and two perpetrators fell between the ages of 85 to 89 years. Primary victims were most commonly between the ages of 40 to 44 ($N = 21$). Additionally, eight primary victims fell between the ages of 15 to 19 and two primary victims were between the ages of 85 to 89 years. Primary victims exclude children because children are most often viewed as additional victims rather than the intended victim. Children are significantly impacted by domestic homicide through the loss of one or both parents and experience significant mental, physical, and behavioural issues as a result (Jaffe, Campbell, Hamilton, & Juodis, 2012). Children are rarely the primary targets of a domestic homicide. When children are the intended victims there is often a history of threats and abuse against the child (Jaffe et al., 2012). These cases are considered child homicides and are not included in this sample.

Procedure

The researcher took an oath of confidentiality from the DVDRRC committee as well as the Coroner's Office. After approval had been received from Western University's Ethics Review Board, the researcher received access to case summaries by the Chief Coroner of Ontario. Cases were assigned study numbers and all identifying information was removed in order to maintain confidentiality. Information and files pertaining to the cases are stored on an encrypted computer in the Centre for Research and Education on Violence Against Women and Children (CREVAWC) at Western University. The researcher removed cases that did not include a male perpetrator and a female victim, a completed homicide or homicide-suicide, or child victims who were over the age of twenty-five. A case is identified as domestic homicide-suicide if the perpetrator completed an act of suicide following the domestic homicide. The inclusion criteria

for a domestic homicide-suicide case did not include a time restriction between the suicidal act and the homicidal act.

Intent was analyzed using the classification criteria outlined by Salari and Sillito (2016). In their study, a history of domestic violence, threats, violence against the victim, stalking, severe injury, and the killing of additional victims was indicative of a perpetrator with primarily homicidal intentions (HI). Primarily suicidal intention (SI) was predicted by unsuspecting victims and perpetrators who were sad, depressed, suicidal, and/or in poor health. The current study analyzed the primary intention of perpetrators using similar criteria. Perpetrators were separated into three categorical age groups that reflected the age groups outlined by Salari and Sillito (2016): young (ages 17-44), middle (ages 45-59), and elder (ages 60-89) and were analyzed based on their history of domestic violence, prior threats against the victim, if the perpetrator monitored the victims whereabouts, the killing of additional victims, perpetrator prior threats and/or attempts of suicide, depression in the opinion of professionals or non-professionals, perpetrator has other mental health or psychiatric problems, and the victim's sense of fear.

Statistical Analysis

Chi-Square Analyses. Risk factors associated with domestic homicides and domestic homicide-suicides were examined. Some risk factors pertaining to the perpetrator that were examined include: the perpetrator having been professionally or non-professionally diagnosed with depression, having a criminal history, having made prior threats to kill the victim, and having made prior threats with a weapon. Some risk factors related to the relationship between the perpetrators and the primary victims that were examined include: having a history of domestic violence, living common law, and being separated or having a pending separation. Comparisons between groups (domestic homicide versus domestic homicide-suicide cases) were completed through descriptive information and chi-square analyses. Specifically, chi-square analyses were

used to examine the risk factors, characteristics, and agency involvement that were most prevalent in each group. Only cases with known values were selected and cases with significant unknown data were omitted from analysis. Variables with over 25% of the data missing were omitted from analysis. As a result, five of the risk factors, “perpetrator abused or witnessed abuse as a child” ($N = 87$; 55% missing), “perpetrator choked victim in the past” ($N = 47$; 30% missing), “history of suicidal behaviour in perpetrator’s family” ($N = 77$; 49% missing), “perpetrator holds misogynistic attitudes” ($N = 43$; 27% missing), and “forced sexual acts” ($N = 43$; 27% missing) were omitted from the analysis. Due to a large amount of comparisons, a significance level of $p < .01$ was used for comparisons without an a priori hypothesis. A significance level of $p = .05$ was used for comparisons with an a priori hypothesis (Lomax & Hahs-Vaughn, 2012).

A chi-square analysis was used to examine the primary intent of DHS perpetrators as either primarily homicidal or suicidal. Only analyses that contained an expected cell count of 5 or more were interpreted (Lomax & Hahs-Vaughn, 2012).

Multivariate Analysis. Logistic regression was used to estimate the independent associations between four of the hypothesized risk factors and the outcome of the case (DH or DHS). The predictors were added sequentially in blocks in order to capture the significance of each variable in predicting the outcome of the cases.

Results

Socio-Demographic Characteristics

Characteristics of the perpetrators of DH and DHS were examined to provide a depiction of the distinctions between the groups (see Table 1). Cases of domestic homicide and domestic homicide-suicide did not differ in regards to relationship status, $\chi^2(6, N = 158) = 7.70, p = .26$.

Cases of DH and DHS had similar frequencies of cases with perpetrators and victims being separated. Perpetrators of DH and DHS did not significantly differ regarding their employment status, $\chi^2(1, N = 158) = 2.73, p = .74$. Perpetrators of DH and DHS tended to have similar frequencies of being employed (45.7% versus 47.4%). Perpetrators of DH and DHS did not significantly differ regarding their citizenship status, $\chi^2(1, N = 158) = 5.61, p = .23$.

Table 1
Perpetrator Socio-Demographic Characteristics in DH and DHS Cases

	Domestic Homicide		Domestic Homicide-Suicide		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	N	%	
Total Cases	94	59.5%	64	40.1%	158	100	
Relationship Status							7.70
Legal Spouse	28	29.8%	27	42.2%	55	34.8%	
Common-Law	24	25.5%	8	12.5%	32	20.3%	
Dating	7	7.4%	4	6.3%	11	7.0%	
Separated	35	37.2%	25	39.1%	60	38.0%	
Employment Status							2.73
Employed	43	45.7%	31	47.4%	74	46.8%	
Unemployed	34	36.2%	17	26.6%	51	32.3%	
Other	12	12.8%	13	20.3%	25	15.8%	
Unknown	5	5.3%	3	4.7%	8	5.1%	
Citizenship Status							5.61
Canadian	63	67%	37	57.8%	100	63.3%	
American	0	0%	2	3.1%	2	0.1%	
Immigrant/ Refugee	21	22.3%	18	28.1%	39	24.7%	
First Nations	6	6.4%	2	3.1%	8	5.1%	
Unknown	0	0.0%	5	7.8%	5	3.2%	

Perpetrators of domestic homicide ranged in age from 17 to 70 years of age ($M = 39.11$), whereas victims of DH ranged in age from 15 to 80 and were, on average, 36.90 years of age (see Table 2). The total number of risk factors in DH cases ranged from 1 to 25 ($M = 11.74$). There were a total of 7 child deaths as a result of a multiple domestic homicide. Perpetrators of domestic homicide-suicide ranged in age from 17 to 89 years of age ($M = 48.13$), whereas victims of DHS

ranged in age from 16 to 85 and were, on average, 43.80 years of age. The total number of risk factors in DHS cases ranged from 1 to 23 ($M = 9.1$). There were six child deaths that resulted from DHS.

Table 2

Age and Risk Factors in Cases of DH and DHS

	Domestic Homicide		Domestic Homicide-Suicide	
	Range	Mean	Range	Mean
Perpetrator Age	17-70	39.11	17-89	48.13
Victim Age	15-80	36.90	16-85	43.80
Number of Risk Factors	1-25	11.74	1-23	9.10

Perpetrator Older (55+). A chi-square analysis revealed that perpetrators of domestic homicide-suicide were significantly older than perpetrators of domestic homicide, $\chi^2(1, N = 158) = 9.26, p = .002$ (see Table 3). In the dataset “older” is defined as being 55 years of age or older at the time of the incident. Specifically, 32.8% ($n = 21$) of domestic homicide-suicide perpetrators fell into the *older* category compared to 12.8% ($n = 12$) of perpetrators of domestic homicide. An independent samples *t*-test found a significant difference in the age of perpetrators of DH ($M = 39.11$) and DHS ($M = 48.13$), $t(156) = -3.84, p < .01$.

Victim Older (55+). Victims in cases of domestic homicide-suicide were significantly older than victims of domestic homicide, $\chi^2(1, N = 158) = 9.43, p = .002$. Specifically, 25% ($n = 16$) of victims in DHS cases fell into the *older* category compared to 7.4% ($n = 7$) in DH cases. An independent samples *t*-test found a significant difference in the age of victims of DH ($M = 36.90$) and DHS ($M = 43.80$), $t(155) = -2.90, p < .01$.

Perpetrator and Victim Older (55+). The victim and the perpetrator in domestic homicide-suicide cases were significantly more likely to be older (25.0%; $n = 16$) than the victim and perpetrator in domestic homicide cases (7.4%, $n = 7$), $\chi^2(1, N = 158) = 9.43, p = .002$.

Total Number of Risk Factors. Cases of domestic homicide and domestic homicide-suicide significantly differed on the total number of risk factors that were identified in the case, $\chi^2(1, N = 158) = 9.34, p = .025$. Cases of domestic homicide had significantly more cases with ten or more risk factors identified than cases of domestic homicide-suicide.

Table 3
Cases involving Older Perpetrators and Victims

	Domestic Homicide		Domestic Homicide-Suicide		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	N	%	
Perpetrator Older	12	12.8%	21	32.8%	33	20.9%	9.26**
Victim Older	7	7.4%	16	25.0%	23	14.6%	9.43**
Both Older	7	7.4%	16	25.0%	23	14.6%	9.43**

* $p < .05$ $df = 1$

** $p = .001$

Risk Factors between Domestic Homicide and Domestic Homicide-Suicide Groups

Several risk factors were examined between domestic homicide and domestic homicide-suicide cases. This study examined 34 variables related to the risk factors that have been identified by the Ontario DVDR. Independent chi-square analyses were conducted and statistically significant relationships were found in fourteen variables (see Table 4).

Criminal History. A chi-square test was used to determine if a relationship existed between perpetrator criminal history and the type of case. A significant relationship was found, $\chi^2(1, N = 153) = 5.43, p = .02$. Of the perpetrators of domestic homicide, 64.9% ($n = 61$) had a known criminal history, whereas 45.8% ($n = 27$) of perpetrators of domestic homicide-suicide had a known criminal history.

Actual or Pending Separation. A statistically significant difference was found between the type of case and the existence of an actual or pending separation between the perpetrator and the primary victim. Specifically, 78.3% ($n = 72$) of cases resulting in a domestic homicide had an

actual or pending separation whereas only 62.3% ($n = 38$) of domestic homicide-suicide cases involved a separation, $\chi^2(1, N = 153) = 4.63, p = .031$.

Depression – Professionally Diagnosed. There was a significantly larger amount of domestic homicide-suicide perpetrators who had been professionally diagnosed with depression (37.3%, $n = 22$) than domestic homicide perpetrators (20.0%, $n = 16$), $\chi^2(1, N = 139) = 5.11, p = .024$.

Depression – Non-professionally Diagnosed. A chi-square test demonstrated that domestic homicide-suicide perpetrators had significantly more diagnoses of depression in the opinion of non-professionals than domestic homicide perpetrators, $\chi^2(1, N = 137) = 6.39, p = .011$. Specifically, 63.2% ($n = 36$) of homicide-suicide perpetrators were depressed compared to 41.3% ($n = 33$) of domestic homicide perpetrators.

Access or Possession of Firearms. Significantly more perpetrators of domestic homicide-suicide had access to, or possession of a firearm than perpetrators of domestic homicide, $\chi^2(1, N = 151) = 8.86, p = .003$. Specifically, 46.8% ($n = 29$) of perpetrators of domestic homicide-suicide had access to, or possession of a firearm, compared to 23.6% ($n = 21$) of perpetrators of domestic homicide.

Prior Threats to Kill Victim. There was a statistically significant difference between the type of case and if the perpetrator had known prior threats to kill the primary victim, $\chi^2(1, N = 131) = 5.68, p = .017$. Perpetrators of domestic homicide were more likely to have made prior threats to kill the victim (55.1%, $n = 43$) than perpetrators of domestic homicide-suicide (34.0%, $n = 18$).

Prior Threats and Assaults with a Weapon. A chi-square test revealed a statistically significant difference between type of case and the perpetrator having made prior threats with a

weapon, $\chi^2(1, N = 127) = 5.71, p = .017$. Specifically, perpetrators of domestic homicide made significantly more prior threats with a weapon (38.5%, $n = 30$) than perpetrators of domestic homicide-suicide (18.4%, $n = 9$). Similarly, perpetrators of domestic homicide have made more prior assaults with a weapon against the victim (18.4%, $n = 14$) than perpetrators of domestic homicide-suicide (3.8%, $n = 2$), $\chi^2(1, N = 129) = 6.17, p = .013$.

Common Law. A statistically significant difference was found between cases with perpetrators and victims living in common law relationships, $\chi^2(1, N = 156) = 5.48, p = .019$. Specifically, significantly more cases of domestic homicide were living in a common law relationship (33%, $n = 31$) compared to domestic homicide-suicide cases (16%, $n = 10$).

Substance Abuse. A chi-square test was used to determine if there was a difference between domestic homicide and domestic homicide-suicide perpetrators' substance abuse. Perpetrators of domestic homicide had significantly higher rates of substance abuse (51.7%, $n = 45$) than perpetrators of domestic homicide-suicide (24.1%, $n = 14$), $\chi^2(1, N = 145) = 10.97, p = .001$.

Victim Intuitive Sense of Fear. Significantly more primary victims of domestic homicide had a known sense of fear (62.4%, $n = 53$) than victims of domestic homicide-suicide (42.1%, $n = 24$), $\chi^2(1, N = 142) = 5.64, p = .018$.

Legal Counsel or Service. Legal counsel or legal services were involved in significantly more domestic homicide cases than domestic homicide-suicide cases, $\chi^2(1, N = 144) = 10.40, p = .001$. Specifically, legal counsel or services were involved in 31.4% ($n = 27$) of DH cases and were only involved in 8.6% ($n = 5$) of DHS cases.

Failure to Comply with Authority. The chi-square test indicated that significantly more perpetrators of domestic homicide (40.7%, $n = 37$) failed to comply with authority, whereas only

21.3% ($n = 13$) of domestic homicide-suicide perpetrators failed to comply, $\chi^2(1, N = 152) = 6.19, p = .013$.

Prior Destruction of Victim's Property. A statistically significant difference was found between type of case and the perpetrator's prior destruction of the victim's property, $\chi^2(1, N = 144) = 10.06, p = .002$. More perpetrators of domestic homicide (25.6%, $n = 22$) had previously destroyed the victim's property in comparison to perpetrators of domestic homicide-suicide (5.2%, $n = 3$).

Table 4
Significant Risk Factors in DH and DHS Cases

	Domestic Homicide		Domestic Homicide-Suicide		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	
Criminal History	61	64.9%	27	45.8%	88	57.5%	5.43*
Actual or Pending Separation	72	78.3%	38	62.3%	110	71.9%	4.63*
Depression Professionally Diagnosed	16	20.0%	22	37.3%	38	27.3%	5.11*
Depression Non-Professionally Diagnosed	33	41.3%	36	63.2%	69	50.4%	6.39**
Access or Possession of Firearms	21	23.6%	29	46.8%	50	33.1%	8.86**
Prior Threats to Kill Victim	43	55.1%	18	34.0%	61	46.6%	5.68**
Prior Threats with a Weapon	30	38.5%	9	18.4%	39	30.7%	5.71**
Prior Assault with a Weapon	14	18.4%	2	3.8%	16	12.4%	6.17**
Common Law	31	33.0%	10	16.1%	41	26.3%	5.48**
Substance Abuse	45	51.7%	14	24.1%	59	40.7%	10.97**
Victim Sense of Fear	53	62.4%	24	42.1%	77	54.2%	5.64**
Legal Council or Legal Service	27	31.4%	5	12.9%	32	22.2%	10.40**
Failure to Comply with Authority	37	40.7%	13	21.3%	50	32.9%	6.19**
Destruction of Victim's Property	22	25.6%	3	5.2%	25	17.4%	10.06**

Prior Assault on Victim while Pregnant	7	8.9%	0	0.0%	7	5.2%	5.14*
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* $p < .05$ $df = 1$

** $p < .01$

Non-significant Analyses. Several risk factors did not significantly distinguish cases of domestic homicide and domestic homicide-suicide (see Table 5).

Perpetrator Prior Threats and Attempts to Commit Suicide. The hypothesis that perpetrators of DHS would have more prior threats and attempts to commit suicide than perpetrators of DH was not supported, $(1, N = 125) = 2.482, p = .115$. Similarly, no significant difference was found in the frequency of prior suicide attempts made by perpetrators of DH and DHS, $(1, N = 128) = 1.644, p = .200$.

History of Violence. Surprisingly, perpetrators of DH and DHS did not differ in regards to having a history of domestic violence, $(1, N = 143) = 3.04, p = .081$. This finding does not support the researcher's hypothesis that perpetrators of DH would have significantly more history of domestic violence than perpetrators of DHS, although the results were in the expected direction. Perpetrators of DH did not have significantly more history of violence outside the family, $(1, N = 137) = 1.05, p = .306$. Additionally, perpetrators of DH and DHS did not significantly differ based on an escalation of violence, $(1, N = 142) = .615, p = .433$ or a history of violence or threats against children, $(1, N = 134) = .306, p = .580$.

Perpetrator Mental Health or Other Psychiatric Diagnoses. Perpetrators of DH and DHS did not significantly differ based on mental health or other psychiatric diagnoses, $(1, N = 134) = .685, p = .408$.

Perpetrator Unemployment. Perpetrators of DH and DHS did not significantly differ on whether or not they were unemployed at the time of the crime(s), $(1, N = 154) = 1.774, p = .183$.

Table 5

Non-significant Risk Factors in DH and DHS Cases

	Domestic Homicide		Domestic Homicide-Suicide		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	N	%	
Prior Threats to Commit Suicide	37	48.1%	30	62.5%	67	53.6%	2.48
Prior Suicide Attempts	13	17.8%	15	27.3%	28	21.9%	1.64
History of Domestic Violence	74	85.1%	41	73.2%	115	80.4%	3.04
Other Psychiatric Diagnoses	22	27.8%	19	34.5%	41	30.6%	0.68
Unemployment	37	66.1%	19	30.2%	56	36.4%	1.77

People Aware of Domestic Violence Between the Perpetrator and Victim

Chi-square analyses were conducted to analyze whom in the perpetrator and/or victim's life was aware of the domestic violence that was occurring between the perpetrator and the victim before the domestic homicide or domestic homicide-suicide took place. The results are illustrated in Table 6. Significantly more friends of the perpetrator and/or victim involved in a domestic homicide case were aware of domestic violence occurring before the lethal act than cases of domestic homicide-suicide, (1, $N = 137$) = 7.74, $p < .01$. No significant difference was found on if family members of the perpetrator and/or victim were aware of domestic violence occurring before the DH or DHS, (1, $N = 142$) = .962, $p = .327$. The variables for neighbours' and coworkers' knowledge of domestic violence could not be interpreted as a result of a significant amount of missing data for each group, 25.9% and 32.9% respectively.

Table 6
Aware of Domestic Violence Between the Perpetrator and Victim

	Domestic Homicide		Domestic Homicide-Suicide		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	N	%	
Friends	74	89.2%	38	70.4%	112	81.8%	7.74**
Family Members	77	87.5%	44	81.5%	121	85.2%	.96

* $p < .05$ $df = 1$

** $p < .01$

Perpetrator Primary Intent

A chi-square analysis was used to assess the primary intent of domestic homicide-suicide perpetrators as either homicidal or suicidal based on the procedure outlined by Salari and Sillito (2016). The results are illustrated in Table 7. There were 29 perpetrators of DHS in the younger age group ranging from 17 to 44 years of age ($M = 33.90$), 18 perpetrators in the middle age group ranging from 45 to 59 years of age ($M = 50.39$) and 18 perpetrators in the elder age group ranging from 60 to 89 years of age ($M = 66.11$). Significantly more perpetrators in the younger population monitored the victims whereabouts compared to the other two age groups, ($2, N = 61$) = .8.04, $p = .02$. Perpetrators of DHS did not significantly differ based on their history of domestic violence. The perpetrators did not significantly differ on having made previous suicide attempts, however perpetrators in the middle age group had the highest tendency (46.7% versus 24.0% in the younger age group and 27.3% in the elder age group). Significantly more perpetrators in the elder age group had a professional diagnosis of depression, ($2, N = 59$) = 6.52, $p = .04$. Additionally, a separate analysis revealed that DHS cases in the younger population had significantly more separation than the other two age groups, ($2, N = 61$) = 15.09, $p < .01$. Separation was also high in the middle age group.

Table 7
Primary Intent of Domestic Homicide-Suicide Perpetrators

	Younger		Middle		Older		Total		χ^2
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	
Additional Victims	6	20.7%	2	11.1%	1	5.9%	9	14.1%	2.12
Monitored Victims Whereabouts	15	53.6%	9	52.9%	2	12.5%	26	42.6%	8.05*
History of Domestic Violence	21	80.8%	12	80.0%	8	53.3%	41	73.2%	4.13

Criminal History	15	53.6%	10	58.8%	2	14.3%	27	45.8%	7.45*
Prior Threats to Kill Victim	10	41.7%	6	40.0%	2	14.3%	18	34.0%	3.30
Prior Suicide Attempts	6	24.0%	7	46.7%	2	13.3%	15	27.3%	4.45
Prior Suicide Threats	16	72.7%	10	66.7%	4	36.4%	30	62.5%	4.30
Perpetrator Depression	5	19.2%	9	50.0%	8	53.3%	22	37.3%	6.52*
Other Psychiatric Problems	9	34.6%	8	53.3%	2	14.3%	19	34.5%	4.88
Victim Fear	10	40.0%	7	43.8%	7	43.8%	24	42.1%	.08
Separation	21	77.8%	13	76.5%	4	23.5%	38	62.3%	15.09**

* $p < .05$ $df = 2$

** $p < .01$

Multivariate Analysis

A four stage hierarchical logistic regression was conducted with Case Type (domestic homicide or domestic homicide-suicide) as the dependent variable. The age difference between the perpetrator and the victim was entered at stage one of the regression. The total number of risk factors identified by the Ontario DVDRC was entered at stage two, followed by whether or not the perpetrator had been professionally or non-professionally diagnosed with depression at stage three. At the last stage, whether or not the perpetrator had made prior threats and/or attempts of suicide was entered into the model.

All four preliminary assumptions were assessed before the analysis was conducted.

Assumption #1: Dependent variable should be measured on a dichotomous scale.

The dependent variable in this analysis was the type of case. This variable is dichotomous, such that the case type is either domestic homicide or domestic homicide-suicide.

Assumption #2. Having one or more independent variables that are either continuous or categorical. In this model there were a total of 116 cases included, with 42 cases missing from the analysis. The missing variables were a result of some cases having missing data for “perpetrator depression in the opinion of professionals or non-professionals” ($n = 18$) and “perpetrator previous threats and attempts suicide” ($n = 31$). The dependent variable included 68 cases of domestic homicide and 48 cases of domestic homicide-suicide. A common rule used in the literature suggests that the number of data points for the less common of the two possible outcomes for the dichotomous dependent variable, divided by the number of predictor variables, should equal to at least 10 (Bagley, White & Golomb, 2001). This reduces the probability of a Type I error and finding a significant relationship between the dependent variable and the predictor(s) variables as a result of the model being over-fit. In this study, the smaller of the two outcomes was domestic homicide-suicide ($n = 48$) and therefore only four predictor variables were used in the model. Two of the predictors in the model were measured on a continuous scale, while the other two predictors were measured on a categorical scale.

Assumption #3: The dependent variable should have mutually exclusive categories and independence of observations. A linear regression model was conducted to test this assumption by interpreting the variance inflation factor (VIF). VIF values greater than 10 indicate a violation of non-collinearity (Lomax & Hahs-Vaughn, 2012). This test revealed no violation of multicollinearity with all VIF variables being less than 1.44. Additionally, there were no outliers in the dataset. This was measured by converting the two continuous variables into standardized scores and ensuring no cases fell outside of the range of 3.29 and -3.29.

Assumption #4: A linear relationship between any continuous independent variables and the logit transformation of the dependent variable. This assumption was assessed using a Box-Tidwell procedure to test for linearity. A natural logarithm variable was created for the

continuous predictors: Total Number of Risk Factors and Age Difference. A logistic regression was performed that included all the independent variables of interest, as well as an interaction term, which was the product of the continuous independent variable and its natural logarithm. The interaction terms were not statistically significant, thus providing evidence of linearity, [TotalRiskFactors*ln(TotalRiskFactors), $B = .041$, $SE = .137$, $Wald = .088$, $df = 1$, $p = .767$] and [AgeDifference*ln(AgeDifference), $B = .169$, $SE = .282$, $Wald = .357$, $df = 1$, $p = .550$].

A hierarchical logistic regression was performed using the four predictors. A test of the full model against a constant only model was statistically significant, indicating that the predictors as a set reliably distinguished between domestic homicide perpetrators and domestic homicide-suicide perpetrators, $\chi^2(4) = 19.05$, $p = .001$. The model explained 28.6% of the variance in domestic homicide cases and correctly classified 71.6% of cases.

The constant only model was not significant, indicating that without any predictors, domestic homicide and domestic homicide-suicide perpetrators cannot be reliably distinguished, $B = -3.48$, $SE = .189$, $Wald = 3.414$, $p = .065$.

The hierarchical multiple regression revealed that at stage one, the age difference between the perpetrator and the victim contributed significantly to the regression model, $\chi^2(1) = 4.95$, $p = .026$, and accounted for 5.6% of the variance in the model (see Table 8). Including the Age Difference predictor in this stage correctly classified 58.6% of cases. Significantly more domestic homicide-suicide cases have a larger age difference between the perpetrator and victim than domestic homicide cases.

Table 8
Stage One of the Hierarchical Logistic Regression

Predictor	Block 1	B	SE	Wald	p	OR	95% C.I. for Exp(B)	
							Lower	Upper
Constant		-1.59	.616	6.694	.010	.203		

Age Difference	.063	.029	4.609	.032	1.065	1.005	1.128
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Introducing the predictor variable, Total Number of Risk Factors, to the existing model contributed significantly to the regression model, $\chi^2(2) = 14.99, p = .001$. At stage two the model explained 16.3% of the variance in domestic homicide cases and correctly classified 70.7% of cases (see Table 9). Taking into account age difference, significantly more domestic homicide-suicide cases had fewer identified risk factors than domestic homicide cases.

Table 9
Stage Two of the Hierarchical Logistic Regression

Predictor	Block 2	B	SE	Wald	p	OR	95% C.I. for Exp(B)	
							Lower	Upper
Constant		-.785	.672	1.364	.243	.456		
Age Difference		.082	.031	6.884	.009	1.085	1.021	1.154
Total # Risk Factors		-.113	.038	8.907	.003	.893	.830	.962

The hierarchical logistic regression revealed that at stage three adding the predictor, whether the perpetrator had been professionally or non-professionally diagnosed with depression, to the existing model significantly contributed to the regression model, $\chi^2(3) = 21.89, p < .001$ (see Table 10). At this stage, the model explained 23.2% of the variance in domestic homicide cases and correctly classified 66.4% of cases. After adjusting for age difference and the total number of risk factors, significantly more perpetrators of domestic homicide-suicide had been professional or non-professional diagnosed with depression.

Table 10
Stage Three of the Hierarchical Logistic Regression

Predictor	Block 3	B	SE	Wald	p	OR	95% C.I. for Exp(B)	
							Lower	Upper
Constant		-1.02	.709	2.086	.149	.359		

Age Difference	.076	.032	5.491	.019	1.079	1.012	1.149
Total # Risk Factors	-.146	.042	12.25	.000	.864	.797	.938
Depression Professionally and/or Non-professional	1.176	.464	6.410	.011	3.241	1.304	8.056

The final stage of the hierarchical logistic regression revealed that adding the predictor variable, whether or not the perpetrator had made prior attempts and/or threats of suicide, to the existing model significantly contributed to the overall model, $\chi^2(4) = 27.70, p < .001$ (see Table 11). Good model fit was evidenced by non-statistically significant results on the Hosmer-Lemeshow test, $\chi^2(n = 116) = 4.715, df = 8, p = .788$. Including all four predictors in the final model explained 28.6% of the variance in domestic homicide cases and correctly classified 71.6% of cases. When the suicide threats and attempts variable was included in stage four of the regression model, Perpetrator Professionally or Non-professionally Diagnosed with Depression became a non-significant predictor. This suggests that suicide accounts for some variance in depression. When taking into account suicide, age difference, and total number of risk factors, the odds of committing domestic homicide or domestic homicide-suicide are similar regardless of whether the perpetrator was professionally or non-professionally diagnosed with depression. The strongest predictor of Case Type was prior threats and/or attempts of suicide, which indicates that domestic homicide-suicide perpetrators have made significantly more threats and/or attempts of suicide than domestic homicide cases. The odds ratio for Age Difference suggests that for every one-point increase in age difference, the odds are one greater that the case will be classified as a domestic homicide-suicide. The odds ratio for Total Number of Risk Factors suggests that for every one-point increase in risk factors, the odds are almost one greater that the case will be

classified as a domestic homicide. The odds ratio for Perpetrator Prior Threats and/or Attempts Suicide suggests that for every one-point increase in suicide threats and/or attempts the odds are about a three and a half greater that the case will be classified as a domestic homicide-suicide.

The following table presents the results for the final model including the regression coefficients, Wald statistics, odds ratios and 95% CIs for the odds ratios.

Table 11
Stage Four of the Hierarchical Logistic Regression

Predictor	Block 4	<i>B</i>	<i>SE</i>	Wald	<i>p</i>	<i>OR</i>	95% C.I. for Exp(<i>B</i>)	
							Lower	Upper
Constant		-1.46	.756	3.740	.053	.232		
Age		.092	.034	7.361	.007	1.096	1.026	1.172
Difference								
Total # Risk		-.180	.046	15.27	.000	.836	.764	.914
Factors								
Depression		.673	.508	1.758	.185	1.960	.725	5.301
Professionally and/or Non- professional								
Prior Threats		1.273	.545	5.446	.020	3.570	1.226	10.39
and/or Attempts Suicide								

Discussion

Domestic homicide and domestic homicide-suicide cases have been extensively studied in the literature; however, they are less frequently compared within the same study. Researchers are in agreement that perpetrators are a heterogeneous group, but few studies have been able to establish what risk factors in combination distinguish between cases of DH and DHS. This study was a retrospective analysis of domestic homicide and domestic homicide-suicide cases that have been reviewed by the Ontario DVDRC. The purpose of the study was to compare cases of DH

and DHS to discover key differences in the risk factors, socio-demographic characteristics, and facts of the case.

There were a number of hypotheses in this study based on previous literature. Specifically, the researcher hypothesized that domestic homicide cases would include more history of domestic violence, criminal history, known risk factors, as well as having more separation than domestic homicide-suicide cases. Additionally, it was hypothesized that domestic homicide-suicide cases would contain more cases involving a perpetrator with depression, previous suicide attempts and threats, a larger age disparity between the perpetrator and the victim, and be carried out by an older perpetrator. It was also predicted that domestic homicide-suicide perpetrators would have more contact with community agencies.

Results from this study were consistent with a number of hypotheses. As expected, there were substantial and significant differences between cases of domestic homicide and domestic homicide-suicide. Domestic homicide perpetrators had significantly more criminal history, separation, prior threats and assaults with a weapon, prior threats to kill the victim, and the presence of more identified risk factors. Domestic homicide-suicide perpetrators had significantly more depression. The perpetrators and the victims were older in domestic homicide-suicide cases compared to domestic homicide cases. Preliminary findings comparing DHS perpetrators by age group (young, middle, older) support the research conducted by Salari and Sillito (2016). The present study found that younger perpetrators more frequently monitored the victim's whereabouts and had more criminal history, suggesting the DH perpetrators were motivated by the homicidal act. Whereas older perpetrators had significantly more professional diagnoses of depression, suggesting the DHS was motivated more frequently by the suicidal act. These preliminary findings support the research conducted by Jensen and colleagues that differentiates *double-suicide* from *murder-suicide* (Jensen, Gilbert, & Byard, 2009). Their results indicate that

double-suicide cases are often characterized by couples with no history of domestic violence, identical methods of death, and a significant history of illness in either the victim and/or the perpetrator (Jensen et al., 2009). Whereas, murder-suicide cases often have evidence of restraint and injury to the victim from assault or force (Jensen et al., 2009).

The hierarchical logistic regression revealed that the case type (domestic homicide or domestic homicide-suicide) can be adequately predicted using the predictor variables: age disparity between the perpetrator and victim, total number of risk factors, depression (professional or non-professional), and perpetrator prior threats and/or attempts of suicide. Specifically, cases of domestic homicide-suicide included a significantly larger age disparity between the perpetrator and primary victim, fewer risk factors, a higher prevalence of depression, and more previous threats and/or attempts of suicide made by the perpetrator.

Relevance to Previous Literature

Risk Factors more Prevalent in Domestic Homicide. Previous literature has found a number of factors that are prevalent in domestic homicide cases. Previous criminal history, a history of domestic violence, prior threats and prior assault with a weapon, and actual or pending separation are all well-established risk factors (Belfrage & Rying, 2004; Bourget et al., 2000; Campbell et al., 2003; Dutton & Kerry, 1999; Johnson & Hotton, 2003; Juodis et al., 2014, Sheehan et al., 2015; Wilson & Daly, 1993). In this study, perpetrators of domestic homicide had a higher tendency to have a criminal history than domestic homicide-suicide perpetrators. This may indicate a perpetrator who is more violent and aggressive. The finding that perpetrators of DH do not comply with authority and destroy the victim's property more often than DHS perpetrators supports this theory. Domestic homicide perpetrators appear to be more defiant, lack restraint, and have a higher disregard for social conventions.

Past research indicates that women between the ages of 20-44 are at the highest risk of domestic homicide, with women in their mid-twenties at especially high risk (Statistics Canada, 2013). In this study, over 60% of the victims were between the ages of 20-44 and women between the ages of 40-44 made up the largest percentage of victims. It is unclear what factors and characteristics in this sample contribute to the higher prevalence of homicide in middle-aged women.

The hypothesis that perpetrators of DH would have significantly more history of domestic violence than DHS perpetrators was not supported. The non-significance of this analysis may be a result of the higher than expected prevalence of a history of domestic violence in both case types (85.1% in DH; 73.2% in DHS). The high prevalence of domestic violence in homicide-suicide cases appears counterintuitive to past research. This discrepancy may be a result of how domestic violence is identified in the research. Some studies rely on the victim's self-report of domestic violence (Campbell et al., 2003). Victims may be reluctant to disclose domestic violence for fear of potentially placing themselves or their children at an increased risk of harm. In this sample, domestic violence was deduced from interviews with family, friends, and coworkers in addition to previous domestic violence convictions that were included in police reports. This may provide additional alternative avenues and sources of information to determine the existence and prevalence of domestic violence within these cases. This finding could also represent a subtype of DHS perpetrators who are motivated by the act of homicide rather than the act of suicide. Unfortunately, there is no variable in the dataset that documents the perpetrator's motives. The dataset does contain information regarding any evidence of precipitating events for cases of DHS. The precipitating event was only identified in 19 cases. Majority of the documented motives for the DHS centered on actual or perceived termination of the relationship ($n = 8$), rejection ($n = 1$), "blamed the victim" ($n = 1$), "victim had a new partner" ($n = 1$), or "relationship troubles" ($n =$

1). Some DHS perpetrators may be characterized as dependent on the victim. This type of perpetrator may have used violence to maintain control of the victim if the relationship was threatened (Johnson, 2008). Nevertheless, there is insufficient information to conclude the perpetrators' primary motives in cases of DHS and further research is required.

This study confirmed previous literature that reports a higher frequency of relationship separation in domestic homicide cases than domestic homicide-suicide cases (Belfrage & Rying, 2004; Campbell et al., 2003; Dutton & Kerry, 1999; Ety et al., 2011; Johnson & Hotton, 2003; Sheehan et al., 2015; Wilson & Daly, 1993). Significantly more DH cases included a relationship separation compared to DHS cases, which confirms the heightened risk to victims who leave the perpetrator. Previous research states that victims are at the highest risk of violence in the first three months after the separation (Dawson, 2005; Johnson & Hotton, 2003; Wilson & Daly, 1993). Out of the 60 cases that had documentation for relationship separation, 55% ($n = 33$) occurred within three months after the separation. An additional 62 victims who were not separated from the perpetrator had attempted to leave the relationship. Information regarding the victim's attempts to leave the relationship was collected from interviews with family, friends, co-workers, and other facilities (shelters) and agencies the victim came into contact with. Separation may be perceived as an adverse event or the loss of something positively valued by the perpetrator, as suggested by General Strain Theory (Eriksson & Mazerolle, 2013). Additionally, the increased risk to victims immediately following the separation may reflect the recency and magnitude of the relationship termination for the perpetrator.

Significantly more cases of domestic homicide involved a perpetrator and victim who were currently or previously in a common law relationship. The trend in the frequency of domestic homicides committed by a current or former married spouse or common-law partner has changed over time. In 2003, more domestic homicides were committed by a current or former

married spouse, but in 2013 slightly more domestic homicides were committed by a common-law partner (Statistics Canada, 2015). This finding may reflect a fluctuation and higher frequency of common-law partners in recent years than has been seen historically (Statistics Canada, 2015).

This study did not confirm previous findings that report a higher prevalence of an escalation of violence in domestic homicide cases (Campbell et al., 2003; McFarlane et al., 1999). Although there was a higher tendency for an escalation of violence in DH cases (54%) compared to DHS cases (47.3%), the difference was not significant. This may be a result of a higher prevalence of escalating violence in both types of cases, which might align with the higher history of domestic violence in cases of DH and DHS that was also found in this study. This finding points to the importance of conducting ongoing risk assessment with victims who are suspected of being abused. Additionally, risk management strategies should reflect the severity and lethality of the abuse, as well as the perpetrator's risk of re-offending (Douglas & Kropp, 2002).

Perpetrators of domestic homicide had a significantly higher prevalence of substance abuse than perpetrators of domestic homicide-suicide. Prior research has found that perpetrators of domestic homicide are more frequently under the influence at the time of the incident (Bourget et al., 2000; Campbell et al., 2003). The present research confirms this finding, however, due to a high percentage of missing data this relationship should be interpreted with caution.

Domestic homicide perpetrators had made significantly more prior threats to kill the victim than perpetrators of homicide-suicide. Similarly, domestic homicide perpetrators had made significantly more previous threats and assaults with a weapon against the victim. This finding aligns with previous research (Campbell et al., 2003). These findings appear counterintuitive to the non-significant finding of a history of domestic violence between the cases. This may indicate a more overtly hostile and aggressive perpetrator such as the generally violent perpetrator (Holtzworth-Munroe & Stuart, 1994), the intimate terrorist (Johnson, 2008) or the chronic

batterer subtype proposed by Kivisto (2015). Perpetrators of DH may use more life-threatening domestic violence, such as verbal life threats and lethal violence (weapons) against the victim than perpetrators of DHS. Additionally, the predictor variable of a history of domestic violence pertains to the perpetrator and includes past and present relationships (DVDRC, 2014).

Therefore, there may be a difference between the ongoing fear and threat apparent in DH cases that may be less salient in DHS cases. The finding in this study that victims of DH were significantly more fearful than victims of DHS may support this theory.

The present study confirms previous research that documents a higher prevalence of assault against the victim while she was pregnant in cases of DH (Campbell et al., 2003; McFarlane et al., 1995). Although this was a rare occurrence, ($n = 7$) it does suggest an especially lethal risk to the victim and the fetus. Of the seven cases that involved assault against the victim while she was pregnant, all seven resulted in a domestic homicide, none of the victims had contact with a mental health provider, only two victims had contact with a health care provider, and all seven had previous reports of domestic violence. Additionally, all seven cases had 15 or more known risk factors involved in the case, six cases involved an actual or pending separation, and four of the victims were between the ages of 18-25. This suggests a group of women who are at lethal risk of violence that are not accessing professional help in the community.

Risk Factors more Prevalent in Domestic Homicide-Suicide. Past literature has found risk factors that are more prevalent in domestic homicide-suicide cases. Common risk factors that have previously been reported in the literature pertaining to domestic homicide-suicide cases include: more threats and attempts of suicide made by the perpetrator, having contact with mental health professionals, a higher prevalence of depression, and a higher prevalence of other psychiatric and medical concerns (Banks et al., 2008; Belfrage & Rying, 2004; Bourget et al., 2000; Dawson, 2005; Eliason, 2009; Liem & Roberts, 2009; Knoll & Hatters-Friedman, 2015;

Koziol-McLain et al., 2006; Yip et al., 2009). Perpetrators of DHS are frequently older and are more likely to use a firearm (Belfrage & Rying, 2004; Bourget et al., 2000; Dawson, 2005). Additionally, perpetrators of DHS are more frequently the primary caregiver of the victim, are in a relationship with the victim at the time of the acts, and have less known history of domestic violence (Belfrage & Rying, 2004; Bourget et al., 2000; Dawson, 2005; Salari & Sillito, 2016).

The Ontario DVDRC does not include a restriction on the length of time between the homicide and suicide. This is because the responding police officers investigate the crime(s) and determine if the case is a homicide or homicide-suicide, therefore, when the case is analyzed by the DVDRC it has already been classified. In this study, 78.1% ($n = 50$) of DHS cases were classified as “immediately,” 14.1% ($n = 9$) were classified as “within a week,” 3.1% ($n = 2$) cases were classified as “after a week” and an additional 4.7% ($n = 3$) cases were classified as “unknown”.

This study found that perpetrators of DHS were more frequently professionally and non-professionally (opinion of friends and family) diagnosed with depression. This finding is consistent with previous literature (Bourget et al., 2000; Eliason, 2009; Liem & Roberts, 2009; Malphurs & Cohen, 2005). The relationship between DHS and depression is compatible with research that reports a prevalence rate of depression in over 50% of people who complete suicide (Centre for Suicide Prevention, 2016). Similarly, people with depression have been found to be at a twenty-five percent increased risk of attempting suicide than the general population (American Association of Suicidology, 2014). The intent to perpetrate a homicide-suicide as opposed to suicide in isolation is less clear. In this study it can be speculated that some of the perpetrators may have been primarily suicidal and felt that the victim should not live without them, or felt that they could not live without the victim (Salari & Sillito, 2016). In analyzing the few cases that indicated a precipitating event, it is possible that the perpetrator felt betrayed by the victim and

this sense of abandonment, coupled with their depression, could have resulted in the decision to kill the victim as well as themselves. Moreover, this could represent a subtype of DHS perpetrators who are older, have health concerns, and/or are the primary caregiver for the victim.

The above finding becomes difficult to interpret when considering the non-significant difference between DH and DHS perpetrators' previous threats and attempts of suicide. There was a high endorsement of prior threats to commit suicide in perpetrators, such that 48% of homicide and 62.5% of homicide-suicide perpetrators had made prior threats. This finding is trending in the expected direction but may not be significant given the high rate of suicide threats in homicide perpetrators. Additionally, 18% of homicide and 27% of homicide-suicide perpetrators have made prior attempts to complete suicide. The motive behind DH and DHS perpetrators' threats and attempts of suicide may differ. The motive may be a power and control tactic used to manipulate the victim and their behaviour (National Center of Domestic and Sexual Violence, 2017) or it may be related to the perpetrator's feelings of depression. The lethal intent and number of times perpetrators of DH and DHS threat and attempt suicide may differ. Nonetheless, the high endorsement of suicide threats and attempts in homicide perpetrators warrants further exploration and should be a focus of risk management strategies. Risk management strategies conducted with perpetrators should target the perpetrator's depressive symptoms and suicidal ideation (Douglas & Kropp, 2002). Previous suicide threats and/or attempts was a significant distinguishing predictor between cases of DH and DHS in the multivariate analysis.

The perpetrator having other mental health or psychiatric diagnoses was not a significant finding in this study. It is unclear if this finding is a result of a true absence of a relationship, or a result of limited contact with mental health care providers. Less than 20% of homicide and 15% of homicide-suicide perpetrators had contact with a mental health care provider.

Perpetrators of domestic homicide-suicide were significantly older than perpetrators of domestic homicide. This finding is consistent with previous literature (Banks et al., 2008; Belfrage & Rying, 2004; Dawson, 2005; Lund & Smorodinsky, 2001). Additionally, victims in domestic homicide-suicide cases were significantly older than domestic homicide victims. This may support evidence of an increased risk of homicide-suicide in the older population. The higher prevalence of DHS in couples over the age of 55 may be uniquely related to rates of depression, declining health, or other life changes. This could reflect strains in the older population related to experiencing adverse events as suggested by GST (Eriksson & Mazerolle, 2013). Older perpetrators may experience a clustering of stressors related to declining health, perceived loss of independence, and other positively valued goals (Eriksson & Mazerolle, 2013). Additionally, perpetrators of DHS are often the primary caregivers for the victim, which may represent a unique risk factor in the older population as well. Unfortunately, there was limited information regarding the victim's depression, physical and mental health status, or if the perpetrator was their primary caregiver. However, significantly more victims in domestic homicide-suicide cases had previously received mental health treatment than victims in domestic homicide cases. A higher prevalence of mental health treatment in DHS victims may support previous findings of the role of health-related issues apparent in older couples (Bourget et al., 2010). Further research is required to explore this relationship.

There was a statistically significant difference between the prevalence of previous health care provider contact in cases of DH and DHS. Significantly more perpetrators of DHS had contact with a health care provider. This could be a result of DHS perpetrators being older, on average, and endorsing more health concerns as a result. In over 50% of domestic homicide cases neither the perpetrator nor the victim had contact with a health care provider. When there was contact it was most frequently with the victim (29.5% of victims and 6.8% of perpetrators). This

may relate to the finding by Bourget and colleagues (2010) in which perpetrators of DHS had more contact with mental health professionals. Unfortunately, there was insufficient information available to establish whether or not a relationship existed between type of case and mental health provider contact in this study. Nonetheless, this finding confirms the importance of health care providers identifying warning signs of homicide and suicide in clients they come into contact with. Warning signs related to suicidal ideation may include hopelessness, helplessness, and difficulty identifying future plans or goals.

Consistent with previous studies, firearms were the most commonly used weapons in domestic homicide-suicide cases. Firearms were used in over 40% of cases of DHS and in less than 15% of DH cases. A knife was the most commonly used weapon in cases of domestic homicide (34%) and the second most commonly used weapon in cases of domestic homicide-suicide (29.7%).

Domestic Homicide-Suicide Perpetrator Primary Intent

The chi-square analysis comparing younger, middle, and older DHS perpetrators revealed meaningful results. Significantly more perpetrators in the younger population had a criminal history versus the middle or older population. Significantly more perpetrators in the younger age group monitored the victims whereabouts. This suggests that the younger perpetrators of DHS more frequently use power and control tactics by checking on the victim and their daily activities. These findings lend support to the younger perpetrator being primarily motivated by homicide.

Significantly more perpetrators in the older population had been professionally diagnosed with depression compared to the younger and middle-aged perpetrators. This finding lends support to the older perpetrators of DHS being primarily motivated by suicide as opposed to homicide. However, this finding could be a result of the older population having more access or a longer time period to have been seen by a mental health professional.

Significantly more cases of DHS in the younger population had an actual or pending separation with the perpetrator. This finding is outside of the scope of Salari and Sillito's (2016) analysis. Without greater context of the relationship, it is difficult to predict what role the separation had on the perpetrator's primary intent. If the perpetrator became depressed and felt he could not move forward without the victim, then the separation could lend support to a primarily suicidal intent. However, if the perpetrator felt betrayed or that his ego had been damaged as a result of the separation, this could lend support to a primarily homicidal intent.

Although preliminary, these findings provide initial support to suggest that younger DHS perpetrators may more commonly act out of homicidal intent, whereas older DHS perpetrators may more commonly act out of suicidal intent. Additionally, it confirms the conclusion by Salari and Sillito (2016) that perpetrators in the middle age group constitute a mixture of the younger and older age groups, but tend to have more similarities with the younger age group. Understanding distinctions in primary intent is imperative in developing appropriate assessment and prevention efforts. More research is required to analyze Salari and Sillito's initial findings, as well as the findings in this study.

Multivariate Analysis

The binary logistic regression revealed that the four predictors: age difference, total number of risk factors, perpetrator professionally or non-professionally diagnosed with depression, and perpetrator prior threats and/or attempts of suicide significantly predicted case type. This analysis predicted the odds that a case would be classified as a domestic homicide-suicide.

The constant model correctly predicted 58.6% of cases but was not statistically significant. This model was significantly improved when the age difference between the perpetrator and the victim was included. This suggests that cases with a greater age difference

between the perpetrator and the victim are more likely to result in a DHS. A distinct risk factor exists related to age disparity within DHS cases aside from the perpetrator or the perpetrator and the victim being older. The age disparity in DHS cases ranged from the perpetrator being 21 years older than the victim, to the victim being 16 years older than the perpetrator. Two explanations have been proposed in the literature. One explanation is that age disparity increases jealousy and misunderstanding or miscommunication (Block, 2000 as cited in Breitman, Shackelford, & Block, 2004). This could be a result of the perpetrator and victim being in different stages of life or having different life experiences as a result of their age. The alternative explanation is that there is increased criminal involvement in perpetrators or victims involved in marked age-discrepant relationships (Daly & Wilson, 1988). Breitman and colleagues' (2004) research confirms that a large age-discrepancy between the perpetrator and victim (more than 10 years) is a significant risk factor, but they did not find a correlation with increased criminal involvement. The authors conclude that more research is required to explain why age disparity is a significant risk factor (Breitman et al., 2004).

Including the total number of risk factors identified in a case also significantly predicted case type. Step two of the regression indicates that for each additional risk factor that is identified in the case, the odds that the case resulted in DHS decreases. This finding confirms the hypothesis of the study that DHS cases would have significantly less risk factors than DH cases. DHS perpetrators may display less overtly violent behaviour towards their partner and others compared to DH perpetrators. Several risk factors that have been identified by the Ontario DVDRC involve overtly aggressive behaviour (i.e history of violence outside the family, history of domestic violence, prior threats to kill the victim, prior threats with a weapon, prior assault with a weapon etc.) and are less commonly endorsed by DHS perpetrators than DH perpetrators in this study. DHS perpetrators frequently endorse more internal struggles, such as depression,

suicidal ideation, and poor health. Cases of DHS may be more difficult to predict as a result of having less identified risk factors. This increases the importance of community agencies and professionals assessing for homicidal ideation with clients who disclose suicidal ideation, a history of suicidal attempts, or significant clinical depression. At step two of the model both the age difference between the perpetrator and the victim, as well as the total number of risk factors significantly predicted the case type.

The perpetrator having a diagnosis of depression significantly added to the model, such that the odds that the case resulted in a DHS were over three times greater if the perpetrator had a diagnosis of depression. Interestingly, when the predictor of previous threats and/or attempts of suicide was included in the model, depression was no longer a significant predictor of case type. Although there was no violation of multi-collinearity, 72.6% of perpetrators who had made prior threats and/or attempts of suicide had a diagnosis of depression. Given the high comorbidity of depression and suicide that has been found in the literature and within this study, it may be less surprising that both are not significant predictors in the final model. The odds that the case resulted in a DHS were over three and a half times greater if the perpetrator had made prior threats and/or attempts of suicide. Prior threats and/or attempts of suicide was the most significant predictor of case type. The relationship between depression, suicide, and homicide has been strongly established in this research. Risk assessment and safety planning protocols should focus on the risk to additional victims when a client presents with mental health concerns, such as depression and suicidal ideation. The final model correctly classified 71.6% of cases and indicated that age difference, total number of risk factors, and suicide threats and/or attempts significantly predict whether the case resulted in a DH or DHS.

Implications

The findings in this study can inform risk assessment for perpetrators and victims, risk management for perpetrators, and safety planning with victims. Key findings indicate that criminal history, access to firearms, prior threats and assault with a weapon, relationship separation, and the perpetrator's substance abuse are significant risk factors that place victims at an increased risk of harm for DH. Furthermore, the age difference between the victim and the perpetrator, the perpetrator being diagnosed with depression (professional or non-professional), and the perpetrator having made past threats and/or attempts of suicide may indicate an increased risk of DHS to victims. Moreover, it is important to reiterate that there is no homogenous type of perpetrator who commits acts of DH and DHS. The findings of this study suggest that mental health and health care practitioners may benefit from considering the variability of individual differences when conducting risk assessments, and developing risk management and safety plans with victims.

Risk Assessment with Perpetrators. Risk assessment tools vary in their intended purpose and evaluative qualities. Examples of areas where perpetrators may be assessed include their risk of violence, risk of re-offending, and risk of lethal violence (Canadian Domestic Homicide Prevention Initiative, 2016). Risk assessment tools that examine the perpetrator's criminal history, mental health, including depression and suicidal ideation, prior threats and/or assaults with a weapon, and the perpetrator's current substance use may increase their predictive validity in detecting risk of violence.

Valid Risk Assessment Tools for use with Perpetrators. Risk assessment tools such as the Ontario Domestic Assault Risk Assessment (ODARA) and the Brief-Spousal Assault Form for the Assessment of Risk (B-SAFER) assess for perpetrator risk of violence and re-offending (Eke et al., 2011). The ODARA can be completed using police and criminal records as well as

interviews with the perpetrator or victim. It is appropriate for use by first responders who work primarily in law enforcement (Canadian Domestic Homicide Prevention Initiative, 2016). Alternatively, the B-SAFER was developed for use by criminal justice and mental health professionals and also assesses for risk of re-offending (Canadian Domestic Homicide Prevention Initiative, 2016). It is the researcher's belief that risk assessment should include professional discretion, as the results of this study indicate that perpetrators of DH and DHS are not homogenous. For a more comprehensive list of risk assessment tools and their characteristics visit Canadian Domestic Homicide Prevention Initiative on the CREVAWC website.

Risk Assessment Specific to DHS Perpetrators. The results of this study found that perpetrators of DHS are more likely to be in contact with health care providers than DH perpetrators. Although the nature of this finding requires further research, this study supports the importance of health care providers conducting risk assessments with clients suspected of violence directed at themselves or others. Additionally, DHS cases often involve an older couple with mental and physical health concerns. In a case reviewed by the Ontario DVDRC, a 77-year old man killed his 83-year old wife and then himself (DVDRC, 2012). The victim had depression and dementia and the perpetrator was the primary caregiver for his wife. They were described as having a good marriage and no history of domestic violence, however the perpetrator had made a previous suicide attempt. The implications of this case support the importance of assessing for different risk factors in cases of DH and DHS, as well as within older couples. Such risk factors may include the presence of depression, suicidal thoughts or previous attempts, and if the perpetrator is the primary caregiver for the victim. The implications of this research suggests that health care professionals should be knowledgeable of the relationship between depression, homicide and suicide, and assess for homicidal ideation when a perpetrator discloses suicidal ideation.

Risk Assessment with Victims. This study found that victims in cases of DH were more likely to be in contact with health care professionals and to disclose fear of the perpetrator. In a case reviewed by the DVDRC in 2012, the victim expressed her fear of the perpetrator and had told her personal support worker six days before the homicide that she was worried that her husband was going to get upset when he received the divorce papers (DVDRC, 2012). This case reflects the findings in this study that found separation and the victim's sense of fear to be significant risk factors for lethal violence. Therefore, including the victim's perceptions of their risk of harm may provide valuable information when conducting risk assessments (Canadian Domestic Homicide Prevention Initiative, 2016). However, while it is important to consider the victim's perception, past research indicates that women frequently underestimate their risk of harm. Results from the Intimate Partner Femicide study conducted in 12 cities in the United States between 1994 and 1998 found that approximately 50% of women who were killed or almost killed by their intimate partner did not accurately assess their risk of harm (Campbell, 2004). Campbell (2004) suggests that conducting a lethality assessment in combination with the victim's perception of her risk of harm is important, especially if the victim does not identify being at risk of harm when significant risk factors are present.

A Valid Risk Assessment Tool for use with Victims. Health care and social service professionals may find the Danger Assessment (DA) to be an effective tool when conducting risk assessments with victims (Campbell, Webster, & Glass, 2009). The Danger Assessment is a brief 20-item, "yes or no," questionnaire that assesses for the presence of various risk factors (Campbell et al., 2009) in order to determine the client's suspected level of risk of lethal violence. Given that a victim's risk of harm may change over time, risk assessments should be revisited frequently in order to ensure optimal support for the victim.

Risk Management with Perpetrators. The implications of this study are that risk management plans with perpetrators should reflect the findings and level of risk outlined in the risk assessment. Significant risk factors identified in this study include: perpetrator criminal history, prior threats to kill the victim, prior threats and assault with a weapon, destruction of the victim's property, and failure to comply with authority. The results of this research suggest that perpetrators scoring moderate to high levels of risk to re-offend and use lethal violence may benefit from incarceration, intensive supervision, and corrections-based violence treatment (Douglas & Kropp, 2002). Perpetrators who have expressed suicidal ideation or past suicide attempts may benefit more from risk management that focuses on crisis counselling, weapons restriction, and hospitalization (Douglas & Kropp, 2002). Crisis counselling aims to provide support to an individual who is facing a significant and/or immediately distressing event or situation. The findings of this research highlight the importance of paying particular attention to perpetrators who express extreme jealousy, make accusations of infidelity, and use possessive statements reflecting the message, "if I can't have her nobody can" and "I can't live without her" when creating a risk management plan (Koziol-McLain et al., 2006). This study suggests that risk management in cases reflecting perpetrator hostility towards the victim might include incarceration, intensive supervision, dispute resolution or legal involvement, and mediation if the perpetrator and victim are separated (Douglas & Kropp, 2002).

Risk Management Programs for Perpetrators. Second-responder programs for perpetrators have also shown a reduction in recidivism rates among violent offenders (Scott, Heslop, Kelly, & Wiggins, 2015). Second-responder programs aim to provide immediate short-term interventions and supports to mitigate *further* risk of violence (Scott et al., 2015), whereas a first responder is trained to respond to the initial emergency or event. Second responders often include professionals, such as social workers and law enforcement officials, who aim to provide

information and resources to support the perpetrator in obtaining any necessary services that may reduce their risk of recidivism (Scott et al., 2015). Second-responder programs have been traditionally used with victims of domestic violence but have recently been implemented with perpetrators using a Risk, Needs, Responsivity (RNR) framework (Scott et al., 2015). This type of program has shown efficacy in reducing recidivism in moderate to high-risk perpetrators (Scott et al., 2015). The program targets the needs that are most relevant to the individual perpetrator based on the results of a risk assessment and well-established risk factors, such as recent separation, substance use, suicidal ideation, and depression. Perpetrators are provided resources in the community such as counselling, community programs, and economic and legal advice (Scott et al., 2015). The program has shown a significant reduction in the re-offending of perpetrators who participated in the program at a two-year follow up (Scott et al., 2015). Similar programs include Interagency Case Assessment Teams (ICAT) that have been established in provinces such as British Columbia. ICATs are comprised of a team of agencies who assess the case for risk level and intervene with the case until it is no longer considered high-risk (Ending Violence Association of BC, 2015).

Safety Planning with Victims. The implications of this study are that safety plans need to be developed in collaboration with the victim with the aim of increasing their safety as well as the safety of the people around them. This research found that prior threats to kill the victim, prior assault with a weapon, destruction of the victim's property, and actual or pending separation were significant risk factors of domestic homicide. These results highlight the importance of safety plans including psychoeducation on relevant risk factors and warning signs of lethal risk of harm to the victim. The results of this study found that people in the perpetrator and/or victim's life (i.e. family, friends) were aware of risk factors and warning signs, such as a history of domestic violence and the perpetrator monitoring the victim's whereabouts (DVDRC, 2006). The

importance of community involvement to help protect victims is demonstrated in the following example:

Case Summary Reviewed in 2006. This case involved a homicide / suicide of a couple who had both been previously married, and had been living common-law for approximately 6 years. During that time, the perpetrator was controlling, threatening, and often physically abusive to the victim. Due to ongoing concerns for her safety, and after multiple attempts to end the relationship, the female victim separated from the perpetrator. Following the separation, the perpetrator continued to be obsessed with her, to stalk and attempt to control her.

For various medical reasons, the victim had seen several doctors during her relationship with the perpetrator, but never mentioned her fears regarding him. Both the victim's and the perpetrator's families were aware of the troubled relationship before and after separation. The victim expressed concerns about the perpetrator stalking and harassing her to her family and friends, both at work and in her personal life. She had written and left a lengthy note, to be opened in the event of her death, outlining a number of incidents of physical assaults and indicating her fear of her partner because of his threatening and controlling nature.

A few months after their separation, the perpetrator went to the victim's new apartment and an argument ensued. He produced a gun, and as the victim attempted to flee down the stairs, was followed and subsequently shot by the perpetrator. He then turned the gun on himself. Both died as a result of gunshot wounds (DVDRC, 2006).

This case highlights the importance of providing public education on warning signs of domestic violence and lethality. The implications of this research emphasize the importance of family members, friends, and work colleagues encouraging help seeking for individuals who are at risk of lethal violence. The implications of this study are that providing information and education to community agencies may help eliminate the false belief that women are safe from the perpetrator once the relationship is terminated. Safety planning may include a change in residence, informing the police of the victim's risk of lethal harm, and involving the victim's place of employment to ensure safety and create alternative arrangements if appropriate

(Canadian Domestic Homicide Prevention Initiative, 2016). Additionally, safety plans can include having items prepared and a plan for where to go if the victim needs to leave the home in an emergency. Past research highlights the importance of safety plans being created in collaboration with the victim in order to empower the victim, as well as devise a plan that is feasible and realistic to the victim (Campbell, 2004).

Restriction of Weapons. As the findings of this study indicated, the most commonly used weapon in cases of DHS was a firearm. It can therefore be suggested that if a client discloses thoughts of suicide or significant clinical depression, mental health providers and community agencies may find value in inquiring about whether the person has access to a firearm as part of their risk assessment.

Limitations

The findings of this research should be considered in light of the limitations of the study. The reports that are produced by the Ontario DVDR are used to inform coroner's investigations. As a result, the information that is provided to the Committee is limited at times as a result of the victim or the perpetrator having limited agency involvement or lack of knowledge and awareness from friends and family. Couples who were more isolated as a result of location, the context of the relationship, or supports (e.g., family, socioeconomic status, medical or mental health providers) had significantly more missing data, which placed restrictions on the comparisons that could be analyzed. Missing data may have contributed to hypothesized relationships among variables remaining dormant. As a result, actual rates of risk factors are likely underreported. This study used a retrospective, secondary dataset, which increases the potential for bias and coding errors irrespective of the standardized coding form that was used. Future research would benefit from analyzing cases with even more extensive detail provided.

Explicit details pertaining to the perpetrator's previous domestic violence and criminal history will assist in the development of perpetrator profiles. Information such as the extent and severity of domestic violence likely differ between perpetrators and would inform differences between cases of DH and DHS. Knowing if the perpetrator has used domestic violence in their current and/or past relationship may also distinguish perpetrators of DH and DHS. Additionally, being aware of the legal action that was undertaken, if any, may differentiate perpetrators as chronic batterers or another subtype. Similarly, information related to the nature of the perpetrator's criminal history and charges may distinguish cases of DH and DHS. Future research should analyze the details of the perpetrator's past violent episodes for patterns of behaviour as well as effective and ineffective community and legal interventions.

The implication and intent behind the perpetrator's previous threats and attempts of suicide is also limited. Additional information regarding the number of previous threats and attempts, as well as the details regarding the incidents may be valuable in distinguishing between perpetrators of DH and DHS, as well as within perpetrators of DHS.

Future Research

Domestic Violence and Domestic Homicide Typologies

Future research with information pertaining to the perpetrator and/or victim's psychological profile may be better suited to empirically analyze Kivisto's (2015) theoretical domestic homicide perpetrator typology. The results of this study indicate that a subset of domestic homicide perpetrators may share common characteristics with the antisocial personality type highlighted in Holtzworth-Munroe and Stuart's (1994) domestic violence typology. This perpetrator tends to have more criminal history, destruction of the victim's property, and a failure to comply with authority. Additionally, this perpetrator may engage in more substance abuse. The victim involved in these cases is likely fearful and has left or made attempts to leave the

relationship. This subtype would share significant similarities with the chronic batterer subtype highlighted by Kivisto (2015).

Additionally, the results of this study indicate that a subtype of domestic homicide-suicide perpetrators may share common characteristics with the mentally ill subtype highlighted by Kivisto (2015). This perpetrator is older and reports significant levels of depression. He is frequently in an intact relationship with the victim and reports lower levels of a history of domestic violence. This perpetrator is likely motivated primarily by suicide. It is suspected he will kill the victim for reasons related to declining health, dependency, or not wanting the victim to go on living without him. Future research should explore the applicability of Kivisto's theoretical typology to actual cases of DH and DHS.

Domestic Homicide-Suicide Perpetrators' Primary Intent

Although preliminary results were found pertaining to the perpetrator's primary intent using the procedure proposed by Salari and Sillito (2016), more research is required to determine the significance of these findings.

DH and DHS in Marginalized Groups

Future research should examine the risk factors and consequences of DH and DHS in marginalized groups such as Indigenous groups, immigrant and refugee, rural, remote and northern communities and same-sex couples. Obtaining information during police investigations regarding the existence of a romantic relationship between a perpetrator and victim within a same-sex relationship will enable accurate classification and review of these tragic events. Dynamic, static, and victim-focused risk factors such as criminal history, separation, and the victim's sense of fear may differ within and between marginalized groups.

It is important to reiterate that the cases that are reviewed by the Ontario DVDRC are not representative of all of the domestic homicides and domestic homicide-suicides that occurred

within this time frame. From 2002 to 2013 there were a total of 221 reported domestic homicides and 85 reported domestic homicide-suicides within the context of an intimate relationship (DVDRC, 2014). Between 2002 and 2013 the Ontario DVDRC Committee reviewed 122 domestic homicide and 77 domestic homicide-suicide cases (DVDRC, 2014). Furthermore, it is important to note that there is a higher representation of DHS cases in our sample because these cases can be reviewed more expediently, as there is no delay due to court hearings or appeals. Further research is needed to determine whether these findings can be generalized to other offenders, jurisdictions, and cases.

Conclusion

There were several significant differences between perpetrators of domestic homicide and domestic homicide-suicide. Cases of DH and DHS also significantly differed based on socio-demographic information and identified risk factors. This research, along with previous studies, demonstrates that there is no homogenous profile of a perpetrator who commits an act of DH or DHS. Perpetrators of DH were found to be more deviant and violent as evidenced by having more criminal history, higher non-compliance with authority, more destruction of the victim's property, and more prior threats to kill the victim. Perpetrators of DHS had more depression, tended to be older, and also had a larger age disparity between the perpetrator and the victim. This research also provides preliminary support that suggests that perpetrators from different age groups have different primary intentions. Additionally, the finding that age disparity, number of risk factors, the perpetrator being professionally or non-professionally diagnosed with depression, and the perpetrator having made prior threats and/or attempts of suicide in combination significantly predicts case type is valuable to this field.

The findings outlined in this study highlight a need to develop perpetrator typologies for DH and DHS. Understanding what risk factors in combination are more likely to result in a DH or

DHS can significantly inform risk assessment, risk management, and safety planning strategies for at-risk victims. Additionally, risk assessment and risk management strategies for potential or actual domestic violence perpetrators by professionals working in mental health and community agencies may reduce the occurrence of these tragedies.

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Appendix A

Domestic Violence Death Review Committee
 Office of the Chief Coroner of Ontario
 Data Summary Form

OCC Case #(s): OCC Region: Central
 OCC Staff: _____

Lead Investigating Police Agency:

Officer(s):

Other Investigating Agencies: _

Officers: _

VICTIM INFORMATION

***If more than one victim, this information is for primary victim (i.e. intimate partner)*

Name

Gender	
Age	
DOB	
DOD	
Marital status	
Number of children	
Pregnant	
<i>If yes, age of fetus (in weeks)</i>	
Residency status	
Education	
Employment status	
Occupational level	
Criminal history	
<i>If yes, check those that apply...</i>	<input type="checkbox"/> Prior domestic violence arrest record <input type="checkbox"/> Arrest for a restraining order violation <input type="checkbox"/> Arrest for violation of probation <input type="checkbox"/> Prior arrest record for other assault/harassment/menacing/disturbance <input type="checkbox"/> Prior arrest record for DUI/possession <input type="checkbox"/> Juvenile record

	<input type="checkbox"/> Total # of arrests for domestic violence offenses <input type="checkbox"/> Total # of arrests for other violent offenses <input type="checkbox"/> Total # of arrests for non-violent offenses <input type="checkbox"/> Total # of restraining order violations <input type="checkbox"/> Total # of bail condition violations <input type="checkbox"/> Total # of probation violations
Family court history	
<i>If yes, check those that apply...</i>	<input type="checkbox"/> Current child custody/access dispute <input type="checkbox"/> Prior child custody/access dispute <input type="checkbox"/> Current child protection hearing <input type="checkbox"/> Prior child protection hearing <input type="checkbox"/> No info
Treatment history	
<i>If yes, check those that apply ...</i>	<input type="checkbox"/> Prior domestic violence treatment <input type="checkbox"/> Prior substance abuse treatment <input type="checkbox"/> Prior mental health treatment <input type="checkbox"/> Anger management <input type="checkbox"/> Other – specify _____ <input type="checkbox"/> No info
Victim taking medication at time of incident	
Medication prescribed for victim at time of incident	
Victim taking psychiatric drugs at time of incident	
Victim made threats or attempted suicide prior to incident	

Any significant life changes occurred prior to fatality?	
<i>Describe:</i>	
Subject in childhood or Adolescence to sexual abuse?	
Subject in childhood or adolescence to physical abuse?	
Exposed in childhood or adolescence to domestic violence?	

-- END VICTIM INFORMATION --

PERPETRATOR INFORMATION

***Same data as above for victim*

Gender	
Age	
DOB	
DOD	
Marital status	
Number of children	
Pregnant	
<i>If yes, age of fetus (in weeks)</i>	
Residency status	
Education	
Employment status	
Occupational level	
Criminal history	

Perpetrator on medication at time of incident	
Medication prescribed for perpetrator at time of incident	
Perpetrator taking psychiatric drugs at time of incident	
Perpetrator made threats or attempted suicide prior to incident	
Any significant life changes occurred prior to fatality?	
<i>Describe:</i>	
Subject in childhood or Adolescence to sexual abuse?	
Subject in childhood or adolescence to physical abuse?	
Exposed in childhood or adolescence to domestic violence?	

-- END PERPETRATOR INFORMATION --

INCIDENT

Date of incident	
Date call received	
Time call received	
Date of death	
Incident type	
Incident reported by	
Total number of victims <i>**Not including perpetrator if suicided</i>	

Who were additional victims aside from perpetrator?	
Others received non-fatal injuries	
Perpetrator injured during incident?	
Who injured perpetrator?	

Location of crime

Location of incident	
If residence, type of dwelling	
If residence, where was victim found?	

Cause of Death (Primary Victim)

Cause of death	
Multiple methods used?	
<i>If yes be specific ...</i>	
Other evidence of excessive violence?	
Evidence of mutilation?	
Victim sexually assaulted?	
<i>If yes, describe (Sexual assault, sexual mutilation, both)</i>	
Condition of body	
Victim substance use at time of crime?	
Perpetrator substance use at time of crime?	

Weapon Use

Weapon use	
If weapon used, type	
If gun, who owned it?	
Gun acquired legally?	
If yes, when acquired?	
Previous requests for gun to be surrendered/destroyed?	
Did court ever order gun to be surrendered/destroyed?	

Witness Information

Others present at scene of fatality (i.e. witnesses)?	
If children were present:	
Matthew Jr.	
Michelle	
Andrea	
What intervention occurred as a result?	

Perpetrator actions after fatality

Did perpetrator attempt/commit suicide following the incident?	
If committed suicide, how?	
Did suicide appear to be part of original homicide?	
How long after the killing did suicide occur?	

Was perpetrator in custody when attempted or committed suicide?	
Was a suicide note left? <i>If yes, was precipitating factor identified</i>	
Describe: <i>Perpetrator left note attached to envelope and within the envelope were photos of the victim and her boyfriend and correspondence regarding the purchase of a house in North Dakota and money transfers etc.</i>	
If perpetrator did not commit suicide, did s/he leave scene?	
If perpetrator did not commit suicide, where was s/he arrested/apprehended?	<i>(At scene, turned self in, apprehended later, still at large, other – specify)</i>
How much time passed between the fatality and the arrest of the suspect:	<i>(Hours, days, weeks, months, unknown, n/a – still at large)</i>

-- END INCIDENT INFORMATION --

VICTIM/PERPETRATOR RELATIONSHIP HISTORY

Relationship of victim to perpetrator	
Length of relationship	
If divorced, how long?	
If separated, how long?	
If separated more than a Month, list # of months	

Did victim begin relationship with a new partner?	
If not separated, was there evidence that a separation was imminent?	
Is there a history of separation in relationship?	

<i>If yes, how many previous separations were there?</i>	<i>(Indicate #, unknown)</i>
If not separated, had victim tried to leave relationship	
<i>If yes, what steps had victim taken in past year to leave relationship?(Check all that apply)</i>	<input type="checkbox"/> Moved out of residence <input type="checkbox"/> Initiated defendant moving out <input type="checkbox"/> Sought safe housing <input type="checkbox"/> Initiated legal action <input type="checkbox"/> Other – specify

Children Information

Did victim/perpetrator have children in common?	
If yes, how many children in common?	
If separated, who had legal custody of children?	
If separated, who had physical custody of children at time of incident?	
Which of the following best describes custody agreement?	
Did victim have children from previous relationship?	
<i>If yes, how many?</i>	<i>(Indicate #)</i>

History of domestic violence

Were there prior reports of domestic violence in this relationship?

Type of Violence? *(Physical, other)*

If other describe: _____

If yes, reports were made to: (Check all those that apply)

- Police
- Courts
- Medical

- Family members
- Clergy
- Friends
- Co-workers
- Neighbors
- Shelter/other domestic violence program
- Family court (during divorce, custody, restraining order proceedings)
- Social services
- Child protection
- Legal counsel/legal services
- Other – specify _____

Historically, was the victim usually the perpetrator of abuse? _____

If yes, how known? _____

Describe: _____

Was there evidence of escalating violence?

If yes, check all that apply:

- Prior attempts or threats of suicide by perpetrator
- Prior threats with weapon
- Prior threats to kill
- Perpetrator abused the victim in public
- Perpetrator monitored victim's whereabouts
- Blamed victim for abuse
- Destroyed victim's property and/or pets
- Prior medical treatment for domestic violence related injuries reported
- Other – specify _____

-- END VICTIM-PERPETRATOR RELATIONSHIP INFORMATION --

SYSTEM CONTACTS

Background

Did victim have access to working telephone? _____

Estimate distance victim had to travel to access helping resources? (KMs)

Did the victim have access to transportation? _____

Did the victim have a Safety Plan? _____

Did the victim have an opportunity to act on the Plan? _____

Agencies/Institutions

Were any of the following agencies involved with the victim or the perpetrator during the past year prior to the fatality? _____

***Indicate who had contact, describe contact and outcome. Locate date(s) of contact on events calendar for year prior to killing (12-month calendar)*

Criminal Justice/Legal Assistance:

Police(Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Crown attorney (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Defense counsel (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Court/Judges (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Corrections (Victim, perpetrator or both)

Describe: _____

Outcome: _____

Probation (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Parole (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Family court (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Family lawyer (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Court-based legal advocacy (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Victim-witness assistance program (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Victim Services (including domestic violence services)

Domestic violence shelter/safe house (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Sexual assault program (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Other domestic violence victim services (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Community based legal advocacy (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Children services

School (Victim, perpetrator, children or all)
Describe: (Did school know of DV? Did school provide counseling?)

Outcome: _____

Supervised visitation/drop off center (Victim, perpetrator, or both)
Describe:

Outcome: _____

Child protection services (Victim, perpetrator, children, or all)
Describe:

Outcome: _____

Health care services

Mental health provider (Victim, perpetrator, or both)
Describe:

Outcome: _____

Mental health program (Victim, perpetrator, or both)
Describe:

Outcome: _____

Health care provider (Victim, perpetrator, or both)
Describe:

Outcome: _____

Regional trauma center (Victim, perpetrator, or both)
Describe:

Outcome: _____

Local hospital (Victim, perpetrator, or both)
Describe:

Outcome: _____

Ambulance services (Victim, perpetrator, or both)
Describe:

Outcome: _____

Other Community Services

Anger management program (Victim, perpetrator, or both)
Describe:

Outcome: _____

Batterer's intervention program (Victim, perpetrator, or both)
Describe:

Outcome: _____

Marriage counselling (Victim, perpetrator, or both)

Risk Factor	Code (P,A, Unk)
-------------	--------------------

1. History of violence outside of the family by perpetrator	
2. History of domestic violence	
3. Prior threats to kill victim	
4. Prior threats with a weapon	
5. Prior assault with a weapon	
6. Prior threats to commit suicide by perpetrator*	
7. Prior suicide attempts by perpetrator* (if check #6 and/or #7 only count as one factor)	
8. Prior attempts to isolate the victim	
9. Controlled most or all of victim's daily activities	
10. Prior hostage-taking and/or forcible confinement	
11. Prior forced sexual acts and/or assaults during sex	
12. Child custody or access disputes	
13. Prior destruction or deprivation of victim's property	
14. Prior violence against family pets	
15. Prior assault on victim while pregnant	
16. Choked victim in the past	
17. Perpetrator was abused and/or witnessed domestic violence as a child	
18. Escalation of violence	
19. Obsessive behaviour displayed by perpetrator	
20. Perpetrator unemployed	
21. Victim and perpetrator living common-law	
22. Presence of stepchildren in the home	
23. Extreme minimization and/or denial of spousal assault history	
24. Actual or pending separation	
25. Excessive alcohol and/or drug use by perpetrator*	
26. Depression – in the opinion of family/friend/acquaintance - perpetrator*	
27. Depression – professionally diagnosed – perpetrator* (If check #26 and/or #27 only count as one factor)	
28. Other mental health or psychiatric problems – perpetrator	
29. Access to or possession of any firearms	
30. New partner in victim's life*	
31. Failure to comply with authority – perpetrator	
32. Perpetrator exposed to/witnessed suicidal behaviour in family of origin	
33. After risk assessment, perpetrator had access to victim	
34. Youth of couple	
35. Sexual jealousy – perpetrator*	
36. Misogynistic attitudes – perpetrator*	

37. Age disparity of couple*	
38. Victim's intuitive sense of fear of perpetrator*	
39. Perpetrator threatened and/or harmed children*	
Other factors that increased risk in this case? Specify:	

Describe:

Outcome: _____

Substance abuse program (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Religious community (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Immigrant advocacy program (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Animal control/humane society (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Cultural organization (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Fire department (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

Homeless shelter (Victim, perpetrator, or both)

Describe: _____

Outcome: _____

-- END SYSTEM CONTACT INFORMATION --

RISK ASSESSMENT

Was a risk assessment done?

If yes, by whom? _____

When was the risk assessment done? _____

What was the outcome of the risk assessment? _____

Appendix B

Ontario Domestic Violence Death Review Committee Risk Factor Coding Form (see descriptors below)

A= Evidence suggests that the risk factor was not present

P= Evidence suggests that the risk factor was present

Unknown (Unk) = A lack of evidence suggests that a judgment cannot be made

Risk Factor Descriptions

Perpetrator = The primary aggressor in the relationship

Victim = The primary target of the perpetrator's abusive/maltreating/violent actions

1. Any actual or attempted assault on any person who is not, or has not been, in an intimate relationship with the perpetrator. This could include friends, acquaintances, or strangers. This incident did not have to necessarily result in charges or convictions and can be verified by any record (e.g., police reports; medical records) or witness (e.g., family members; friends; neighbours; co-workers; counsellors; medical personnel, etc.).
2. Any actual, attempted, or threatened abuse/maltreatment (physical; emotional; psychological; financial; sexual, etc.) toward a person who has been in, or is in, an intimate relationship with the perpetrator. This incident did not have to necessarily result in charges or convictions and can be verified by any record (e.g., police reports; medical records) or witness (e.g., family members; friends; neighbours; co-workers; counsellors; medical personnel, etc.). It could be as simple as a neighbour hearing the perpetrator screaming at the victim or include a co-worker noticing bruises consistent with physical abuse on the victim while at work.
3. Any comment made to the victim, or others, that was intended to instill fear for the safety of the victim's life. These comments could have been delivered verbally, in the form of a letter, or left on an answering machine. Threats can range in degree of explicitness from "I'm going to kill you" to "You're going to pay for what you did" or "If I can't have you, then nobody can" or "I'm going to get you."
4. Any incident in which the perpetrator threatened to use a weapon (e.g., gun; knife; etc.) or other object intended to be used as a weapon (e.g., bat, branch, garden tool, vehicle, etc.) for the purpose of instilling fear in the victim. This threat could have been explicit (e.g., "I'm going to shoot you" or "I'm going to run you over with my car") or implicit (e.g., brandished a knife at the victim or commented "I bought a gun today"). Note: This item is separate from threats using body parts (e.g., raising a fist).
5. Any actual or attempted assault on the victim in which a weapon (e.g., gun; knife; etc.), or other object intended to be used as a weapon (e.g., bat, branch, garden tool, vehicle, etc.), was used. Note: This item is separate from violence inflicted using body parts (e.g., fists, feet, elbows, head, etc.).
6. Any recent (past 6 months) act or comment made by the perpetrator that was intended to convey the perpetrator's idea or intent of committing suicide, even if the act or comment was not taken seriously. These comments could have been made verbally, or delivered in letter format, or left on an answering machine. These comments can range from explicit (e.g., "If you ever leave me, then I'm going to kill myself" or "I can't live without you") to implicit ("The world would be better off without me"). Acts can include, for example, giving away prized possessions.
7. Any recent (past 6 months) suicidal behaviour (e.g., swallowing pills, holding a knife to one's throat, etc.), even if the behaviour was not taken seriously or did not require arrest, medical attention, or psychiatric committal. Behaviour can range in severity from superficially cutting the wrists to actually shooting or hanging oneself.
8. Any non-physical behaviour, whether successful or not, that was intended to keep the victim from associating with others. The perpetrator could have used various psychological tactics (e.g., guilt trips) to discourage the victim from associating with family, friends, or other acquaintances in the community (e.g., "if you leave, then don't even think about coming back" or "I never like it when your parents come over" or "I'm leaving if you invite your friends here").

9. Any actual or attempted behaviour on the part of the perpetrator, whether successful or not, intended to exert full power over the victim. For example, when the victim was allowed in public, the perpetrator made her account for where she was at all times and who she was with. Another example could include not allowing the victim to have control over any finances (e.g., giving her an allowance, not letting get a job, etc.).
10. Any actual or attempted behaviour, whether successful or not, in which the perpetrator physically attempted to limit the mobility of the victim. For example, any incidents of forcible confinement (e.g., locking the victim in a room) or not allowing the victim to use the telephone (e.g., unplugging the phone when the victim attempted to use it). Attempts to withhold access to transportation should also be included (e.g., taking or hiding car keys). The perpetrator may have used violence (e.g., grabbing; hitting; etc.) to gain compliance or may have been passive (e.g., stood in the way of an exit).
11. Any actual, attempted, or threatened behaviour, whether successful or not, used to engage the victim in sexual acts (of whatever kind) against the victim's will. Or any assault on the victim, of whatever kind (e.g., biting; scratching, punching, choking, etc.), during the course of any sexual act.
12. Any dispute in regards to the custody, contact, primary care or control of children, including formal legal proceedings or any third parties having knowledge of such arguments.
13. Any incident in which the perpetrator intended to damage any form of property that was owned, or partially owned, by the victim or formerly owned by the perpetrator. This could include slashing the tires of the car that the victim uses. It could also include breaking windows or throwing items at a place of residence. Please include any incident, regardless of charges being laid or those resulting in convictions.
14. Any action directed toward a pet of the victim, or a former pet of the perpetrator, with the intention of causing distress to the victim or instilling fear in the victim. This could range in severity from killing the victim's pet to abducting it or torturing it. Do not confuse this factor with correcting a pet for its undesirable behaviour.
15. Any actual or attempted form physical violence, ranging in severity from a push or slap to the face, to punching or kicking the victim in the stomach. The key difference with this item is that the victim was pregnant at the time of the assault and the perpetrator was aware of this fact.
16. Any attempt (separate from the incident leading to death) to strangle the victim. The perpetrator could have used various things to accomplish this task (e.g., hands, arms, rope, etc.). Note: Do not include attempts to smother the victim (e.g., suffocation with a pillow).
17. As a child/adolescent, the perpetrator was victimized and/or exposed to any actual, attempted, or threatened forms of family violence/abuse/maltreatment.
18. The abuse/maltreatment (physical; psychological; emotional; sexual; etc.) inflicted upon the victim by the perpetrator was increasing in frequency and/or severity. For example, this can be evidenced by more regular trips for medical attention or include an increase in complaints of abuse to/by family, friends, or other acquaintances.
19. Any actions or behaviours by the perpetrator that indicate an intense preoccupation with the victim. For example, stalking behaviours, such as following the victim, spying on the victim, making repeated phone calls to the victim, or excessive gift giving, etc.
20. Employed means having full-time or near full-time employment (including self-employment). Unemployed means experiencing frequent job changes or significant periods of lacking a source of income. Please consider government income assisted programs (e.g., O.D.S.P.; Worker's Compensation; E.I.; etc.) as unemployment.
21. The victim and perpetrator were cohabiting.
22. Any child(ren) that is(are) not biologically related to the perpetrator.
23. At some point the perpetrator was confronted, either by the victim, a family member, friend, or other acquaintance, and the perpetrator displayed an unwillingness to end assaultive behaviour or enter/comply with any form of treatment (e.g., batterer intervention programs). Or the perpetrator denied many or all past assaults, denied personal responsibility for the assaults (i.e., blamed the victim), or denied the serious consequences of the assault (e.g., she wasn't really hurt).
24. The partner wanted to end the relationship. Or the perpetrator was separated from the victim but wanted to renew the relationship. Or there was a sudden and/or recent separation. Or the victim had contacted a lawyer and was seeking a separation and/or divorce.
25. Within the past year, and regardless of whether or not the perpetrator received treatment, substance abuse that appeared to be characteristic of the perpetrator's dependence on, and/or addiction to, the substance. An

increase in the pattern of use and/or change of character or behaviour that is directly related to the alcohol and/or drug use can indicate excessive use by the perpetrator. For example, people described the perpetrator as constantly drunk or claim that they never saw him without a beer in his hand. This dependence on a particular substance may have impaired the perpetrator’s health or social functioning (e.g., overdose, job loss, arrest, etc). Please include comments by family, friend, and acquaintances that are indicative of annoyance or concern with a drinking or drug problem and any attempts to convince the perpetrator to terminate his substance use.

- 26. In the opinion of any family, friends, or acquaintances, and regardless of whether or not the perpetrator received treatment, the perpetrator displayed symptoms characteristic of depression.
- 27. A diagnosis of depression by any mental health professional (e.g., family doctor; psychiatrist; psychologist; nurse practitioner) with symptoms recognized by the DSM-IV, regardless of whether or not the perpetrator received treatment.
- 28. For example: psychosis; schizophrenia; bi-polar disorder; mania; obsessive-compulsive disorder, etc.
- 29. The perpetrator stored firearms in his place of residence, place of employment, or in some other nearby location (e.g., friend’s place of residence, or shooting gallery). Please include the perpetrator’s purchase of any firearm within the past year, regardless of the reason for purchase.
- 30. There was a new intimate partner in the victim’s life or the perpetrator perceived there to be a new intimate partner in the victim’s life
- 31. The perpetrator has violated any family, civil, or criminal court orders, conditional releases, community supervision orders, or “No Contact” orders, etc. This includes bail, probation, or restraining orders, and bonds, etc.
- 32. As a(n) child/adolescent, the perpetrator was exposed to and/or witnessed any actual, attempted or threatened forms of suicidal behaviour in his family of origin. Or somebody close to the perpetrator (e.g., caregiver) attempted or committed suicide.
- 33. After a formal (e.g., performed by a forensic mental health professional before the court) or informal (e.g., performed by a victim services worker in a shelter) risk assessment was completed, the perpetrator still had access to the victim.
- 34. Victim and perpetrator were between the ages of 15 and 24.
- 35. The perpetrator continuously accuses the victim of infidelity, repeatedly interrogates the victim, searches for evidence, tests the victim’s fidelity, and sometimes stalks the victim.
- 36. Hating or having a strong prejudice against women. This attitude can be overtly expressed with hate statements, or can be more subtle with beliefs that women are only good for domestic work or that all women are “whores.”
- 37. Women in an intimate relationship with a partner who is significantly older or younger. The disparity is usually nine or more years.
- 38. The victim is one that knows the perpetrator best and can accurately gauge his level of risk. If the woman discloses to anyone her fear of the perpetrator harming herself or her children, for example statements such as, “I fear for my life”, “I think he will hurt me”, “I need to protect my children”, this is a definite indication of serious risk.
- 39. Any actual, attempted, or threatened abuse/maltreatment (physical; emotional; psychological; financial; sexual; etc.) towards children in the family. This incident did not have to necessarily result in charges or convictions and can be verified by any record (e.g., police reports; medical records) or witness (e.g., family; friends; neighbours; co-workers; counselors; medical personnel, etc).

DVDRC COMMITTEE RECOMMENDATIONS

Was the homicide (suicide) preventable in retrospect? (Yes, no)

If yes, what would have prevented this tragedy?

What issues are raised by this tragedy that should be outlined in the DVDRC annual report?

Future Research Issues/Questions: _____

Additional comments: _____

Curriculum Vitae

Name: Chelsea Amy Heron

Post- Secondary Education and Degrees: Western University
London, Ontario, Canada
M.A. Counselling Psychology
2015-2017

Queen's University
Kingston, Ontario, Canada
B.A. Psychology (Honours)
2011-2015

Conference Presentations: Conference Poster Presentation
Canadian Psychological Association (CPA)
2016

Panel Session
The Robert Macmillan Graduate Research in
Education Symposium (GRiES)
2016

Related Work Experience: Clinician
London Family Court Clinic
2016 – present

Multidisciplinary Clinical Supports Team – Intern
London Family Court Clinic
2016-2017

Research Assistant
Centre for Research and Education on Violence
Against Women and Children (CREVAWC)
2016-2017

Assessment Assistant
London and Windsor Police – Dr. William Newby
2016-present

Co-facilitator
Changing Ways – Partner Assault Response Program
2016-2017