Eriksson, L., Mazerolle, P., Wortley, R., & Johnson, H. (2018). Criminal Careers Among Female Perpetrators of Family and Non-family Homicide in Australia. *Journal of Interpersonal Violence* DOI: 10.1177/0886260518760007

Introduction

From Elizabeth Bathory to Myra Hindley, female homicide offenders have long captured the public imagination. However, high profile cases – typically involving female serial killers – occupy a small niche of study and a tiny percentage of female homicide offenders overall. From a scholarly perspective, knowledge and understanding of serious female offending is limited (DeLisi & Piquero, 2011), particularly relative to the body of literature that exists for male offenders. The developmental and life course pathways to female homicide offending remain poorly understood, which limits the ability to identify factors that may contribute to female offending. This, in turn, impedes identification and development of strategies to reduce female-perpetrated lethal violence.

While international statistics indicate that women perpetrate a small proportion of homicides overall (11-15%) (Bryant & Cussen, 2015; Cotter, 2014; Federal Bureau of Investigation, 2015; Liem et al., 2013), this does not negate the importance of empirically investigating female offenders. In contrast to the study of male offending (including homicide offending), which has often examined patterns and trajectories of past criminal activity among offenders, there remain notable shortfalls in knowledge about pathways of female offending in general (Piquero, Farrington, & Blumstein, 2007) and homicide offending in particular. There is thus a need to build the current evidence base around pathways to female homicide offending.

To understand lethal violence, we also need to pay attention to the relationship between offenders and their victims. In the case of female offenders, most scholarship has developed around females who kill intimate partners or other family members (e.g., Browne, 1987; Dawson, 2015) and data overwhelmingly show that women are more likely to commit homicide when the relational distance between themselves and their victim is closer – such as within intimate and family relationships (Dearden & Jones,

2008; Ganpat et al., 2011). Much less is known about homicide perpetration across other victim-offender relationships, and how the characteristics of these may differ from homicides committed within the family. In the main, studies that examine non-family homicide perpetrated by females tend to focus on sensational and atypical homicides (e.g., Arrigo & Griffin, 2004) or those involving male co-offenders (e.g., Gurian, 2013). This is despite a growing body of literature that finds value in disaggregating *male* homicide perpetration based on victim-offender relationship (Dobash & Dobash, 2015; Ioannou & Hammond, 2015; Miethe & Regoeczi, 2004).

This study contributes to a small but growing body of literature examining the criminal careers of serious female offenders. We compare the self-reported criminal careers of female homicide offenders in Australia who kill within and outside the family. We use data from the Australian Homicide Project, in which detailed interviews were conducted with 38 women serving community or custodial sentences for murder or manslaughter.

Literature Review

The Criminal Careers of Female Offenders

Developmental and life-course criminology scholars study the shape and patterns of individual criminal activity across the life-course (Blumstein, Cohen, & Farrington, 1988; DeLisi & Piquero, 2011; Loeber & Le Blanc, 1990; Piquero, Farrington, & Blumstein, 2003; Piquero et al., 2007). This perspective provides a framework for understanding and researching criminal behavior, with particular attention given to the various dimensions of criminal careers, including *participation* in various offending behavior, offending *frequency*, *age of onset*, offending *duration*, and criminal *variety* (Blumstein, Cohen, Roth, & Visher, 1986; Piquero et al., 2007).

Much of existing research has focused on whether, and how, the characteristics of *female* criminal careers differ from those of *males*. While some gender differences in criminal careers exist (e.g., Block, Blokland, van der Werff, van Os, & Nieuwbeerta, 2010; Fergusson & Horwood, 2002; Moffitt, 2001), evidence also suggests that female and male offending patterns may be more similar than previously thought (e.g., Broidy et al., 2015; Fergusson & Horwood, 2002; Ferrante, 2013; Fitzgerald, Mazerolle, Piquero, & Ansara, 2012). The 'Pareto principle' (also known as the '80-20 rule'; Sherman, 2007) is one such example: while it is commonly known that a small proportion of male offenders are responsible for a large number of crimes, research provides evidence of this distribution among female offenders as well (Moffitt, 2001; Piquero, 2000). Further, as argued by Fergusson and Horwood (2002, p. 175): "the general developmental sequence and etiological factors associated with female offending are similar to the development and etiology of male offending".

Consequently, there is a need to understand variations not only *between* genders, but also *within*. Yet much of the available research has focused on how female offending pathways differ from those of males and less about heterogeneity within female offenders. Of course, notable exceptions exist, including Daly's (1992) study of convicted women, which illustrates that there is no single offending trajectory but, instead, it appears women's pathways into offending are varied and multifaceted. Subsequent research reveals similar findings, supporting the conclusion that female offenders should not be considered a homogenous group (Reisig, Holtfreter, & Morash, 2006; Salisbury & Van Voorhis, 2009; Simpson, Yahner, & Dugan, 2008). For example, using data from the Women's Experiences with Violence study, Simpson et al. (2016) find support for distinct sub-groups of female offenders based on age of offending onset. Their data show that women in different onset age groups (childhood, adolescent, young

adult, and adult) display not only distinct risk factors preceding their offending careers, but their subsequent offending trajectories also appear distinct. These results exemplify the utility of examining the heterogeneity of female offending.

The Criminal Careers of Women Who Kill

Although scholarship around female offending pathways has grown substantially in the last few decades, relatively few studies have examined women's involvement in more serious crimes, including homicide. From a developmental and life-course criminology perspective, it would be expected that homicide offenders would display extensive criminal histories characterized by early offending onset, high frequency offending, and varied (as opposed to specialized) criminal activity. Such expectations of criminal career dimensions are consistent with existing theory (e.g., Moffitt, 1993; Patterson, DeBaryshe, & Ramsey, 1989). Yet, to date, these propositions remain largely unexplored, particularly for female homicide offenders.

Existing studies of the criminal careers of female homicide offenders have focused mainly on the presence or absence of a criminal history more broadly. This research shows that while female homicide offenders may be less likely to have a criminal history than male homicide offenders (e.g., Yourstone, Lindholm, & Kristiansson, 2008), a sizeable proportion have a history of offending and/or contact with the criminal justice system. In an early study, Goetting (1988) found that 65 per cent of women arrested for homicide in Detroit during 1982 and 1983 had been arrested at least once prior to the homicide, although data on specific types of offenses were not available. Oyebode, Wolstenholme, Crispin, and Graham (1993) found that 39 per cent of women convicted of murder in England between 1984 and 1989 had one or more previous convictions. A more recent study by Yourstone et al. (2008) examined official data (e.g., court verdicts and forensic psychiatric assessments) for women convicted of murder,

manslaughter, or causing death (in conjunction with a violent crime) between 1995 and 2001 in Sweden. Their results show that 35 per cent had an official criminal history, and 22 per cent had displayed 'aggressive behavior' in childhood.

Few studies provide details on the specific types of prior offenses committed by female homicide offenders, thought notable exceptions exist. Examining official records (including forensic psychiatric examinations and police reports) of women prosecuted for homicide in Finland between 1995 and 2004, Putkonen, Weizmann-Henelius, Lindberg, Rovamo, and Häkkänen-Nyholm (2011) found that 4 per cent had a record of drug offending and 26 per cent had a record of violent offending. Examining pre-sentence investigative reports for individuals charged with non-negligent homicide or manslaughter in the US between 1979 and 1984, Jurik and Winn (1990) found that 24 per cent of the women had prior property convictions and 38 per cent had non-property convictions. Studies of other dimensions of criminal careers (such as age of onset, frequency, and offending variety among female homicide offenders) remain largely unexplored, despite calls for research into the offending pathways of serious female offenders (DeLisi & Piquero, 2011).

Research also has yet to fully understand heterogeneity within female homicide. There is a long history within homicide research of classifying offenders into typologies based on their relationship with the victim (Miethe & Regoeczi, 2004; Wolfgang, 1957). Such an approach, however, has been employed mainly for male offending, with a large and growing body of research revealing differences across male homicide based on victim-offender relationship. Collectively, this research suggests that male intimate partner homicide and/or filicide offenders are more 'conventional' than their non-family homicide counterparts, particularly in relation to criminal history (Caman, Howner, Kristiansson, & Sturup, 2016a; Cavanagh, Emerson Dobash, & Dobash, 2005; Dobash &

Dobash, 2015). Our own research (identifying reference) indicates similar patterns across female homicide, with filicide offenders less likely to report a history of theft and/or violence perpetration compared with non-filicide offenders.

Study Focus

This study contributes to a small but growing body of literature examining the criminal careers of serious female offenders. We compare family and non-family female homicide offenders across four criminal career dimensions (prevalence, frequency, age of onset, duration, and offending variety). We recognize the importance of examining the various risk factors and life events that may explain patterns of criminal careers (e.g., Farrington, 2005; Moffitt, 1993; Thornberry & Krohn, 2005), including a range of vulnerability factors, such as violent victimization, mental health problem and substance use that are associated with female offending (Caman, Howner, Kristiansson, & Sturup, 2016b; Putkonen et al., 2011). We examine these issues elsewhere (identifying reference) and focus instead here on teasing out the empirical aspects of criminal careers.

Empirical research in this area is scarce. Our study addresses the call from scholars to increase understanding of the potential heterogeneity in offending pathways of serious female offenders (Cauffman, Monahan, & Thomas, 2015). More specifically, there are calls for more research into the possibility of sub-groups of female homicide offenders (Putkonen et al., 2011), and identify non-family female homicide as a particular research priority (Häkkänen-Nyholm et al., 2009).

In this study we use interview data collected from convicted female homicide offenders. Most research on homicide is limited to examining contact with the criminal justice system through official records. Although informative, official data underrepresent the full extent of offending behavior (Farrington & Ttofi, 2014), which suggests the potential utility of self-report measures. As highlighted by DeLisi and Piquero (2011),

serious female offending is rarely observed in longitudinal (especially community-based) studies. This study adds important new information from data collected retrospectively with females convicted of murder or manslaughter serving custodial or community sentences in Australia.

Method

Data Source and Sample Refinement

We use data from the Australian Homicide Project to compare women who have killed family members with women who have killed outside the family. The Australian Homicide Project examines causes of homicide and aims to improve understanding of pathways to homicide within the context of interventions by criminal justice, health, and social welfare agencies. The dataset consists of comprehensive interviews conducted by trained interviewers between 2009 and 2013 with 302 male and female homicide offenders convicted of murder or manslaughter (identifying reference). Participants were recruited through correctional agencies across Australia through an opt-in process. Correctional staff distributed information letters to eligible offenders that outlined that the study was a university-based research project on homicide and that participation was voluntary and subject to approved ethical procedures.

We conducted the interviews at custodial correctional facilities (91.1%) and community corrections centers (8.9%) across Australia. The interviews were conducted face-to-face and lasted approximately two hours. Prior to commencement, participants were informed of the study's purpose and procedure. To indicate their agreement to partake in the study, offenders read and signed a consent form. The interviews were structured, with the interviewer reading questions to the respondent and recording their responses onto an interview schedule.

The full dataset includes 262 male and 40 female offenders. Two women were excluded from the current analyses due to missing data on aspects of their criminal histories, resulting in a total sample size of 38. Respondents were asked to report which ethnic background they mostly identified with (open-ended question). Of the women, 32 (76%) reported "Australian" Australian background and the remaining 6 (16%) came from other backgrounds (including "Asian", "European", "Indian", and "Pacific Islander"). Though not directly comparable, these characteristics appear relatively similar to the general Australian population where, in the most recent Census, 67% reported Australia as their country of birth (Australian Bureau of Statistics, 2016). Of the women in the sample, 3 (8%) reported Aboriginal and Torres Strait Islander background. This stands in contrast to Census data where Aboriginal and Torres Strait Islander peoples represent 3% of the total Australian population (Australian Bureau of Statistics, 2016). Of all female homicide offenders in Australia, 15% are of Aboriginal or Torres Strait Islander background (Cussen & Bryant, 2015).

Sixteen participants reported that they had completed high school or above at the time of the homicide. At the time of the interview participants were on average 40.4 years of age (SD = 10.9), ranging between 20 and 65, and at the time of the incident they had been on average 31.5 years of age (SD = 11.4), ranging between 16 and 59. This is similar to the mean age reported in national homicide statistics, where the mean age of female homicide offenders is 34.6 (Bryant & Cussen, 2015). In terms of legal outcomes, 29 (76%) of the women were convicted of murder, 8 (21%) were convicted of manslaughter, and 1 (3%) was convicted of serious grievous bodily harm (the victim

died).[1] This is similar to national statistics, where 82% of homicides are listed as murder, 14% as manslaughter or related offences, and 3% are not stated/unknown.[2]

Variables

Family vs. non-family homicide.

Respondents were asked about their relationship with the victim. Women who had killed a family member (including current or former intimate partners, children, and other family members; n=18) were compared with women who had killed other people (acquaintances or strangers; n=20). The majority of respondents (n = 36) killed one victim only. Two respondents (both in the family group) killed two victims apiece, all of whom were family members of the respondent.

Overall prevalence of criminal history and criminal sanctions.

We asked respondents about lifetime criminal offense history. This included involvement in specific types of criminal activity (such as theft and violence), as well as information about lifetime contact with the criminal justice system (including cautions, juvenile arrest, juvenile detention, and community orders). Respondents were also asked about criminal sanctions in the 12 months preceding the homicide, including arrest, incarceration, community orders, and restraining orders. Finally, they were asked whether they had "any trouble with the law" in the 12 months prior; this was a general question that did not specify any particular behaviors/sanctions, but served as a method of

[1] We chose to combine murder and manslaughter cases for two reasons: (1) we were interested in illegal killings as opposed to legal outcomes, and (2) we wanted to enable comparisons across countries (as legal criteria for murder and manslaughter differ across jurisdictions and are often grouped together for research purposes).

[2] An important difference between the national homicide statistics and our data is the adjudication status. The national data include all homicides within a particular year irrespective of whether the case is considered solved or whether an offender is charged or convicted. Our data only include cases where the offender has been convicted.

accounting for any encounters with the criminal justice system that had not been detected via other questions.

Prevalence and frequency across various offending types.

We asked respondents to indicate whether, and how frequently, they had engaged in 16 different offending behaviors across their lifetime: theft of item(s) worth <A$50; theft of item(s) worth >A$50); illegal use of motor vehicle; vehicle theft; possession of stolen goods; credit card fraud; graffiti; property damage; arson; gang fights; assault (incl. threat); serious assault (serious injury intent); drug trafficking (selling any drug); drug trafficking (selling hard drugs); strong-armed robbery; and aggravated robbery (with a weapon). We operationalized frequency into three categories: never; low ('occasionally'); and high ('often' or 'very often').

Age of onset and duration of offending across various offending categories.

To measure age of offending onset, we asked how old respondents were the first time they engaged in each of the offending behaviors listed above. Mean duration of participation (in years) of respondents' criminal history was calculated by subtracting the age of onset from the age at which they last committed the offense prior to the homicide.

Offending variety.

Offending variety was measured by counting the number of offense types the respondents had engaged in. The 16 types of offending behaviors (full list in Table 2) were aggregated into six broader offense categories (violence, theft, fraud, robbery, illicit drugs, and property damage). For each of the six offense categories, a score of '1' was assigned to respondents who reported any history of involvement in that type of criminal behavior. As offending variety can be calculated only for respondents who have a history of offending behavior, only those women who reported participating in one or more of

the 16 types of offending behavior were included when creating the 6 broader offense categories. The number of offense categories was counted and summed to form a variety score with a range from 1 (a history of offending in only one category) to 6 (a history of offending in all categories). For example, a respondent who had *only* engaged in theft-related offenses would receive an overall variety score of 1.

Analytical Approach

For categorical variables, chi-square analyses were used. In instances where the variable under consideration had more than two categories (for example, self-reported offending frequency), column proportions within each category were compared using z-tests with a Bonferroni correction applied. The level of statistical significance was set at alpha = 0.05. Given the modest sample sizes under consideration, continuous variables were analyzed using non-parametric Mann-Whitney U-tests. Note that for the purposes of descriptive data, however, means and standard deviations are provided for interpretive simplicity. For continuous variables where any group had less than two cases, formal statistical analyses were not applied.

Results

Overall Prevalence of Criminal History and Criminal Sanctions

As shown in Table 1, the majority of respondents in each group reported some history of criminal offending across their lifetime. While almost all respondents (90%) in the non-family group had a past criminal history, compared to three quarters (67%) of the family group, no significant differences emerged on this variable. In contrast, the non-family group had a significantly greater degree of lifetime contact with the criminal justice system relative to the family group (65% versus 28%). In the 12 months prior to the homicide around one-third (30%) of the non-family group had some form of criminal/legal sanction against them compared with very few (6%) of the family group.

Collectively, these results suggest that even though many respondents in both groups reported a history of offending, the non-family group, over their lifetime as well as in the 12 months before the homicide incident, were somewhat more likely to have been detected participating in some form of law-breaking activity.

[Table 1 about here]

Prevalence and Frequency of Various Offending Types

Results in Table 2 indicate that, in terms of prevalence of specific offending types (understood to mean any reported participation in offending), a selection of respondents in both the family and non-family groups reported offending across a range of different offense types. The non-family group had significantly greater participation in offending than the family group for: theft of something worth more than A$50 (60% versus 17%), possession of stolen goods (47% versus 11%), property damage (40% versus 6%), arson (25% versus 0%), selling drugs (55% versus 0%), and selling hard drugs (35% versus 0%). For property damage and arson, the differences observed between groups were due to the non-family group having significantly greater participation 'occasionally' than the family group, while for possession of stolen goods, the non-family group had higher levels of participation both 'occasionally' and 'often/very often' than the family group. For theft of property worth more than A$50, the non-family group was significantly more likely to participate at high frequency (often/very often) than the family group (although it should be noted that there were suggestive, but not statistically significant, differences in 'occasional' participation frequency). It is noteworthy that, although no significant differences emerged between groups in prevalence or frequency of participation in assault (including threats), over half of respondents in each group (63% in the non-family group and 55% in the family group) indicated that they had engaged in that behavior. In terms of any history of attacking someone (serious injury intent), both groups contained

participants who had engaged in that behavior (35% in the non-family group and 11% in the family group) with no statistically significant differences. Collectively, these results suggest that although many different types of offending were present among both the family and non-family groups, the non-family group were more likely to engage in certain types of offenses, and at higher frequency of participation, than the family group.

[Table 2 about here]

Age of Offending Onset and Offending Duration

As seen in Table 2, the non-family group reported earlier onset of offending than the family group, although these results were not statistically significant. The family group reported significantly shorter offending duration for theft of something worth less than $50, theft of something worth more than $50, and possession of stolen goods.

Offending Variety

Out of the total sample, 12 from the family group and 18 from the non-family group had at least one type of past self-reported criminal offense (see Table 3). These results suggest differences between the groups in terms of offending variety. The number of offense categories reported by females who killed family members ranged between 1-3, while females in the non-family group offended across 1-5 categories. No cases offended across all six categories. The mean variety scores further confirm these observed differences between family and non-family offenders. The mean variety score was statistically different across the two groups, with non-family homicide offenders engaging in a higher mean variety of offense categories compared with the family group (3.1 versus 1.7 offence categories on average).

[Table 3 about here]

Discussion

Knowledge and understanding of women's pathways to serious offending, including homicide is limited (Cauffman et al., 2015; DeLisi & Piquero, 2011; Putkonen et al., 2011). Our study contributes to a small but growing body of literature examining the criminal careers of serious female offenders by using interview data with females convicted of murder or manslaughter in Australia to examine offending prevalence, offending frequency, age of offending onset, offending duration, and offending variety. In particular, given that research on male homicide offenders indicate the utility of examining differences across victim-offender relationships (e.g., Dobash & Dobash, 2015), in this study we compared criminal career dimensions across women who had killed a family member (e.g., intimate partner, children) and those whose victims were not part of the family unit (i.e., acquaintances or strangers).

Our findings reveal differences between female homicide offenders who kill within and outside of the family unit. Although both groups had comparable overall lifetime prevalence of self-reported participation in criminal offending, findings indicate that participation among the family group was typically at low levels of frequency, of limited duration, and with relatively little variety in categories of offending. The family group also reported lower contact with the criminal justice system compared with the non-family group, and were less likely to have experienced some form of criminal/legal sanction in the 12 months prior to the homicide incident. This suggests that women who kill family members are more 'conventional' than their non-family counterparts, in terms of having low and time-limited (i.e., short duration) lifetime participation in criminal offending. This finding is in line with research on male homicide, which shows that men who kill family members have more 'conventional' life histories, compared with men who kill outside of the family (Caman et al., 2016a; Cavanagh et al., 2005; Dobash &

Dobash, 2015; Thomas, Dichter, & Matejkowski, 2011). For example, research in which male offenders of partner-related homicides have been compared to male offenders of other homicides reveal that men who kill intimate partners have less persistent criminal histories (Caman et al., 2016a; Dobash, Dobash, Cavanagh, & Lewis, 2004; identifying reference), and less versatile criminal histories with regards to non-violent crimes (Felson & Lane, 2010). In terms of factors beyond criminal careers, male offenders of partner-related homicides display less adversity related to family background (Dobash et al., 2004; Weizmann-Henelius et al., 2012), education (Kivivuori & Lehti, 2012; Thomas et al., 2011), employment (Caman et al., 2016a; Weizmann-Henelius et al., 2012), and alcohol abuse (Dobash et al., 2004) (Dobash et al., 2004).

Within the non-family group, the results of this study suggest a certain amount of 'homogeneity', in that the majority of these women reported past involvement in criminal behavior and contact with the criminal justice system. The non-family group reported significantly higher prevalence rates compared with the family group across a number of offending types, including theft, possession of stolen goods, property damage, arson, and drug trafficking. Their involvement in these offenses, in particular possession of stolen goods and drug trafficking, may be indicative of exposure to networks of criminal activity. In many aspects, their patterns of offending might even resemble those of male homicide offenders. Analyzing gender differences among Finnish homicide offenders, Putkonen et al. (2011) identified a sub-group of female homicide offenders with early onset and persistent criminal careers. These women had commonly displayed anti-social tendencies early in life, been in trouble in school, attended special education programmes, received mental health treatment before the age of 18, and been convicted for offenses prior to the homicide. The authors suggest that this specific sub-group may, in fact, be more similar to male homicide offenders than other female homicide offenders in terms

of their criminal careers. Similar conclusions have been drawn based on analyses of risk profiles of institutionalized boys and girls (Gammelgård, Weizmann-Henelius, Koivisto, Eronen, & Kaltiala-Heino, 2012). These results lend some weight to recent research suggesting that men's and women's offending patterns may be more similar than previously thought (Broidy et al., 2015; Fergusson & Horwood, 2002; Ferrante, 2013; Fitzgerald et al., 2012).

At the same time, it is important to also examine the contexts in which female offending occurs. For example, the presence of male co-offenders appears to broaden the variety of offenses women commit. As illustrated by Becker and McCorkel (2011), women are more likely to engage in gender atypical offenses such as robbery, drug trafficking and homicide when they co-offend with men as opposed to when they co-offend with other women or offend on their own. Women may also display distinctly different pathways to offending behavior compared to men. Research has identified that women's and girls' pathways into crime are embedded in the consequences of experiences of childhood victimization (Chesney-Lind, 1997), economic and social marginalization (Reisig et al., 2006), and abusive intimate relationships (Daly, 1992). Given these findings, it is important to examine not only whether or not women engage in crime, but also whether certain pathways to offending are distinctly gendered (e.g., victimization) and the characteristics of the situations in which female offending occur (e.g., co-offending and associated motivations).

It is important to note that while our data revealed overall differences *between* the two groups, differences were also observed *within* the groups. This was particularly apparent for the non-family offenders. While women in that group were more likely to display offending participation at higher levels of frequency, for longer duration, and with greater variety, than women who killed family members, a sub-group of women

among the non-family homicide offenders also reported little or no past criminal history, hence resembling, to a degree, the family group in terms of having a more 'conventional' background. These findings suggest that female homicide offending is much more complex and multifaceted than a simple dichotomization based on victim-offender relationship might reveal.

What also needs further study is why, for a large proportion of women in the family group, and a much smaller proportion of women in the non-family group, the homicide was their first violent offense. Given the severity of lethal violence, from a developmental and life-course criminology perspective, one would expect homicide offenders to display a relatively clear trajectory of aggressive behavior that begins early in life and an offending trajectory characterized by high frequency and variety (e.g., Moffitt, 1993; Patterson et al., 1989). Some data show that there is no such thing as true adult-onset, and that individuals who 'begin' offending in adulthood in fact have committed previous offenses that have simply gone undetected by the criminal justice system (McGee & Farrington, 2010). Given that our data for this study is self-reported, we bypass the measurement issue of the potential lack of overlap between official contact with the criminal justice system and self-reported behavior. For those women in our sample who did not report a history of violence prior to the homicide, alternative explanations need to be explored for their adult-onset of violence. Such explanations may include state-dependant theories of crime, including strain-based (e.g., Broidy & Agnew, 1997; Eriksson & Mazerolle, 2013) and social control theories (e.g., Sampson & Laub, 1993), although these propositions will need to be empirically examined.

Implications for Policy and Practice

Researchers have argued extensively for the need for gender-sensitive interventions and risk assessment tools (de Vogel & de Vries Robbé, 2013). With the

caveat of a relatively small sample, the current study provides a more complex picture, suggesting great variation in the criminal careers of women who commit serious crime, ranging from no criminal participation whatsoever, through to criminal careers that resemble many male offenders in terms of age of onset, frequency of participation, duration, and variety of participation. This heterogeneity is not captured in dichotomization approaches that focus on differences *across* gender. The results in this study suggest that we also need to acknowledge that there are differences *within* gender. Thus, our results speak in favor of a more nuanced approach to prevention and intervention policies targeting serious female offending.

From a prevention perspective, the current results underscore the importance of accounting for heterogeneity among female offenders and support calls for intervention strategies to be tailored differentially across the offender population. It is apparent from these findings that there are different subsets of female homicide offenders who display varying criminal trajectories in terms of frequency and type of offending (see also Fitzgerald et al., 2012). Regarding the family group, while the short-lived and low-level criminal offending observed among some members of this group may provide insights into teenage behaviors that may indicate background risk factors and/or predict future negative outcomes, that information alone is unlikely to prove helpful for homicide prevention strategies. Rather, it is reasonable to suggest that for this group of women, the occurrence of past criminal participation may simply provide a 'flag' for the presence of other factors – such as past violent victimization or family dysfunction – that may, from a developmental perspective, elevate the risk of those women using violence as a response to their adult circumstances (or, indeed, finding themselves in circumstances where violence occurs, more generally).

Regarding the non-family group of female homicide offenders, the results of this study suggest that for some women in that group, their offending was associated with a lengthy history of criminal participation. It appears that involvement with drug-related activity, and its potential correlates such as theft and possession of stolen goods, may be particularly salient risk factors for these women's homicide offending. This suggests that, rather than seeking specific homicide prevention measures, broader intervention programs and strategies around more general risk factors for women's violent or other offending – such as programs to address pathways into illicit drug use and/or other drug-related activities, and improved treatments and supports for women in these circumstances – may also offer promise in reducing female homicide offending. Again, this emphasizes that homicide offending among females is likely to be connected with a wide range of negative life circumstances. From this perspective, while past criminal participation is unlikely to reliably predict the rare event of female homicide offending, it may provide a useful means of identifying women who are at risk of a wide range of negative outcomes up to and including the use of extreme violence.

Hence, deeper and more nuanced understanding of the criminal careers and pathways to severe violent offending may increase the ability to identify possible intervention opportunities. Our findings imply that in order to advance in this aspect, we need to abandon the notion of homogeneity in female homicide offenders, especially with regard to women who offend outside of the family unit, though further research is required to build an extensive knowledge base. On the same note, in a review of the literature on developmental trajectories of antisocial behavior in females, Fontaine, Carbonneau, Vitaro, Barker, and Tremblay (2009) highlight that women are more heterogeneous than men in their progression of antisocial behaviors. Advancing knowledge on female offending, in which heterogeneity is acknowledged, can in turn be

beneficial for efforts to prevent initiation of criminal careers and to aid desistance (Andersson, Levander, Svensson, & Levander, 2012).

Finally, as noted above, it is important to acknowledge that a proportion of women in the study (both family and non-family homicide offenders) had no criminal history. This serves as a reminder about the limits of research into criminal careers, and indicates that intervention and prevention strategies must encompass a diverse array of different sectors and services, rather than just the policing and justice sphere.

Limitations and Future Directions

Our study addresses the call from scholars to advance knowledge about female homicide offenders (Häkkänen-Nyholm et al., 2009; Putkonen et al., 2011). The project is one of few in the world using face-to-face interviews with women convicted of murder or manslaughter. Nonetheless, some limitations should be acknowledged. Importantly, given the scarcity of research into how female offending careers begin, continue and end (DeLisi & Piquero, 2011; Piquero et al., 2007), in this paper we focused exclusively on the various empirical dimensions of criminal careers. We acknowledge, however, that women's pathways into crime are often embedded in the consequences of experiences of childhood victimization, extreme economic and social marginalization, mental health problems, substance use, and abusive intimate relationships (Caman et al., 2016b; Chesney-Lind, 1997; Daly, 1992; Putkonen et al., 2011; Reisig et al., 2006), and work is currently underway examining these role of these factors for female homicide offenders (identifying reference) by embedding theoretical perspectives of women's developmental and life-course offending patterns. To illustrate, in the context of homicide, a great deal of research suggests that women who kill intimate partners do so to end the violence directed against them (Browne, 1987; Eriksson & Mazerolle, 2013).

The need to examine a broad range of factors is particularly relevant given that a number of offenders in the current study – mainly in the group of women who killed family members but also a number in the non-family group – reported little or no past criminal history. The importance of considering a broad range of factors goes to another limitation of the study – that, given the small sample size, multivariate analyses could not be used to control for factors such as age, education and Indigenous status, for instance. Given these variables are often associated with criminal offending, in future research it would be desirable to take such influences into account.

Another important challenge to consider in research that relies of retrospective accounts is memory recall. To ameliorate this concern, the AHP used a life event calendar approach (identifying reference). Research shows that life event calendars increase the extent and accuracy of memory recall compared with traditional questionnaires (Belli, Shay, & Stafford, 2001). The method involves collaboration between the interviewer and respondent to complete a graphical timeline of life events, with visual and mental cues to aid memory recall (Roberts & Horney, 2010). These types of cues are especially useful in interviews with respondents who have experienced unstable lives or have cognitive deficiencies (Sutton, 2010).

Overall, this study is unavoidably limited by the very rare nature of homicide committed by women. While findings provide suggestive insights into certain risk factors that may be associated with offending, this does not necessarily mean that past criminal participation is predictive of homicide offending; indeed, this work shows clearly that some offenders have no criminal history. To better address the predictive utility of past criminal participation by women, it would be desirable to conduct longitudinal research into serious female offending (Loeber & Le Blanc, 1990; Piquero et al., 2003). Regrettably, such research is scarce (DeLisi & Piquero, 2011). As the current study is

based on cross-sectional data collected retrospectively, we are unable to establish causality. Nevertheless, the use of self-report data in current study provides an important contribution to criminal career research and allow for analyses across victim-offender relationships. This type of data is valuable, yet rare, within the homicide literature.

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Table 1. Lifetime and 12-month prevalence of criminal history and criminal sanctions among family (n=18) and non-family (n=20) offenders

		Family n (%)	Non-family n (%)	χ^2	*p.*
Lifetime prevalence					
Any criminal offense history	Yes	12 (67)	18 (90)	3.10	.08
	No	6 (33)	2 (10)		
Contact with criminal justice system	Yes	5 (28)	13 (65)	5.27	**.02**
	No	13 (72)	7 (35)		
Prevalence 12 months prior					
Criminal/legal sanction	Yes	1 (6)	6 (30)	3.77	.05
	No	17 (94)	14 (70)		
Trouble with the law	Yes	1 (6)	4 (20)	1.73	.19
	No	17 (94)	16 (80)		

Note. Valid percent. Percentages may not total 100 due to rounding.

Table 2. Lifetime offending prevalence, frequency, age of onset, and duration among family (n=18) and non-family (n=20) female homicide offenders

	Prevalence (lifetime) and frequency					Age of onset				Duration			
		Family n (%)	Non-family n (%)	χ^2	*p.*	Family M (SD)	Non-family M (SD)	U	*p.*	Family M (SD)	Non-family M (SD)	U	*p.*
Theft (<A$50)	Never	12 (67)	8 (40)	4.99	.08	11.7 (3.4)	11.7 (5.1)	26.50	.70	0.2 (0.4)	5.9 (7.8)	7.50	**.01**
	Low	6 (33)	8 (40)										
	High	0 (0.0)	4 (20)										
Theft (>A$50)	Never	15 (83)[a]	8 (40)[b]	8.32	**.02**	20.7 (6.8)	13.3 (4.5)	6.00	.10	0.3 (0.6)	8.0 (9.5)	3.00	**.03**
	Low	3 (17)[a]	8 (40)[a]										
	High	0 (0)[a]	4 (20)[b]										
Illegal use of motor vehicle	Never	18 (100)[a]	16 (80)[b]	4.02	.13	-	11.0 (2.7)	-	-	-	3.3 (4.9)	-	-
	Low	0 (0)[a]	2 (10)[a]										
	High	0 (0)[a]	2 (10)[a]										
Vehicle theft	Never	17 (94)	16 (80)	2.27	.32	35.0 (n/a)	13.0 (4.6)	-	-	0.0 (n/a)	4.8 (5.5)	-	-
	Low	1 (6)	2 (10)										
	High	0 (0)	2 (10)										
Possession of stolen goods	Never	16 (89)[a]	10 (53)[b]	6.65	**.04**	24.5 (2.1)	15.0 (8.3)	2.00	.12	0.0 (0.0)	10.8 (8.3)	0.00	**.04**
	Low	2 (11)[a]	5 (26)[b]										
	High	0 (0)[a]	4 (21)[b]										
Credit card fraud	Never	18 (100)[a]	16 (80)[b]	4.02	.13	-	22.3 (9.0)	-	-	-	6.0 (7.2)	-	-
	Low	0 (0)[a]	2 (10)[a]										
	High	0 (0)[a]	2 (10)[a]										
Graffiti	Never	17 (94)	14 (70)	3.77	.05	15.0 (n/a)	13.0 (2.1)	-	-	0.0 (n/a)	0.8 (0.8)	-	-
	Low	1 (6)	6 (30)										
	High	0 (0)	0 (0)										
Property damage	Never	17 (94)[a]	12 (60)[b]	6.22	**.01**	16.0	14.8	-	-	0.0	0.3	-	-

	Low	1 (6)[a]	8 (40)[b]			(n/a)	(2.1)			(n/a)	(0.5)		
	High	0 (0)	0 (0)										
Arson	Never	18 (100)[a]	15 (75)[b]	5.18	**.02**	-	15.2	-	-	-	0.0	-	-
	Low	0 (0)[a]	5 (25)[b]				(2.6)				(0.0)		
	High	0 (0)[a]	0 (0)[a]										
Gang fights	Never	17 (94)	17 (85)	1.23	.54	11.0	15.7	-	-	3.0	3.7	-	-
	Low	1 (6)	2 (10)			(n/a)	(4.7)			(n/a)	(3.5)		
	High	0 (0)	1 (5)										
Assault (incl. threat)	Never	8 (44)	7 (37)	0.71	.70	16.9	15.3	43.00	.43	4.8	5.8	47.50	.65
	Low	8 (44)	8 (42)			(6.9)	(6.3)			(5.8)	(5.6)		
	High	2 (11)	4 (21)										
Serious assault (serious injury intent)	Never	16 (89)	13 (65)	3.50	.17	18.5	15.8	3.00	.32	2.5	6.7	4.00	.64
	Low	2 (11)	5 (25)			(2.1)	(8.6)			(0.7)	(5.4)		
	High	0 (0)	2 (10)										
Drug trafficking (any drug)	Never	18 (100)[a]	9 (45)[b]	13.93	**<.01**	-	14.7	-	-	-	11.0	-	-
	Low	0 (0)[a]	5 (25)[b]				(5.9)				(9.7)		
	High	0 (0)[a]	6 (30)[b]										
Drug trafficking (hard drugs)	Never	18 (0)[a]	13 (65)[b]	7.72	**.02**	-	17.2	-	-	-	11.5	-	-
	Low	0 (0)[a]	1 (5)[a]				(8.9)				(7.3)		
	High	0 (0)[a]	6 (30)[b]										
Strong-armed robbery	Never	18 (100)	17 (90)	2.00	.16	-	21.0	-	-	-	9.5	-	-
	Low	0 (0)	0 (0)				(9.9)				(6.4)		
	High	0 (0)	2 (11)										
Aggravated robbery (weapon)	Never	18 (100)	17 (85)	2.93	.23	-	17.7	-	-	-	7.3	-	-
	Low	0 (0)	1 (5)				(9.1)				(5.9)		
	High	0 (0)	2 (10)										

Note. Valid percent. Percentages may not total 100 due to rounding. Superscript letters indicate a subset of family vs. non-family groups whose column proportions differ significantly from one another at the p<.05 level. For variables where no superscript letters are shown, no significant differences were found between categories/groups.

Table 3. Distribution of offending across number of offense categories and variety score, for offenders reporting involvement in more than one type of offense (family n=12; non-family n=18)

Number of offending categories	Family n (%)	Non-family n (%)	U	*p*.
1	6	2		
2	4	5		
3	2	4		
4	0	4		
5	0	3		
6	0	0		
Mean variety score (SD)	1.7 (0.8)	3.1 (1.3)	42.00	**<0.01**