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A Typology of Familicide Perpetrators in Australia

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Abstract

The murder of a nuclear family by one of its adult members is one of the most difficult crimes to understand. Existing familicide research has relied upon descriptive case studies which lack generalisability. This study uses Shye's (1985b) action systems framework combined with multivariate data analysis to test the hypothesis that different forms of familicide will reflect the four states an action system can take, namely: Integrative, Expressive, Conservative and Adaptive. A multidimensional scaling analysis (MDS) was performed on 54 crime scene variables describing 104 cases of intrafamilial homicide. The analysis revealed four distinct modes of functioning which provided tentative support for Shye's (1985b) action system framework in that although cronbach's alphas were low for the Integrative and Conservative modes of action, empirical support was found in terms of regional differentiation in the MDS of items that conceptually reflected these themes. Further, each of the four modes had distinct associations with perpetrator characteristics. The Expressive and Integrative modes were associated with Cluster B personality traits, and criminal and substance use histories. The Adaptive mode was associated with trauma histories, mood disorders, and Cluster B and C personality traits. The Conservative theme was associated with trauma histories and psychotic disorders. This paper provides an analysis of the implications of findings for risk assessment and intervention.

Key words: Familicide, action systems, multidimensional scaling, family law, homicide

Introduction

Familicide events are often described as inexplicable and “coming out of the blue” (Dobash, Dobash & Cavanagh, 2009). Developing a deeper understanding of the factors leading up to these events might thus permit the identification of unique risk markers. For example, in families where domestic violence exists, a woman’s level of fear, and perception of danger, is often said to be the most accurate determinant of the level of risk (Gondolf, 2001; Roehl, O’Sullivan, Webster & Campbell, 2005). However, the risk of harm to children in the context of a history of violence against their mother can be overlooked (Kirkwood, 2012), with the mothers of murdered children often failing to perceive the risks their children faced (e.g., Davey, 2014; Garner, 2014). Many other cases of familicide lack a history of domestic violence (e.g., *R v. Cheatham*, 2002; Benny-Morrison, 2016).

The term “intra-familial homicide” covers a wide range of circumstances united only by the fact that one member of a family kills another, or others. This paper considers a specific group of intra-familial homicides – namely, those in which a parent deliberately kills, or attempts to kill their children, and may also kill themselves and/or their partner. Though an under-researched phenomenon when compared to suicide, filicide, and intimate partner homicide, “family annihilation” is widely used in the literature to refer to these events (Dietz, 1986; Milroy, 1995; Brookman, 2005; Hodson, 2008; Scott & Fleming, 2014; Yardley, Wilson & Lynes, 2014). Dietz (1986) considered family annihilation to be a subcategory of mass murder in which the perpetrator was typically “the senior man of the house, who is depressed, paranoid, intoxicated or a combination of these” and who “kills each member of the family who is present, sometimes including pets” (1986, p. 482). Dietz noted that such events are frequently followed by the perpetrator’s suicide, or by behaviour designed to provoke a lethal response from police. Similar themes are evident in Fox and Levin’s (2005) account of the phenomenon. They observed that perpetrators’ coping abilities were eroded by

“repeated frustrations” and failures which resulted in “even modest disappointments (seeming) catastrophic” (Fox & Levin, 2005, p. 177).

Drawing on data contained in Canadian and British police files, Wilson, Daly and Daniele (1995) identified 109 cases of familicide, defined by the authors as “multiple-victim homicide incident in which the killer's spouse or ex-spouse and one or more children are slain” (p. 275). Of the 249 victims of these events, only 12 (5%) were killed by women. The authors proposed a dichotomous typology comprised of “hostile accusatory” and “despondent” perpetrators. The former shared histories of violent offending, made overt threats, and were motivated by their partner’s infidelity or intention to leave the relationship. In these cases, concerns regarding non-paternity were salient, and the children were killed because they were seen as “allies or as appendages of his antagonist, their mother” (Wilson et al., 1995, p. 289). Despondent types, on the other hand, were profoundly depressed and prone to rumination, much like Dietz’s theorised family annihilators. They viewed the murder of family members as “acts of mercy or rescue” from impending disaster, with female perpetrators, though rare, being most like the despondent type (Wilson et al., 1995, p. 288).

The hostile accusatory versus despondent dichotomy is found elsewhere. For example, considering 211 global cases of familicide from 1755 to the present day, Websdale (2010) proposed a continuum of emotional styles ranging from “livid coercive” (hostile accusatory) perpetrators at one end, through to “civil reputable” (despondent) perpetrators at the other. Similarly, examination of 238 cases of familicide undertaken by Liem and Reichelmann (2014) also identified the “despondent husbands” and “spousal revenge” categories of perpetrator. In their study of British male family annihilators from 1980 to 2012, Yardley, Wilson and Lynes (2014) identified 59 cases through a search of media databases and proposed a taxonomy comprising four types of “family annihilator”: self-righteous, disappointed, anomic and paranoid. Self-righteous perpetrators viewed the

breakdown of the family unit as intolerable, and sought to punish the instigators. In this sense, self-righteous killers were equivalent to hostile accusatory (Wilson et al., 1995) and livid coercive (Websdale, 2010) killers. Anomic perpetrators, analogous to despondent (Wilson et al., 1995) and civil reputable (Websdale, 2010) perpetrators, were those in which economic failure (e.g., bankruptcy, unemployment) brought intolerable shame. An additional two types were also identified. These were: disappointed (in which the perpetrator has lost control of the family and kills to regain control) and paranoid (in which the perpetrator perceives an external threat to the well-being of their children and the status of their families).

These classifications have often been derived from qualitative, rather than quantitative, analyses of cases. Nevertheless a number of common themes emerge as well as challenges in terms of attempting to classify cases based on apparent motive. For example in approximately half of the Australian cases analysed by Kirkwood, 2012 ‘no apparent motive’ could be determined, and in 35% of cases the motive was classified as ‘domestic argument’. As highlighted by Kirkwood (2012) an argument is a preceding event rather than a reason for the filicide. Therefore the current paper attempts to empirically test existing theories and themes in the apparent motives and preceding events that are associated with filicide, with the aim of providing information that could be useful in the context of risk assessment. The investigative psychology literature (e.g., Canter and Youngs, 2009) proposes that complex phenomenon such as intrafamilial homicide can be understood not only by examining the salient fundamental components of an offence (i.e., crime scene behaviours) but the patterns of co-occurrence with respect to these crime scene behaviours across multiple cases (Trojan & Salfati, 2008). The patterns which emerge are believed to represent underlying psychological or theoretical constructs or themes, which are in turn reflected in certain perpetrators’ characteristics or types (Canter, 2000). In summary, it is believed that studying

the simplest components of particular crimes will reveal, in aggregate, different subtypes of perpetrators.

Researchers often achieve this by using multivariate statistical techniques including multidimensional scaling analysis (MDS). Fritzon and Garbutt (2001) used a variant of MDS, smallest space analysis (SSA) to explore the interaction between victim and offender in intra-familial homicide. Using 52 crime scene variables across 191 cases, the researchers found that intra-familial homicide events could be differentiated on the basis of the role of the victim, and the function of the aggression. An alternative but related way to conceptualise the data is through the Faceted Action Systems framework (Canter, 2011; Hollows & Fritzon, 2012, Canter & Fritzon, 1998). Deriving from general systems theory (Shye, 1985b) and originally applied to firesetting behaviour (Canter & Fritzon, 1998), this framework views criminal behaviour as an interaction between internal and external sources and targets for behaviour (Fritzon, Canter & Wilton, 2001). Different combinations of these two aspects of behaviour yield four basic action modes: Adaptive, Expressive, Integrative and Conservative. In the adaptive mode of functioning the source and target of the behaviour are both external to the individual; crimes may be unplanned and occur because the perpetrator sees an opportunity to manipulate an aspect of their environment. In the conservative mode the source of the behaviour is external; the perpetrator is “triggered” by an event and the criminal action is aimed at changing his/ her internal state. Expressive behaviours involve the communication of an internal state with targets being selected that provide the best opportunity for this expression of emotion. Finally, the integrative mode of action involves a set of behaviours that have both an internal source and internal target. Although the behaviour may be externally observable, the essential purpose is for the perpetrator to achieve homeostasis (Canter & Fritzon, 1998; Canter, Fritzon & Wilton, 2001) This model presents a unified framework for understanding differences in crime-scene actions but also corresponds

to similar distinctions made in the victim role model (e.g. Fritzon and Garbutt, 2001). For illustration of the similarities between the victim role model and action systems framework, please see Table 1 below.

PLEASE INSERT TABLE 1 HERE

The purpose of the current study was to examine Australian cases of intra-familial homicide from 1950 to the present day and test whether the action systems framework could account for variations in the actions of perpetrators. The aim of the research was to develop a greater theoretical understanding of these events, as well as to create an empirically derived classification in order to assist with risk assessment and potentially preventative intervention. It was hypothesised that four clear modes of perpetrator functioning will emerge from the data which correspond to the four modes of functioning proposed in the action systems framework. In the *adaptive* mode of functioning, the perpetrator would seek to manipulate the environment with the expectation of instrumental gain. Crimes committed within this mode of action would include cases in which perpetrators murder their families, but spare themselves, because they wish to pursue other goals, such as romantic relationships. In the *expressive* mode, it is expected that the actor will project internal psychological distress upon the external world, selecting targets for their emotional or symbolic significance. Within the current cases this may be demonstrated by perpetrators who kill their children and perhaps themselves in order to exact revenge on the partner who has deserted them. The *integrative* mode occurs when actors' behaviour is both internally driven and internally directed and aimed at changing emotional states. Perpetrators who engage in unrestrained displays of rage, killing their partner, children and themselves, are predicted to exemplify this mode of functioning. Finally, the *conservative* mode of functioning occurs when an external event triggers internal distress in the actor, who then acts to resolve it. Examples within the current

case files are expected to include perpetrators who, facing bankruptcy or other problems, see no other way out but to kill the entire family.

A second aim of the current study is to examine to what extent the four action modes are associated with distinct perpetrator characteristics. It is expected for example that those who commit offences within the integrative mode would be expected to have psychological vulnerabilities that might make them more likely to experience heightened emotional states, such as Borderline or Cluster B personality disorders. In contrast, perpetrators within the adaptive mode, who objectify their loved ones, may have personality traits associated with either decreased or blunted emotional identification, or conversely may have experienced trauma leading to heightened activation of emotional reactions under stress. Since very little literature exists on the links between perpetrator characteristics and types of familicides, these research questions are exploratory.

Method

Data

This study identified male and female intrafamilial homicide perpetrators in Australia from 1950 to the present day by exploring media databases including Press Display, Trove, and Factiva using different combinations of search terms such as “family”, “murder”, “familicide”, “children”, and “killed”. Further details on identified cases were then sought from both official (e.g., coroners courts) and unofficial (e.g., media) sources. For 60 cases, the materials in this study primarily consisted of coroner’s findings, court transcripts, legal judgements, sentencing remarks, and/or police files. In 81 cases, the information contained in official records was either sparse (e.g., due to minimal recording of details) or unavailable (e.g., because matters were still before the court or coroner). In these instances, details of the cases were sourced from media reports and victim accounts such as published

autobiographies. Newspaper archives have been used extensively for research in this area (e.g., Walklate & Petrie, 2013).

This study used multiple different sources per case to maximise the amount of data available, while preserving its integrity through triangulation. Descriptive analyses were performed for the total sample, with a smaller sample selected for more detailed analysis. The smaller sample consisted of cases where information could be triangulated from several sources.

The larger sample consisted of 141 individuals who attempted or completed acts of familicide in Australia from 1950 to the present day. Men made up 71.6% of these cases ($n = 101$) while women comprised 28.4% ($n = 39$). In one case, the gender of the perpetrator was unknown. Male perpetrators ranged in age from 22 to 79 years ($M = 38.35$, $SD = 9.98$) while female perpetrators ranged in age from 22 to 51 years ($M = 34.67$, $SD = 8.18$).

Procedure

Literature from the investigative psychology field (e.g., Salfati, 2000; Salfati, 2003) was used to derive an initial set of crime scene and perpetrator variables. Given the focus on domestic homicide, the Spousal Assault Risk Assessment (SARA; Kropp, Hart, Webster & Eaves, 1995) and the Domestic Abuse, Stalking and Harassment and Honour Based Violence Risk Identification and Assessment and Management Model (DASH; Richards, 2009) were also used to create the initial coding dictionary, which was further added to during the coding of cases as new variables of interest emerged.

Crime scene variables of note included a history of domestic violence and/or child abuse (e.g., Johnson, 2006; Adams, 2007; Juodis et al., 2014; Flynn, Gask, Appleby & Shaw, 2016) and signaling or leaking intentions (Juodis et al., 2014) for example through making suicide, death or other threats (e.g., Sachman & Johnson, 2014; Knoll & Hatters-Friedman, 2015); through disclosing fantasies foreshadowing eventual crimes (e.g., Garner, 2014);

through “rehearsing” their actions (Johnson, 2005); or escalating stalking behaviours (Norris, 2016). Perpetrator characteristics included mental health diagnoses, criminal history information and gender, in other words limited to information that would be easily identifiable in order to examine whether certain forms of familicide would be committed by perpetrators with particular characteristics.

Variables were coded dichotomously, i.e. presence or absence, as this has been previously reported to increase reliability of data (e.g., Farrington & Loeber, 2000; Canter & Heritage, 1990).

After conducting the content analysis, extrafamilial perpetrators were found to be legally responsible in two of 141 cases. Limited information was available on a further 35 cases and thus they were excluded from further analysis. This left a sample of 104 cases 54 crime scene and 11 perpetrator variables to be used in the main analysis.

Results

Interrater reliability

A sample of 14 reports (10%) were coded by an independent rater to examine interrater reliability for all variables. The results indicated a large range of the Cohen’s Kappa statistic (-.13 to 1.00). This indicated that while perfect agreement existed for some items ($\kappa = 1.00$; 8 items), others demonstrated no agreement between raters ($\kappa \leq 0$; 6 items). Review of the variables for which little to no agreement existed indicated that a greater degree of subjectivity was required for accurate coding. Discussion with the independent rater regarding problematic variables resulted in a review of the definitions of many of the crime scene and perpetrator variables, for the purposes of future replication of this research. The revised final definitions are provided in Appendix A.

Descriptive analysis

In the total intrafamilial homicide sample across 141 events there were 416 lives lost, and the number of fatalities per event ranged from 0 to 10 ($M = 2.95$, $SD = 1.77$). While 97.2% of perpetrators targeted their children ($n = 137$), slightly less than half of perpetrators ($n = 69$) attacked their partners. More than 10% of intrafamilial homicides ($n = 17$) involved extended family members, such as siblings, in-laws, and grandchildren. In a small number of cases, unborn children ($n = 7$) and acquaintances ($n = 6$) were also among the victims. As per Dietz's (1986) description, four perpetrators killed the family pets, though animal deaths are not counted in the victim totals. Perpetrators attempted or completed suicide in 79% of cases ($n = 112$).

More than half (53%, $n = 75$) of all perpetrators had diagnosed or inferred mental health difficulties. Found in more than a third of all perpetrators (36.17%, $n = 39$), was major depressive disorder. Of the personality disorders, cluster B (antisocial, borderline, histrionic and narcissistic) was most common, found in at least 7.8% of perpetrators ($n = 11$). Almost one fifth of all perpetrators had a known substance abuse history ($n = 24$) and/or a known trauma history ($n = 23$) while 13.48% of perpetrators ($n = 23$) had a known criminal history.

Actual, imminent or threatened marital separation was a factor in about half ($n = 71$) of all familicide cases, while around one-quarter ($n = 37$) occurred against a backdrop of contested custody proceedings. A domestic violence history was identified in 36.88% ($n = 52$) of households in which familicide later occurred and, in almost 10% of cases ($n = 13$), perpetrators had already breached protection orders prior to committing familicide. In 15.6% of cases ($n = 22$) perpetrators killed their children during access visits.

Frequency analysis revealed that 12.5% of perpetrators ($n = 13$) in the smaller sample taunted their victims ahead of the murders. Around one-third leaked their intentions to third parties (33.7%, $n = 35$) and a further third (34.6%, $n = 36$) made suicide threats. Nearly one-

quarter of perpetrators (23.1%, $n = 24$) made death threats. While not a common behaviour in this sample, 6.7% ($n = 7$) of perpetrators rehearsed their actions ahead of time.

Crime scene behaviours

The data was analysed using MDS using the PROXSCAL module from SPSS for Windows (version 22) to determine if the 54 dichotomous variables would correlate to reveal different themes, or types, of familicide perpetrator. The Lance and Williams coefficient of similarity measure was employed to account for the possibility that some variables may have been marked absent, when in fact they were present but unrecorded. This is considered the most appropriate measure of association to use when using archival data which were not originally collected for the purposes of research (e.g., Lance & Williams, 1966; Lance & Williams, 1967; Hakkanen, Lindlof & Santtila, 2004; Davis, 2009).

MDS provides a visual representation of associations between variables, whereby the distance between variables on the plot represents the strength of their statistical relationship. This method has been used in numerous studies investigating themes in offence behaviours, and is preferred because the analysis focuses on the relationships among variables, rather than the relationship with dimensions or factors (Davis, 2009). Although the current paper tested hypotheses relating to the action systems model, the advantage of using MDS is that no assumptions are made regarding underlying linear or orthogonal factors (Davis, 2009; Canter, Bennell, Alison, & Reddy, 2003). Variables that are plotted closer together have a stronger correlation than variables that appear further apart. The analysis also produces a stress measure to indicate how well the plot has represented all of the correlations in the correlation matrix.

For the MDS presented in Figure 1 below, Tucker's coefficient of congruence was .953 across 65 iterations, which indicates a high level of similarity between the output plot and the association matrix from which it is derived (Lorenzo-Seva & ten Berge, 2006).

Figure 1 is a geometric plot from the MDS analysis that shows the proximity of 54 crime scene variables for the 104 cases of familicide on the 1 by 2 projection of the three-dimensional smallest space analysis plot. Crime scene behaviours that are proximally close, such as “stalking” and “death threats”, indicate that these variables are likely to co-occur in the same case. Conversely, crime scene behaviours that are plotted further apart, such as “acquaintance” versus “unborn” child victim, are less likely to occur in the same case.

PLEASE INSERT FIGURE 1 HERE

Visual examination of the plot revealed that high frequency behaviours such as “home” (offence committed in the victim’s home) and “suicide” (perpetrator commits suicide) clustered towards the centre of the plot. By comparison, the edges of the plot are populated by lower frequency variables such as “jump” and “gassed”, which are useful in terms of differentiating themes or types. Variables located at opposite sides of the plot are very unlikely to have occurred at the same crime scene in this sample of intrafamilial homicide offenders (Salfati & Haratsis, 2001).

It can also be seen that while there were many areas of overlap, crime scene behaviours could readily be differentiated in terms of internally and externally motivating sources. Many behaviours occurring on the vertical right hand side of the plot (e.g., staging of the crime scene, perpetrator notified police, moving and hiding the body) suggest aggression undertaken in the service of another goal (external source of behaviour). Crime scene behaviours located on the vertical left hand side of the plot (e.g., sex assault, gloat, taunt) reflected more reactive, dramatic and emotionally expressive behaviours undertaken by an emotionally dysregulated perpetrator losing control (internal source).

Crime scene behaviours could also be differentiated in terms of the role of the target (internal or external, i.e. person or object). Overall, the horizontal top half of the plot was suggestive of the victim as person, in that perpetrators who perceived their victims as

significant individuals tended to use “hands-off” methods of killing. This allowed them to distance themselves from the violence committed against loved ones, whether physically (e.g., by shooting) or emotionally (e.g., leaving victims to drown). This is consistent with Carruthers (2016) hypothesis that these murder-suicide perpetrators tended to see their children as an extension of themselves. The horizontal bottom half of the plot, on the other hand, reflects more effortful and hands-on methods of killing (e.g., bludgeoning, suffocating, strangling) which would be difficult to pursue to their fatal conclusion unless the victims had assumed the role of inanimate object. Certain pre- and post-mortem actions (e.g., “progress”, representing an offence that was planned, and conducted in deliberate stages over a period of time) were also highly suggestive of the victim as object theme. For example, one perpetrator kept a detailed diary and video-recording of his daughter’s agonising final hours; another scrawled vengeful messages on his dead children’s faces. Such actions reflect perpetrators who had long since ceased to view their children as people in their own right. According to Carruthers (2016) such perpetrators “are not killing a person at all ... rather they are destroying something of great emotional significance to the target” (p. 34).

Action modes

Based on consideration of both the function of the aggression, and the victim role, linear divisions were added to the plot to reflect these thematic differences. Consistent with Shye’s (1985b) proposed framework, the following four distinct action modes emerged.

Expressive. The Expressive theme is represented at the bottom left side of the plot in Figure 1, and included the variables taunt, gloat, secluded, custody, access and gassed. These variables reflect that the source of the actions were internal and that the victim as a person was less important than the expressive or communicative aspect of the behaviours. The 16 items in the expressive region of the plot formed a scale with good inter-item reliability, producing a Cronbach’s alpha (α) of .81

Adaptive. Items on the bottom right side of the plot in Figure 1 represent the Adaptive theme. The variables included affairs, suffocated, unborn, hidden and moved, and reflect that the killings took place in the service of an external goal and demonstrate a detached relationship with the victims, who were often manipulated after death to deflect attention from the perpetrator. 14 items in this region of the plot produced an acceptable Cronbach's alpha (α) of .70.

Integrative. Items on the top left of the Figure 1 plot represent the Integrative theme and included behaviours such as extend, decompensate, jealous and suicide. This theme contained variables indicating a more personal and emotional connection between the perpetrator and the victim, and was also the most likely theme to include the suicide of the perpetrator which exemplifies the internal source and target of the actions associated with the integrative mode of action. The Cronbach's alpha (α) was low for this theme (.44) but despite this poor statistical inter-item consistency is still considered conceptually valid.

Conservative. Items on the top right of the plot in Figure 1 represent the Conservative theme, and include drown, accident, fire and jump as well as illdisorder, support and finance. The low Cronbach's alpha ($\alpha = .31$) is likely due to the presence of several mutually exclusive variables, being the various modes of killing. This explanation, i.e., the dependence on external triggers and possibilities for actions, has also been provided by others (e.g. Miller and Fritzon, 2006) to account for a low Cronbach's alpha for the Conservative mode of action.

Relationship between crime scene actions and perpetrator variables

Bivariate correlations were conducted to test whether these four action modes would be associated with particular perpetrator characteristics and motives, using Spearman's rho correlation coefficients. Table 2 displays the intercorrelations between action modes and perpetrator characteristics.

PLEASE INSERT TABLE 2 HERE

Expressive. Perpetrator characteristics significantly associated with the Expressive theme in a positive direction were: possessing a criminal history, $r(104) = .41, p < .01$, 95% confidence interval (CI) [.25, .56], a substance use history, $r(104) = .35, p < .01$, 95% CI [.18, .51], and Cluster B personality traits, $r(104) = .27, p < .01$, 95% CI [.08, .45].

Adaptive. The Adaptive theme shared a significant positive association with perpetrators who had a trauma history, $r(104) = .22, p < 0.05$, 95% CI [.04, .40], or who had depression, $r(104) = .24, p < 0.05$, CI [.06, .43]. Personality disorders were also significantly and positively associated with the Adaptive theme, namely Cluster B traits, $r(104) = .21, p < .05$, 95% CI [.05, .37] and Cluster C traits, $r(104) = .25, p < .05$, 95% CI [.06, .43].

Integrative. The Integrative theme shared significant positive relationships with perpetrators who had criminal histories, $r(104) = .22, p < .05$, 95% CI [.03, .40] and substance abuse histories, $r(104) = .20, p < .05$, 95% CI [.02, .38]. Cluster B personality traits, $r(104) = .24, p < 0.05$, 95% CI [.06, .40] also correlated significantly with this theme.

Conservative. The Conservative theme was significantly and positively associated with perpetrators possessing trauma histories, $r(104) = .27, p < .01$, 95% CI [.10, .45] and showing evidence of psychosis, $r(104) = .19, p < .05$, 95% CI [.03, .40].

Discussion

Consistent with Shye's (1985b) action systems framework, four dominant action modes emerged for familicide perpetrators, namely: Expressive, Adaptive, Integrative and Conservative. The Expressive and Adaptive modes found statistical support in this study through strong internal consistency. Although the Integrative and Conservative action modes did not, they are still believed to represent conceptually useful categories consistent with theoretical literature.

Expressive

The Expressive theme was statistically supported. Expressive offenders were highly antisocial, in that their actions typically violated existing protection orders, at a time when they were already facing criminal charges and under the influence of drugs and/or alcohol. They typically committed their crimes against a backdrop of previous physical and sexual violence perpetrated against the partner and/or children. Access visits were used to kill the children. As a group, Expressive offenders frequently signalled their intentions through the making of suicide threats, leakage and taunts; they engaged in post-offence gloating and left notes and legacies. The variables “secluded” and “gassed” seemed incongruous, appearing some distance from other Expressive variables in the plot. However, a review of these cases indicated thematic consistency, in that perpetrators gained pleasure from taking the children to a location where their partner would be unable to find or to stop them. As predicted, the Expressive theme was associated with criminal and substance use histories, as well as Cluster B personality traits. The overriding goal of the Expressive offender could be described as “revenge”.

Adaptive

The Adaptive theme was also supported by the data. Adaptive offenders engaged in a range of actions which revealed clear instrumental motives and implied a consciousness of guilt. They tended to move, hide or abandon victims’ bodies and weapons, undertaking a series of planned actions over time. They staged crime scenes and were frequently the first to notify police or emergency services after “discovering” the deaths of family members. Their killing methods (strangling, suffocating, bludgeoning) were hands-on and they engaged in overkill in an effort to guarantee victims’ deaths. Their activities were associated with unwanted pregnancies (in their partners) and extramarital affairs (their own) with motives related to wanting to abandon their current family. The prevalence of Cluster B traits was expected, given their association with criminality. Cluster C personality traits have previously

been found in homicide offenders with minimal criminal histories and, as is also relevant to this study, co-morbid depression (e.g., Laajasalo, Yliperä & Häkkänen-Nyholm, 2013). The finding that the Adaptive theme was significantly associated with trauma was unexpected, and the reasons for this will therefore need to be explored in future research. The main goal of Adaptive offenders could best be described as “escape”.

Integrative

Though the individual variables comprising the Integrative theme showed poor statistical reliability, a review of cases suggests there is still sufficient evidence for consideration of this as a distinct theme within the cases. Integrative offenders were like Expressive offenders, in that both themes demonstrated expressive forms of violence. Both themes were also significantly associated with substance use, criminal histories, and Cluster B personality traits. Differentiating Integrative from Expressive offenders was their loss of emotional control and a more explosive lashing-out in response to provocation. Many Integrative offenders showed signs of poor coping and deteriorating psychological functioning in the days leading up to murders, which reflected the more internalised form of this homicide as distinct from the Expressive. Triggers such as jealousy and loss of status may be met first with stalking and death threats, before rapidly escalating to highly lethal methods of killing such as shooting and stabbing. Frequently, individuals outside the family (e.g., acquaintances, extended family members) would be caught up in the violence. The goal of Integrative offenders may best be described as “catharsis”.

Conservative

The Conservative theme, too, showed weak inter-item consistency. This may be due to these offenders’ idiosyncratic offence patterns, in which they undertake only a few (rather than the majority) of the theme’s defining actions. This finding is consistent with previous studies which have found unique case by case variations in Conservatives’ external triggers

and the internal reactions evoked by these (e.g., Miller & Fritzon, 2007). These perpetrators were characterised by intact marital relationships, and the presence of a trigger such as financial concerns, or a child's health problems. Because Conservative offenders still retained emotional connections to their victims and had not arrived at the state of dehumanisation found in other subtypes, they tended to use hands-off methods of killing, such as fires, car accidents and drownings, for which they may not posthumously be held responsible. For example, a car crashing into a tree, or a house burning down, might be viewed, post mortem, as accidents, rather than culpable acts of homicide. The use of multiple killing methods in this group appeared to be related both to poorly-conceived or badly-executed initial plans, plus a desire to ensure the demise of the family. Some administered poison (e.g., prescription medicine) to their victims to subdue them, decreasing resistance and increasing the likelihood other methods (e.g., drowning) would be successful. The hypothesis that psychotic depression would be over-represented in this group was not supported; this theme nevertheless showed a significant association with psychotic thinking. Future research will need to explore the role of trauma, also identified as associated with this theme. The goal of this perpetrator is "oblivion".

Implications

There is increasing awareness of the impact of domestic violence, and its myriad forms. For example, behaviours described 30 years ago as "quite a nuisance" (Castle & Briggs, 1986) are rightly now recognised as stalking. While this is encouraging, existing risk assessment instruments (e.g., SARA; Kropp et al., 1995; DASH; Richards, 2009) focussing on factors such as child contact conflicts and domestic violence history consider the risks posed by only a portion of offenders, namely Expressive and Integrative types. Further, the risks children face from a violent parent are often under-estimated. Given that 15.6% of perpetrators in the larger 141-case sample committed their crimes during access visits, and

that many parents had not perceived the risk of harm to children, the current presumption of shared parental access must be called into question (Shea Hart & Bagshaw, 2008; Kruk, 2012). Domestic violence also affects men and women differently. While violent men pose undeniable risks to women's safety, what may be less clearly recognised is that domestic violence victims are at risk of harm not just from violent men, but from themselves. In several of the cases included in the current study, women who were victims of domestic violence harmed themselves and their children in an attempt to escape a situation perceived as hopeless.

Changing community attitudes with respect to mental illness are encouraging, with individuals less likely to be stigmatised as “demented”, “beserk”, “unhinged”, or “suffering from a nervous complaint”. However, the role of mental illness as a precursor to these crimes remains poorly understood. Greater community mental health awareness must be matched with education so those who suspect or witness an individual's deteriorating mental health know how to intervene. The emergence of psychotic symptoms may be particularly relevant to Adaptive and Conservative offenders, for whom risk markers remain unclear. Some have highlighted the importance of third parties (e.g., doctors, psychologists, court assessors) thoroughly evaluating the extent of psychotic thought processes, and violent thoughts, fantasies and behaviours (Burgess et al., 2015) as well as the homicide potential in depressed patients (Rosenbaum, 1990). Given the large numbers of perpetrators who signal their intentions ahead of their fatal actions, it is also important for third parties to take seriously warning signs such as suicide and death threats, taunts, and other forms of leakage.

Limitations and future directions

Among this study's limitations were the relatively small size of the sample. This may have affected the interpretability and generalisability of the results. Better data collection, reporting, and sharing is imperative if the phenomenon of family annihilation is to be better

understood. Specifically, no centralised Australian reporting database existed prior to 1990, leading to the authors reliance on media reports for many cases. While this limitation has been noted in other studies, it meant this collection of cases is neither unbiased nor exhaustive. Further, it was not possible to obtain comprehensive information on all identified cases. Earlier cases were the subject of minimal media reporting. Coronial findings were similarly brief. Though contemporary cases were easier to identify, the gathering of detailed information remained constrained by bureaucratic barriers associated with obtaining coronial records and the prohibitive cost of court transcripts.

The lack of a comparison group in this study precluded the emergence of predictors of fatal violence (e.g., Flynn et al., 2013). This may be a valuable area of future research. For example, the inclusion in studies of people with particular psychiatric diagnoses (e.g., depression) who do not kill their families

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Appendix A: Crime scene variable labels and definitions

1. Unborn child victims (variable name = unborn; n=6, 5.8%)

An unborn child or children of the perpetrator or partner victim were among the intended victims. (A foetus also counts as a victim when counting victim totals.)

2. Extended family victims (variable name = extend; n=14, 13.5%)

The intended victims were family members/relatives outside the immediate nuclear family, such as aunts, uncles, cousins, grandparents.

3. Acquaintance victims (variable name = acquaint; n=5, 4.8%)

The intended victims were known to the perpetrator, but included non-family members, such as neighbours, friends or colleagues.

4. Perpetrator suicide (variable name = suicide; n=79, 76%)

The perpetrator commits, or attempts to commit suicide, during or after the killing event. Alternatively, the perpetrator's actions indicate a desire for "suicide by cop".

5. Children have illnesses or disorders (variable name = IllDisorder; n=9, 8.7%)

Crimes occur against a backdrop in which children in the family have been diagnosed with serious physical or developmental disorders or delays (e.g., leukaemia, autism).

6. Domestic violence history in the family (variable name = domestic; n=48, 46.7%)

There is a documented or presumed domestic violence history between the individuals involved in the familicide event. Coding of historic cases may require interpretation.

7. Child abuse history (variable name = chabuse; n=24, 23.1%)

Children in the family have been subjected to physical, sexual or emotional abuse (including witnessing domestic violence events) or there is child protection involvement.

8. Violation of court orders (variable name = orders; n=12, 11.5%)

The perpetrator has a history of violating community supervision (e.g., probation, parole) or other court orders (e.g., domestic violence orders) or has breached bail, escaped police.

9. Perpetrator has current criminal charges pending (variable name = charges; n=5, 4.8%)

The perpetrator has pending criminal charges, there is an outstanding warrant for the individual's arrest, or he/she is wanted in relation to questioning.

10. Together (variable name = together; n=42, 40.4%)

The adult members of the family are living in the same household, seemingly in harmony, with no real hint of anything other than ordinary relational conflict.

11. Custody dispute (variable name = custody; n=34, 32.7%)

Adult members of the family are engaged in disputes regarding child custody, access arrangements or financial support of children.

12. Lack of social support (variable name = support; n=19, 18.3%)

Crimes occur in a context in which one or both adult members of the family lack social support (e.g., through isolation or estrangement from family, lack of friendship networks).

13. Presence of jealousy (variable name = jealous; n=17, 16.3%)

One adult member of the family has re-partnered or, if still together, one is suspected of, or found to be having, an affair. The jealousy need not have basis in fact.

14. Low status job or circumstances (variable name = status; n=33, 31.7%)

The perpetrator has a low paid or low status job (e.g., cleaner), is employed in unstable (e.g., casual) work, is unemployed, or is considered less successful than peers.

15. Perpetrator financial stress (variable name = finance; n=32, 30.8%)

The perpetrator faces financial stress in reality (e.g., can't afford rent, unable to repair car) or perception (e.g., resents child support payments irrespective of capacity to pay).

16. Stabbing (variable name = stab; n=28, 26.9%)

Victim stabbed, cut or slashed with a knife, axe or other object. May involve decapitation.

17. Bludgeoning or beating with a blunt object (variable = blunt; n=12, 11.5%)

The victim is bludgeoned or beaten with fists, hammer, or other blunt objects.

18. Shot (variable name = shot; n=34, 32.7%)

The victim is shot with a handgun, rifle, speargun or similar weapon.

19. Strangle (variable name = strangle; n=5, 4.8%)

Victim/s strangled manually with hands or using a ligature.

20. Suffocate (variable name = suffocate; n=14, 13.5%)

Victim is suffocated with a pillow, hands, tape around mouth/ nose or by other means.

21. Poison (variable name = poison; n=10, 9.6%)

Victims poisoned including prescription or illicit drug overdose; chemicals or contaminants.

22. Gas (variable name = gassed; n=13, 12.5%)

Victims gassed in enclosed space, including car or building.

23. Jump from height (variable name = jump; n=6, 5.8%)

The victims are pushed, dropped, held in arms when perpetrator jumped, or otherwise forced to their deaths from a height.

24. Accident (variable name = accident; n=9; 8.7%)

Deaths involve an apparent accident such as a car accident, explosion, or similar event.

25. Drown (variable name = drown; n=9, 8.7%)

Victims die as a result of being driven/delivered into water, or held under water.

26. Multiple methods (variable = multiple; n=34, 32.7%)

The perpetrator uses multiple methods in combination to cause death.

27. Fire (variable name = fire; n=12, 11.5%)

The victim is set on fire, or burned to death in a house fire.

28. Crime occurs during access visit (variable name = access; n=21, 20.2%)

The killings occur during an access visit (formal or informal) by the non-custodial parent.

29. Crime occurs on significant day (variable name = signif; n=9, 8.7%)

Killing event occurs on a significant day (e.g., birthday, Father's Day, Mother's Day, Christmas holidays).

30. Perpetrator taunts victim/s prior to event (variable name = taunt; n=13, 12.5%)

The perpetrator makes contact with other family members (e.g., the ex-partner) to advise or warn of their intentions, taunting via telephone, email, or social media.

31. Perpetrator gloats after killing event (variable name = gloat; n=10, 9.6%)

The perpetrator makes contact with other family members (e.g., the ex-partner) to report the event, to see the look on his/her face, or to gloat.

32. Perpetrator makes threats to victim prior to event (variable name = threats; n=36, 34.6%)

The perpetrator makes threats to commit suicide at any time prior to the killings, not necessarily in close temporal proximity to the event.

33. Perpetrator "leaks" intentions to others (variable name = leakage; n=35, 33.7%)

The perpetrator tells others (e.g., friends, minister of religion) of their plans. Plans may emerge in the form of violent fantasies and perpetrators may or may not be believed.

34. Perpetrator engages in substance use prior to event (variable name = drugalc; n=18, 17.3%)

The perpetrator uses or is intoxicated on alcohol, illicit or prescription drugs at the time of the killings.

35. Perpetrator seeks to leave a legacy (variable name = legacy; n=21, 20.2%)

Perpetrator engages in dramatic gestures, seeking to go out in a "blaze of glory", leaves drawings, tapes, poems or manifestos. Considered beyond suicide note.

36. Staging (variable name = staging; n=15, 14.4%)

The perpetrator stages an elaborate deception, with a cover story, or attempts to cover their tracks through a ruse designed to indicate that the victim is still alive.

37. Stalking (variable name = stalking; n=12, 20.2%)

Perpetrator engages in stalking behaviours (telephone calls, texts, surveillance, unwanted visits, home invasions, drive-bys) prior to killing event.

38. Death threats (variable name = death; n=24, 23.1%)

The perpetrator makes threats to kill partner and/or children at any time prior to the murders.

39. Affairs (variable name = affairs; n=10, 9.6%)

Perpetrator engaged in affairs or liaisons (casual or long term) prior to the killing event.

40. Home (variable name = home; n=78, 75%)

Victims are killed in their own home.

41. Secluded (variable name = secluded; n=16, 15.4%)

Victims are killed in a remote or secluded location away from home, with travel involved.

42. Moved (variable name = moved; n=9, 8.7%)

Perpetrator interacted with body after death. Includes removal of body to a dump site.

43. Overkill (variable name = overkill; n=24, 23.1%)

Perpetrator used disproportionate force to kill. Single or multiple methods.

44. Disappeared (variable name = disappear; n=7, 6.7%)

The perpetrator vanished, or went on a journey, after the killings.

45. Decompensation (variable = decompensate; n=34, 32.7%)

Observers note deterioration in perpetrator physical, mental or emotional functioning in the days prior to the killing.

46. Bodies hidden (variable = hidden; n=4, 3.8%)

Perpetrator hides, covers or otherwise conceals bodies post-mortem.

47. Sexual assault (variable = sexassault; n=8, 7.7%)

Sexual deviance or violence evident in perpetrator at any point prior to the killings. May be directed at primary victims, or may be unrelated (e.g., viewing child exploitation material).

48. Note (variable = note; n=26, 25%)

Perpetrator leaves a suicide note with themes of guilt/fault/sorry.

49. Progression (variable = progress; n=19, 18.3%)

The perpetrator takes his or her time committing the crime. The attack commences, stops, then restarts. Includes spending time with individual victims after a killing event.

50. Public (variable name = public; n=17, 16.3%)

The killings take place in a highly visible or public spot such as a lake, bridge or landmark.

51. Abandons bodies (variable name = abandon; n=32, 30.8%)

The perpetrator dumps or abandons bodies, leaving the killing or dump site.

52. Hides weapon (variable name = weapon; n=8, 7.7%)

The perpetrator hides or dumps the weapon(s) used to murder victims.

53. Rehearsal (variable name = rehearsal; n=7, 6.7%)

The perpetrator engages in “dry runs” of the crime, conducts exploratory actions, plans.

54. Police (variable name = police; n=14, 13.5%)

The perpetrator reports the crime to the police him/herself.

Appendix B: Perpetrator characteristics' labels and definitions

1. Perpetrator criminal history (variable name = criminal; n=18, 17.3%)

The perpetrator of the event has a known, suspected or inferred criminal history.

2. Perpetrator substance abuse history (variable name = substance; n=22, 21.2%)

The perpetrator has a history of abuse of alcohol or drugs. Their use may be unconnected to the current incident.

3. Perpetrator trauma history (variable name = trauma; n=20, 19.2%)

The perpetrator has a history of trauma (e.g., prisoner of war, previously involved in the child protection system, rape victim, etc.)

4. Cluster A personality traits (variable name = ClusterA; n=1, 1%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for Cluster A personality disorders (Paranoid, Schizoid, Schizotypal PDs) or exhibits traits.

5. Cluster B personality disorder (variable name = ClusterB; n=11, 10.6%)

The perpetrator has been diagnosed or based on case history may meet criteria for Cluster B personality disorders (Antisocial, Borderline, Histrionic, Narcissistic PDs) or traits.

6. Cluster C personality disorder (variable name = ClusterC; n=3, 2.9%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for Cluster C personality disorders (Avoidant, Dependent, Obsessive-Compulsive PDs) or traits.

7. Mood disorders (variable name = mood; n=36, 34.6%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for an uncomplicated mood disorder (e.g., anxiety, depression). No indication of psychosis.

8. Schizophrenia (variable name = schizoph; n=4, 3.8%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for schizophrenia and related disorders.

9. Other psychotic disorders (variable name = psychotic; n=9, 8.7%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for psychosis in some form, such as schizoaffective, bipolar disorder, or drug-induced psychosis.

10. Psychotic depression (variable name = blackest; n=9, 8.7%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for depression with psychotic features (i.e., agitated and energetic, nihilistic delusions).

11. Organic medical condition (variable name = organic; n=8, 7.7%)

The perpetrator has been diagnosed or based on case history is likely to meet criteria for diagnoses (e.g., intellectual impairment, dementia, frontal lobe damage, medical conditions).

Table 1

Inter-Correlations Among Action Modes and Perpetrator Characteristics

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Integrative	.37**	-.26**	-.04	.02*	.20*	.07	.04	.24	-.13	-.01	.09	.08	.04	.13
2. Expressive	-	.27**	.04	.41**	.35**	.11	-.09	.27	.02	.16	-.17	-.03	.02	.01
3. Conservative		-	.26**	-.06	-.00	.27**	-.08	.00	.10	.05	-.08	.19*	.18	.11
4. Adaptive			-	.18	-.02	.22	-.11	.21*	.25*	.24*	-.07	-.11	.08	.11
5. Criminal				-	.45**	.16	-.05	.17	-.08	.15	.04	.40	-.14	-.04
6. Substance					-	.23*	.19	.28**	-.09	.12	.14	.18	-.08	-.06
7. Trauma						-	-.05	.15	-.08	.16	-.10	.11	-.06	.13
8. Cluster A							-	-.03	-.02	-.07	.50**	-.03	-.03	-.03
9. Cluster B								-	-.06	.08	-.07	.12	.01	-.10
10. Cluster C									-	.12	-.03	-.05	-.05	-.05
11. Mood										-	-.15	-.15	-.22*	.09
12. Schizoph											-	-.06	-.06	-.06
13. Psychotic												-	-.10	.04
14. Blackest													-	0.09
15. Organic														-

* $p < 0.05$. ** $p < 0.01$. *Criminal* = The perpetrator of the event has a known, suspected or inferred criminal history; *Substance* = The perpetrator has a history of abuse of alcohol or drugs. Their use may be unconnected to the current incident; *Trauma* = The perpetrator has a history of trauma (e.g., prisoner of war, previously involved in the child protection system, rape victim, etc.); *Cluster A* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for Cluster A personality disorders (Paranoid, Schizoid, Schizotypal PDs) or exhibits traits; *Cluster B* = The perpetrator has been diagnosed or based on case history may meet criteria for Cluster B personality disorders (Antisocial, Borderline, Histrionic, Narcissistic PDs) or traits; *Cluster C* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for Cluster C personality disorders (Avoidant, Dependent, Obsessive-Compulsive PDs) or traits; *Mood* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for an uncomplicated mood disorder (e.g., anxiety, depression). No indication of psychosis; *Schizoph* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for schizophrenia and related disorders; *Psychotic* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for psychosis in some form, such as schizoaffective, bipolar disorder, or drug-induced psychosis; *Blackest* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for depression with psychotic features (i.e., agitated and energetic, nihilistic delusions); *Organic* = The perpetrator has been diagnosed or based on case history is likely to meet criteria for organic diagnoses (e.g., intellectual impairment, dementia, frontal lobe damage, medical conditions).

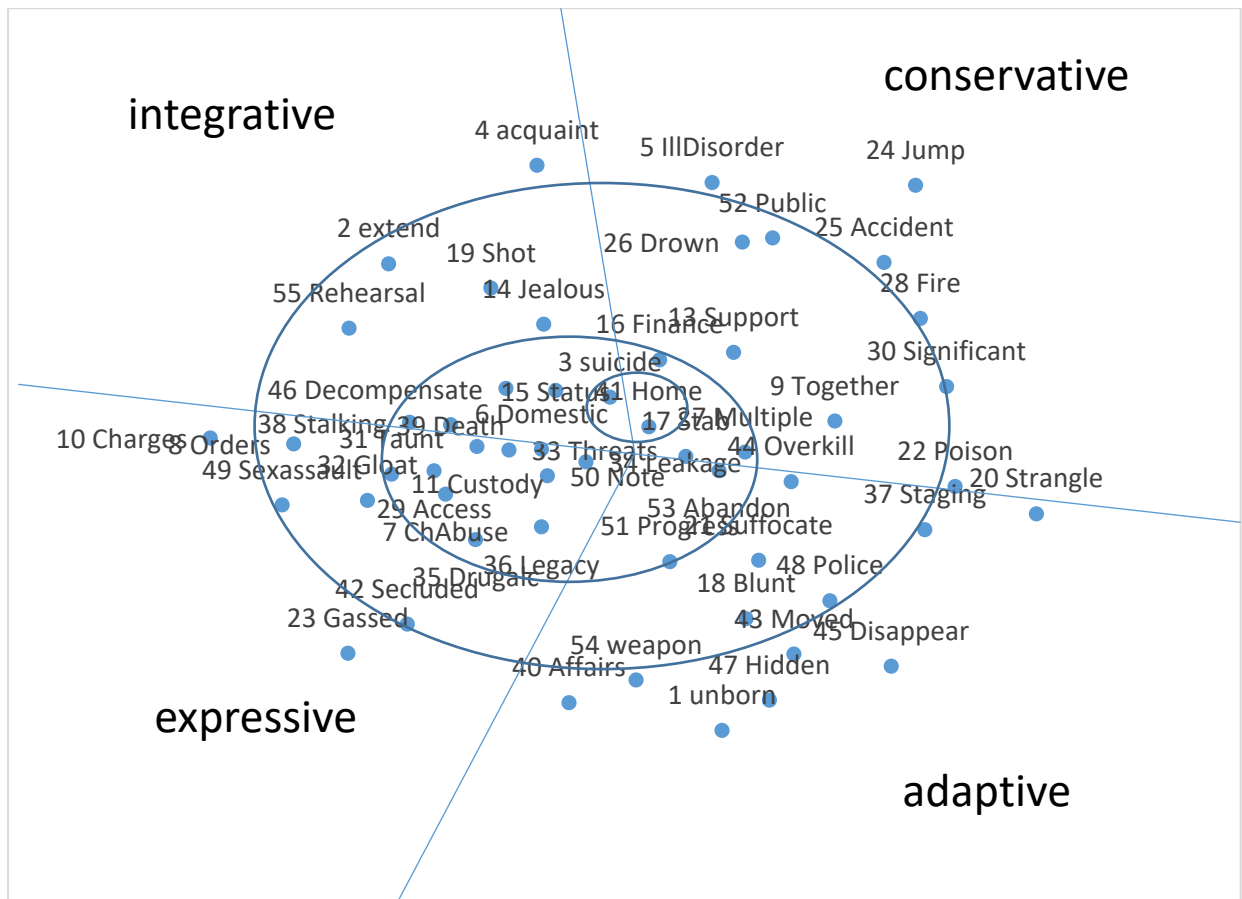


Figure 1: MDS analysis of familicide variables