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Karolinska Institutet, Stockholm, Sweden

# **INTIMATE PARTNER HOMICIDE RATES AND CHARACTERISTICS**

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# Intimate Partner Homicide Rates and Characteristics

## THESIS FOR DOCTORAL DEGREE (Ph.D.)

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This dissertation is dedicated to sisterhood and women who support, encourage and inspire each other.

We are all equal in the fact that we are all different. We are all the same in the fact that we will never be the same. We are united by the reality that all colours and all cultures are distinct and individual. We are harmonious in the reality that we are all held to this earth by the same gravity. We don't share blood, but we share the air that keeps us alive.

C. JoyBell C.

# ABSTRACT

## Aims

The overarching objective of present dissertation project is to study trends and characteristics of intimate partner homicide (IPH), and to investigate whether the trends and characteristics differ depending on homicide type or gender. **Study I** aims to compare rates of IPH and non-intimate partner homicide (non-IPH), and to examine gender-specific trends of IPH rates and characteristics. **Study II** aims to identify socio-demographic and criminological characteristics in perpetrators and victims of IPH, and to examine whether they differ from non-IPH. **Study III** aims to identify to what extent IPH and non-IPH perpetrators suffered from mental illness and mental disorder, prior or in connection to the offense, and to investigate history of mental illness and mental disorder in victims of IPH and non-IPH. **Study IV** aims to identify similarities and differences between male and female perpetration of IPH.

## Methods and Materials

**Study I** is based on the European Homicide Monitor, retrieved from the National Council for Crime Prevention, which holds information from police files, court verdicts and forensic psychiatric reports. The population-based study includes all solved homicides ( $N = 1,725$ ) in Sweden between 1990 and 2013. The **studies II-IV** are based on data from the Forensic Homicide Database, which is a dataset created by the research group. The population-based dataset holds information from forensic autopsies, forensic psychiatric evaluations, forensic toxicological tests, the National Crime Register, the National Patient Register, preliminary police investigations, and court files. **Study II** and **III** are based on data on all male-perpetrated homicides ( $N = 211$ ) in Sweden between 2007 and 2009, while **study IV** is based on all female-perpetrated ( $n = 9$ ) and stratified male-perpetrated ( $n = 36$ ) IPHs within the same time frame.

## Results and Conclusions

**Study I** illustrates distinct trends in rates across homicide types (IPH vs. non-IPH) and gender (female versus male perpetrated IPH). The study also elucidates a shift in characteristics over time in male-perpetrated IPHs. **Study II** demonstrates that IPH perpetrators are more conventional with regards to socio-demographics and criminal history. On the other hand, homicide-suicides are predominant in IPH perpetrators. **Study III** reveals that, irrespective of homicide type, only a minority of perpetrators suffer from mental illness. However, approximately one third of the perpetrators had been diagnosed with a mental disorder at some point in life. **Study IV** indicates that female IPH perpetrators differ from their male counterparts in terms of being more psychosocially aggravated and more likely to have been victimized by the male victim.

## LIST OF SCIENTIFIC PAPERS

- I. **Camán, S.**, Kristiansson, M., Granath, S., & Sturup, J. (2017). Trends in rates and characteristics of intimate partner homicides between 1990 and 2013. *Journal of Criminal Justice*, 49, 14-21.  
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- III. **Camán, S.**, Kristiansson, M., Sturup, J., & Howner, K. Psychiatric characteristics and intimate partner homicide: Mental illness and mental disorders in perpetrators and victims [Manuscript]
  
- IV. **Camán, S.**, Howner, K., Kristiansson, M., & Sturup, J. (2016). Differentiating male and female intimate partner homicide perpetrators: A study of social, criminological and clinical factors. *International Journal of Forensic Mental Health*, 15(1), 26-34.  
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## LIST OF ABBREVIATIONS

IPV	Intimate Partner Violence
IPH	Intimate Partner Homicide
WHO	World Health Organization
UNODC	United Nations Office on Drugs and Crime
PCL-R	Psychopathy Checklist-Revised
HCR-20	Historical, Clinical and Risk Management-20
Non-IPH	Non-Intimate Partner Homicide
H-S	Homicide-Suicide
IPH-S	Intimate Partner Homicide-Suicide
PIN	Personal Identification Number
ESDoLV	European Statistical Database on Lethal Violence
EHM	European Homicide Monitor
RAR	Police Case Management Registry
CÅBRA	Prosecution Services Case Management Registry
FPE	Forensic Psychiatric Evaluation
SCB	Statistics Sweden
NCR	National Crime Register
NPR	National Patient Register
ICD	International Statistical Classification of Diseases and Related Health Problems
RättsBase	Forensic Autopsy Registry
ToxBASE	Forensic Toxicology Registry
PsykBase	Registry for Forensic Psychiatric Evaluations
DSM	Diagnostic and Statistical Manual of Mental Disorders
IRR	Incidence Rate Ratio
OR	Odds Ratio
LGBT	Lesbian, Gay, Bisexual and Transgender
DA-I	Danger Assessment for Immigrant Women



# 1 INTRODUCTION

A while back, as a new graduate in behavioral sciences, I started volunteering at a combined young women's empowerment center and women's shelter. Within a short amount of time, I developed a genuine interest in learning more about the dynamics and mechanisms of intimate partner violence (IPV). Fortunately, I could fuel this interest by attending seminars and education opportunities in the subject, with a special focus on female victims of gender-based violence. Simultaneously, I was working in a forensic psychiatric setting (which I have done in various ways ever since), where I gained experience regarding offenders and offending behaviors. In the course of time, I began to recognize a great discrepancy between the two settings with regards to comprehension of, for example, etiology, risk factors and necessary preventive efforts. That insight sparked my interest to pursue a doctoral degree, in order to dig deeper into the subject.

The dissertation project addresses intimate partner homicide (IPH) from a triadic approach, in which the characteristics in perpetrators who kill, characteristics in victims who are deprived of their lives, and the context in which the homicides occur, are explored. The exploration of characteristics in perpetrators does not intend to remove the responsibility from the perpetrators and their actions. In line with this, the exploration of characteristics related to victims does not intend to put responsibility on the victims. Instead, the long-term objective of this approach is to gain deeper knowledge of such cases, in order to better predict who is at risk of offending, and who is at risk of being victimized of IPH.

Although the standard approach is to search for explanations from a single perspective, for example a psychological or a criminological perspective, a broad approach can also be useful, as it allows incorporation of several elements that are involved in the complex nature of intimate relationships, conflicts, and violence. Based on this line of reasoning, the present thesis taps into various dimensions of IPH, in which perpetrator, victim and incident characteristics are scrutinized.

## 2 BACKGROUND

Violence is increasingly acknowledged as a major health issue, both in Sweden (Leander et al., 2012) and globally (WHO, 2014). A typology-framework has been outlined by the World Health Organization (WHO), in which various forms of violence are differentiated. As illustrated in Figure 1, self-directed violence refers to violence where the victim and the perpetrator is the same person, while collective violence refers to violence that is perpetrated by a large group of individuals, with the subdivisions of social, political and economic violence. Interpersonal violence, which is the focus of present thesis, is subdivided according to family/intimate partner (broken down to child, partner and elder) and community violence (encompassing acquaintances and strangers). The typology framework further distinguishes between different modes of violence ranging from physical, sexual and psychological violence, as well as deprivation. Recognition of the different types of violence, stretching beyond violence of physical character, has been particularly emphasized within the social and scientific field of gender-based violence.

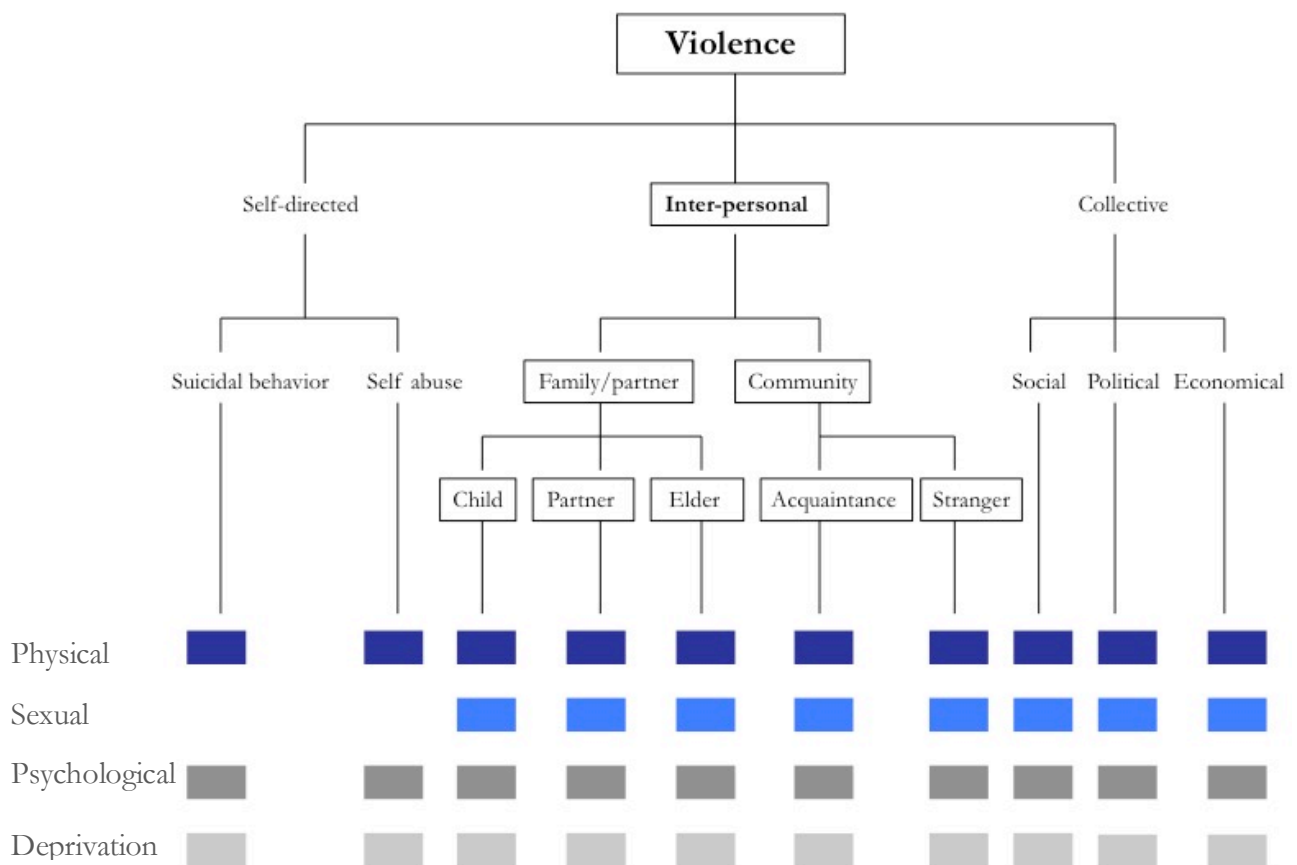
The WHO (2002) has declared that violence research and advancement of violence prevention is a public health priority, in which special attention should be brought to violence against women and children. In line with this, the significance of increased cross-cultural knowledge about size and nature of various types of IPV has been stressed (WHO, 2013). In 1993 the General Assembly of the United Nations adopted the gender-specific Declaration on the Elimination of Violence against Women (United Nations General Assembly, 1993), in order to address the violations against women's human rights that women encounter. The enactment of the declaration was established because of the historical and traditional imbalance of power between men and women, which was perceived as a key concept in understanding violence against women (Heimer, Andersson, & Lucas, 2014). The WHO has recurrently pointed out men's violence against women as a severe and increasing public health issue that is spread all over the world (WHO, 1996; 2002; 2005; 2013).

Interpersonal violence, especially within the family unit, has detrimental effects on physical and mental health. It has been estimated that between 12,000 and 14,000 women in Sweden seek care from outpatient services due to IPV every year (Leander et al., 2012). Additionally, violence can cause social adversities, such as isolation, unemployment and financial strains. It has further been estimated that 10% of all children in Sweden have been exposed to violence in their home environments, where 5% have been exposed repeatedly (Leander et al., 2012). Previous research suggests that there is an intergenerational transmission of violence: Exposure to violence within the family unit during childhood elevates the risk of perpetration or victimization of partner violence in adulthood. In other words, there seems to be a cycle of violence, where perpetration and victimization of violence tend to be transmitted between generations (Cannon, Bonomi, Anderson, & Rivara, 2009; Colman & Widom, 2004; Renner & Slack, 2006). On the other hand, a Swedish population-based twin study that addressed the cycle of violence hypothesis concluded that the association between maltreatment in

childhood and violent offending in adulthood was largely confounded by genetic or family environmental factors (Forsman & Långström, 2012).

In the matter of homicide, not only does this extreme form of violence cost human lives, it also imposes an immense financial burden on the society where it occurs. Homicides are assigned considerable resources related to the criminal investigations, court procedures, and long incarcerations (Ganpat, Granath, Hagstedt, & Kivivuori, 2011). It has been estimated that the average financial costs of a homicide committed in the U.S. is 17 million dollars per case (DeLisi et al., 2010). These offenses also tend to be in focus of media attention, which can impose a sense of being unsafe and an increase in fear or crime (Ganpat et al., 2011).

Figure 1. World Health Organization's Typology of Violence



## 2.1 A CONTINUUM OF INTIMATE PARTNER VIOLENCE?

Violence between intimate partners ranges from verbal abuse to, physical violence with lethal outcome at the far end of the spectrum. The research field on IPV (i.e. non-lethal) is comprehensive and well addressed, with a predominant focus on female victims through comprehensive studies and nationwide surveys (Dobash, Dobash, Cavanagh, & Medina-Ariza, 2007). In examination of characteristics in IPV batterers, a number of potential risk factors have been identified, for example exposure to domestic violence, chronic unemployment, general criminality, alcohol abuse, and personality traits (Bachman & Saltzman, 1995; Greenfield et al., 1998; Mirrlees-Black, 1999; Tjaden & Thoennes, 1998; Walby, Allen, & Simmons, 2004; Wilson, Johnson, & Daly, 1995). However, the dynamics and characteristics involved in IPV can be varied and be multifaceted. Classification, in which violence or batterers are categorized, can be fruitful for identifying risk groups, and for prevention and intervention strategies (Buzawa & Buzawa, 2013).

The prominent research by Johnson (2008) highlights the existence of distinct typologies of IPV, with varying dynamics in the relationships. The key feature that distinguishes these typologies, according to Johnson, is coercive control. For example the typology ‘Intimate Terrorism’ is strongly characterized by controlling behaviors by one of the partners (predominantly men in opposite-sex relationships), and the violence tends to be repeated, severe and versatile. Most importantly, the power dynamic is highly asymmetrical, and there is a clear distinction between who is the victim versus the perpetrator. This typology of IPV is most likely to be evident in women’s shelters, judicial systems and emergency care. In contrast, the typology referred to as ‘Situational Couple Violence’ tends to be more symmetrical, in the sense that both partners participate in the perpetration of violence, and the cases tend to be preceded by an escalating conflict. Although the violence is comparably reciprocal, these cases can also inflict serious injuries. In contrast to Intimate Terrorism, this typology is most likely to be captured in national crime victimization surveys (Johnson, 2008).

In line with typologies of IPV, there are typology frameworks for IPV *batterers* based on three main dimensions: 1) severity of the IPV, 2) generality of the violence (i.e. whether the batterer is violent only within the family unit or generally violent) and 3) psychopathology and personality disorders in the batterer (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; Holtzworth-Munroe & Stuart, 1994). One subgroup is characterized by antisocial traits, lack of empathy and remorse, and a tendency to be manipulative. Batterers of this typology to a larger extent have issues related to substance abuse. It has been highlighted that these traits can elevate the risk for violence in domestic as well as non-domestic settings. This typology is labeled ‘Generally violent/Psychopathic’, ‘Antisocial/Violent’ or ‘Instrumental’ (Fowler & Westen, 2011; Holtzworth-Munroe et al., 2000; Holtzworth-Munroe & Stuart, 1994) and is identified as a high-risk subgroup. The second typology is commonly referred to as the ‘Borderline/Dependent’ or ‘Disturbed’ typology, a type of batterers who are characterized by mental health issues and intense negative affects. As a



result of impulsive tendencies and lack in coping skills, these batterers tend to use violence as a way of dealing with conflict situations that evoke discomfort. In line with the impulsive tendencies within this typology, the violence is often expressive and reactive in nature (Fowler & Westen, 2011; Holtzworth-Munroe et al., 2000; Holtzworth-Munroe & Stuart, 1994).

Hence, the batterer typology first described (Generally violent/Psychopathic) is considered a high-risk subgroup of batterers. Yet, a study where psychopathology and personality traits were scrutinized in all cases of IPH between 1990 and 1999 in Sweden came to a different conclusion. Belfrage and Rying (2004) concluded that it was not psychopathic or antisocial traits that were prevalent in IPH offenders, instead, it was concluded that borderline/dysphoric features were prevailing. This suggests that when assessing risk, there is a need to clearly define risk of what, as there seems to be differences in risk factors with regards to predicting repeated IPV, or risk of violence with lethal outcome (i.e. IPH).

There has been a tendency to perceive violence between intimate partners as a continuum of the same phenomenon, ranging from verbal abuse to physical violence with fatal outcome, which is a possible reason why there is a lack of examination of IPH specifically (Corradi & Stockl, 2014). However, research that addresses the bridge between non-lethal and lethal IPV contradicts this view (Cunha & Gonçalves, 2016; Dobash et al., 2007). The study by Dobash et al. (2007), where batterers of non-lethal IPV were compared to men who kill, challenges the concept of a clear progression from non-lethal to lethal IPV. Their results indicate that compared to IPV abusers, men who kill their female intimate partners are, in fact, more conventional with regards to childhood circumstances, employment and criminal history. They are less likely to be intoxicated at the time of the offense; on the other hand, they are more likely to be separated. In addition, men who kill their intimate partners are more likely to display features of possessiveness and jealousy. They bring attention to the challenges this poses for the risk assessments, and the necessity to study factors related to IPH specifically. An additional aspect that challenges the notion of a progressing nature of IPV from non-lethal to lethal is the existence of IPH cases that seem to occur in absence of preceding IPV. Although prior violence is an essential risk factor, it has been demonstrated that a substantial minority of the IPHs actually occur without a history of physical violence in the relationship (Dobash, Dobash, & Cavanagh, 2009).

While non-lethal IPV is recurrent and widespread, IPH is rare and extreme (Eriksson & Mazerolle, 2013). Additionally, conflicts, drinking, jealousy and separations, which are found to be risk factors in IPH, are common features, however, the homicidal outcome is not. In corroboration with this line of reasoning, it has been underpinned that IPH is distinct from less severe forms of IPV, and that IPH should, conceptually and empirically, be investigated as a separate phenomenon (Cunha & Gonçalves, 2016; Dobash et al., 2007; Eriksson & Mazerolle, 2013). On the same note, scholars have emphasized the distinction between non-lethal and lethal violence in general. Gelles (1991p. 69) argued that "...homicide is not simply an 'extreme form of interpersonal violence' /.../ Rather, homicide is a distinct form of

behaviour that requires a distinct explanation". Yet, less is known about the backgrounds of individuals who perpetrate the most severe violence against intimate partners (Dobash & Dobash, 2011), and there is lack of theory that expands to the perpetration of IPH specifically (Eriksson & Mazerolle, 2013). Overall, scientific examination of IPH is particularly lacking in Europe, including Sweden (Corradi & Stockl, 2014).

## **2.2 CLASSIFICATION OF HOMICIDES**

As early as in 1872, the Italian criminologist and physician Cesare Lombroso differentiated between five types of criminal offenders: The born criminal, the insane criminal, the criminal by passion, the habitual criminal, and finally the occasional criminal (Douglas, Burgess, Burgess, & Ressler, 2013; Lindesmith & Dunham, 1941). The operationalization of these subtypes of offenders enabled other researchers to test his theories. Albeit his theories influenced by Charles Darwin's evolution theory were later found to be invalid (not to mention unethical by today's standards), the testability of his theories was an important methodological and scientific improvement.

With regards to classification of homicide offenses, the advantage of such an approach has continually been highlighted (Decker, 1993; Williams & Flewelling, 1988; Wolfgang, 1958). For example, Wolfgang (1958) suggested classification of criminal homicides according to victim-offender relationships as far back as nearly six decades ago. Decker (1993) further suggested to classify according to the strength in victim-offender relationships, and proposed five categories of homicide, involving strangers, acquaintances, friends, romantic links, and relatives (excluding romantic relationships). Nonetheless, homicide has until recently been treated and empirically investigated as a unitary and homogenous construct (Cao, Hou, & Huang, 2008; Dobash & Dobash, 2015). As homicide statistics are dominated by male-to-male homicides, the characteristics and processes of these cases have been the foundation for the theoretical framework (Dobash & Dobash, 2015). Consequently, this neglect to conduct a classification methodology may be one explanation for the gap of knowledge with regards to IPH offenses and offenders.

Fortunately, there has recently been a paradigm shift, in which the advantages of classifying homicides into relevant subgroups are acknowledged (Cao et al., 2008; Ioannou & Hammond, 2015). Classification of homicides into meaningful subtypes enables the ability to measure and evaluate to what extent individuals are victimized by their intimate partners. It further improves the possibility to refine and nuance our knowledge about the varying characteristics, risk factors and mechanisms involved in different homicide types. The identified risk factors for homicide in general may not be as relevant for predicting and preventing homicide involving intimate partners. Homicides can be disaggregated and classified in several ways, for example according to motive, type of victim or based on the victim-offender relationship. The classification approach adopted in the present thesis is based on victim-offender relationships, in which homicides involving intimate partners are disaggregated into a distinct homicide type.

### 2.3 RATE, STRUCTURE, AND GENDER ASYMMETRY

As demonstrated in the Global Study on Homicide by the United Nations Office on Drugs and Crime (UNODC, 2013) the average global homicide rate is 6.2 homicides per 100,000 inhabitants. However, the homicides rates vary significantly across regions, for example in 2012 the rates ranged from 0.2 homicides per 100,000 in Singapore to 90.4 in Honduras (UNODC, 2013). Europe accounts for five per cent of all homicides committed globally, while 36% occur in the Americas<sup>1</sup>, 31% in Africa and 28% in Asia (UNODC, 2013). The worldwide lowest homicide rates are found in Western European countries (LaFree, 1999), and particularly in Sweden (Ganpat et al., 2011). Nevertheless, lethal violence is a significant issue in Europe (Ganpat et al., 2011).

Although rates and structures of homicide vary considerably across time and place, homicides involving intimate partners and family members are remarkably persistent and prevalent (UNODC, 2013; Wiener, 2006). A European cross-national investigation illustrates that between 36% (Finland) and 45% (Sweden) of all homicides are domestic homicides, in which the majority of these involve intimate partners (Ganpat et al., 2011; Liem et al., 2013). In other words, IPHs constitute a substantial proportion of homicides in the Western European countries (Corradi & Stockl, 2014), especially in Sweden (Ganpat et al., 2011).

Overall, the vast majority of homicide perpetrators as well as homicide victims are male. Conversely, homicides in the domestic setting predominantly involve female victims (Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Fox & Zawitz, 2007; UNODC, 2013). More specifically, 95% of homicide perpetrators and nearly 80% of the homicide victims are men, while two thirds of the victims in the domestic sphere are women (UNODC, 2013). Overall, men tend to be killed by an acquaintance or stranger, while women tend to be killed by people they are supposed to feel safe with (UNODC, 2013). The European cross-national study on IPH illustrates that the proportions of female IPH victims are somewhat higher in Sweden, Finland and Spain, than in for example Italy and Germany. Moreover, it is shown that the percentages of male victims of IPH are slightly higher in Sweden (Corradi & Stockl, 2014).

In examination of homicide rates and patterns, a theory labeled ‘Verkko’s law’ was introduced, which proposes that the percentage of female victims is relative to the overall homicide rate (Verkko, 1951). In other words, the higher homicide rates overall, the lower percentages of female victims, since the most varying component is male-to-male homicides, while homicides involving female victims is comparably stable. Although this concept has been subjected to criticism, other scholars have highlighted that Verkko’s law is pertinent to homicide rates within the European context (Ganpat et al., 2011; Kivivuori, Savolainen, & Danielsson, 2012).

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<sup>1</sup> In the study referred to the Americas constitute Northern America; Central America; South America and the Caribbean.

## 2.4 HOMICIDE ACROSS TIME, TYPE, AND GENDER

There was an increasing trend of violent crimes, including homicides, in the Western world from the late 1950s or early 1960s, that lasted for three decades until the early 1990s (Eisner, 2008; LaFree, 2005)<sup>2</sup>. In Europe<sup>3</sup>, the average homicide rate increased by 179% between 1960 and 1992 (Eisner, 2008). Research from the U.S. illuminates that the homicide rates have declined from the early 1990s (Blumstein & Wallman, 2000). While the drop in homicide rates in the U.S. has received a great deal of scientific attention, the homicide trends outside of the U.S. (Weiss, Santos, Testa, & Kumar, 2016), and especially in the European context (Eisner, 2008) have not been investigated as closely. Nonetheless, scholars who have addressed this conclude that similar decreasing trends of homicide have been observed from the late 1970s in Canada (Leenaars & Lester, 2004), and from the early 1990s in most Western European countries (Aebi & Linde, 2010), except for the U.K. and Ireland (Eisner, 2008). Moreover, annual reports from Australia indicate a decline of homicides from the late 1980s (Bryant & Cussen, 2015; Mouzos, 2003).

Consideration of distinct homicide types has further revealed that homicides related to mental disorders (Appleby et al., 2013; Sturup & Lindqvist, 2014) and homicides involving children as victims (Cooper & Smith, 2011; Hedlund, Masterman, & Sturup, 2016; Lehti, Kääriäinen, & Kivivuori, 2012; Sturup & Granath, 2015) have decreased. Research addressing trends of homicides that involve intimate partners is, on the other hand, lacking. One of the contributing factors is the considerable deficiency in information regarding victim-offender relationships (Stockl et al., 2013). Again, a large bulk of the research on IPHs over time is restricted to the U.S. context (see e.g. Browne, Williams, & Dutton, 1999; Dugan, Nagin, & Rosenfeld, 1999; Jennings & Piquero, 2008; Reckdenwald & Parker, 2012). It has been statistically demonstrated that IPHs have declined in the U.S. (Corradi & Stockl, 2014; Fox & Zawitz, 2007; Greenfield et al., 1998; Stockl et al., 2013), and Canada (Dawson, Bunge, & Balde, 2009). Yet, the UNODC (2013) stress that the decline of IPHs is small relative to other homicide types, and comparably constant over time.

North American research that teases out aspects of gender demonstrates that the trends differ across gender, in which the declines predominantly involve male victims of IPH (Block & Christakos, 1995; Dawson et al., 2009; Fox & Zawitz, 2007). Walby, Towers, and Francis (2015) stress that a challenge and future direction in research on patterns and trends of severe violent crimes is to account for domestic relationships as well as gender in the analyses. It has further been accentuated that in order to increase our knowledge about the gendered nature of violence, it is required that we make comparisons between women and men as a step forward, which is not achievable if we only study female victims of violence (Walby et al., 2017). In a

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<sup>2</sup> There is also research addressing historical trends of violence and homicide in the light of civilization (Wiener, 2004), modernization (Pinker, 2012) and socialization processes (Eisner, 2008).

<sup>3</sup> Based on data from Austria; Belgium; Denmark; England and Wales; Finland; France; Germany; Ireland; Italy; Netherlands; Norway; Scotland; Sweden and Switzerland.

similar vein, Reckdenwald and Parker (2010; 2012) highlight the need for research on IPHs across time and gender.

## **2.5 CHARACTERISTICS AND PREDICTIVE FACTORS**

The risk of violence between intimate partners is influenced by factors linked to structures on a societal level as well as factors related to individual characteristics in perpetrators. There is, however, a lack of focused analysis on the context of IPH, which is relevant for improving prediction of risk and to improve prevention efforts (Corradi & Stockl, 2014). It has been suggested that a preferred approach when examining homicide is to consider factors related to the offender, the victim and the incident (Corzine, 2011). On the same note, Luckenbill (1977) considered the exclusive focus on offenders as counterproductive; he instead advocated incorporation of victim and situational characteristics, a notion supported by additional scholars (Block & Christakos, 1995; Mazerolle, Eriksson, Wortley, & Johnson, 2015).

In a similar vein, in which the use of a broad and inclusive approach is encouraged, Dobash and Dobash (2015) outline that although a single perspective (e.g. a psychological or criminological perspective) is common, it can be beneficial to explore IPH from a combination of perspectives. Research on individual characteristics, for example related to social background, criminal history, substance use and mental disorders in perpetrators and victims of homicide, is limited (Ganpat et al., 2011).

### **2.5.1 Structural factors and characteristics**

#### *2.5.1.1 Homicide in general*

The declining trends of homicide from late the 1980s and early 1990s in the Western world is not only seen at the hands of homicides, in fact, it has been demonstrated that there has been a general ‘crime drop’ (see e.g. Farrell, Tseloni, Mailley, & Tilley, 2011). Although this phenomenon has been subjected to numerous theories and explanations, it is still considered a mystery that has puzzled many criminologists and sociologists (Eisner, 2008). It has been argued that many of these theories are discredited because of great cross-national variations in for example the welfare state and economic change (that have been hypothesized to correlate with the homicide rates), while the homicide trends are strikingly similar (Eisner, 2008; Fukuyama, 1999).

The link between levels and patterns of alcohol consumption and homicide rates over time has been scrutinized in Europe (Bye, 2008; Rossow, 2001). The findings of these studies indicate that the link between homicide rates and alcohol consumption is of particular importance in the Northern Europe and certain Eastern European countries (as compared to Central and South Europe), and is hypothesized to be related to detrimental drinking patterns (Bye, 2008; Landberg, 2010; Rossow, 2001). Surprisingly, while homicides, and especially alcohol related homicides, have declined in Sweden (Granath, 2011), the alcohol consumption has increased for the same period during the 1990s and 2000s (CAN, 2009).

Although one would expect an increase in homicide rates, the explanation can be found in beverage-specific trends; the sales rate of hard liquor has dropped while the sales rate of wine and beer have increased. Several scholars who have addressed the link between homicide rates and alcohol consumption have presented this rationale (Bye, 2008; Ganpat et al., 2011; Rossow, 2001).

The declining rates of homicide have also been explained in the light of improved emergency health care. This theory has received international support by comparing rates of attempted and completed homicides, elucidating that the decline in completed homicide is greater than the rates of attempted homicides (Aebi & Linde, 2010). Harris, Thomas, Fisher, and Hirsch (2002) argued that if it had not been for the improved emergency medical care, the homicide rates would have increased in the U.S., in line with the vast increase in rates of aggravated assault. Furthermore, it has been suggested that the risk of lethal outcome in violent acts is higher in non-Western countries with higher levels of violence and lower quality in medical care (Chon, 2002).

The impact of improved emergency care on homicide rates since the 1990s has, however, gained little support within the Swedish context. It has been argued that the separate trends in attempted and completed homicides are related to other factors, such as the definition of attempted homicide and the structure of homicide offenses (Granath, 2011). The majority of homicide victims between 2003 and 2006 in Sweden (81%) and Finland (92%) died prior to receiving any professional medical care (Ganpat et al., 2011).

#### *2.5.1.2 Intimate partner homicide in specific*

Gender-based violence is a topic on the social and political radar, and the responsiveness to violence against women has intensified since the early 1990s in Europe, in which the three key players for policy development are feminist movements, national states and political institutions (Corradi & Stockl, 2014). Sweden, the Netherlands and the U.K. have been identified as ‘early bird’ countries in Europe, where policy-making and government actions addressing IPV and IPH were initiated between the mid-1970s and early 1980s. It has further been highlighted that Sweden is prominent with regards to preventive efforts against all types of violence (Corradi & Stockl, 2014). In line with the feministic movement’s efforts to raise public awareness and bringing the issue of violence against women on the agenda in several Western countries, availability of domestic violence recourses increased (Corradi & Stockl, 2014; Dugan, Nagin, & Rosenfeld, 2003; Sev’er, Dawson, & Johnson, 2004). Furthermore, the new legislations on IPV had an impact on how violence in the domestic setting was perceived; first considered a private matter to be dealt within the family, and now more regarded as a societal issue in need of formal interventions (Burman, 2007; Sev’er et al., 2004). As described in a recent introductory article: “Private violence is no longer a private business; it is a public and global issue” (Marcuello-Servós, Corradi, Weil, & Boira, 2016, p. 969).

To set the scene for the context in which this thesis takes place, it is important to highlight the collective social protection embedded in the Swedish social welfare system, as well as the cultural tradition of striving for gender parity. In corroboration of this statement, Sweden is positioned as the leading country in Europe for achieving gender equality in the Gender Equality Index, which is a synthetic measure that incorporates domains related to work, money, time, health, and power. In 2012, Sweden scored 74.2 out of 100 on the Gender Equality Index, which is considerably higher than the EU average score of 52.9 (EIGE, 2015). On the same note, Sweden has for seven years in a row been positioned as one of the highest ranked countries globally by the Global Gender Gap Index, representing gender equality within domains related to health, education, economic participation, and political empowerment (Schwab et al., 2015). As such, Sweden makes up an interesting example in terms of rates and characteristics of IPV and IPH.

Correspondingly, the ameliorative hypothesis highlights the implications of women's status and progress on patterns and rates of IPH over time, through the enactment of legal, economic and social policies that lead to gender equality. The ameliorative hypothesis instigates that increased independence of women, in the light of for example increased financial and education opportunities, mitigates the constraint of staying in abusive relationships (Eriksson & Mazerolle, 2013; Whaley, Messner, & Veysey, 2011). Thus, gender equality makes women less financially and emotionally dependent on their male partners, which enables women to leave violent relationships, as well as become more selective with the relationships they choose to enter (Dawson et al., 2009; Reckdenwald & Parker, 2010). In a similar vein, the premise in the exposure-reduction theory is that factors that are linked to the degree of exposure between intimate partners, for example education, employment, marriage and divorce rates, are associated with levels of violence between intimate partners. As such, reduced exposure between intimate partners is assumed to result in reduction of violence in the context of intimate relationships (Dugan et al., 1999; 2003).

Findings from a Canadian study, where IPH rates between 1976 and 2001 and factors possibly associated with the national trends of IPH were examined, support the exposure-reduction theory; the gap between female-male employment levels decreased in parallel to declines of female victimization of IPH (Dawson et al., 2009). Also in favor of the exposure-reduction theory, they found that increased levels of men attaining university degrees was associated with decreased levels of male victimization of IPH. It has previously been argued that an increase in separations and divorces is linked to declined rates of IPH in the U.S. (Rosenfeld, 1997), in line with the exposure-reduction framework. Dugan and colleagues (1999) found that the increased divorce rates were related to decreased rates of female-perpetrated IPHs specifically. In contrast, Dawson et al. (2009) found that increased divorce rates were associated with increased rates of both male and female victimization of IPH.

The literature on the impact of gender equality on IPH rates is somewhat ambiguous since gender equality is hypothesized to be associated with both reduced and increased levels of

violence against women (Whaley et al., 2011). While scholars have emphasized that increased gender equality is associated with reduced levels of men's violence against women, other scholars have brought attention to potential detriments of rising gender parity. More specifically, it has been postulated that enhanced gender parity may result in a retaliation effect (also referred to as the backlash hypothesis), possibly as a result of men experiencing threats of losing power (Lauritsen & Heimer, 2008). Although perceived by some as two conflicting theories, in which both the ameliorative hypothesis (e.g. Haynie & Armstrong, 2006; Titterton, 2006; Vieraitis, Kovandzic, & Britto, 2008) as well as the retaliation effect (Martin, Vieraitis, & Britto, 2006; Vieraitis & Williams, 2002; Whaley & Messner, 2002) have gained empirical support, Whaley et al. (2011) argue that the two perspectives are, in fact, complementary:

For samples comprised of cases within the low to moderate range of GE [gender equality], the relationship is likely to be positive. For samples that are weighted toward highly egalitarian cases, the negative effect of GE might be detected /.../ Specifically, it seems plausible to speculate that evidence in support of the backlash interpretation is most likely to be observed in studies based on data for earlier periods, periods during which levels of GE were generally low to moderate (Whaley et al., 2011, p. 751).

Despite the early advancements of government actions in addressing gender-based violence, and the prominent position with regards to gender parity, a substantial share of homicides in Sweden, and Europe constitute IPHs (Corradi & Stockl, 2014). Yet, research examining the associations between IPH rates and potentially relevant factors, for example related to gender equality, is scarce outside of the North American context. This approach is yet to be adopted in European research.

### **2.5.2 Individual factors and characteristics**

Some scholars have put forward that male perpetrators of partner violence differ from other violent offenders, as it is argued that they are more conventional than perpetrators of violent crimes in general, and therefore constitute a separate subgroup (Belfrage & Rying, 2004; Dobash et al., 2009; Dobash, Dobash, Cavanagh, & Lewis, 2004; Thomas, Dichter, & Matejkowski, 2011; Weizmann-Henelius et al., 2012). Correspondingly, it can be argued that the relevant risk factors and characteristics for homicides in general are not as meaningful for homicides involving intimate partners. In corroboration of this notion, findings from a nationwide Finnish study illustrate that the IPH offenders seem to resemble the general population more than they resemble other homicide offenders (Weizmann-Henelius et al., 2012). On the other hand, other scholars disagree with this concept and stipulate that these perpetrators are typical violent offenders who do not differ with regards to their characteristics, experiences or motivational precursors (Felson & Lane, 2010; Kivivuori & Lehti, 2011).

The debate on whether offenders of (non-lethal and lethal) partner violence differ from other



violent offenders is originated from the disagreement on whether IPV as a phenomenon is distinct from other violent crimes (see e.g. Avakame, 1998; Boyle, O’Leary, Rosenbaum, & Hassett-Walker, 2008; Dobash et al., 2004; Felson & Lane, 2010; Moffitt, Krueger, Caspi, & Fagan, 2000). In addressing this topic, Moffitt et al. (2000) emphasize two crime-prone personality characteristics: Negative emotionality and lack of constraint (i.e. low self-control). Their results demonstrate that negative emotionality is predictive of crime in general and partner violence in specific. However, lack of constraint, which is a strong predictive characteristic of crime, does not predict partner violence. Consequently, they conclude that their findings are in agreement with the notion of “uniqueness” of IPV in comparison to general crime and violence (Moffitt et al., 2000). In line with this, a Swedish study on risk assessments and recidivism in offenders serving lifetime sentences demonstrated that offenders of domestic violent offenses scored the lowest on the most commonly used risk assessments in judicial and clinical settings – the Psychopathy Checklist-Revised (PCL-R) and the Historical, Clinical and Risk Management-20 (HCR-20; Sturup, Karlberg, Fredriksson, Lihoff, & Kristiansson, 2016). This might suggest that the typical risk assessments are less useful with regards to offenses within the domestic sphere.

#### *2.5.2.1 Psychosocial and socioeconomic background in perpetrators*

Although it has been emphasized that predominantly young males are involved in homicides as victims as well as offenders, previous research conveys that IPHs are more likely to involve older victims, regardless of gender. Statistics from the U.S. have elucidated that primarily women in their 30s and mid 40s and men in their 40s and late 50s are victimized of IPH (Bureau of Justice Statistics, 2006). Prior research has also shown that the risk for IPH is elevated when the age discrepancy between the intimate partners increase. It was found in a Chicago study that the risk of homicide was elevated when the man was 15 years older than the female partner, and when the woman was 13 to 15 years older than the male partner (Breitman, Shackelford, & Block, 2004).

The Murder in Britain study<sup>4</sup> (Dobash & Dobash, 2015; Dobash et al., 2004), where perpetrators of intimate partner murders were compared to perpetrators of male-to-male murders, revealed significant differences in several domains, one of them being the perpetrator’s life course. Perpetrators of partner murders were, for example, less likely to have grown up with fathers who had a criminal record or who abused alcohol, and, in fact, less likely to have witnessed domestic violence before the age of 16. However, substance abuse before the age of 16 was a recurrent issue in both groups of perpetrators. Dobash et al. (2004) concluded that both groups were somewhat characterized by having difficulties during childhood, however, intimate partner murderers were significantly less troubled.

Likewise, the Finnish nationwide study by Weizmann-Henelius and colleagues (2012) illustrate that IPH offenders, regardless of gender, are less likely to have witnessed domestic

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<sup>4</sup> Involving examination of all cases of murder convictions; hence a more restrictive legal definition than what is encompassed in IPH.

violence during childhood. Furthermore, their findings demonstrate that neither child- nor adulthood victimization is associated with IPH. On the other hand, Felson & Lane (2010), who advocate for the lack of differences between perpetrators regardless of whether the offense was partner related or not, found that those who killed an intimate partner were more likely to have been victimized of sexual abuse during childhood.

With regards to socioeconomic characteristics in adulthood, it has been theorized that individuals who are socially conform and bonded to the society are less likely to break the law, as they have more at stake (Agnew, 2006; Eriksson & Mazerolle, 2013). However, this seems somewhat less relevant for IPHs, as it has been indicated that male perpetrators of partner homicides and murders are less socially disadvantaged and more likely to be educated and employed at the time of the offense (Dobash & Dobash, 2015; Dobash et al., 2004; Oram, Flynn, Shaw, Appleby, & Howard, 2013; Weizmann-Henelius et al., 2012).

While some researchers propose that male IPH perpetrators resemble the general population (Weizmann-Henelius et al., 2012), other researchers argue that they are, in fact, a socially disadvantaged group (Felson & Lane, 2010; Kivivuori & Lehti, 2011). In the review article by Campbell et al. (2007) it was highlighted that the single socio-demographic variable that increased risk for IPH was unemployment. Nonetheless, there seems to be a gender difference with regard to marginalization, as Weizmann-Henelius and colleagues (2012) unraveled that employment among female IPH perpetrators is rare and significantly less common.

#### *2.5.2.2 Criminal careers and criminal records*

As previously underlined, the essential risk factors for homicides in general may not be as relevant for homicides involving intimate partners, for example with regards to criminal careers and previous violent acts (Dobash et al., 2004). Some researchers have reported that IPH perpetrators are significantly less likely than non-intimate partner homicide (non-IPH) perpetrators to have a history of convictions (Dobash & Dobash, 2015; Dobash et al., 2009; Weizmann-Henelius et al., 2012). Further, Weizmann-Henelius and coworkers (2012) found that perpetrators of IPH and non-intimate domestic homicides were less versatile in consideration of non-violent crimes.

Based on the Murder in Britain Study, Dobash et al. (2009) found that a surprising share, one-quarter, of the perpetrators of partner murders had never been convicted of any type of crime prior to the murder of an intimate partner. The authors compared perpetrators of partner murders with and without a history of criminal convictions, where perpetrators in the latter group were found to be less troubled, both during childhood and adulthood. In term of characteristics related to adulthood, they were less likely to have problems related to substance use and previous perpetration of IPV, however, more likely to have completed education, to be employed and to be married to the victim. The group of perpetrators with previous convictions illustrated that persistent offending was a common feature; two thirds

had been convicted six times or more. Therefore, they implied that these perpetrators, without prior convictions, had distinct profiles from perpetrators with criminal records.

In terms of female perpetration of IPH, the studies by Block and Christakos (1995) and Weizmann-Henelius et al. (2012) demonstrate that female perpetrators are less likely than male perpetrators to have histories of criminal offending, both with regards to violent and non-violent crimes.

### *2.5.2.3 Mental health characteristics*

The mental health in IPH perpetrators is an underresearched topic, why Campbell and colleagues (2007) have called for future studies addressing the link between mental disorders and IPH perpetration. The few studies conducted so far display contradictory findings (Campbell et al., 2007; Dobash et al., 2004; Weizmann-Henelius et al., 2012), where the figures regarding IPH perpetrators as mentally disordered vary from 20% (Oram et al., 2013) to 80% (Belfrage & Rying, 2004). Plausible explanations for the conflicting evidence may be the lack of operationalization and the inconsistent definitions across studies, impeding sufficient comparisons (Campbell et al., 2007; Shaw et al., 2006). A wide range of concepts regarding mental conditions is used (for example mental disorder, mental illness, major mental disorder and severe mental illness), and sometimes, same concepts are used for different conditions.

Several studies have reported that mental illness is prevailing in male perpetrators of IPH, in comparison to other male-perpetrated homicides (Belfrage & Rying, 2004; Dobash et al., 2004; Farooque, Stout, & Ernst, 2005; Thomas et al., 2011; Weizmann-Henelius et al., 2012). Thomas et al. (2011) reported that approximately one quarter of perpetrators of intimate partner murder had a history of severe mental illness (psychotic disorder, major depression, mania, or bipolar disorder), compared to 12% among perpetrators of non-intimate murders. Belfrage and Rying (2004) reported that 80% were considered mentally disordered, and that every third IPH perpetrator was psychotic in commission of the offense. A recent large-scale study on intimate partner femicide, involving cases where the victim and perpetrator had mutual offspring, disclosed that major mental disorder (psychotic, affective and personality disorders) was an independent risk factor. Approximately 13% of these perpetrators had a history of major mental disorder, and the corresponding figure for the matched controls was nearly two percent (Lysell, Dahlin, Langstrom, Lichtenstein, & Runeson, 2016).

Meanwhile, a Finnish study found that psychoses and being assessed as legally insane was less common in perpetrators of IPH compared to non-IPHs, in which 8% in the first group were considered suffering from psychoses (Weizmann-Henelius et al., 2012). Moreover, the large-scale study by Oram et al. (2013), in which all domestic homicides committed in England and Wales between 1997 and 2008 were examined, illustrated that one third of IPH perpetrators had been diagnosed with a mental disorder (excluding substance use disorders) at some point in life, in which 6% had a lifetime diagnose of schizophrenia, and 7% displayed symptoms of psychosis in commission of the offense.

A Spanish study where perpetrators convicted for assaulting their partner (IPV) were compared to perpetrators convicted for killing their partner (IPH) revealed that the latter group was less likely to suffer from mental and personality disorders. In fact, the incidence rate of mental disorders was only slightly above the incidence rate found in the general population (Echeburua, Fernandez-Montalvo, & Amor, 2003). It has been denoted that IPH perpetrators are positioned in the middle of the psychopathological continuum, where perpetrators of homicides involving acquaintances and strangers are less likely to exhibit psychopathological traits, while perpetrators of non-intimate domestic homicides are more likely to be characterized with such attributes (Campbell et al., 2003; Kivisto, 2015; Liem & Koenraadt, 2008; Oram et al., 2013).

Taking the gender aspect into account, Weizmann and colleagues (2012) established that mental disorders was prevailing in female perpetrators of homicide, however, when they considered homicide type, they found that female perpetrators of IPH were actually less likely to suffer from mental disorders in commission of the offense when compared to their male counterparts.

On a different note, but of potential relevance for understanding the implications of personality traits, Marshall and Holtzworth-Munroe (2010) investigated the association between IPV perpetration and perpetrators' recognition of their partners' emotional expressions. They discovered that male perpetrators of IPV have a diminished sensitivity to identify emotional expressions in their partners. Their findings indicate that diminished fear recognition in IPV perpetration may be an essential element among perpetrators with psychopathic traits, while misidentification of fear and happiness to disgust are significant in IPV perpetrators with borderline/dysphoric traits. It has been suggested that elements of enhancing emotion recognition skills in treatment interventions could be a valuable target for reducing IPV (Marshall & Holtzworth-Munroe, 2010; Sygel, Kristiansson, Furberg, & Fors, 2014).

#### *2.5.2.4 Intoxication and substance use disorders*

Estimates of substance use and intoxication in homicide victims are generally considered more accurate than in homicide offenders, as forensic toxicology tests more often are available for victims than offenders. Moreover, the time that passes between the commission of the crime and the assessment of alcohol use in offenders further impedes researchers ability to efficiently detect alcohol levels in offenders (Kuhns, Wilson, Clodfelter, Maguire, & Ainsworth, 2011). Nonetheless, it has been theorized that the rates found in victims mirror the rates of offenders (Darke, 2010). A meta-analysis established that 48% of homicide victims (regardless of homicide type) test positive for alcohol, and approximately one third are intoxicated at the time of homicide victimization (Kuhns et al., 2011). Consistent with the hypothesis of mirrored rates, a meta-analysis on estimates of alcohol consumption in

homicide offenders reveals that 48% test positive for alcohol and 37% are intoxicated at the time of the offense (Kuhns, Exum, Clodfelter, & Bottia, 2014).

Research from the U.K. indicates that men who kill intimate partners are less likely to suffer from alcohol or drug abuse compared to men who kill non-intimates (Dobash et al., 2004). In contrast, a Finnish study found no differences between male IPH and non-IPH offenders, where the vast majority had been diagnosed for alcohol use/dependence (Weizmann-Henelius et al., 2012). With regards to intoxication at the time of the offense, men who kill intimates are significantly less likely to be under the influence of alcohol at the time of the offense (Belfrage & Rying, 2004; Dobash et al., 2004). Nonetheless, a high percentage of them are under the influence of alcohol or other substances when committing the homicide offense (Sharps et al., 2001; Thomas et al., 2011).

The multisite case-control study by Campbell and colleagues (2003), in which risk factors for femicide in abusive relationships were investigated, illuminates that batterers' use of drugs is associated with intimate partner femicide, while alcohol abuse is not. They argue that drug abuse is correlated to patterns of IPV that increase the risk of IPH. On the other hand, the victims' abuse of alcohol or use of other substances is not independently associated with IPH. A Danish study, however, found that half of the female IPH victims had histories of chronic substance abuse, predominantly of alcohol (Leth, 2009). It is plausible that the implications of alcohol and substance use for IPH differ across geographic contexts, as it has been elucidated that the association between homicide rates and alcohol consumption is particularly significant in Northern Europe and some Eastern European countries (Bye, 2008; Landberg, 2010; Rossow, 2001).

Studies that have addressed gender differences show that male and female offenders of IPH are equivalent with regards to intoxication at the time of the offense (Serran & Firestone, 2004; Weizmann-Henelius et al., 2012). In contrast, Block and Christakos (1995) found that female perpetrators of IPH were more likely to be intoxicated than their male counterparts.

#### *2.5.2.5 Circumstantial and situational factors*

In terms of characteristics related to the crime scene, there is a clear distinction between the U.S. and Europe with regard to the use of firearms in cases of homicide; the UNODC (2013) revealed that firearms were involved in 66% of all homicides in the Americas, while the corresponding figure for Europe was 13%. Use of firearms in the U.S. was somewhat more prevalent in cases involving strangers than intimate partners. In line, Thomas et al. (2011) compared characteristics between men murdering intimate partners to men convicted of murdering other than intimate partners in the state of Indiana between 1990 and 2002, in which they found that the use of firearms was the most common method of violence in both subtypes, yet, significantly more common in incidents that did not involve intimate partners. Conversely, a clear association has been discovered in European (Belfrage & Rying, 2004; Liem, Postulart, & Nieuwbeerta, 2009; Liem & Oberwittler, 2012) and North American

(Dawson, 2005; Manning, 2015) research between use of firearms and perpetrators of IPH who commit suicide following the homicide offense. Further, strangulation as a method of violence has been found to be significantly more common in incidents of IPH (Johnson & Hotton, 2003). Nonetheless, the use of sharp instruments is the most frequent violent method in several European countries (Ganpat et al., 2011; Liem et al., 2013), conceivably related to the restricted gun legislation (Hemenway, Shinoda-Tagawa, & Miller, 2002).

The “status” (married, cohabiting or dating) and “state” of the intimate relationship have been identified as important components in consideration of IPV (Walby et al., 2004) and IPH (Dawson & Gartner, 1998; Dobash et al., 2007; Wilson & Daly, 1998). It has been highlighted that it is important to consider the varying degrees of intimacy, as mirrored in the relationship type, in order to fully understand the phenomenon of IPH (Dawson & Gartner, 1998). Previous research from Canada (Dawson & Gartner, 1998) have illustrated that the risk of lethal violence is elevated in common-law relationships compared to marital relationships. On the same note, the inclusion of dating relationships (i.e. boyfriend-girlfriend) in a study from North Carolina further elucidated elevated risk in less binding relationships (Moracco, Runyan, & Butts, 1998). In contrast, common-law relationship was not identified as a significant factor in research from the U.K. (Dobash et al., 2004), suggesting possible cross-cultural differences in this regard (Sev'er et al., 2004). This pattern with elevated risk in cohabiting and dating relationships has partly been explained by the differences in socio-demographic characteristics, in which non-marital couples to a larger extent are younger and socially disadvantaged, which in turn elevates the risk of violence (Dobash et al., 2007; Shackelford & Mouzos, 2005). In addition, it has been argued that the contextual factors of these relationships play an important role, as they are more likely to dissolve and be characterized by instability and infidelity (Wilson & Daly, 1998).

The 11-city case-control study by Campbell and colleagues (2003) elucidates that estrangement in combination with prior IPV is predicted as a strong risk factor in male-perpetrated IPH, especially in cases with both physical and legal separation (Campbell et al., 2007). The risk of IPH in the context of separation is greatest during the first three months (Dawson & Gartner, 1998; Johnson & Hotton, 2003). On a similar note, the qualitative study by Sheehan, Murphy, Moynihan, Dudley-Fennessey, and Stapleton (2015), based on interviews with co-victims of IPH, highlights time as a significant element. Shift in the male perpetrator's behavior and loss of control were found in the majority of the cases. Most importantly, escalation of severe violence, within a week of a triggering event, was identified in eight out of the nine cases of IPH. The escalation of violence within the relationship has previously been identified as a key risk factor for homicidal outcome (Campbell et al., 2007; Gallup-Black, 2004; Garcia, Soria, & Hurwitz, 2007).

In contrast, several studies elucidate that women are more likely to kill an intimate partner in self-defense, after repeated victimization at the hands of the male partner (Belknap, Larson, Abrams, Garcia, & Anderson-Block, 2012; Block & Christakos, 1995; Campbell et al., 2007; Serran & Firestone, 2004; Swatt & He, 2006). These gender differences are further reflected

in the relationship state at the time of the homicidal incident: Female perpetrators tend to commit the offense in an intact relationship, while males perpetrate as a reaction to the process of involuntary estrangement (Johnson & Hotton, 2003).

Eriksson and Mazerolle (2013) have proposed that while female offenders of IPH are motivated by negative emotions such as desperation and fear, their male counterparts are driven by feelings of jealousy, anger, and rage. Nonetheless, a review article on motivations of IPV showed that there were several motivational precursors, in which jealousy, retaliation, communication difficulties, and self-defense were found as motives in both female and male perpetrators (Langhinrichsen-Rohling, McCullars, & Misra, 2012). In line with this, Moffitt et al. (2000) have highlighted that the predictors of IPV (negative emotionality) and general crimes (negative emotionality and lack of constraint) apply to both men and women. Based on their findings regarding partner abuse in specific, they argue: “Undeniably, many women’s perpetration is self-defense, but the data suggests that some women’s perpetration is motivated by the same intrapersonal factors that motivate men’s perpetration” (Moffitt et al., 2000, p. 225). Up to date, there has been a tendency to treat perpetration of IPH as a male phenomenon, why research and knowledge on female perpetration is scarce (Eriksson & Mazerolle, 2013).

Overall, a problematic aspect of identified risk factors for predicting IPH is that there is an overlap between risk factors associated with IPV and IPH, the risk factors associated with IPH are, in fact, common features of IPV. Conflicts, intense emotions, alcohol consumption, and separations, which are found to be risk factors in IPH, are common features, however, the homicidal outcome is not, which renders difficulty in assessing risk. On the other hand, it has been argued that partner homicides are the most preventable homicides (Campbell et al., 2003; Websdale, Sheeran, & Johnson, 1998). Still, in order to improve responsiveness and prevention strategies, more research on perpetrators, victims and incidents of IPH is warranted.

### 3 AIMS

The overarching aim of present dissertation project was to study trends and characteristics of IPHs, and to investigate whether the trends and characteristics differ depending on homicide type, in which IPHs and non-IPHs were disaggregated. More specifically, the objectives were to:

- I. Analyze and compare rates of IPH and non-IPH, and to examine gender-specific rates and characteristics of IPH in Sweden between 1990 and 2013.
- II. Identify socio-demographic and criminological characteristics of perpetrators and victims of IPHs, and to investigate whether they differ from non-IPHs in Sweden. Furthermore, the objective was to investigate and compare incident characteristics of IPH and non-IPH.
- III. Investigate to what extent IPH and non-IPH perpetrators have suffered from mental illness and other mental disorder, either prior to or in commission of the homicide offense, and to identify history of mental illness and mental disorders in victims of IPH and non-IPH.
- IV. Identify similarities and differences between male and female perpetrators of IPH by investigating social, criminological and psychiatric characteristics.



## 4 METHODS AND MATERIALS

### 4.1 DEFINITIONS

#### ❖ Homicide

The definition of homicide is a crucial methodological step for enabling comparisons across studies and nations. The present thesis uses a definition that is in relative agreement with the definition used in the U.S. National Violent Death Reporting System (Centers for Disease Control and Prevention, 2003) and other European studies (see e.g. Ganpat et al., 2011; Liem et al., 2013). The definition of homicide is an intentional criminal act of violence by one or more human beings resulting in the death of one or more other human beings. According to the Swedish Penal Code, homicide covers cases of murder, manslaughter, infanticide, and assault leading to death (assault in conjunction with causing another person's death). Thus, involuntarily manslaughter (*'vållande till annans död'*), in which, for example, someone is accidentally killed by a drunk driver, is not included. Furthermore, attempted homicides are not included.

#### ❖ Solved Case

A solved case denotes an incident where the perpetrator has been convicted, or where a prosecutor has identified at least one perpetrator who could not be charged, for example because the perpetrator has committed suicide in connection to the offense, or has deceased for another reason.

#### ❖ Intimate Partner Homicide

Homicide perpetrated by a current or former intimate partner, irrespective of gender, marital status, or sexual orientation, was defined as IPH. Thus, encompassing cases involving spouses, cohabitants and boyfriends/girlfriends. The inclusion of relationships that are not legally sanctioned has been proven to be an important element in understanding risk of IPH (Dawson & Gartner, 1998; Moracco et al., 1998). Moreover, a more inclusive definition of intimate partners reduces the effects of possible confounding factors, such as ethnicity and other socio-demographic characteristics, that can be linked to type of union (Dobash & Dobash, 2015). Victim-offender relationships that comprised temporary sexual acquaintances, such as one-night stands, were not considered intimate partners. Due to limited number of cases, and previous research indicating important dissimilarities (Gannoni & Cussen, 2014; Mize & Shackelford, 2008), the same-sex relationships were excluded, which is in line with prior research.

#### ❖ Homicide-Suicide and Intimate Partner Homicide-Suicide

The definition of homicide-suicide (H-S) varies across studies. Some scholars operationalize H-S by specifying the maximum amount of time between the homicide offense and the following suicide by the perpetrator, with variations between maximum 24 hours and 30 days after the homicide incident (Harper & Voigt, 2007; Liem, 2010). The operationalization

adopted in study II, III and IV is cases involving offenders who commit suicide within 24 hours, and before or at the time of the arrest. In study I, on the other hand, no operationalization by defining maximum time limit was used, instead all cases where the offender had committed suicide in close connection to the homicide offense were considered H-S. A case where a perpetrator of IPH commits suicide in connection to the offense is referred to as an intimate partner homicide-suicide (IPH-S).

## **4.2 OVERALL METHOD AND LEVEL OF INVESTIGATION**

Homicide offenses are renowned as appropriate and good indicators for measuring the development of violent crimes and crimes in general, as they are less characterized by dark figures (Eisner, 2008; Ganpat et al., 2011). Homicide can be investigated from different levels, varying from investigation of general patterns on a societal level through large-scale national homicide datasets with large number of cases but limited number of variables, to the microscopic examination through case studies including a small number of cases with exhaustive and detailed information about each case. This can be compared to a picture of the same phenomenon but with different pixel qualities, wherein both methods involve advantages and challenges. The large-scale datasets provide an overview of all homicides in a given time and place, which enables examination of overall patterns that can be generalized. On the other hand, the details provided in the examination of smaller sets of homicide cases can provide an insight to the complexity and dynamics of such events, and differentiation of potential subtypes. In other words, large-scale national homicide datasets efficiently capture overall patterns on macro level, while the in-depth studies efficiently capture high-resolution details on micro level.

Study I in the thesis is based on a national homicide dataset held by the Swedish National Council for Crime Prevention, which is the Swedish Government's body of expertise within the judicial system. The dataset provides significant statistical information allowing robust analyses, and the extensive time window enables investigation of patterns across time.

The studies outlined as study II, III and IV are part of a database project that is positioned in the middle of the macro and micro level analysis. The database labeled the Forensic Homicide Database is a nationwide and population-based dataset that has been manually created incorporating all homicides committed in Sweden within a limited time frame (between January 1<sup>st</sup> 2007 and December 31<sup>st</sup> 2009), where information from various sources has been allocated and coded, and the victims and offenders have been manually linked. The Forensic Homicide Database includes sufficient number of cases in order to enable detection of generalizable patterns and subtypes, but manageable enough in order to enable comprehensive and detailed information in which the complex nature of the homicide event can be scrutinized. The material that the database is built on allows micro level examination, in which the cases can be examined beyond general patterns and study the dynamics and complexities involved, as is done in a case study of H-S offenses (see Sturup & Caman, 2015) that is outside the scope of the present thesis, and to some extent in study IV.

### **4.3 SWEDISH REGISTRIES AND PERSONAL IDENTIFICATION NUMBERS**

Sweden has a long tradition of managing nationwide registry data, dated back to the mid 18<sup>th</sup> century (Ludvigsson, Otterblad-Olausson, Pettersson, & Ekblom, 2009). In line with other Nordic countries, each permanent resident in Sweden is assigned a unique 10-digit personal identification number (PIN), either when born or at the time of immigration (the Swedish Tax Agency, 2014). These PINs are utilized by agencies, such as the prison and probation services and health care, in connection to provided services. These registries, typically given de-identified, can subsequently be used for scientific purposes after an approval by an independent review board.

### **4.4 THE EUROPEAN HOMICIDE MONITOR (STUDY I)**

The data used in study I was obtained from the National Council for Crime Prevention, in which information on all cases of homicide from 1990 have been collected and systematically coded. The dataset is an extension of the European Statistical Database on Lethal Violence (ESDoLV), also referred to as the European Homicide Monitor (EHM)<sup>5</sup>. The dataset provides a standardized method to study characteristics, trends and patterns of homicide within and between countries. The purpose of the database is to provide a standardized source for European research on homicide, which enables cross-national comparisons, and prevention policy developments and evaluations.

Mainly three sources have been used in order to accurately identify and collect information on cases of homicide for the nationwide dataset. First, the police case management (RAR registry) was used in order to identify all incidents under the criminal code of homicide (murder, manslaughter and assault leading to death<sup>6</sup>) that had been reported to the police. A follow up of each incident was made through the prosecution services case management system (CÅBRA), in order to obtain information on the outcome of the case. Secondly, all verdicts in line with the definition of homicide were collected from the district courts. The third main source is the preliminary investigations of homicide incidents, in which there was no data from the public prosecutor on anyone being convicted. The preliminary investigations were obtained from the 21 regional police authorities in Sweden. A large number of cases that initially are under the criminal code of homicide in preliminary police investigations turn out to be something else than homicide (e.g. naturally caused deaths, suicides and accidents). Moreover, forensic psychiatric evaluations (FPEs) were obtained from the National Board of Forensic Medicine and systematically coded. In order to confirm that all cases have been included and that no case has been duplicated, the dataset has been subjected to repeated check-ups.

In line with other quantitative measures of homicide (von Hofer, 2008), the current dataset has been compared to the Cause-of-Death register held by the National Board of Health and

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<sup>5</sup> The feasibility of building a European database, in which data from Finland, Sweden and the Netherlands were aggregated, is described in the report by Ganpat and colleagues (2011).

<sup>6</sup> Infanticides are included within these criminal codes.

Welfare, as a means to yearly control the quality of the rates obtained from legal agencies. Moreover, the dataset has also been compared to official criminal statistics, held by the National Council for Crime Prevention. The rates of homicide incidents across the various sources are in accordance (Ganpat et al., 2011). Although, there is some operational differences between the registries, for example, unlike the Cause-of-Death register, the current database solely includes homicides committed within the Swedish borders, in which cases involving visiting foreigners are included. Consequently, cases of homicide abroad that involve Swedish citizens are not included.

The original dataset includes both solved and unsolved cases of homicide, however, only solved cases of homicide in Sweden from January 1<sup>st</sup> 1990 to December 31<sup>st</sup> 2013 were used in study I. The dataset comprises data regarding history of violence between the victim and the offender. In study I, history of violence within the victim-offender relationship was investigated in cases of IPH and was referred to as history of IPV. These figures concerning past IPV are conservative as the figures are based on prior reports to the police that are eliminated after five years. History of IPV is here defined as prior police reports of physical violence and ‘Gross violation of a woman’s integrity’. The latter is an offense that was introduced in 1998, in which the process of men’s repeated violence against an intimate partner (married or cohabitant) is considered. The multiple criminal acts include repeated acts of harassment, breach of domiciliary peace, sexual coercion, and physical violence. Rather than deliberating these criminalized incidents separately, this legal concept allows consideration of the multiple effects of the various crimes, which ultimately can lead to a more severe sentence.

#### ❖ **Statistics Sweden**

In investigation of homicide trends, the population size and the structure (with regards to gender) ought to be incorporated in the analyses in order to provide accurate measures (Eriksson & Mazerolle, 2013; Ganpat et al., 2011). Thus, the population figures for female and male inhabitants 15 years and older each given year were retrieved from the official source Statistics Sweden (SCB) and used in study I.

#### **4.5 THE FORENSIC HOMICIDE DATABASE (STUDIES II, III AND IV)**

As mentioned, studies II, III and IV are based on the Forensic Homicide Database, which is a comprehensive dataset created by our research group, comprised of files and nationwide registries from numerous sources, regarding all homicides committed in Sweden between January 1<sup>st</sup> 2007 and December 31<sup>st</sup> 2009. The dataset is set on incident level, in which the primary victim and the primary perpetrator were identified and included in the analyses. Due to total access to PINs, FPEs, coroner files and documentation of preliminary police investigations, the victims and perpetrators could be manually linked. The manual linking enables coding of the victim-offender relationship, socio-demographics, incident characteristics, as well as information regarding events preceding the incident. In present thesis, which is disaggregated based on the victim-offender relationship; all unsolved cases

were omitted from the analyses. The clearance rate of homicide within the time frame of the Forensic Homicide Database is 87%.

*Table 1. Description of Registries and Materials used in the Forensic Homicide Database*

<b>REGISTRY</b>	<b>STUDY II</b>	<b>STUDY III</b>	<b>STUDY IV</b>
Forensic Autopsy Register	X	X	X
National Crime Register	X		X
National Patient Register			
Psychiatric inpatient care		X	X
Psychiatric outpatient care		X	
Forensic Psychiatric Evaluation Register	X	X	X
Forensic Toxicology Register	X		X

#### ❖ **National Crime Register**

The National Crime Register (NCR), held by the Swedish National Council for Crime Prevention, encompasses information on all criminal convictions committed by individuals above the age of legal responsibility in Sweden, that is 15 years and older. The NCR contains information on all convictions made in lower courts from 1973 and onwards, in which cases involving non-custodial sentences, cautions and fines are included (excluding criminal justice sanctions of fines). However, offenders who have been acquitted in lower court but found guilty in higher court are not included in the registry. Plea-bargaining is inadmissible in the judicial processes in Sweden. Furthermore, regardless of mental condition at the time of the offense, perpetrators are technically convicted for their crimes. This in turn is an advantage for the representativeness of homicide offenders. Individuals who are assessed to suffer from a severe mental disorder become convicted to forensic psychiatric care, but are, nonetheless, convicted and included in the NCR. Evaluation of the quality of the NCR has shown that the registry is nearly complete and that only .05% of cases had an incomplete PIN (Fazel & Grann, 2006).

Participation and frequency of criminal behavior prior to the homicide incident in study II and IV were investigated by analyzing any previous conviction (dichotomous), frequency of previous convictions (continuous), any previous violent crime conviction (dichotomous),

and frequency of previous violent crime convictions (continuous). In line with the Swedish Penal Code classification, violent crime convictions include homicide, manslaughter, aggravated assault, assault and battery, and bodily harm. Thus, sex crimes and robbery are not included in the classification of violent crimes.

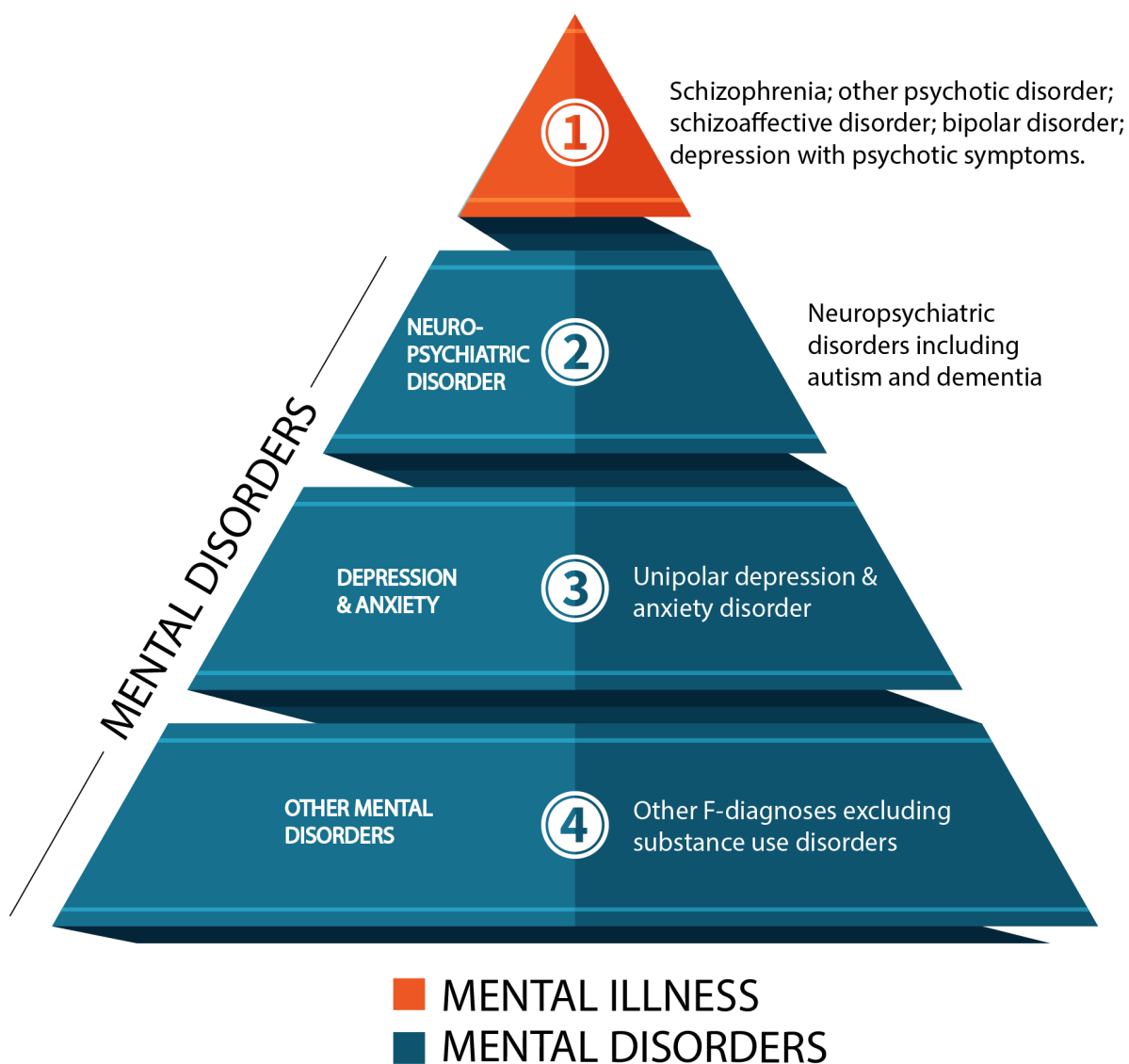
#### ❖ **National Patient Register**

The National Patient Register (NPR) is held by the National Board of Health and Welfare. The NPR on psychiatric inpatient care provides all primary and secondary discharge diagnoses, as well as admission and discharge dates. The nationwide mandatory documentation and county participation dates back to 1973. The NPR on outpatient care holds primary and secondary diagnoses from outpatient visits to specialist physicians in public and private practices since 2001. Thus, visits to non-physicians within the outpatient psychiatric care, for example qualified nurses or psychologists, are not included in the registry. All diagnoses in the registry are coded according to the 8th, 9th, and 10<sup>th</sup> editions of the International Statistical Classification of Diseases and Related Health Problems (ICD; 1969e1986, 1987e1996, 1997e).

The NPR was used in study III and IV (simply for inpatient care in the latter study) in order to retrieve information on offenders' and victims' prior contact with psychiatric services and the diagnoses in connection to these visits. Time between the last contact with a psychiatric service and the homicide offence was investigated by analyzing number of days (continuous) between the last visit to any psychiatric service and the homicide offense. If an individual had more than ten visits, only the last ten visits from inpatient and outpatient care respectively were coded. A hierarchical approach was assigned to differentiate between different psychiatric disorders in cases where more than one diagnosis was present, with the primary objective of differentiating mental illness from mental disorder.

As illustrated in Figure 2, mental illness included schizophrenia and other psychotic disorders (ICD8: 295.0e 295.6, 295.8, 295.9; ICD9: 295Ae295G, 295W, 295X; ICD10: F20), schizoaffective disorder (ICD8: 295.7; ICD9: 295H; ICD10: F25), bipolar disorder (ICD8: 296.1, 296.3, 296.8, 296.9; ICD9: 296A, 296C, 296D, 296E, 296W, 296X; ICD10: F30, F31), and depression with psychotic symptoms (ICD10: F32.3, F33.3). If an individual did not have any mental illness, but had been diagnosed with a neuropsychiatric disorder, the individual was assigned with a neuropsychiatric disorder including autism (ICD8: N/A; ICD9: 299A; ICD10: F84.0, F84.1), ADHD (ICD8: N/A; ICD9: 314; ICD10: F90) or dementia (ICD8: N/A; ICD9: 294.1e294.21; ICD10: F00-03). The next step was to assign unipolar depression (ICD8: 296.2, 300.4; ICD9: 296B, 300E, 311; ICD10: F32eF39) or anxiety disorder (ICD8: 300 except 300.4; ICD9: 300 except 300E; ICD10: F40eF42, 44eF45, F48). Other F-diagnoses, except for substance use disorder, were coded as "Others". Regardless of other diagnoses, we separately noted if individuals had a diagnosis of alcohol use (ICD8: 303; ICD9: 303,305A; ICD10: F10 except x.5), drug use (ICD8: 304; ICD9: 304, 305X; ICD10: F11eF19 except x.5) and/or any diagnosis of personality disorder (ICD8: 301.00-301.99; ICD9: 301; ICD10: F60-61).

Figure 2. Hierarchy of Psychiatric Disorders



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## Forensic registries provided by National Board of Forensic Medicine

The National Board of Forensic Medicine is a governmental agency within the Ministry of Justice, commissioned by the courts, the public prosecutors and the police. The National Board of Forensic Medicine consists of three distinct domains: Forensic medicine, forensic psychiatry, and forensic toxicology and forensic genetics. The Forensic Homicide Database is based on registries from each of these fields. The registries by the National Board of Forensic Medicine were created in order to compile nationwide statistics from each of the domains, and to facilitate communication between the fields. Moreover, these registries provide opportunities for advancing forensic knowledge useful for scientific purpose and for public health. First and foremost, all homicide victims were identified through the autopsy registry RättsBase provided by the Department of Forensic Medicine. RättsBase contains detailed and standardized information related to the autopsies, such as cause of death, which is diagnosed based on ICD. In the process of data entry, a case cannot be finished unless all fields are imputed. Moreover, a warning sign is displayed if entered data is inconsistent or incompatible (Druid, Holmgren, & Löwenhielm, 1996). The registry ToxBASE from Forensic Toxicology and Forensic Genetics was used in order to retrieve information on alcohol and drug concentrations in victims and offenders, in which a broad array of tests had been carried out to analyze levels of alcohol, illicit and prescription drugs. The test results concerning intoxication in perpetrators were included based on the premise that the tests were carried out within 48 hours of the offense, assessment of intoxication in the remaining perpetrators were based on thorough examination of preliminary police files, court verdicts and FPEs. Finally, primary and secondary diagnoses from the pre-trial FPEs were provided through the registry PsykBase from the Department of Forensic Psychiatry. The FPEs are performed at the request of the courts with the objective of assessing whether the offender suffered from a *severe mental disorder* (a medico-legal term, thus not related to any specific psychiatric diagnoses) when committing the crime. The pre-trial evaluations are mandatory in cases where it is suspected that the perpetrator may have suffered from a severe mental disorder in commission of the offense, and the courts are inclined to require FPEs in connection to severe crimes, such as homicide offenses. The evaluation is carried out by a multidisciplinary team of professionals, consisting of a senior forensic psychiatrist (who is in charge of the final assessments); a psychologist; a forensic social investigator; and ward staff. The procedure of the inpatient evaluations typically last four weeks on average, and is based on observations, personality assessments, intelligence tests, extensive interviews and retrospective records from health services, social services etc. The final assessment regulates whether the perpetrator ought to be sentenced to compulsory forensic psychiatric care or prison. The diagnoses from the FPEs are based on the 4<sup>th</sup> text-revised edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM; APA, 2000). However, these were transformed and displayed according to the 10<sup>th</sup> version of ICD (WHO, 1993) by the research group. In line with the methodology used for the NPR, an equivalent hierarchical approach was assigned to differentiate and code the diagnoses retrieved from the FPEs. Additional to



the PsykBase registry, printed versions of the full FPE reports were allocated, and data on offenders and offense analyses were systematically coded.

#### ❖ **Preliminary investigations and court verdicts**

Beyond the use of registries, the court verdicts and preliminary investigations have been essential in the examination of homicide. The preliminary investigations, that contain information regarding the crime scene, interrogations with the perpetrator(s), and hearings with witnesses, have been carefully examined and systematically coded. The preliminary investigations have also been fundamental for the identification of the victim-offender relationships and subsequent classifications of homicide type.

#### ❖ **Statistics Sweden**

In cases where the ethnicity of victim or offender was uncertain, information regarding country of birth and year of immigration to Sweden was retrieved by the SCB, by specifying the PIN. Further, there were a few cases in which the addresses of a few offenders and victims were ambiguous. Hence, the addresses at the time of the homicide incident were obtained through the PINs. The complementary information regarding the address was used to identify type of accommodation, which is used in the measures of socio-demographics. The information on country of birth was to present whether the victim/offender was born in Sweden or abroad (study II and IV).

## **4.6 STATISTICAL ANALYSES**

The software SPSS for Mac was used for all analyses, except for the calculations of the incident rate ratios (IRRs) based on Poisson Regression Models conducted in study I, in which STATA version 13 was utilized.

### **4.6.1 Study I**

It has been highlighted that disclosing rates in a given time and place, where population figures are accounted for, provides more accurate measures than solely reporting number of incidents (Mazerolle et al., 2015). Thus, rates per 100,000 were calculated based on population figures of inhabitants aged 15 years and older for each given year between 1990 and 2013. When analyzing rare count variables that display a Poisson distribution, for example gender-specific IPH, the preferred strategy is to conduct a Poisson-based regression model, since this model takes the skewness of the dependent variable into consideration (Osgood, 2000; Vieraitis et al., 2008). Thus, Poisson Regression Model was performed in order to investigate rates over time. The total population was regarded as the exposure factor, year was regarded as the predictor, and number of incidents was regarded as the dependent variable, which resulted in the outcome measures of IRRs. Age was analyzed by Kruskal-Wallis test. Examination of IPH characteristics over time, were analyzed by dividing the categorical data into three eight-year periods and conducting Pearson's chi-squared tests.

Probability values below .05 that were derived from two-tailed tests were defined as statistically significant.

#### **4.6.2 Study II**

The Shapiro-Wilk test of normality was used in order to examine the distribution of the continuous variables. Since all continuous variables (age, frequency of convictions, and frequency of violent crime convictions among perpetrators and victims) were significant, suggesting deviation from normality, the Mann–Whitney *U* test was used to compare continuous variables between the two groups. In order to compare categorical variables, the Pearson’s chi-squared test was applied. However, when the expected count was below five, the non-parametric Fisher’s exact test was used instead. In order to control if bivariate differences remained significant, a multiple logistic regression was performed based on the factors that were significant on the bivariate level. Both crude and adjusted odds ratios (ORs) were calculated and presented. Probability values below .05 that were derived from two-tailed tests were defined as statistically significant.

#### **4.6.3 Study III**

Study III is of descriptive and explorative character, where Pearson’s chi-square tests were used in order to compare categorical variables between subgroups, except for variables with expected counts less than five, where the Fisher’s exact tests was applied. ORs were reported for categorical variables. Uncorrected probability values below .05, derived from two-tailed tests were regarded as statistically significant.

#### **4.6.4 Study IV**

In order to control for age, and to obtain comparable groups of perpetrators, every female perpetrator was randomly matched with four males within the same age group. Using a stratified sampling technique as a way of dealing with the challenge of comparing male and female IPH perpetrators has been suggested in previous research (Eriksson & Mazerolle, 2013). To evaluate whether the stratified sampling technique was appropriate, sensitivity analyses were conducted on the stratified male sample ( $n = 36$ ) and the overall male sample ( $n = 46$ ) to investigate whether the results differed. The lack of differences indicated that the stratified sampling was suitable. Given that the continuous variables (except for age) were non-normally distributed, the sample size was small and the sizes between the male and female groups differed, the non-parametric Mann-Whitney *U* test was applied for all continuous variables. In line, the Fisher’s exact test was conducted in order to compare categorical variables, since all had expected counts less than five. Due to the small sample size, multilevel models could not be conducted in order to investigate several variables simultaneously. With regard to multiple hypotheses testing and type 1 error, uncorrected probability values below .01, derived from two-tailed tests, were regarded as statistically significant, while probability values above .01 although below .05 were regarded as tendencies. ORs were calculated for statistically significant categorical variables.

## 4.7 ETHICAL CONSIDERATIONS

The most profound ethical concern is the lack of consent from and information to the study subjects. With regard to the victims in the project, there is no possibility of informing them since they have deceased as a result of the violence. The alternative would be to inform significant others about the research project, however, that would also raise ethical and procedural issues. It can, for example, be problematic to decide exactly who should be informed. Further, it can be argued that it is unethical to remind significant others, who have experienced the traumatic loss of someone close, about these sensitive matters. In other words, this could lead to more harm than good. In line with the topic of the thesis, it is worth emphasizing that a profound share of the cases involves homicide within the family, meaning that the significant other also is the offender, or related to the offender. Moreover, a significant number of the partner homicides, which are of special interest in current project, also commit suicide in connection to the homicide offense (Belfrage & Rying, 2004; Bossarte, Simon, & Barker, 2006; Campbell et al., 2007), and can thus not be informed.

Research on severe violent crimes is warranted, why these cases and associated characteristics need to be examined, especially with regard to offender characteristics. Moreover, majority of the data used for the doctoral project is already existent information in registries. With regards to FPEs at the National Board of Forensic Medicine, the offenders are told that the information will be stored due to reasons related to administration and research. The offenders are thus not formally informed about this specific research project.

On the one hand, the research project is of intrusive nature, and an invasion of privacy, both towards offenders' and victims' lives and backgrounds. On the other hand, it is of utter importance to gain more knowledge about severe violent crimes in order to have the possibility to develop and improve prevention strategies and social policies. One could therefore argue that this type of research is justified by the objective of ultimately preventing future incidents of severe violent crimes and homicides. Moreover, it is critical to examine trends of various types of violence over time, in order to understand risk, prevention and intervention needs on a societal level.

The European Homicide Monitor dataset (study I) was retrieved in an anonymous form (i.e. no personal details such as name and PIN regarding offenders and victims). All data regarding study II-IV is presented on group-level, and all type of information that could jeopardize anonymity is omitted in presentation of results. In terms of data management, all personal and identifiable information was recoded, in which no identifiable information is available in the database, and the original database with all data (including identifiable data) is held in a locked archive room at the National Board of Forensic Medicine, where only members of the project group will be able to access the sensitive data.

Study I (reference number 2014/749-31/5) and the studies II-IV (reference number 2010/1764-31/5) were approved by the Regional Ethical Review Board in Stockholm.

## 5 STUDY SUMMARIES AND RESULTS

Table 2. Overview of the Samples and Datasets in the Thesis

	The Forensic Homicide Database		The European Homicide Monitor Dataset		
	2007 - 2009		1990 - 2013		
	Total	IPH	Non-IPH	IPH	Non-IPH
<b>Study I</b>	<i>N</i> = 1,725 incidents			<i>n</i> = 444 (Male <i>n</i> = 366; 82%)	<i>n</i> = 1,281 (Male <i>n</i> = 1,202; 94%)
<b>Study II</b>	<i>N</i> = 211 incidents	<i>n</i> = 46 male perpetrators <i>n</i> = 46 female victims	<i>n</i> = 165 male perpetrators <i>n</i> = 165 victims (Male <i>n</i> = 32; 81%)		
<b>Study III</b>	<i>N</i> = 211 incidents	<i>n</i> = 46 male perpetrators <i>n</i> = 46 female victims	<i>n</i> = 165 male perpetrators <i>n</i> = 165 victims (Male <i>n</i> = 32; 81%)		
<b>Study IV</b>	<i>N</i> = 45 incidents	<i>n</i> = 45 perpetrators (Male <i>n</i> = 36; 80%)			

## 5.1 STUDY I

### BACKGROUND AND OBJECTIVES

Research that address IPH across time and gender is lacking, and examination of IPH has been particularly lacking in Europe. Thus, it has been emphasized that investigation of general trends and patterns of severe violent crimes, in which gender and domestic relationships are considered, is a future direction. The overall objective was to compare rates of IPH and non-IPH between 1990 and 2013 in Sweden. Moreover, gender-specific trends of IPH rates and characteristics were examined.

### METHODS

The study, which is based on the European Homicide Monitor, comprises all solved cases of homicide in Sweden between 1990 and 2013 ( $N = 1,725$ ). Rates per 100,000 were calculated based on population figures of inhabitants aged 15 years and older for each year, and changes over time were analyzed by calculating IRRs. Examination of gender-specific characteristics of IPH was conducted by dividing the data into three eight-year periods (1990–1997; 1998–2005; 2006–2013), in order to investigate trends of characteristics over time.

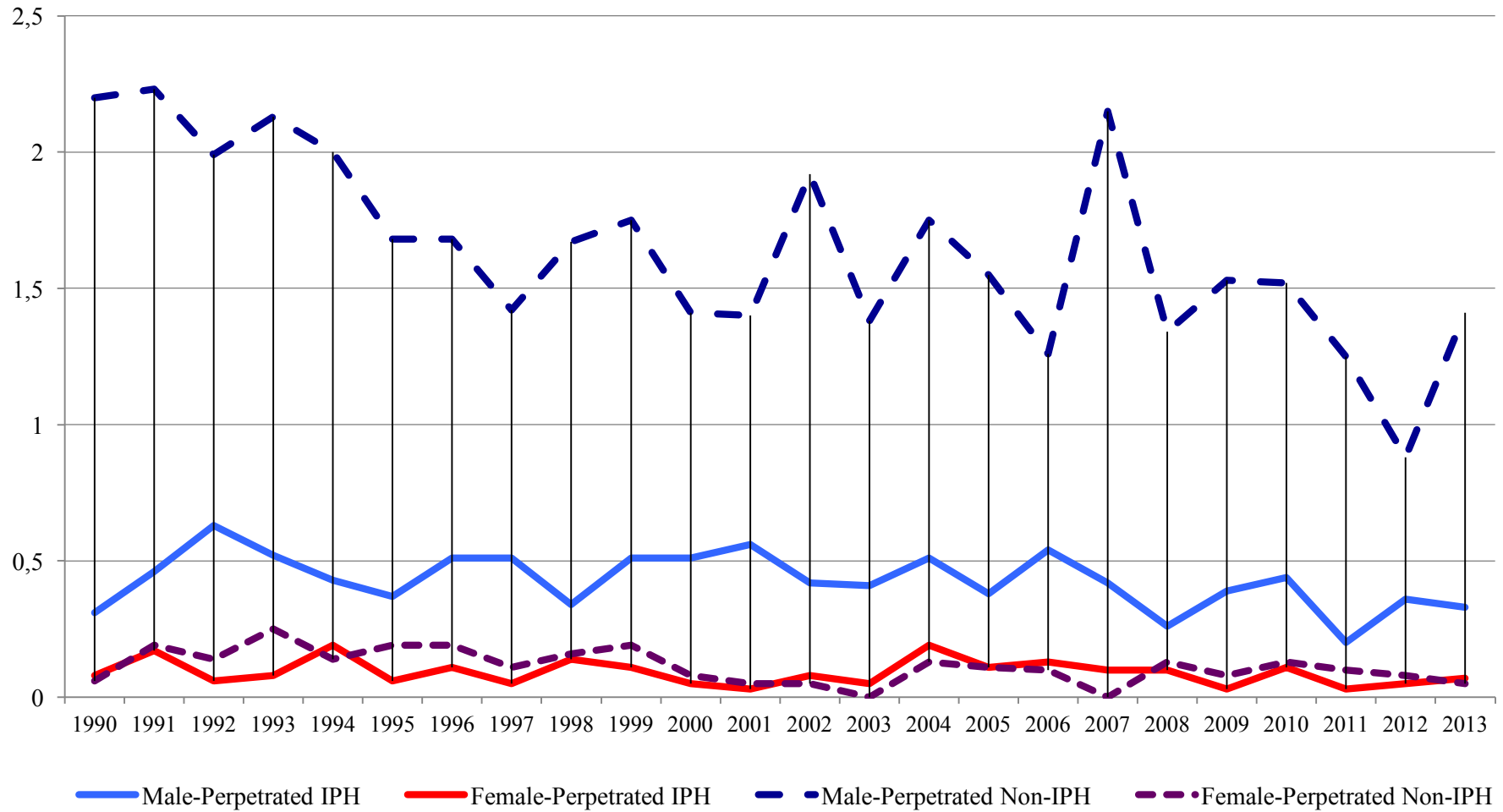
### RESULTS

The results reveal modest, yet significant, declines in both IPH and non-IPH rates. A visual inspection indicates a steady decline of non-IPH rates from 1991 and onward, while the IPH rates remained relatively stable until 2006. In consideration of gender, the results illustrate a decline in male-perpetrated IPHs, while no significant decline was observed in female-perpetrated IPHs. Male-perpetrated IPHs are gradually less likely to involve alcohol and a history of reported IPV. The majority of female-perpetrated IPHs involved alcohol and prior reports of IPV, characteristics that remained stable over time.

### CONCLUSION

It is necessary to consider intimate relationships as well as gender in order to gain nuanced insight to trends of homicide rates and characteristics. Our synthesized findings suggest a possible shift in the typical male-perpetrated IPH: Gradually less likely to involve alcohol and be preceded by reported IPV.

Figure 3. Homicide Rates per 100,000 Male and Female Inhabitants Respectively (15 years and older) between 1990 and 2013 in Sweden



## 5.2 STUDY II

### BACKGROUND AND OBJECTIVES

In light of previous debate within the field, there is a clear need to further study differences and similarities between perpetrators of IPH and non-IPH. The primary aim was to identify characteristics of socio-demographics and criminal history in IPH perpetrators, and to explore whether they differed from non-IPH perpetrators in a Swedish context. Additionally, the same approach was applied to victims and characteristics related to the homicide offenses.

### METHODS

This nationwide retrospective study was based on data from the Forensic Homicide Database, encompassing all solved male-perpetrated homicides ( $N = 211$ ) committed between 2007 and 2009 in Sweden. Characteristics in offenders, victims and incidents of IPH ( $n = 46$ ) and non-IPH ( $n = 165$ ) were compared and analyzed by conducting bivariate and multiple logistic regressions.

### HYPOTHESES

In line with the literature, perpetrators of IPH were hypothesized to be (a) less disadvantaged with regard to socio-demographic characteristics (accommodation, education, and employment), (b) less likely to have a criminal offending history, and (c) have less persistent criminal offending history (i.e., lower number of convictions), and (d) more likely to commit suicide in connection to the offense, in comparison to non-IPH perpetrators.

### RESULTS

Male IPH perpetrators are older, more likely employed, less likely previously convicted, and have less persistent criminal histories. Perpetrators of IPH are also less likely to be intoxicated at the time of the offense; nonetheless, intoxication is a common feature among perpetrators and victims in both subgroups. Further, perpetrators of IPH are substantially more likely to commit suicide following the homicidal act. There is an association between the use of firearms and the perpetrator committing suicide in IPH cases. The only significant differences between victims of IPH and victims of non-IPH were related to criminality: Victims of IPH had been substantially less criminally active than victims of non-IPH.

### CONCLUSIONS

This study demonstrates that perpetrators of IPH display distinct features. Thus, the study suggests that IPH perpetrators constitute a distinct subtype that should be treated separately, conceptually and empirically.

### 5.3 STUDY III

#### BACKGROUND AND OBJECTIVES

Based on the limited research and the inconsistent findings regarding mental illness in perpetrators of IPH, the objective of study III was to investigate the extent to which perpetrators and victims of IPH versus non-IPH had preceding contact with the mental health services, and to identify the related psychiatric disorders and substance use disorders. Moreover, we aimed to identify mental illness during commission of the homicide offense in perpetrators of IPH and non-IPH respectively.

#### METHODS

In line with study II, this population-based descriptive study was based on data from the Forensic Homicide Database, encompassing all solved male-perpetrated homicides ( $N = 211$ ) in Sweden between 2007 and 2009. The perpetrators and the victims of IPH and non-IPH were compared. Primary and secondary psychiatric diagnoses from inpatient and outpatient care were coded according to a hierarchy, based on ICD version 8, 9 or 10. Diagnoses from FPEs were retrieved in order to identify mental illness in perpetrators during commission of the offense.

#### RESULTS

A minority of IPH and non-IPH perpetrators suffered or had suffered from mental illness, however, approximately one third of the perpetrators, irrespective of homicide type, had been diagnosed with a mental disorder at some point in life. Prior diagnosis of substance use disorder is significantly more common in non-IPH perpetrators. Victims of IPH were more likely to have been diagnosed with a stress related disorder compared to victims of non-IPH.

#### CONCLUSIONS

The present study elucidates that mental disorders (e.g. depression and anxiety disorders) is a common feature in IPH perpetrators. However, mental illness (e.g. psychotic and bipolar disorders) is rather rare in both IPH and non-IPH perpetrators. Overall, a higher percentage of perpetrators, compared to victims, had interacted with the mental health services.



## 5.4 STUDY IV

### BACKGROUND AND OBJECTIVES

The majority of IPH offenders are male; however, when females do commit homicide offenses, they are more likely to perpetrate against an intimate partner. Based on the gap in knowledge regarding gender aspects of IPH perpetration, the objective was to identify similarities and differences between male and female perpetrators of IPH, by investigating social, criminological, and psychiatric characteristics.

### METHODS

This nationwide retrospective study was based on all cases of IPHs in the Forensic Homicide Database. Each female perpetrator ( $n = 9$ ) was randomly matched with four male perpetrators ( $n = 36$ ) based on age group. The stratified sampling was used in order to control for age and to obtain comparable groups of perpetrators. Sensitivity analyses based on continuous variables were performed, and the lack of differences in the outcomes indicates that the stratified sampling is appropriate.

### RESULTS

The overall majority of the female perpetrators are unemployed, compared to less than one third of the male perpetrators. Furthermore, our results show that female perpetrators are more likely to have suffered from a substance use disorder at some point in life, and to have been victimized by the male victim. Our study further suggests that committing suicide in connection to the offense predominantly is a male feature, in which approximately one in five male perpetrators committed suicide in connection to the offense, while none of their female counterparts did.

### CONCLUSION

Scrutiny of characteristics across gender reveals that females who commit IPH are qualitatively and clinically different from their male counterparts. Also, the prevailing feature of intoxication, both in male- and female-perpetrated IPH, indicates that perpetrators might benefit from elements of substance abuse treatment in interventions targeting partner violence.

## 6 DISCUSSION

### 6.1 HOMICIDE RATES AND PATTERNS

As highlighted by Eisner (2008), while the drop in crime in general and homicide in specific within the U.S. context has received substantial public and scientific consideration, less focus has been directed towards the seemingly similar tendencies in Europe. The year of 1992 has been identified as the turning point with regard to incidence of homicides in the U.S. (Eisner, 2008), aligned with the findings regarding rates of non-IPHs demonstrated in study I, with a peak in 1991 followed by a decline. In corroboration of the view that it is necessary to disaggregate homicide into meaningful subtypes in order to advance knowledge within this area (Ioannou & Hammond, 2015), the findings from study I elucidate that the trend of IPH rates is distinct from that of non-IPH rates. In contrast to the decreasing trend of non-IPHs from the early 1990s and onward, IPH rates remained stable until 2006, followed by a decreasing trend.

With regards to trends, it has been suggested that fluctuations in homicide rates over time are driven by male-to-male homicides (Eisner, 2008; Verkko, 1967). On the same note, Verkko's law stipulates that the higher homicide rates, the lower proportion of all homicides involve female victims, as the latter tends to be comparably stable over time (Verkko, 1951). The distinct trends across homicide types illustrated in study I are in relative agreement with this notion: As there was a gradual decrease of non-IPH from 1991, the stable trend of IPH rates was mirrored in the increasing percentage of all solved homicides constituting IPH, with a peak of 37% in 2006. A recent report from the National Swedish Council for Crime Prevention (Wallin, 2017) demonstrates a currently increasing trend of homicides involving young men and firearms. In line, one can hypothesize that the percentage of IPHs and female victims will be decreasing in Sweden.

Additionally, consideration of gender further demonstrated gender-specific rates of IPH, in line with previous research from the U.S. (Block & Christakos, 1995; Fox & Zawitz, 2007) and Canada (Dawson et al., 2009). However, as prior research has highlighted that the decrease of IPHs is prevailing in female-perpetrated IPHs, our findings illustrate significant decrease in male-perpetrated IPHs, with no significant decrease in the low rates of female-perpetrated IPH. Overall, our findings of homicide rates between 1990 and 2013, disaggregated based on homicide type and gender in perpetrator, support the argument that intimate relationships and gender need to be considered when examining severe violent crimes (Walby et al., 2017) and homicides (Reckdenwald & Parker, 2010).

The European cross-national review by Corradi and Stockl (2014), in which they explore data on IPH, illustrates that comparable proportions of female homicide victims are killed by a current or former partner in Sweden (57%), Finland (60%) and Spain (59%), and somewhat lower proportions in Italy (46%) and Germany (36%). The corresponding percentages for male victims of IPH were considerably lower and similar across nations such as Germany (4%) and Finland (5%), and slightly higher in Sweden (10% between 2003 and 2006). In

agreement with these findings, the present thesis demonstrates that based on solved homicides in Sweden between 1990 and 2013, 57% of all female and 7% of all male homicide victims were killed by a current or former (opposite-sex) intimate partner (study I). Consistently, the corresponding figures based on the Forensic Homicide Database, which comprises all solved homicides between 2007 and 2009, are 57% and 6% respectively, as demonstrated in study II-IV. The consistent statistics across studies increase the external validity for study II-IV.

## **6.2 CONTEXTUAL CHARACTERISTICS**

### **6.2.1 Weapon availability and alcohol involvement**

It has been elucidated that several factors have an impact on the course of homicide commission, for instance availability of firearms and levels of alcohol consumption may act as ‘enablers’. These factors can in turn shape the patterns and rates of homicides, and if considered in prevention strategies, such crimes can be reduced (UNODC, 2013). With reference to firearms, the overall low rates of homicide in Western European countries have been perceived in the light of restrictive gun laws and subsequent low rates of firearms (Hemenway et al., 2002). While the rate of firearm ownership in Sweden is higher than the European average, due to the cultural tradition of hunting, the firearm-perpetrated homicides are low. Furthermore, the majority of the firearms that are used in connection to homicidal acts in Sweden are, in fact, illegal (Ganpat et al., 2011). In line with several other European countries (Povey, Coleman, Kaiza, & Roe, 2009; Savolainen, Lehti, & Kivivuori, 2008), the use of sharp instruments is the most common violent method in Sweden. In contrast, firearms are prevailing in for example Switzerland (Markwalder & Killias, 2012), and the U.S. (Federal Bureau of Investigation, 2016).

In scrutiny of violent methods across time, the findings in study I illustrate that use of sharp instruments has become even more dominant in male-perpetrated IPHs, and that the decrease predominantly concerned other methods of killing. Nonetheless, as demonstrated in previous research (Belfrage & Rying, 2004; Dawson, 2005) and study II, there seems to be a link between male-perpetrated IPH-S and the use of firearms, in which male perpetrators who use firearms to kill their female intimate partners are more likely to commit suicide in connection to the offense.

With regards to alcohol, a decrease of alcohol related-homicides (regardless of homicide types) has been recorded (Granath, 2011; Kuhns et al., 2014). Our findings in study I convey that the same trend is observed in male-perpetrated IPHs. Thus, examination of alcohol involvement in IPHs between 1990 and 2013 reveals a significant decrease of alcohol involvement in male-perpetrated IPHs, wherein both male offenders and female victims are gradually less likely to be under the influence of alcohol at the time of the homicide offense. Interestingly, no such decline was observed in female-perpetrated IPHs. In fact, study I (investigating characteristics over time) and study IV (comparing gender-specific characteristics in IPH perpetrators) illustrate that alcohol was prevailing in cases of

female-perpetrated IPH: Between 72% (study I) and 78% (study IV) of female IPH perpetrators were intoxicated at the time of the offense. The corresponding figure for the male victims of IPH was 67% (study IV). These results are in accordance with the findings from the Chicago study by Block and Christakos (1995), wherein they concluded that a higher percentage of alcohol involvement (in both offenders and victims) was found in female-perpetrated IPHs compared to male-perpetrated IPHs. Moreover, Weizmann and colleagues (2012) concluded that the victim being intoxicated at the time of the incident was identified to be a risk factor in female-perpetrated IPHs (with male victims), but not in male-perpetrated IPHs. They hypothesize that since a high percentage of the female-perpetrated cases involve two intoxicated individuals (as both the female offender and the male victim tend to be intoxicated), the homicide offense may have been preceded by arguments.

In terms of male offenders, although alcohol involvement is a recurrent feature in male IPH perpetrators (Sharps et al., 2001; Thomas et al., 2011), previous research and present thesis suggest that it is predominant in perpetrators of non-IPH. Findings from study II illustrate that male IPH offenders are significantly less likely to be under the influence of alcohol or other substances at the time of the offense. Correspondingly, previous research denote that men killing a female intimate partner are less likely to be intoxicated at the time of the offense compared to males killing other than an intimate partner (Belfrage & Rying, 2004; Dobash et al., 2004). Furthermore, in study III (where psychiatric and substance use disorders are examined) it is clarified that twice as many non-IPH offenders compared to IPH offenders had been diagnosed with a substance use disorder at some point prior to the commission of the offense.

Nonetheless, the synthesized findings from this thesis imply that the element of alcohol is a common feature in homicides, irrespective of homicide type and gender, although to different degrees. Considerable evidence suggests an association between problematic alcohol use and IPV (Eckhardt, 2007; Fals-Stewart, 2003; Foran & O'Leary, 2008a; Foran & O'Leary, 2008b), and a growing bulk of research indicate an association between other substances and IPV (e.g. see the review by Klostermann, Kelley, Mignone, Pusateri, & Fals-Stewart, 2010). There has, however, been some reluctance to acknowledge alcohol as a potentially important factor in partner-related aggression within certain domains (Foran & O'Leary, 2008a). Highlighting substance intoxication and substance use disorders as potentially important factors for IPH does not imply diminished or reduced responsibility for the perpetration of the offense (see e.g. Kuhns et al., 2014 for an overview of theoretical models explaining the implications of alcohol and substance intake for homicide perpetration). Instead, recognizing risk factors and common characteristics, such as alcohol use and mental health issues, in non-lethal and lethal partner violence can be considered a necessary step towards identifying points and targets for prevention and intervention. It has been concluded that the most important risk factor for recidivism in physical IPV after a batterer program's entry is problematic drinking (Gondolf, 2002). One can therefore argue that elements of substance treatment need to be considered, since perpetration of IPV and risk

use of alcohol/drugs can be intertwined. However, Buzawa and Buzawa (2013) point out that there is an overall deficiency with regards to coordination between batterer programs and substance abuse treatment services, as many of the batterer intervention programs are independent.

### **6.2.2 Prior violence and motivational precursors**

In the comprehensive review by Campbell and colleagues (2007) history of IPV against the female partner is emphasized as the strongest predictor of IPH, regardless of whether the homicide victim is female or male. In line with this, repeated victimization of the female partner has emerged as a risk factor for both male- and female-perpetrated IPH (Block & Christakos, 1995). Investigating prior abuse and motives in IPHs based on data from registries and files, in line with present thesis, poses challenges; one can therefore assume that the figures regarding prior abuse based on this type of data are conservative. Accordingly, studies using proxy informants with insight in to the relationship between the victim and offender present higher figures (65-80%) of prior physical IPV in male-perpetrated IPHs (Campbell et al., 2003; Sharps et al., 2001) compared to the findings in study IV (47%).

Furthermore, although conceivably conservative figures, study I indicates a trend across time, in which it has become significantly less likely that male-perpetrated IPHs are preceded by prior violence, as measured by police reports during the five years prior to the offense. It is worth mentioning, in parallel to this, that a report from the National Council for Crime Prevention (Frenzel, 2014) demonstrates that there has been an *increasing* tendency to report victimization by an intimate partner. In other words, it is possible that the prevalence, patterns and characteristics of prior IPV in male-perpetrated IPHs have changed over time, in which one potential reason for that change could be the implementation of risk assessments. The possible implications after introducing risk assessments is, however, a challenging topic that needs to be further investigated.

Moreover, while prior abuse has been emphasized as the most prominent risk factor in male-perpetrated IPH (Campbell et al., 2007; Campbell et al., 2003; Sharps et al., 2001), Dutton and Kerry (1999) have underscored that IPHs are not necessarily preceded by prior IPV. They conclude that "...there is some evidence that spousal homicide may not necessarily be predictable on the basis of nonlethal violence /.../ Suppressed rage, rather than expressed violence, may be more indicative of subsequent spousal homicide" (Dutton & Kerry, 1999, p. 298). On a similar note, it has been theorized that while 'undercontrolled' homicide offenders are generally characterized by weak inhibitions and react to strains by aggression, the 'overcontrolled' are described as inhibited, introverted and conforming individuals, without prior violence towards the victim or criminal history, why the homicide offense may seem to appear out of the blue and be inexplicable (Dobash et al., 2009; Lee, Zimbardo, & Bertholf, 1977).

Comparison of male and female IPH perpetrators, as done in study IV, suggests that previous threats and acts of physical violence by the female victim are very rare in male-perpetrated

IPHs. In contrast, the female-perpetrated IPHs seem to be strongly characterized by previous threats and physical violence, perpetrated both by the male victim and the female perpetrator. However, the data did not provide details about who initiated the violence in the previous acts of IPV or in the homicide incident. Nonetheless, female perpetrators of IPH were significantly more likely to previously have been threatened, and tendency of higher likelihood to have been physically abused by the victim, in comparison to their male counterparts. *Victim precipitation* was originally formulated by Wolfgang (1957), and is a term that is applied in order to describe homicides in which the homicide victim is the first to use physical violence, and is therefore the precipitator of the homicide incident. A majority of the described homicide cases of victim precipitation involved IPHs with male victims killed by their female partners, in which Wolfgang concluded: "...we are left with the undeniable fact that husbands more often than wives are major, precipitating factors in their own homicidal deaths" (Wolfgang, 1957, p. 8). Moreover, a positive association was found between alcohol involvement and victim precipitation. The high percentage of prior IPV in female-perpetrated IPHs is further illustrated in study I, as there were documentations of previous violence in the majority of these cases. Interestingly, while there was a decrease of reported previous violence in male-perpetrated IPHs, no such decline was observed in the female-perpetrated IPHs.

Further on, in examination of male-perpetrated IPHs, Block (2003) found that jealousy was predominant in cases that had not been preceded by previous violence in the relationship. With regards to estrangement, numerous studies have demonstrated that between one third and one half of all women victimized of IPH were either separated or in the process of separating (Block, 2003; Dawson & Gartner, 1998; Dobash et al., 2007; Johnson & Hotton, 2003). In relative agreement, our findings in study IV illustrate clear indications of separation or jealousy as precursors in more than a quarter of the male-perpetrated IPHs. In line with the notion that men perpetrate as a reaction to estrangement while women commit the homicidal offenses in intact relationships, none of the female perpetrators in study IV seemed to commit the crime as reaction to estrangement.

## **6.3 INDIVIDUAL CHARACTERISTICS**

### **6.3.1 Socio-demographics**

The implications of socio-demographics on criminal offending can be seen in the light of stress, evolutionary properties or marginalization. It has been proposed that the key facets of social integration and marginalization are related to education, occupation, income, and unemployment (Aaltonen, Kivivuori, & Martikainen, 2011). With regards to crime, the crime risk increases in parallel to an increase in the dosage of these risk factors. It has further been reported that those most disadvantaged with regards to income and unemployment constitute the highest risk group for criminal offending. Kivinen, Hedman, and Kaipainen (2007), who identified education as an independent risk factor for crime, hypothesize that it might be related to the intergenerational transmission of low education, even in Nordic countries that have strong welfare systems.

Touching upon the debate on conventionality in perpetrators of partner-related violence (Dobash et al., 2004; Felson & Lane, 2010; Kivivuori & Lehti, 2011; Thomas et al., 2011; Weizmann-Henelius et al., 2012), the findings in study II are in agreement with the notion that male offenders who kill their female partners are more conventional compared to other homicide perpetrators. The synthesized findings from study II demonstrate that male perpetrators of IPH are significantly older, more likely to have stable accommodation and more likely to be employed at the time of the incident. It has been indicated that they seem to rather resemble the general population (Weizmann-Henelius et al., 2012). With regards to the general population, official statistics from SCB reveal that 6-9% of all men between 15-74 years in Sweden were unemployed between 2007 and 2009 (corresponding to the time frame of the Forensic Homicide Database). These figures are considerably lower than the figures found in IPH perpetrators: One third of the IPH perpetrators were unemployed or sick-listed when committing the offense. By comparing male offenders of non-lethal and lethal IPV, Dobash et al. (2007) found that the lethal group was significantly more likely to have skilled or white-collar occupations, and were less likely to be unemployed on a long-term basis. Given the data used in the thesis, we could not explore persistency in unemployment or sudden changes in socio-demographics, such as loss of a job or financial issues; instead the findings provide a snapshot of the characteristics at the time of the incident.

With regards to female perpetrators of IPH, findings from study I and IV suggest that the female perpetrators are not relatively conventional like their male counterparts. On the contrary, as illustrated in study IV, the vast majority of female IPH perpetrators are unemployed or on sick leave at the time of the incident, in line with previous research (Weizmann-Henelius et al., 2012). Moreover, study I elucidates a potential trend over time, in which a decreasing percentage of the female IPH perpetrators are employed at the time of the offense, while the reverse is observed in the male IPH perpetrators. The importance of economic disadvantage for female offending has been highlighted (Heimer, Wittrock, & Unal, 2005), and it has been shown that low socioeconomic status is a stronger predictive factor of crime for women than it is for men (Aaltonen et al., 2011; Nilsson & Estrada, 2009). Moreover, it has been hypothesized that the economic disadvantage in women may result in economic dependence on the male partner, and that the lack of resources is a barrier to leave destructive or abusive relationships (Anderson & Saunders, 2003; Kim & Gray, 2008).

With regards to ethnic background, official statistics from SCB show that 15% of all men (15 years and older) in Sweden between 2007 and 2009 had been born abroad. The corresponding figure for women is 16%. Meanwhile, study II elucidates that a substantial proportion of the IPH perpetrators (41%) and victims (26%) were born abroad. On the same note, it has been emphasized that ethnic minority women are especially affected by and exposed to IPV (Stockman, Hayashi, & Campbell, 2015). A survey on batterer programs in Sweden reveals that many of the participating programs identified reaching out to ethnic minorities as one of the major challenges. However, none of the participating agencies provided programs that were adapted to minority groups, because of lack of time and resources to develop the existent programs (Dufort & Caman, 2016; Vall, 2017). The findings from study II, and

previous research regarding IPV in ethnic minority groups, highlight the need for further inquiry. It is possible that risk markers can differ between different communities; therefore more research is needed on IPV and IPH across communities (Campbell, Webster, & Glass, 2009), such as immigrant and lesbian, gay, bisexual, and transgender (LGBT) communities. In the forefront of addressing this, Campbell and colleagues are currently further developing the Danger Assessment by adapting it for immigrant women, in a revised Danger Assessment for Immigrant Women (DA-I; Messing, Amanor-Boadu, Cavanaugh, Glass, & Campbell, 2013).

### **6.3.2 Criminal history**

Previous research from Canada (Dawson & Gartner, 1998), the U.S. (Moracco et al., 1998), the U.K. (Dobash et al., 2004) and Sweden (Grann & Wedin, 2002) has identified that a criminal record, irrespective of offense type, is correlated with IPH. Surprisingly, as demonstrated in study II, the homicide incident was the first conviction for approximately half of the male IPH perpetrators. On the other hand, by analyzing number of prior convictions it was revealed that other IPH perpetrators had been convicted repeatedly, possibly indicating heterogeneity within the group of IPH perpetrators.

On a similar note, Dobash et al. (2009) found that a quarter of the cases in the Murder in Britain Study were committed by men without criminogenic characteristics or problematic histories, and who did not fit in to the typical profile with regards to previous physical violence against the female partner. Although distinct across a number of domains during both childhood and adulthood, the two groups displayed similarities with regards to their approach to women; the prison staff considered that the majority of the men were “having problems with women” (Dobash et al., 2009, p. 214).

Interestingly, although IPH and non-IPH perpetrators differ on a number of variables, in which IPH perpetrators are less disadvantaged, findings based on the multiple logistic regression from study II elucidate that the groups did not differ with regards to prior convictions of *violent* offenses. We were not able to investigate who the victims of these violent offenses were within the scope of present thesis, however, as emphasized by DeJong, Pizarro, and McGarrell (2011), this should be investigated more closely in future studies. Nevertheless, after comparing men who killed intimate partners with men who killed other men, Dobash et al. (2004) reason that:

The picture of conventionality of the two groups begins to alter when considering the stability of intimate relationships and violence to previous women partners, as the IP group appears to experience more of these problems, and these men tend to “specialize” in violence against women, particularly intimate partners (Dobash et al., 2004, p. 600).

Similarly, it has been emphasized that in consideration of repeated and escalating violence towards the female partner, IPH constitutes the most preventable homicide type (Campbell et al., 2003; Websdale, Sheeran & Johnson, 2004). Based on the findings by Dobash and



colleagues' (2009), illustrating that the subgroup of male perpetrators without prior convictions had not experienced adversities in neither childhood nor adulthood, and had very limited contact with authorities prior to the offense, one can hypothesize that IPHs committed by these perpetrators may be more challenging to prevent. On the other hand, they conclude that half of these men had been violent towards the victim at least once prior to the incident, albeit the violence had remained unreported and undetected.

### **6.3.3 Mental health**

The examination of psychiatric characteristics and previous contact with mental health services, in offenders and victims respectively, can provide an insight to potential risk markers. More importantly, previous contact with agencies introduces opportunities for intervention, and maybe even prevention of IPH. Yet, research addressing the link between mental health and IPH is very limited (Campbell et al., 2007; Oram et al., 2013; Sharps et al., 2001).

Studies within the field of IPV have demonstrated that repeated victimization of IPV has a number of short- and long term detrimental consequences on health (Dufort, 2015; Heimer et al., 2014). From a medical point of view, it has been established that IPV victimization is associated with chronic pain, gastrointestinal problems, gynaecological disorders, and unwanted pregnancy (Campbell, 2002; Eberhard-Gran, Schei, & Eskild, 2007). With regards to mental health, they are considerably more likely to seek help for symptoms associated with depression and anxiety disorders (Bonomi et al., 2006; 2009). Furthermore, they have elevated risk of suffering from substance misuse and self-harm, and both female and male victims tend to display suicidal tendencies in (Dufort, Stenbacka, & Gumpert, 2015; Heimer et al., 2014). Regarding help-seeking behavior, a Danish study reports that women victimized of IPV are considerably more likely to seek help for psychiatric symptoms, compared to non-victimized women (Helweg-Larsen & Kruse, 2003). In light of these findings, illustrating substantial medical and mental difficulties, the importance of implementing inquiries about IPV victimization in healthcare settings has been stressed (Heimer et al., 2014; Sundborg, 2015). However, a Swedish survey indicates that one of the main reasons why nurses at primary health services do not ask about IPV victimization is because they feel they lack preparedness and sufficient knowledge regarding IPV (Sundborg, Saleh-Stattin, Wändell, & Törnkvist, 2012). In order to better detect IPV and intervene in an early stage, elements of IPV education should be incorporated in relevant education programs. Fortunately, the Government has just informed that they, within the scope of the National strategy to prevent and combat men's violence against women, plan to integrate mandatory elements of IPV education in programs for physicians, nurses, dentists, psychologists, and social workers (Government Offices of Sweden, 2017).

In terms of our investigation of prior contact with the mental health service, our findings from study III illustrate that approximately one quarter of the female IPH victims had sought care from the mental health services at some point in life prior to the incident, in which none of these contacts had occurred in the past month. Instead, a higher percentage of the IPH

perpetrators had been in contact with the mental health services prior to the offense, where a minority had sought help within the past month. Consistent with a study from Finland (Weizmann-Henelius et al., 2012), we found that one third of IPH perpetrators had been committed to psychiatric inpatient care. In terms of intervention opportunities to prevent IPH, our findings suggest that IPH perpetrators introduce more opportunities for intervention, since a higher percentage of perpetrators have had contact with the mental health services as compared to the victims.

With regards to mental health characteristics in female IPH victims, study III demonstrates that one of five IPH victims had been committed to psychiatric inpatient care, and that the predominant disorders were depression and substance use disorders. Moreover, the female victims of IPH were more likely (than non-IPH victims) to have been diagnosed with ‘reactions to severe stress and adjustment disorders’ prior to the offense, which hypothetically could be related to prior victimization of IPV.

Well aligned with the findings by Oram et al. (2013), our results regarding mental health characteristics in offenders indicate that one third had been diagnosed with a mental disorder (excluding substance use disorders) at some point prior to the incident, in which depression and anxiety disorders were prevailing. After incorporation of FPEs, our findings suggest that only a minority of IPH perpetrators suffered from mental illness (e.g. psychoses and bipolar disorders) prior or in connection to the offense. These results are in relative agreement with the findings by Oram et al. (2013), however in contrast to the Swedish study by Belfrage and Rying (2004), where they concluded that one third of these perpetrators were psychotic when committing the crime. A reasonable explanation for the discrepancy in figures between study III and the study by Belfrage and Rying (2004), is the operationalization of mental illness/psychotic disorder, in which Belfrage and Rying coded depression as a psychotic condition.

By comparing perpetrators across genders, study IV outlines a tendency in which females are more likely to have a history of being committed to psychiatric inpatient care and subsequently diagnosed with a substance use disorder. In contrast, Weizmann-Henelius et al. (2012) found that female perpetrators of IPH were less likely to suffer from mental disorders compared to their male counterparts.

#### **6.3.4 Intimate partner homicide-suicide**

Cross-sectional and prospective studies elucidate an association between suicidal behavior (attempted and completed suicides) and higher levels of lifetime aggression (Jokinen et al., 2010). As demonstrated in previous research (Liem, 2010; Manning, 2015; Sturup & Caman, 2015) and study II, homicide followed by the perpetrators’ suicide is mainly associated with IPH, in which involuntary loss of intimacy seems to play a central role. Numerous studies have supported the notion that H-S almost exclusively involves male perpetrators with female victims (Belfrage & Rying, 2004; Bossarte et al., 2006; Campbell et al., 2007). Accordingly, the present thesis demonstrates that while approximately one in five male perpetrators of

IPH commit suicide in connection to the offense (study II), IPH-S is extremely rare among female perpetrators of IPH (study I and IV). Block and Christakos (1995) pointed out that male partners are not more at risk of being victimized of homicide when their female partners have suicidal tendencies. On the other hand, scholars have emphasized the importance of recognizing suicide ideation as a potential risk marker in IPV batterers (Belfrage & Rying, 2004). Nevertheless, study I indicates a somewhat (n.s.) decreasing percentage of IPH-S over time.

In exploration of the social structure in H-S, Manning (2015) found that IPH-S cases more often involve premeditation, firearms and multiple victims. Accordingly, Dawson (2005) illuminates that premeditation is more likely in intimate femicide-suicide cases than in femicide-only cases, in which there were evidence for premeditation in more than half of the intimate femicide-suicides. An additional study where IPH and IPH-S perpetrators were compared reveals that IPH-S perpetrators are more likely characterized by being older, employed, middle-class and from the majority ethnic group (Liem & Oberwittler, 2012). Furthermore, it has been hypothesized that the risk of H-S increases in line with the strength of the perpetrator's ties to the victim and to the society (Gillespie, Hearn, & Silverman, 1998). Preliminary analyses (not presented in the thesis) based on comparisons between IPH perpetrators who do and do not commit suicide in connection to the offense indicate similar tendencies, possibly exposing subgroups of IPH perpetrators. The review on H-S by Liem (2010) further highlights that a prevailing characteristic in perpetrators of IPH-S is an intense dependency on the female partner victim.

#### **6.4 METHODOLOGICAL CONSIDERATIONS**

In terms of measuring violence, homicide is considered the most accurate indicator (UNODC, 2013), and the dark figures in European countries are small (Eisner, 2008). Nevertheless, they do exist. The existence of dark figures of homicide is partly related to the fact that some cases remain unknown to the authorities for two main reasons; cases where no body has been discovered and cases where a body has been discovered but no suspicion of crime has been raised. The first reason is hypothesized to mainly concern foreigners (as opposed to permanent citizens), however, as described by Ganpat et al. (2011, p. 36) "since authorities in western countries monitor citizens quite well, and most individuals are surrounded by persons who will notice their disappearance, it can be assumed that the number is quite small". With regards to the second reason, as autopsies are performed whenever the cause of death is considered unnatural, this should also be a minor issue. However, there has been a decline of conducted autopsies in connection to unnatural deaths in Sweden (Rammer, 2011).

An additional aspect of the dark figures is related to unsolved homicides. Previous research from the Swedish context discloses that the unsolved homicides in Sweden predominantly concern cases involving young males who are criminally active (Sturup, Karlberg, & Kristiansson, 2015). Regardless, the existence of unsolved homicides poses limitations for the present thesis, especially with regards to non-IPH rates over time (study I), as there are

indications of an increase of unsolved homicides in Sweden between 1990 and 2013 (Sturup & Granath, 2017). Although, studies on overall homicide, in which unsolved homicides have been accounted for, also establish declining homicide rates (Sturup & Granath, 2017; Wallin, 2017).

With regards to criminal history, and especially within the context of intimate relationships, it can be stressed that the use of registries as done in present thesis does not capture all committed previous offenses, but rather offenses that have been detected and convicted. In accordance, it has been emphasized that official data such as registries underrepresent the level of actual crime, and the risk of bias especially concerns less severe offenses (Aaltonen et al., 2011). However, an overall advantage of registry-based research is the ability to access data that is not biased by the subject's recall problems or social desirability. Another advantage is that the registry holds information on all convictions since 1973 and onward.

An additional limitation worth mentioning is the heterogeneity within non-IPH group; the use of more nuanced homicide types in study II and III had been preferred (e.g. domestic non-intimate, acquaintances, strangers), however that would require larger sample sizes for the statistical analyses. Furthermore, the non-IPH group involves female victims (non-intimates), and is therefore in accordance with some research, but differs from other studies that compare male-perpetrated IPHs to male-to-male homicides, which in turn impedes direct comparisons to the latter studies.

As touched upon in the methods section, the figures regarding offender intoxication are conservative, due to the routines and the element of time in the assessment of whether the offenders were under the influence of alcohol or other substances. It has been suggested in the realm of general homicide that the more reliable measures of victim intoxication can be used as a proxy for rates of intoxication in offenders, since rates in victims are hypothesized to mirror the rates in perpetrators. Accordingly, study II demonstrates somewhat higher percentage of intoxication in IPH victims (50%) than the IPH offenders (44%). However, the reversed is demonstrated in study I, and the hypothetical reason is that less emphasis is put on the forensic autopsy reports in the procedure of coding, as opposed to the Forensic Homicide Database.

On the other hand, the reference to 'intoxication' or 'under influence of substances' have not been rigorously operationalized in study I, II or IV. Some scholars have underscored the lack of clear definition of these terms within the field of lethal and non-lethal IPV, in which they argue that researchers need to distinguish between drinking and drunkenness (Dobash & Dobash, 2015; Dobash et al., 2004; Foran & O'Leary, 2008a).

An advantage of all studies in the thesis is the inclusion of H-S cases. Analyses in which H-S perpetrators are excluded are biased, especially in examination of partner homicides (Block & Christakos, 1995). A substantial proportion of these offenders commit suicide in connection to the offense, as shown in previous research (Bossarte et al., 2006; Campbell et al., 2007; Sturup & Caman, 2015) and current thesis. It has therefore been emphasized that a deficiency

within the field is the systematic exclusion of these cases (Dobash & Dobash, 2015; Kivisto, 2015). The implication of a representative sample is particularly significant when examining mental health characteristics, as the subgroups of special interest in this regard tend to be excluded from prominent datasets. For example, H-S cases tend to be omitted based on lack of prosecution or conviction (Dobash & Dobash, 2015; Kivisto, 2015). Similarly, perpetrators with an insanity verdict, diminished responsibility, or who are unfit-to-plead tend to be excluded (Kivisto, 2015; Oram et al., 2013).

In reference to mental health characteristics, it is a limitation that the data does not include information from the primary health care. Moreover, the NPR, which is used in study III and IV, simply includes information from contact with physicians, and thus underrepresent contact with other mental health professionals, and the associated diagnoses. Based on this, one can hypothesize that the use of NPR data introduces a bias where personality disorders are especially underrepresented.

## **6.5 FUTURE RESEARCH DIRECTIONS**

In order to improve risk prediction of the most severe form of violence between intimate partners (i.e. IPH), we need to continually examine the characteristics involved in IPHs. The synthesized findings in study I suggest a shift in the characteristics involved in the typical IPH involving a male offender and a female victim. These male perpetrators seem to become more conventional, seen in the light of employment, prior reports of IPV and alcohol intoxication at the time of the offense. As these characteristics can change over time, we need to revisit and update the existing risk assessments recurrently. Another step forward to further improve our ability to predict risk of homicidal outcome and prevent IPH, more research on differences between non-lethal and lethal violence within the context of intimate relationships is called for, in line with the prominent work by Campbell et al. (2003) and Dobash et al. (2007).

Furthermore, the disaggregation between IPHs and non-IPHs, and the recognition of heterogeneity among homicide offenders is one step towards nuancing our knowledge of homicide. I believe the next necessary step forward with regards to IPH is to address the heterogeneity within the group of IPH perpetrators. The typology concept with regards to IPV batterers has received great scientific attention (see e.g. Fowler & Westen, 2011; Holtzworth-Munroe et al., 2000; Holtzworth-Munroe & Stuart, 1994; Huss & Langhinrichsen-Rohling, 2006; Swogger, Walsh, & Kosson, 2007), in which for example typologies' possible implications for etiology, treatment and recidivism are being explored (Huss & Ralston, 2008). On the other hand, the disposition of potential distinct subgroups among IPH offenders is a conundrum that largely has been overlooked. IPH perpetrators have been treated as a homogenous group (see Dixon, Hamilton-Giachritsis, & Browne, 2008; Kivisto, 2015 for exceptions); yet, previous research and present thesis provide indications of heterogeneity within the group of IPH perpetrators. Furthermore, some of the inconsistencies (for example with regard to history of violence, criminal history and mental disorders) may partly be explained by the heterogeneity within the group of male IPH offenders. Therefore,

identification of subgroups of IPH perpetrators could deepen and nuance our understanding of men killing their partners, and in turn enhance our ability to identify, classify and manage risk (Kivisto, 2015).

As previously mentioned, research on the association between IPH rates and potentially relevant factors outside the U.S. is scarce (Dawson et al., 2009). This methodology is yet to be adopted within the European context, in which for example domesticity, female-to-male ratio of education, employment and income, and availability of domestic violence resources should be measured (see e.g. Dawson et al., 2009; Dugan et al., 2003; Dugan et al., 1999; Reckdenwald & Parker, 2012). It has further been highlighted that research addressing the link between availability of domestic violence resources and IPH rates is lacking (Dawson et al., 2009; Gillespie & Reckdenwald, 2017). Up to date, it has been disclosed that the link between domestic violence resources and IPH rates is complex (Dawson et al., 2009; Dugan et al., 2003). While increase in domestic violence resources sometimes is associated with a decrease of IPH rates, it is, in fact, sometimes also associated with increased IPH rates. Dugan et al. (2003) hypothesized that this is related to insufficient interventions of exposure reduction, leading to retaliatory responses. They emphasize that insufficient interventions can sometimes be more dangerous than no interventions at all. Consequently, some (high-risk) cases require exposure elimination rather than exposure reduction. As such, efficient coordination between agencies and interventions is crucial. In line with this argument, Buzawa and Buzawa (2013) highlight:

... there is a growing appreciation that a victim's risk may increase if one element of the system improves responsiveness, while others do not. For instance, a victim's risk of being seriously injured or killed may increase by seeking a protection order without subsequent enforcement by the police and courts (Buzawa & Buzawa, 2013, p. 134).

This aspect is relevant for a current issue in Sweden: Victim advocates have recently brought attention to the structural issues with housing shortage for abused women in urgent need of shelter, as well as lack of long-term accommodations for these women and children. This jeopardizes the safety of victimized women; in which some women eventually feel forced to return to the perpetrator, while other women are declined shelter altogether.

In terms of geographic setting, it has been underlined that the potential influence of rurality needs to be considered in analyses of IPH and IPH rates (Gillespie & Reckdenwald, 2017; Jennings & Piquero, 2008). Shannon, Logan, Cole, and Medley (2006) has highlighted that the domestic violence resources are predominantly provided in urban areas, while less available in the rural areas. Yet, findings from the U.S. indicate that some trends of the backlash effect are region specific (Whaley & Messner, 2002), and that rates of female victimization of IPH are significantly higher in rural and intermediate regions than in urban regions (Sinauer, Bowling, Morocco, Runyan, & Butts, 1999).

With regards to domestic violence resources for perpetrators, the survey on batterer programs in Sweden illustrates that a high proportion of their clients voluntarily seek help (Dufort & Caman, 2015). This implies that there is a demand for receiving counseling and treatment with violent behavior and aggressive tendencies. It can therefore be argued that it is a crucial responsibility towards (potential) victims and perpetrators on behalf of the society to provide efficient programs for managing aggressive tendencies, with the aim of preventing first time and recidivistic IPV perpetration. However, systematic reviews on effects of batterer programs show modest treatment effects (Feder, Wilson, & Austin, 2008; Smedslund, Dalsbø, Steiro, Winsvold, & Clench-Aas, 2007), and high recidivism rates (Stover, 2005). Although challenging, future research ought to further examine what programs have best treatment effects. In the realm of this topic, it has been stressed that the content of the provided treatments should be adapted based on perpetrator profile and typology, instead of applying a 'one size fits all' method (Novo, Fariña, Seijo, & Arce, 2012). Up to date, there is a lack of differentiation between different types of batterers in the domain of intervention strategies (Buzawa & Buzawa, 2013).

Lastly, mapping out offenders' and victims' prior contact with various agencies (e.g. the judicial system, the social services, mental and somatic health care) can illuminate missed intervention opportunities and structural gaps. Addressing these gaps can potentially reduce the rates of IPH in the future. This type of investigation is conducted within the scope of the national death reviews, which in Sweden are led by the National Board of Health and Welfare. One major issue related to these reviews is the lack of focus on the perpetrators of IPH, as the jurisdiction does not allow specific inquiry of the offenders. I argue, in line with rationale of Luckenbill (1977) for homicide research, that the sole focus on the victim is counterproductive. For example, scrutiny of offenders' characteristics and interactions with the health services (study III) shows that a substantial percentage had sought help by a mental health agency, in which a minority had done so the same month as the homicide incident. Hence, it is of critical importance to address an important piece of the puzzle in order to identify possible points of intervention: Offender characteristics and their interactions with various agencies. In fact, the incomplete insight to aspects related to the offenders, is highlighted in the latest report by the national death review committee in Sweden (National Board of Health and Welfare, 2016).

## 7 CONCLUSIONS

Taken together, the present thesis demonstrates that a high proportion of the homicides in Sweden are perpetrated by an intimate partner of the victim. Moreover, it is elucidated that IPHs display distinct rates over time and characteristics compared to non-IPHs. Also, examination of IPH perpetration across gender indicates essential differences in male versus female perpetrators. Thus, the synthesized findings of the present thesis illustrate the importance of considering intimate relationships and gender in order to advance and refine knowledge of homicide.

### ❖ Study I

Between 1990 and 2013, there has been a significant decline of IPH and non-IPH; however, IPH rates remained relatively stable until 2006. While male-perpetrated IPHs have decreased, no significant decline was found in the low rates of female-perpetrated IPHs. The findings indicate a shift in the characteristics in male-perpetrated IPH: Increasingly less likely to involve alcohol and be preceded by reported IPV.

### ❖ Study II

The findings indicate that IPH perpetrators constitute a distinct subtype of homicide offenders. This subtype has shown to be less socially disadvantaged, less likely to have a history of convictions, and more likely to commit suicide in connection to the offense. Although IPH perpetrators were less likely intoxicated at the time of the offense, alcohol involvement was a prevailing feature in perpetrators and victims, irrespective of homicide type.

### ❖ Study III

Nearly one in three perpetrators, irrespective of homicide type, had previously been diagnosed with a mental disorder. Yet, only a minority suffered, or had suffered, from mental illness (e.g. psychosis or bipolar disorder). A former diagnosis of substance use disorder was, however, predominant in non-IPH perpetrators. Overall, a higher proportion of perpetrators (than victims) had interacted with the mental health services, in which a subgroup of IPH perpetrators had had recent contact.

### ❖ Study IV

Women who commit IPH differ from their male counterparts, and are more likely to be unemployed, to previously have been committed to psychiatric inpatient care for a substance use disorder, and to have been victimized by the male victim.



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