Criminal Justice Partnership

University of Central Lancashire
UCLan
Where opportunity creates success

Understanding Child to Parent Domestic Abuse in Lancashire

April 2021

Prof. Nicola-Graham-Kevan, *Professor in Criminal Justice Psychology, UCLan*

Dr Nathan Birdsall, *Research Associate in Policing, UCLan*

Rebeka Tucker, *Research Assistant and PhD student, UCLan*

Rosie Coe, *Performance and Insight Analyst, Lancashire Constabulary*

Natalie Bennett, *Performance and Insight Analyst, Lancashire Constabulary*

Teigan Whiffing, *VRN Intelligence Analyst, Lancashire Violence Reduction Network*

LANCASHIRE VIOLENCE REDUCTION NETWORK

Lancashire Constabulary

Contents

Ackowledgements

Funding for this research report was provided by the Home Office under the Domestic Abuse Perprtrator Research Fund 2020/21. The views reflected within the research report are not necessarily those of the Home Office.

Executive Summary

This project aimed to form distinct typologies of child to parent domestic abuse (CPDA) through a systematic exploration of published empirical literature involving CPDA cases (where the suspect was 16 years or older) and a transparent extract of police recorded domestic abuse crimes relating to CPDA. This was achieved by using both a data driven formation of typologies, which were then enriched by further explanation provided by the theoretical typologies formed from the systematic literature review.

The project first conducted a comprehensive systematic literature review, following a strict procedure, to condense existing knowledge on CPDA. The result was the formation of five distinct typologies, which focused on the types and behaviours of the perpetrators. This included: autistic spectrum disorder (ASD); borderline disorder traits; psychosis; anti-social personality disorder traits; attention deficit disorder traits/adverse childhood experiences.

In conjunction, analysts at Lancashire Constabulary formed clear SQL query to extract all domestic abuse cases in Lancashire between 27th November 2018 to 28th February 2021. This extracted a total of 66,973 domestic abuse cases, of which 7,171 related to instances of CPDA. Comparative analysis found that CPDA was mainly perpetrated by son's and that the behaviour was less likely to involve violence against the person in comparison to other DA. It also appeared that CPDA increased during Christmas and New Year, but did not increase during Mother's and Father's Day.

The data was then carefully refined to de-duplicate instances per perpetrator, as well as handle missing data. This resulted in a dataset of 4,393 cases involving unique suspects of CPDA, which were used to generate typologies. In addition, this dataset was also mapped across Lancashire to understand geographic presentation of CPDA for the force. This found

that the west of Lancashire had hotspots that were predominantly clustered in the Blackpool and Lancaster areas. In the east there was a wide spread of cases per 10,000 population across Blackburn with Darwen, Hyndburn and Burnley areas. The South BCU had slightly warmer spots occurring near Preston and Skelmersdale. Overall, the mapping illustrated how the BCUs across the force had different geographical presentations of CPDA, with specific warm and hot spots in West and South, but a widespread demand across East.

In addition to the data extract, a random dip sample of cases were selected for a contextual analysis. This analysis focused on the case dashboards and highlighted distinct behaviours that occurred within the cases to provide further context for an explanation of clusters.

Data driven clusters were run based on a statistical 5-cluster solution and were used as a template in which to overlay the empirically derived typology formed from the systematic literature review (termed the Psychologically Informed Child to Parent Domestic Abuse (PiCPDA)). When comparing the two sets of typologies, the outcomes were broadly complimentary and represented an excellent initial typology of CPDA. To explore the predictive nature of the typology in terms of serious violence and hence potential lethality, serious violence against the person offences were cross referenced with the typology membership. This revealed that one type (intimidating and coercive perpetrator) was associated with almost half of these cases. However, the remaining half were not adequately identified within the current PiCPDA typology and this remains an area for further exploration.

In terms of the PiCPDA, there remains the need to develop this further in terms of exploring more detailed case information to flesh-out and refine the types identified. The dynamic of CPDA cases that result in serious violence also needs further exploration to understand the factors that can predict risk, but also offer intervention opportunities upstream prior to

downstream harm. Additionally, longitudinal follow-up of the CPDA cases is important to understand the desistance, persistence, escalation and de-escalation factors, and also to further refine the boundaries of types within the PiCPDA typology.

The existence of types of CPDA with distinct features, risks and needs suggests that assessment and intervention approaches to the common, but unresearched topic, need to be developed to offer appropriately designed and timed interventions for perpetrators and their parents. The DASH assessment shows some utility in identifying risk of serious violence is some cases but more needs to be done to understand and hence intervene effectively in almost half of all CPDA that results in serious violence.

Introduction

Domestic abuse is recognised internationally as a serious public health (NICE, 2021) and criminal justice concern (Schucan-Bird, Vigurs , Quy, & David Gough, 2016). Domestic abuse-related incidents include reports of threatening behaviour, violence or abuse (psychological, physical, sexual, financial or emotional) between adults, aged 16 years and over, who are or have been intimate partners or family members (regardless of gender or sexuality) (Office for National Statistics, 2019). With the exception of coercive behaviour, domestic abuse is not a specific criminal offence, but instead is a criminal act that occurs between family members. Although the term domestic abuse has become synonymous with intimate partner violence, it also includes offences committed by children aged 16 years or older directed at their parents/carers.

Child (16 years or older) to parent/carer abuse (CPDA) is likely to involve a range of behaviours including physical violence, damage to property, coercive control, emotional abuse, sexual abuse and economic/financial abuse. Abusive behaviours can include, but are not limited to, humiliating language and threats, belittling a parent, damage to property and stealing from a parent and heightened sexualised behaviours. Consistent with the literature on intimate partner violence, there is evidence of diversity in terms of CPDA type with some showing patterns of coercive control whereas other CPDA may be explosively episodic. Research by Condry and Miles (2015) identified a range of dynamics in the households where children abused their parent/s which included a history of exposure to intimate partner violence between parents, issues stemming from the child's behavioural problems, mental health difficulties and substance use. For this reason, it is important to understand the different

profiles of perpetrators of CPDA and so enhance the dynamic within the home to be able to accurately intervene effectively.

The current project

CPDA within the current project therefore describes child-to-parent abusive behaviour (e.g., verbal and physical abuse, coercive controlling behaviours) where the child is 16 or older with no upper age limit: parent includes all those performing a parental role. Prevalence rates of CPDA do not usually appear disaggregated from other forms of non-partner related DA in police data and consequently it is hidden in most public records and figures. There is, therefore, a need to explore methodologies to extract CPDA from current police systems so that forces can understand the extent of the problem. Identifying the prevalence of CPDA is only the start however to understanding this crime.

As with all forms of DA the patterns of abuse need to be better understood in order to guide intervention approaches. A narrative review conducted by Graham-Kevan (2008) found evidence of typologies for CPDA. These included families described as

- 'multi-assaultive': where several forms of family abuse are occurring;
- 'pathology related' where a perpetrator is using abusive behaviour due to their mental health problems;
- 'no pathology' where parents were found to use democratic decision making within the family – usually seen in middle-class families – leading to a power vacuum that a child seeks to fill;
- 'parentified families' where parents expect their children to make decisions inappropriate to their developmental age leading to later CPDA being enacted to control and/or punish parents.

Although CPDA is a growing research topic, the majority of reports and publications are focused on younger children It is likely that CPDA involving older offspring differs in terms of the nature of abuse (e.g., it may be more likely to be financially related) but also in victim vulnerability factors (e.g., elderly parents being cared for by their offspring). Understanding the potential dynamics of families where CPDA occurs allows appropriate risk and need assessments to be developed and intervention approaches explored. This Home Office funded project explored the under-researched topic of CPDA via two strands.

Strand 1 aimed to summarise knowledge from national & international peer-reviewed literature in terms of the complexities of CPDA and a typology.

Strand 2 aimed to develop a methodology to identify CPDA perpetrators within police data and use it to identify cases of CPDA and explore the utility of the literature driven typology derived from Strand 1 within the UK.

In February 2021 UCLan Criminal Justice Partnership in partnership with Lancashire Constabulary and Lancashire Violence Reduction Network successfully obtained a grant from the Home Office's Domestic Violence Perpetrators Fund to conduct a project examining the topic of child to parent abuse where the perpetrator is over 16 years of age and the victim is a person who is, or has been in, a parental role. This project is relevant to policy as although Child to Parent Abuse (CPA) is widely recognised by those working in services to support families and is beginning to be addressed in policy, most of this research concerns younger children. Consequently, little is known about older offspring who abuse parents, even though they are 'perpetrators' under the current definition. Research suggests that there are likely to be important differences between CPA v CPDA, e.g. as the perpetrator's age increases,

CPDA is increasingly directed to fathers (Graham-Kevan, 2008), and older offspring are more likely to kill a parent (Loinaz & de Sousa, 2020). There is also a need to explore CPDA as distinct from CPA as the nature of the parent–offspring relationship changes throughout the lifecycle, and so sources of conflict and the nature of risk will be shaped by different events, concerns and pressures, depending on where in the lifecycle the family members are located (Condry, Miles, Brunton-Douglas & Oladapo, 2020).

This project provides unique access and analysis of police data through the collaboration of UCLan staff and police analysts, allowing the sharing of knowledge and subject matter expertise, systems/technology, and analysis techniques which collectively has enabled comprehensive insights. The additional activity goes far beyond what would otherwise be considered by the police if requested to interrogate their DA demand, and the learning generated will directly inform police practice, LVRN policy/direction, and future academic work.

This project utilises both academic research and police held data. The first strand consists of a Systematic Review (SR) which will be used to collate and synthesise research findings on CPDA in terms of: causes, drivers and aggravating factors such as perpetrator psychopathology and family dynamics; methods of abuse and whether these differ by age and sex of the perpetrator/victim The SR will also be used to devise a typology of CPDA. The second strand is an exploration of data routinely collected by the Police and is a feasibility study designed to develop and test potential methodologies for identifying (a) CPDA from other forms of domestic abuse; and (b) interrogating the cases of CPDA in terms of typologies formed from the SR. The findings from this project will assist in the longer-term goal of filling the current evidence gaps around CPDA.

This report is organised around the following sections:

- Systematic Review section describes the rationale, methodology and findings from two systematic reviews of the literature. The first review details the empirical literature on CPDA and the second review details the findings from a review of the parricide literature where the perpetrator was at least 16 years old. Data extracted from both reviews included perpetrator characteristics, victim characteristics, and family dynamics.

- The next section contains the first data chapter that examined CPDA in Police Data and details the methods used for identification and extraction of the data held on Police systems and subsequent analysis. This analysis includes the examination of the CPDA counts, modelling daily counts of child to parent abuse, applying the Crime Harm Index.

- The second data chapter explores the case level data in terms of de-duplication, managing missing data, Exploring case level data on child to parent relationships, suspect characteristics, victim characteristics, offence location and area deprivation, and Police investigations.

- Data chapter three describes a deep dive exploration of child to parent abuse cases and inter-rater reliability. It then details the results in terms problematic behaviour, mental health and substances, escalation/de-escalation, living arrangements, and parental resistance.

- Data chapter four details the formation of child to parent case typologies. Starting by comparing the theoretical and data driven of typologies this chapter develops the Psychologically informed CPDA typology and explores the distribution of serious violence cases. This chapter then explores the typology across overall DASH risk grade and crime outcomes.

- The final chapter discusses the findings from this project and the current limitations of this work. Directions for further research and development are explored as are potential implications for identification of cases, intervention needs and risk. Finally recommendations for research and practice are presented.

Systematic Review Introduction

A Systematic Review (SR) was conducted to identify all literature pertaining to CPDA, specifically the causes, drivers, and aggravating factors of CPDA including perpetrator psychopathology and family dynamics; methods of abuse and whether these differ by age and sex of the perpetrators and victims. As CPDA encompasses a range of behaviours, including verbal, physical, sexual, emotional, and financial abuse, two systematic searches were devised, with broad search terms to ensure maximum coverage of CPDA existing literature. The first search aimed to identify all literature related to CPDA, however, this search yielded little information regarding the most extreme cases of CPDA, parricide.

Parricide refers to the act of killing one's parents (Jung, Lee & Kim et al., 2014). There are derivatives of this term, namely matricide, which refers to the act of killing one's mother, and patricide, the act of killing one's father (Walker, 2016). Familicide is another term that is occasionally used to describe the act of killing one's family, typically a spouse and at least one child (Liem, Levin & Holland *et al.*, 2013) however, a number of articles used this term in reference to the act of killing one's parents. Due to differences in terminology used in literature, the second search was devised to capture all literature pertaining to parricide. In total, eighty-seven articles were deemed eligible for inclusion in this review. Findings from eligible articles were qualitatively synthesised in order to develop an in-depth understanding of all aspects of CPDA.

The findings from this review were then used to assess causes, drivers, and aggravating factors of CPDA and have permitted the development of a typology of CPDA perpetrators, that considers their age, gender, experiences of abuse, family dynamics, substance use and psychopathology.

Systematic Review Part I: Child to Parent Abuse

Methods

Search Strategy

Data were sourced from five databases: Web of Science, Google Scholar, Embase, Medline, and PsycInfo. This combination of databases was selected to ensure that over 95% of published articles were identified (Bramer, Rethlefsen, Kleijnen, et al., 2017). The final search was conducted on 26/02/2021. The search terms were generated from scoping searches and were intentionally kept broad to allow all potentially relevant studies to be identified. The following syntax was used: ("Child to parent" OR "child to mother" OR "child to father" OR "child to elder") AND (Abuse OR neglect OR maltreatment OR mistreatment OR aggress* OR violence).

Eligibility Criteria

From the potential articles produced by systematic research, studies were selected that included at least one form of CPDA. This review aimed to identify studies conducted on all forms of CPDA, including verbal, physical, sexual, emotional, and financial. To be eligible for inclusion, the perpetrators of abuse within the studies needed to be a minimum age of 16 or have a sample mean age of 18 years or above (to capture age variance). The first exclusion of non-relevant studies was made by analysing titles and abstracts of articles. Subsequent screening of full-text articles permitted further selection. Studies were excluded if articles were not written in English and a translation was not available, and where the minimum age of perpetrators was under 16 years or the mean age of sample of perpetrators was under 18 years. One researcher made the selections independently and decisions were checked by a second reviewer. Conflicting decisions were resolved via the consultation of a third reviewer.

Study Selection

A stepwise approach was utilised to identify eligible articles. Firstly, titles and abstracts were screened, and irrelevant and duplicate articles were excluded, as well as those that were not written in English or translations were unavailable. In the second step, a reviewer screened all of the remaining full-text articles to identify the mean age of the perpetrators of abuse. Figure 1 illustrates a summary of the searching and screening process that was conducted in line with PRISMA guidelines (Page, McKenzie & Bossuyt, et al., 2020).

Searching of the databases yielded a total of 10,587 articles. After duplicates were removed, 10,289 articles remained. Subsequent screening of titles and abstracts resulted in the exclusion of a further 9,941 articles. The remaining 349 articles were then assessed for eligibility. Full-text screening of the remaining articles resulted in the exclusion of a further 326 articles, with the remaining 23 articles meeting the eligibility criteria for inclusion within the review. A full list of articles that were excluded during full-text screening with the reasons for their exclusion has been provided separately. All decisions were checked via consultation with a second reviewer. Once consensus was reached, a reviewer began the data extraction process.

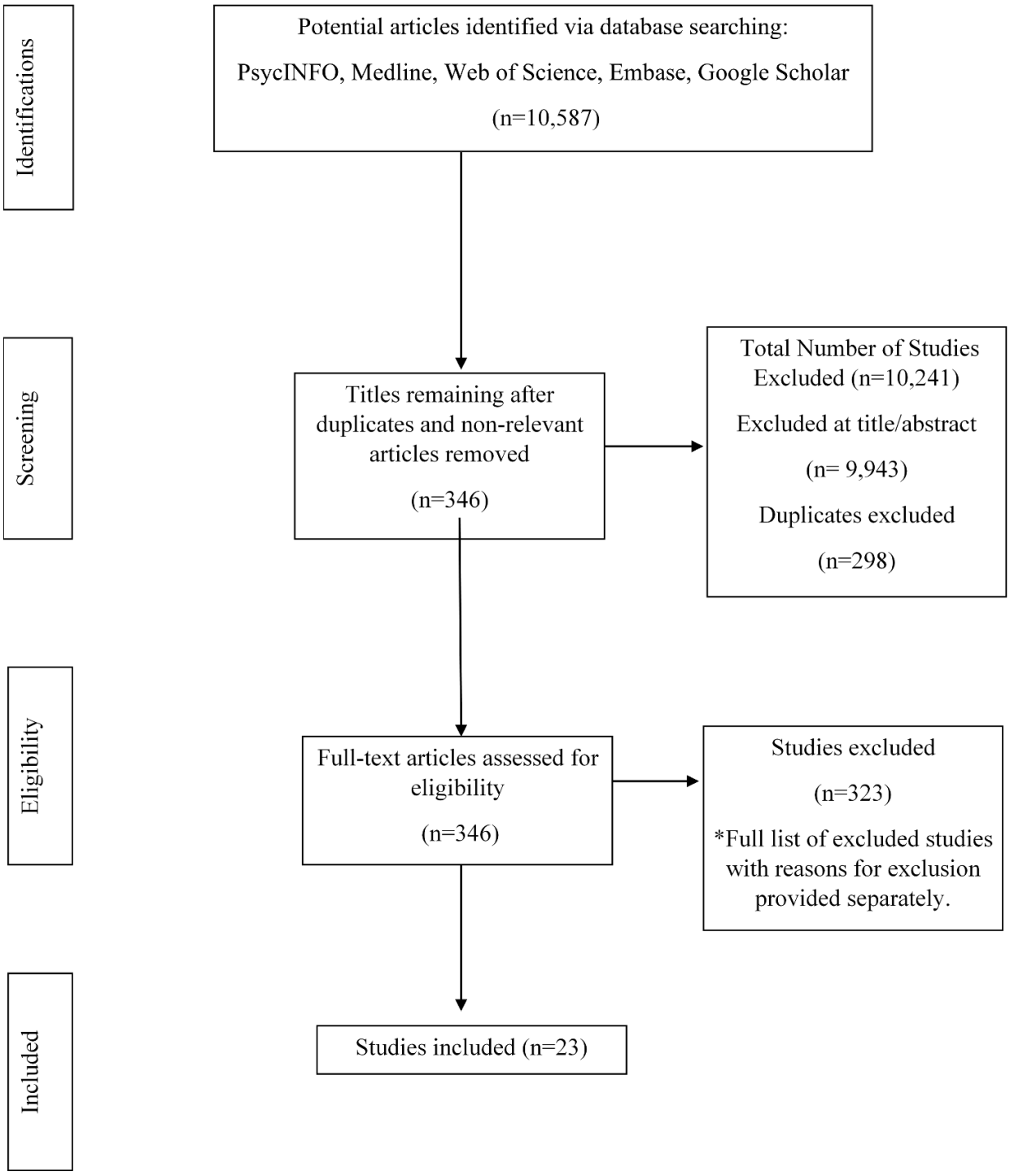


Figure 1. PRISMA Flow diagram of study selection process from The PRISMA 2020 statement: an updated guideline for reporting systematic reviews (Page, McKenzie & Bossuyt, et al., 2020).

Data Collection

Data were extracted from eligible articles in line with SPIDER principles and included sample, phenomenon of interest, design, evaluation, and research type (Cook, Smith & Booth, 2012). As CPDA is a broad topic that encompasses a variety of abuse types including verbal, physical, sexual, emotional, and financial abuse, the phenomenon of interest within the identified studies varies to some degree. For this review, the type of abuse perpetrated was considered to be the phenomenon of interest. In addition, the author(s), year, and country of publication were extracted.

Data pertaining to the characteristics of the perpetrator were also extracted and included, age, gender, ethnicity, substance use, mental illness, and information regarding any prior abuse they had experienced. However, the same information could not be extracted for victims. In some studies, the ethnicity of victims was reported, but this was rare, possibly due to the fact that in most studies, the perpetrator was the victim's biological child. Therefore, it is likely that the victim and perpetrator shared the same ethnicity in the majority of cases. Due to the lack of data regarding victim characteristics, they will not be reported. Where full-text articles had incomplete or missing data, the reviewer contacted the study's corresponding author via email to obtain this information. If no response was received, the study was excluded.

Results

Study Characteristics

All articles included in this review were published between 1998 and 2021. Studies were conducted in various countries, two studies were conducted in the United Kingdom, (Browne & Hamilton, 1998; McManus, Almond & Bourke, 2017); three studies were conducted in

America, (Rheaume, 2009; Laburm & Solomon, 2020; Smith, 2015); one study was conducted in Canada, (Lyons, Bell & Fréchette et al., 2015); two studies were conducted in Australia (Simmons, McEwan, Purcell & Huynh, 2019; Simmons, McEwan & Purcell, 2020); four studies were conducted in Spain, (Gamez-Gaudix & Calvete, 2012; Gamez-Guadix, et al. 2012; Ibabe, Arnoso & Elgorriaga, 2020; Trull-Olivia & Soler-Maso, 2021); three articles used Swedish samples (Johnson, Richert & Svensson, 2018; Johnson, Richert & Svensson, 2020; Svensson, Richert & Johnson, 2020); three studies were conducted in Taiwan (Hsu & Tu, 2013; Hsu, Huang & Tu, 2014; Sun & Hsu, 2016); one study was conducted in South Africa (Moen & Shon, 2020c); another study was conducted in Mexico (Sánchez, Tobón, Solís, Flores & Yedra, 2019); one study was conducted in Japan (Kageyama, Yokoyama & Horiai et al., 2020); another study was conducted in Chile (Jimenez-Garcia, Contreras & Perez et al., 2020); one study was conducted in Argentina (de Veinstein, 2004).

Studies utilised diverse samples, ten studies recruited samples via university advertising; (Browne & Hamilton, 1998; Gamez-Gaudix & Calverte 2012., 2012; Gamez-Gaudix et al., 2012; Ibabe et al., 2020; Jiminez-Garcia et al., 2020; Lyons et al., 2015; Rheaume, 2009; Sanchez et al., 2019; Simmons et al., 2019; Simmons et al., 2020). Three studies utilised clinical samples; from outpatient settings involving adult drug users and their parents (Johnson et al., 2018; Johnson et al., 2020; Svensson et al., 2020), whilst three studies recruited samples from hospitals (Hsu & Tu, 2013; Hsu et al., 2014; Sun et al., 2016). A further three studies obtained samples from pre-existing datasets (McManus et al., 2017; Labrum & Solomon 2020, Moen & Shon, 2020c). One study recruited samples from self-help groups for individuals with mental disorders and their family members (Kageyama et al., 2020). Another study recruited samples from an elder support network (Smith, 2015), and one employed an opportunity sampling

method to obtain samples from the general population of Buenos Aires (de Veinstein, 2004). The final study utilised young offender samples (Trull-Olivia & Soler-Maso, 2021).

There were no restrictions regarding research design, as a result a variety of research designs were utilised, seventeen studies used a cross-sectional design with self-report measures (Browne & Hamilton, 1998; de Veinstein 2004 Gamez-Gaudix & Calvete, 2012; Gamez-Gaudix et al., 2012; Hsu & Tu, 2013; Hsu et al., 2014; Ibabe et al., 2020; Jiminez-Garcia et al., 2020; Johnson et al., 2018; Johnson et al., 2020; Lyons et al., 2015; Rheaume, 2009; Sanchez et al., 2019; Simmons et al., 2019; Simmons et al., 2020; Smith, 2015; Svensson et al., 2020; Trull-Olivia & Soler-Maso, 2021). Two studies utilised a follow-up design with an intervention program (Sun & Hsu, 2016; Kageyama et al., 2020). Three studies used a mixed-methods approach to analyses data (McManus et al., 2017, Labrum & Solomon 2020; Moen & Shon, 2020c).

Studies included this review considered various phenomena. Physical abuse was the phenomenon of interest in six studies (de Veinsten, 2004; Ibabe et al., 2020; Kageyama et al., 2020; Moen & Shon, 2020c; Sun & Hsu., 2016; Trull-Olivia & Soler-Maso, 2021); in another it was financial abuse (Johnson et al., 2018). Most studies investigated multiple abuse types. In nine studies the phenomena of interest were physical and emotional abuse (Browne & Hamilton, 1998; Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012; Labrum & Solomon, 2020; Lyons et al., 2015; Rheaume et al., 2009; Sánchez et al., 2019 Simmons et al., 2020; Smith, 2015). The phenomena of interest in two studies were physical, emotional, and financial abuse (Hsu et al., 2014; Hsu & Tu, 2013). In a further two studies, the phenomena of interest were physical and financial abuse (Johnson et al., 2020; Simmons et al., 2019). In one study the phenomena of interest were physical, emotional, financial, and coercive abuse

(Jiminez-Garcia et al., 2019). In one study the phenomena of interest were physical, emotional, financial, and sexual abuse (McManus et al., 2017). In one study the phenomena of interest were physical, emotional, and financial abuse (Svensson et al., 2020). A summary of study characteristics is presented in Table 1.

Table 1: Study Characteristics

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Browne & Hamilton	1998	University advertising	Physical and emotional abuse	Cross-sectional design with self-report	Tactics used in CPV. Impact of experiencing abuse on the perpetration of CPV.	Quantitative	14.5% of students reported using violent tactics with their mother and/or father. 3.8% of students admitted to being severely violent to one or both of their parents. The conflict tactics used by the respondent were significantly related to the reported tactics of their parents and their experience of being maltreated by parents previously.
de Veinsten	2004	Opportunity sampling	Physical abuse	Cross-sectional design with self-report	Description of elder abuse, the types of abuse, and its utility for observation and treatment. Significant variables for elder abuse	Qualitative and quantitative	Three basic typical forms of relationship between parents themselves, and between parents and their sons which favoured violent behaviour. Violence seems to be intergenerational.
Gamez-Guadix & Calvete	2012	University advertising	Physical and emotional abuse	Cross-sectional design with self-report	The relationships between the exposure to different types of family violence and the perpetration of CPV. Sex differences in the relationships specified.	Quantitative	Witnessing marital psychological violence and parent-to-child psychological aggression were related to CPDA. Psychological and physical parent-to-child aggression and witnessing physical aggression between parents was associated with physical CPDA. Relationships between variables were not significantly different as a function of sex. The relation between exposure to family violence and CPDA is similar for men and women.
Gamez-Guadix et al.,	2012	University advertising	Physical and emotional abuse	Cross-sectional design with self-report	The relationship between parenting styles and child-to-parent violence.	Quantitative	The prevalence of child-to-parent verbal abuse ranged from 2.4% to 69%, depending on the type of verbal abuse considered. The rate of physical aggression against parents' rate was around 5%. Negligent parenting style increased the chance of physical and verbal abuse by sons and daughters. Authoritarian parenting style was significantly associated with child-to-parent verbal abuse, but not with physical abuse. Indulgent parenting style did not increase the likelihood of child-to-parent violence in contrast to the authoritative parenting style.
Hsu et al.,	2014	Hospitals	Physical, emotional, and financial abuse	Cross-sectional design with self-report	Experiences of violence by patients with mood disorders against their biological parents' Identification of other precipitating factors influencing violence.	Quantitative and qualitative	Five main themes were identified: violence occurring beyond control in a particular situation translated into parent and patient's possible endangerment, the repetitive nature of violence, distress, ineffective communication, and management of violence and help-seeking. Repetitive violent episodes and tension led both the parent and patient to feel uncontrollable. Parents had a perceived fear of adverse consequences including excessive punishment by receiving more retribution from their child. Parents also had concerns related to their parental responsibility.
Hsu & Tu	2013	Hospitals	Physical, emotional, and financial abuse	Cross-sectional design with self-report	Experiences of aggression and violence among patients with schizophrenia and their biological parent. Precipitating factors influencing violence.	Qualitative	Violence was part of life for participants. Four global themes were identified: increased irritability and poor impulse control lead to violence; violence causes anxiety; a transition from violence to nonviolence is difficult and moving from descriptions of violence to analyses of violence is important.
Ibabe et al.,	2020	University advertising	Physical abuse	Cross-sectional design with self-report	Assessment of potential indirect effects of inter-parental violence exposure on dating violence through child-to-parent violence and sexism.	Quantitative	Inter-parental violence exposure plays a significant role in dating violence, with indirect effects through child-to-parent violence and sexism.

Table 1 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Jimenez-Garcia et al.,	2020	University advertising	Physical, emotional, financial, and coercive abuse	Cross-sectional design with self-report	Adapt and analyse the psychometric properties of the Child-to-Parent Violence Questionnaire, young version (CPV-Q), in a sample of 823 Chilean university students.	Quantitative	High prevalence rates were observed for CPDA, but no differences were found between genders regarding the type of CPDA Physical violence was directed to a greater extent against the father, control/domain violence was directed to a greater extent against the mother. Instrumental-type reasons were more frequent than reactive-type reasons. Significant differences were observed for the gender of the aggressor, with reactive-type reasons being more frequent among girls than among boys.
Johnson et al.,	2020	Outpatient settings involving adult drug users and their parents	Physical and financial abuse	Cross-sectional design with self-report	How common it is for parents to be exposed to physical violence and property damage by adult children with drug problems, and whether such victimization varies based on factors related to the parents and the adult children, respectively.	Quantitative	The proportion of parents who reported having been exposed to physical violence was 19% ever, 6% during the past year. The proportion who had been exposed to property damage was 40% ever, 10% during the past year. Exposure during the past year was higher among parents whose children were currently experiencing drug problems. Mental health problems in the children were associated with higher levels of parental victimisation, particularly physical violence. Parental victimization was associated with the children being younger and living with parents. Exposure to property damage was higher among parents of male children. Adult children's drug problems contribute significantly to parental victimization; but do not constitute a major risk factor. Exposure to physical violence is related to the child's mental health problems.
Johnson et al.,	2018	Outpatient settings involving adult drug users and their parents	Financial abuse	Cross-sectional design with self-report	How common it is for parents to fall victim to theft and burglary committed by their children and how the risk varies depending on the parents' and children's circumstances.	Quantitative	50.7% of parents had at one point or another been victims of theft or burglary committed by their children. The level was higher among older parents, those whose children had severe drug problems, and parents of children with ADHD. 9.9% of parents had been exposed to property crime during the past year. The level was higher among parents of children who were current drug users, parents of younger children, and parents whose children were living with them. Parents of adult children with drug problems were at high risk of property crime committed by their children. The risk was mostly related to their child's drug problems and other circumstances pertaining to the children.
Kageyama et al.,	2020	Self-help groups for individuals with mental disorders and family members	Physical abuse	Follow-up design with an intervention program	Evaluation of a video-based educational program for improving communication skills and reducing family violence between adult children with schizophrenia and their parents.	Quantitative	The average frequency of acts of family violence significantly decreased in response to the program. There were significant improvements for expressed emotion, psychological distress, family empowerment, and hope, demonstrating preliminary positive results for this video-based educational program. The program may be feasible for support/educational groups of family members of adults with mental disorders and may be useful for practitioner-led educational groups for families in public health centres or medical settings to offer.
Labrum & Solomon,	2020	Case data	Physical and emotional abuse	Analysis of case data	The association of offenders' SMI status with offender behaviours and victim outcomes. Contextual characteristics of incidents involving offenders with and without SMI.	Quantitative	Offenders having SMI was not associated with using a bodily weapon or gun, threatening victims, or damaging property. SMI was associated with a decreased risk of offenders using a non-gun external weapon and victims being observed to have a complaint of pain or visible injuries. When offenders had SMI, conflict was less likely to focus on family issues and more likely to focus on offenders' behaviours and to involve contextual characteristics related to mental illness.

Table 1 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Lyons et al.,	2015	University advertising	Physical and emotional abuse	Cross-sectional design with self-report	Frequency and family correlates of verbal and physical child-to-parent violence	Quantitative	Low frequencies of CPV, but higher means for child-to-mother violence. African- Canadian and Middle Eastern ethnicities and lower positive discipline were associated with less verbal CPDA for both parents. Greater psychological aggression predicted greater mother-directed verbal abuse. Parent-to-child physical abuse and physical intimate partner violence were associated with mother-directed physical violence. Verbal intimate partner violence between parents predicted children's verbal violence towards mothers and fathers.
McManus et al.,	2017	Case data	Physical, emotional, financial, and sexual abuse	Analysis of case data	Perpetrator, victim, and offence characteristics and comparisons between adult (>18) and adolescent perpetrators (16-18).	Quantitative and qualitative	Perpetrators were most likely to be male/biological sons with victims likely to be their mothers, with the age reflecting this relationship with children offending against their parents in their mid-twenties. Older adult perpetrators of CPDA also had older parents, which is believed to reflect current households, where many children now live with their parents late into adulthood. For adolescent CPDA perpetrators, the DASH factors 'children present' and 'hurts other children' were significantly more likely to be present. Adult perpetrators were found more likely to target elderly parents than adolescent perpetrators. Few DASH risk factors were able to identify the risk of child-to-parent, domestic abuse recidivism. Two DASH risk factors distinguished between non-recidivists (children) and recidivists (alcohol).
Moen & Shon	2020c	Case data	Physical abuse	Analysis of case data	Characteristics of women victims and women offenders in South African parricides	Quantitative and qualitative	Female victims were mainly killed as primary targets in matricides and secondary victims in multiple victim parricides. Female victims were killed during domestic arguments while daughters killed their parents for reasons related to abuse they experienced previously. Domestic arguments were the largest source of conflict that resulted in the deaths of female victims (29%). This pattern was especially so for black women who were killed in parricide incidents. Murder-for-hire ploys can be conceptualised as a socially organised process that draws upon cultural and gender scripts. Whites are disproportionately represented even in non-random samples 83% of the 12 cases of parricide perpetrated by females, neglect and/or abuse was apparent -11 of the 12 reported cases the parent/s failed to protect the female from either physical-, emotional- or sexual abuse.
Rheaume et al.,	2009	University advertising	Physical and emotional	Cross-sectional design with self-report	The roles of both parenting styles and practices in adolescent-to-caregiver assault	Quantitative	No significant association was found between adolescent-to-caregiver assault and parenting styles and practices. Adolescent-to-caregiver assault was associated with caregiver assault of adolescents. Parenting styles/practices did not predict adolescent-to-caregiver assault. Non-Caucasian adolescents were more likely to assault their caregivers than Caucasian adolescents. Male adolescents were more likely than female adolescents to be assaulted by their caregivers.
Sánchez et al.,	2019	University advertising	Physical and emotional	Cross-sectional design with self-report	Explore Child-to-parent violence on emerging adults, while keeping in mind the different ways in which they relate with their parents.	Quantitative	Child-to-parent aggressive behaviours are committed by both sexes against parents. Psychological abuse most common type of abuse. Abuse is mainly directed towards the mother. There was a greater presence of psychological violence. Females more vulnerable to abuse

Table 1 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Simmons et al.,	2020	University advertising	Physical and emotional	Cross-sectional design with self-report	Explore factors associated with perpetration of CPDA among university students.	Quantitative	One in seven young adults were categorized as abusive toward a parent over the previous 12 months. Sons were more likely than daughters to report abusing their parents and sons disclosed higher rates of father abuse than daughters, but similar rates of mother abuse. Exposure to marital violence, parent-to-child aggression, trait anger, and aggressive scripts were significant predictors of both mother and father abuse. Male sex was a significant predictor of father abuse. Rumination and impulsive emotional regulation were significant predictors of mother abuse. Father abuse was better explained by the model than mother abuse. Factors related to general aggressive behaviour may be good predictors for father abuse, but additional factors may be needed to explain mother abuse.
Simmons et al.,	2019	University advertising	Physical and financial abuse	Cross-sectional design with self-report	Confirm the structure of the ABC-I within an Australian youth population aged 14–25 years old and investigate convergent validity with the CPAQ.	Quantitative	Parents who identified their children as abusive were 89% more likely to have higher ABC-I scores than non-abused parents. The ABC-I identified a 12-month CPA incidence rate of 16%. The ABC-I is the first CPA measure to provide an evidence-based threshold for abuse that incorporates both frequency and severity of abuse to improve upon the identification of abuse involving psychological aggression or coercion. Females were less likely to be abusive towards their parents according to the ABC-I. Sample was older than most found in CPDA research, some evidence that the pattern of abuse changes with increased age.
Smith	2015	Elder support network	Physical and emotional abuse	Cross-sectional design with self-report	How older low-income women make sense of their adult children's problems	Quantitative and qualitative	Themes identified: violating maternal expectations, violating mother's personal space/boundary violations, taking, or not taking action, maternal self-blame, and shame.
Sun & Hsu	2016	Hospitals	Physical abuse	Follow-up design with an intervention program	The effect of the Child- and Parent-focused Violence Program, an adjunctive intervention involved with both violent adult children with mental illness and their victimized biological parent on violence management.	Quantitative	The violence inflicted before intervention was comparable between two groups: 88.9% of parents in the experimental group versus 93.9% in the control group experienced a verbal attack, and 50% of parents in experimental group compared to 48.5% in the control group received body attack and were injured. The intervention significantly reduced violence, improved impulsivity, changed patients' and parents' violence attributions, and fostering active coping processes in the experimental group as compared to the control group. But no significant reductions were found in verbal aggression, cognitive and social reactions in the parent's reactions to assault, an attentional subscale of impulsivity and wishful thinking,
Svensson et al.,	2020	Outpatient settings involving adult drug users and their parents	Physical, emotional, and financial abuse	Cross-sectional design with self-report	Parents' experiences of abuse directed at them by their adult children with drug problems.	Qualitative	According to parents, parent-child interactions are dominated by the child's destructive drug use, which the parents are trying to stop. This then leads to conflicts and ambivalence between parents and their children. The parents' attempt to justify/explain their children's disruptive behaviour as a result of drug use. Drugs are blamed to make it easier to repair the parent-child bonds. Parents differentiate between the child who is sober and the child who is under the influence of drugs. A sober child is a person that the parent likes and makes an effort for. The child who is on drugs is erratic, at times aggressive, and self-destructive.

Table 1 Continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Trull-Olivia & Soler-Maso	2021	Juvenile Offenders	Physical abuse	Cross-sectional design with self-report	Factors that enable and limit the empowerment of young people on these programmes within the framework of the Catalan youth justice system. To identify those factors that, according to the young people who use these services, favour, or hinder the consolidation of learning and skills for their personal growth, rehabilitation, and social reintegration.	Qualitative and quantitative	Participants favoured the development of soft skills such as self-esteem, responsibility, or autonomy. Living together in an educational group allowed them to acquire or consolidate good habits and behaviour through their daily activities and interactions. Generates self-awareness and maturity, reinforces individuals' well-being and security and helps them to be able to act and make life decisions responsibly. Limiting factors suggest a series of reflections on how to improve future socio-educational interventions. Interventions should closely link to young people's day-to-day environment. Imposing coercive or restrictive practices minimise willingness to change, improve or transform and hinders the correct development of youth empowerment.

Perpetrator Characteristics

Most of the studies included in this review reported the age of perpetrators, fifteen studies reported the mean age of perpetrators, (Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012, Hsu et al., 2014; Hsu & Tu, 2013; Jimenez-Garcia et al., 2020; Kageyama et al., 2020; Labrum & Solomon, 2020; Lyons et al., 2015; McManus et al., 2017; Moen & Shon, 2020c; Sánchez et al., 2019; Simmons et al., 2020; Simmons et al., 2019; Smith, 2015; Sun & Hsu, 2016). Eight studies do not explicitly report the age of perpetrators, but they state that all 'participants' are over the age of 18 years old (Browne & Hamilton, 1998; de Veinsten, 2004; Ibabe et al., 2020; Johnson et al., 2020; Johnson et al., 2018; Lyons et al., 2015; Rheaume et al., 2009; Svensson et al., 2020). The remaining study reported the age range of perpetrators (Trull-Olivia & Soler-Maso, 2021). Furthermore, data concerning the gender of perpetrators of CPDA was reported in all but one study (Ibabe et al., 2020).

Although this review intended to extract data regarding the ethnicity of CPDA perpetrators, the majority of studies did not report the ethnicity of perpetrators of CPDA (Browne & Hamilton, 1998; de Veinsten, 2004; Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012; Hsu et al., 2014; Hsu & Tu, 2013; Ibabe et al., 2020; Jimenez-Garcia et al., 2020; Johnson et al., 2020; Johnson et al.,2018; McManus et al., 2017; Smith 2020; Sun & Hsu., 2016; Svensson et al., 2020; Trull-Olivia & Soler-Maso, 2021). However, eight studies did report the ethnicity of perpetrators (Kageyama et al., 2020; Labrum & Solomon, 2020; Lyons et al., 2015; Moen & Shon, 2020c; Rheaume et al., 2009; Sánchez et al., 2019; Simmons et al., 2020; Simmons et al., 2019).

The authors also intended to extract data relating to the substance use of perpetrators of CPDA, but the majority of studies did not report this information (Browne & Hamilton, 1998;

de Veinsten, 2004; Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012; Ibabe et al., 2020; Jimenez-Garcia et al., 2020; Kageyama et al., 2020; Lyons et al., 2015; Moen & Shon, 2020c; Rheaume et al., 2009; Sánchez et al., 2019; Simmons et al., 2020; Simmons et al., 2019; Smith, 2015; Trull-Olivia & Soler-Maso, 2021). Nevertheless, eight studies presented data regarding substance abuse by perpetrators of CPDA (Hsu et al., 2014; Hsu & Tu, 2013; Johnson et al., 2020; Johnson et al., 2018; Labrum & Solomon, 2020; Sun & Hsu, 2016; Svensson et al., 2020).

It seemed pertinent to consider the psychiatric conditions of CPDA perpetrators. However, only eight studies reported the psychiatric conditions of perpetrators, (Hsu et al., 2014; Hsu & Tu, 2013; Johnson et al., 2020; Johnson et al., 2018; Kageyama et al., 2020; Labrum & Solomon, 2020; Sun & Hsu, 2016; Svensson et al., 2020). One study reported mental illness for perpetrators, but this data was amalgamated with substance use (McManus et al., 2017). The remaining fourteen studies did not report perpetrators psychiatric conditions (Browne & Hamilton, 1998; de Veinsten, 2004; Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012; Ibabe et al., 2020; Jimenez-Garcia et al., 2020; Lyons et al., 2015; Labrum & Solomon, 2020; Moen & Shon, 2020c; Rheaume et al., 2009; Sánchez et al., 2019; Simmons et al., 2020; Simmons et al., 2019; Smith, 2015; Trull-Olivia & Soler-Maso, 2021)

As explained previously, extraction of data regarding CPDA perpetrators previous experiences of abuse was conducted, but only in seven studies (Browne & Hamilton, 1998; de Veinsten, 2004; Gamez-Guadix & Calvete, 2012; Lyons et al., 2015; Moen & Shon, 2020c; Rheaume et al., 2009; Simmons et al., 2020). In the remaining sixteen studies, this information was not provided (Gamez-Guadix et al., 2012; Hsu et al., 2014; Hsu & Tu, 2013; Ibabe et al., 2020; Jimenez-Garcia et al., 2020; Johnson et al., 2020; Johnson et al., 2018; Kageyama et al., 2020;

Labrum & Solomon, 2020; McManus et al., 2017; Sánchez et al., 2019; Simmons et al., 2019; Smith, 2015; Sun & Hsu., 2016; Svensson et al., 2020; Trull-Olivia & Soler-Maso, 2021).

Table 2: Perpetrator characteristics

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Browne et al.,	1998	469	30.70	Over 18	Not reported	Not reported	Not reported	Physical, emotional, and sexual abuse
de Veinsten	2004	240	56.00	Over 18	Not reported	Not reported	Not reported	Physical and emotional abuse
Gamez-Guadix & Calvete	2012	1681	22.50	20.60	Not reported	Not reported	Not reported	Physical abuse
Gamez-Guadix et al.,	2012	1343	26.00	21.10	Not reported	Not reported	Not reported	Not reported
Hsu et al.,	2014	13	38.50	36.00	Not reported	Mood disorder (100%)	Alcohol Use: Never (38.5%), monthly or less (23.1%), 2-4 times per month (23.1%), 1-3 times per week (15.4%)	Not reported
Hsu & Tu	2013	14	71.40	35.70	Not reported	Schizophrenia (100%)	Amphetamines (7.14%) Alcohol Use: 1–3 times/week (7.14%) More than 4 times per week (7.14%)	Not reported
Ibabe et al.,	2020	847	Not reported	Over 18	Not reported	Not reported	Not reported	Not reported

Table 2 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Jimenez-Garcia et al.,	2020	500	39.20	20.59	Not reported	Not reported	Not reported	Not reported
Johnson et al.,	2020	683	79.80	Over 18	Not reported	ADHD (40.3%), Autism spectrum disorder (6.8%) Psychotic disorder (8.3%), Affective disorder (24.6%)	Alcohol (18.5%), Cannabis (81.6%), Amphetamines (60.0%), Heroin (24.8%), Analgesics (41.3%), Sedatives (59.8%), NPS (35.0%)	Not reported
Johnson et al.,	2018	687	80.20	Over 18	Not reported	ADHD (40.3%), Autism spectrum (6.8%), Psychotic disorder (8.3%), Affective disorder (24.6%)	Alcohol (18.5%), Cannabis (81.6%), Amphetamine/cocaine/CS (60.0%) Heroin (24.8%), Painkillers (41.3%), Sedatives (59.8%)	Not reported
Kageyama et al.,	2020	66	69.70	39.60	Non-Hispanic African American (64%), Non-Hispanic Caucasian (23%), Hispanic of any race (9%), unknown (4%)	Schizophrenia (100%)	Not reported	Not reported
Labrum & Solomon,	2020	327	63.00	29.23	African American (64%), Caucasian (23%), Hispanic (9%), unknown (4%)	Serious Mental Illness (not specified) (100%)	History of substance abuse (26%)	Not reported
Lyons et al.,	2015	365	24.20	Over 18	Caucasian (60.3 %), African Canadian (12.3 %), Asian/Pacific Islander (10.9 %). Middle Eastern (6.7 %), Other (4.5 %, Hispanic/Latino (3.1 %), Native Aboriginal (2.2 %).	Not reported	Not reported	Physical and emotional abuse
McManus et al.,	2017	913	81.60	24.36	Not reported	History of drug/ alcohol abuse and/or mental illness (73.0%)		Not reported

Table 2 Continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Moen & Shon	2020c	12	0	32.20	Black African (8%), White African (58%)	Not reported	Not reported	Physical, emotional, and sexual abuse
Rheaume et al.,	2009	75	22.70	Over 18	Caucasian (78.7%), African American (10.7%), Biracial (5.3%), Asian (2.7%), Hispanic (2.7%)	Not reported	Not reported	Physical abuse
Sánchez et al.,	2019	561	27.27	19.85	Not reported	Not reported	Not reported	Not reported
Simmons et al.,	2020	435	24.40	20.62	Australian (77.5%), Australian Aboriginal (0.7%), European (9.0%), Asian (7.1%), African (2.5%), New Zealander or Māori (1.6%), Americas (1.5%), Russian (0.5%)	Not reported	Not reported	Physical and emotional abuse
Simmons et al.,	2019	587	22.20	20.44	Australian (78.0%), Australian Aboriginal (0.5%), European (8.5%), Asian (7.2%), African (2.6%), Kiwi or Maori (1.7%), Americas (1.2%), Russian (0.3%)	Not reported	Not reported	Not reported
Smith	2015	15	62.50	39.30	Not reported	Not reported	Not reported	Not reported
Sun & Hsu,	2016	36	49.30	36.19	Not reported	Mood disorder (36.1%) Schizophrenia (63.9%)	Alcohol consumption (unspecified) (36.1%)	Not reported
Svensson et al.,	2020	33	78.1	Over 18	Not reported	ADHD (36.36%) Suspected ADHD (18.18%)	Substance users (100%)	Not reported
Trull-Olivia & Soler-Maso	2021	18	92	17-19 (Range)	Not reported	Not reported	Not reported	Not reported

Synthesis of Findings

Qualitative synthesis of the findings from the literature included in this review of CPDA literature revealed several consistent themes in the literature and included: family dynamics, psychopathology, methods of abuse, and perpetrator characteristics (e.g., gender, age, substance use), perpetrator-victim relationship, and perpetrators' past experience of parent-to-child abuse. These findings were synthesised to develop a research-based typology of CPDA perpetrators.

Family dynamics were considered in almost all articles included in this review. It was evident that CPDA was likely to be a factor in families where the parent had previously been abusive towards their child (Browne & Hamilton, 1998; de Veinsten, 2004; Gamez-Gaudix & Calvete, 2012; Ibabe et al., 2020; Lyons et al., 2015; Moen & Shon, 2020c, Rheaume et al., 2009). Additionally, exposure to marital conflict also appeared to be a risk factor for subsequent perpetration of CPDA (Gamez-Gaudix & Calvete, 2012; Ibabe et al., 2020). Where studies investigated the role of parenting styles, they generally found that the authoritarian parenting style, whereby a parent uncompromisingly enforces their own ideas regardless of the will of the child (Brosnan, Kolubinski & Spada, 2020), was positively associated with verbal CPDA (Gamez-Gaudix & Calvete, 2012). Previous research supports the link between authoritarian parenting and aggression generally (e.g., Chen, Raine & Granger, 2018; De la Torre-Cruz, García-Linares & Casanova-Arias, 2014). Alternatively, parents that adopted a negligent parenting style, in which parents were dismissive of their child's needs, were at an increased risk of physical and verbal abuse by both sons and daughters (Gamez-Gaudix et al., 2012). These findings suggest that both parenting style and experiences of parent-to-child abuse

may be a contributing factor to subsequent CPDA. In addition, the literature also revealed information regarding the type of abuse that was perpetrated in CPDA.

Most children inflicted the same type of abuse towards their parents as their parents had inflicted towards them; when parents were physically abusive towards their children, their children also perpetrated physical abuse towards their parents (Browne & Hamilton, 1998). Explanations for this within the literature consistently take a social learning stance, in that children learn to be abusive via the modelling of abusive behaviour by their parents (Browne & Hamilton, 1998; Gamex-Gaudix & Calvete, 2012; Gamex-Gaudix et al., 2012). As a result, it is suggested that CPDA results from learning abusive tactics from experiences of parent-to-child abuse or witnessing abuse between parents. Interestingly, studies that included parents' perspectives on the reasons for their child's abuse frequently blamed their own parenting (Hsu & Tu, 2013; Hsu et al., 2014; Smith et al., 2015). However, parents also highlighted the role of their children's substance use and believed it to be a major factor in their child's abusive behaviour (Hsu & Tu, 2013; Hsu et al., 2014; Johnson et al., 2018; Johnson et al., 2020; Smith et al., 2015). Substance use by children is however predicted by poor parenting (e.g., Charoenwongsak, Kinorn & Hongsanguansri, 2017; Valente, Cogo-Moreira & Sanchez, 2017; Zuquetto, Opaleye, Feijó, Amato, Ferri & Noto, 2019) and so these explanations are likely to be interactive rather than mutually exclusive.

In the majority of studies, CPDA perpetrators were currently using, or had a history of using, at least one substance, (Hsu & Tu, 2013; Hsu et al., 2014; Johnson et al., 2018; Johnson et al., 2020; Labrum & Solomon, 2016; McManus et al., 2017; Sun & Hsu., 2016; Svensson et al., 2020). However, the relationship between substance use and CPDA is complex. Some of the cases of CPDA e.g., when substance use was involved, appeared to be financially motivated

(i.e. the child's need to satisfy their addiction, resulting in property damage and financial abuse (Johnson et al., 2018; Johnson et al., 2020). However, in other cases the child's substance use seemed to drive aggressive and violent behaviour (McManus et al., 2017). However, when substance use was then coupled with mental illness, particularly psychotic-, affective-, personality- and developmental-disorders, the risk of physical CPDA appeared to be heightened (Hsu et al., 2014; Hsu & Tu; 2013; Johnson et al., 2020; Johnson et al., 2018; Labrum & Solomon, 2020; McManus et al., 2017, Sun & Hsu, 2016; Svensson et al., 2020).

The literature consistently highlighted the association between mental illness in children and increased levels of parental victimisation, particularly physical violence (Hsu & Tu, 2013; Hsu et al., 2014; Johnson et al., 2018; Johnson et al., 2020; Kageyama et al., 2020; Labrum & Solomon, 2020; Smith, 2020; Sun & Hsu, 2016; Svensson et al., 2020). However, in other cases of CPDA, serious mental illness was not associated with using a weapon, threatening victims, or damaging property (Lamburm & Solomon., 2020). Lambrum and Solomon (2020) argued that in cases where the CPDA perpetrator had a serious mental illness, the conflict was more likely to arise from the perpetrator's behaviour and issues related to their mental illness and broader family pathology.

From the literature identified in the searches, there were several perpetrator characteristics that were notable in CPDA cases. Most of the literature found that the perpetrators were equally likely to be male or female in CPDA cases, with two exceptions: McManus et al., (2017) and de Veinsten (2004) who found males to be more likely to perpetrate CPDA. McManus et al., (2017) utilised a criminal justice sample and so this may be due, at least in part, to selection bias in that police officers are more likely to see a male as a perpetrator of domestic abuse and be more of a risk to the victim than a female (e.g., Storey & Strand, 2012). The

perpetrators' sex did not appear to be associated with the type of abuse perpetrated (Browne & Hamilton, 1998; Gamez-Gaudix & Calvete 2012; Gamez-Gaudix et al., 2012; Jiminez-Garcia et al., 2020; Simmons et al., 2020) with the exception of de Veinsten (2004) that found males to be more likely to physically abuse their elderly parents than females, which is consistent with Simmons et al.'s (2019) findings that this pattern appeared to change with age, with females becoming less likely to perpetrate CPDA as they grew older. From the studies that clearly reported the age of CPVA perpetrators, they were typically aged between their late teenage years and mid-twenties (Gamez-Guadix & Calvete, 2012; Gamez-Guadix et al., 2012; Jimenez-Garcia et al., 2020; McManus et al., 2017; Simmons et al., 2020; Simmons et al., 2019; Trull-Olivia & Soler-Maso, 2021). However, in studies that included CPVA perpetrators that also had a mental illness, their age was typically between thirty and forty years old. The dynamic of these families appears to be driven by the ongoing support mentally ill adult children required from their parents (Hsu & Tu, 2013; Hsu et al., 2014; Kageyama et al., 2020; Smith, 2015), with conflicts frequently stemming from perceived boundary violations between children and their parents (Smith, 2015).

Whilst it was fundamental to capture characteristics of perpetrators, victim characteristics were also of significant interest. Detailed reports of CPDA victim characteristics were generally lacking, but where there were sex-differences it appeared that mothers were more likely to be victims of CPDA than fathers (McManus et al., 2017; Moen & Shon, 2020c; Sanchez et al., 2019). However, this finding was not consistent with a number of studies that reported that both mothers and fathers were equally likely to experience CPDA (Browne & Hamilton, 1998; Gamez-Guadix & Calvete, 2012; Jimenez-Garcia et al., 2020; Lyons et al., 2015; Simmons et al., 2020). Furthermore, the identified studies did not typically report information

regarding the age of the parents that experienced abuse, though one study suggested that older parents were at greater risk of financial abuse (Johnson et al., 2020). However, there was insufficient literature to allow any conclusion. Therefore, the typical age and gender of a parent experiencing CPDA is unclear.

Conclusions

- Most children that were abusive towards their parents had experienced childhood abuse.
- Children may learn their abuse tactics from their parents and tend to use the same tactics as their parents.
- Both mental illness and substance use served as an aggravating factor in CPDA.
- There were generally no significant sex differences with regards to the perpetrator of CPDA, although this pattern may change as the perpetrator's age increases, with older females being less likely to perpetrate CPDA than older males.
- There is no clear sex-difference in whether Mothers or Fathers were most at risk of CPDA, although in criminal justice samples or where victims are elderly women may be more likely to be victimised than men.

Systematic Review Part II: Parricide

Methods

Search Strategy

Data were sourced from five databases: Web of Science, Google Scholar, Embase, Medline and PsycInfo. This combination of databases was selected to ensure that over 95% of

published articles were identified (Bramer et al., 2017). The systematic search intended to capture all published literature regarding the murder of parents at the hands of their adult children. The search terms used are as follows: Familicide OR Matricide OR Patricide OR Parricide. The final search was conducted on 24/02/2021.

Eligibility Criteria

From the potential articles produced by systematic research, studies were selected that included at least one form of parricide, including the killing of one's mother (matricide), the killing of one's father (patricide), or the killing of both parents (parricide). This review aimed to identify all studies that investigated perpetrators of parricide and provided information pertaining to causes, drivers and aggravating factors of parricide. To be eligible for inclusion, the perpetrators of parricide within the study must have a minimum age of 16 or mean age of 18 years or above (to capture age variance). Relevant studies were identified using the same study selection process as outlined on page 7. A summary of the study selection process is presented in Figure 2.

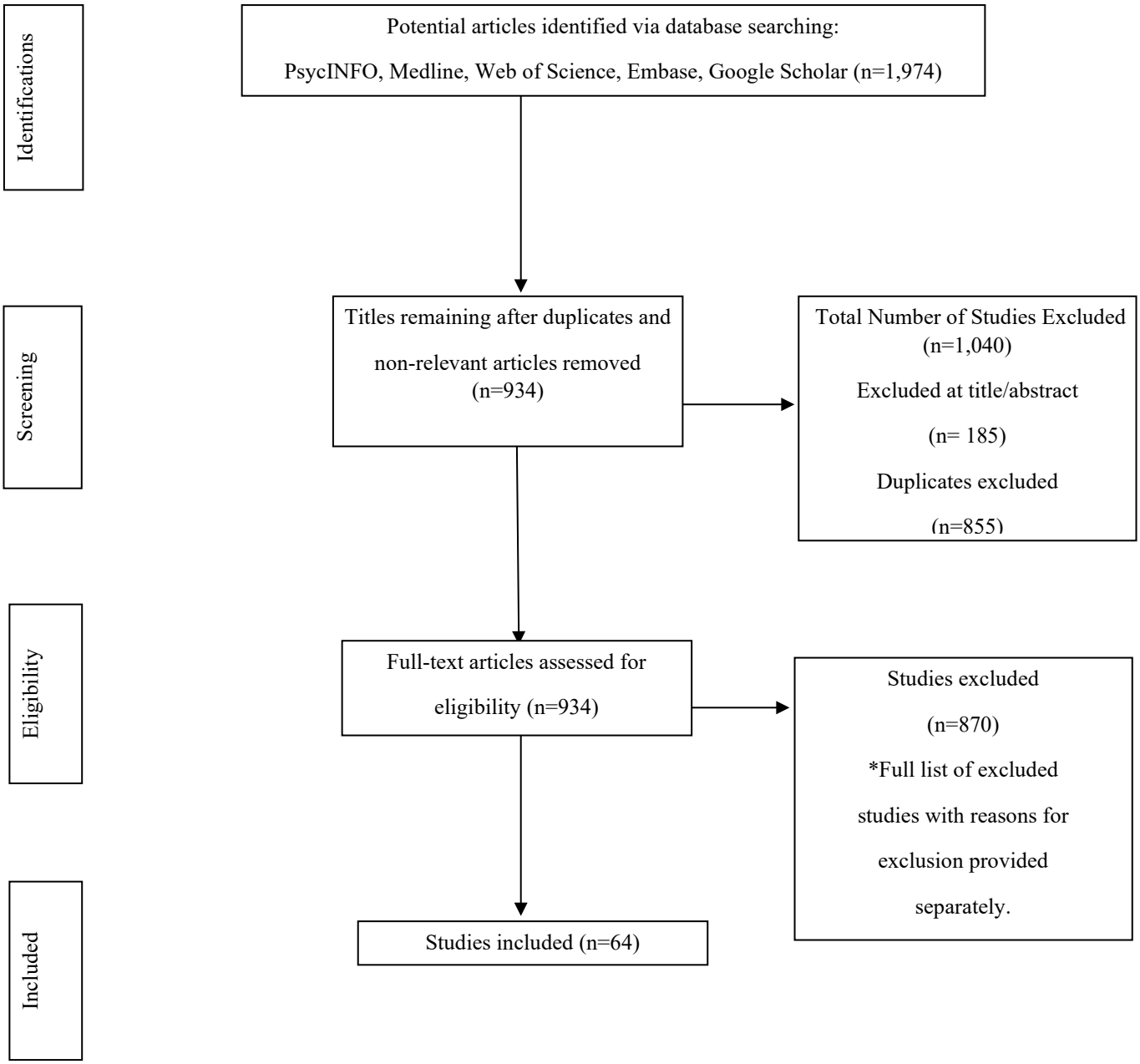


Figure 2. PRISMA Flow diagram of study selection process from The PRISMA 2020 statement: an updated guideline for reporting systematic reviews (Page, McKenzie & Bossuyt, et al., 2020).

Data Collection

Data were extracted from eligible articles using the same approach as outlined on page 8. However, characteristics of the victim were also extracted from the identified studies and included: age, gender, and their relationship to the perpetrator. Data regarding the victim's ethnicity were rarely reported, possibly due to the fact that in most studies, the perpetrator was the victim's biological child. Therefore, it is likely that the victim and perpetrator shared

the same ethnicity. Where full-text articles had incomplete or missing data, the reviewer contacted the study's corresponding author via email to obtain this information. If no response was received, the study was excluded.

Results

Study Characteristics

The studies included in this review were published between 1971 and 2020. The studies identified from the systematic search were conducted in various countries, nineteen studies were conducted in America, (Aguilar, 2019; Boots, & Heide, 2006; Fegadel, 2014; Fegadel & Heide, 2015; Fegadel & Heide, 2017; Fegadel & Heide, 2018; He, 2012; Heide, 1993; Heide, 1993; Heide, 2014; Heide & Petee, 2007; Holcomb, 2000; Hubbell, Heide & Khachatryan, 2019; Maas, Prakash & Hollender et al., 1984; Newhill, 1991; Sadoff, 1971; Viñas-Racionero, Schlesinger & Scalora et al., 2017; West & Feldsher, 2010).

One study was conducted in Australia, (Wick, Mitchell & Gilbert et al., 2008). Three studies in Brazil, (de Borba-Telles, Menelli & Goldfeld, et al., 2017; Teixeira, Meneguette & Dalgalarrondo, 2012; Valenca, Mezzasalma & Nascimento et al., 2009); Four studies were conducted in Canada, (Bourget, Gagne & Labelle, 2007; Leveillee, Lefebvre & Vaillancourt, 2010; Marleau, Auclair & Millaud, 2006; Millaud, Auclair & Meunier, 1996). One study was conducted in Chile, (Orellana, Alvarado & Muñoz-Neira et al., 2013). Two studies were conducted in Finland, (Lauerma, Voutilainen & Tuominen, 2010; Liettu, Saavala & Hakko, et al., 2009). Six studies were conducted in France, (Benezech, Ceccaldi & Guitard, 2020; Gabison-Hermann, Raymond & Mathis et al., 2010; Le Bihan & Benezech, 2004; Le Bihan, Ureten, & Lavole, 2012; Raymond, Larhant & Mahe et al., 2020; Raymond, Léger & Lachaux,

2015). One study was conducted in Germany, (Hellen, Lange-Asschenfeldt & Ritz-Timme et al., 2015).

Two studies were conducted in Ghana, (Adinkrah, 2017; Adinkrah, 2018). One study was conducted Hungary, (Fodor, Fehér & Szabados et al., 2019). Four studies were conducted in Italy, (Carabellese, Rocca & Candelli et al., 2014; Catanesi, Rocca & Candelli et al., 2015; Di Vella, Grattagliano & Romanelli et al., 2017; Trotta, Mandarelli & Ferorelli et al., 2020). Two studies were conducted in Korea, (Jung et al., 2014); Lee, Lim & Lee, et al., 2017). One study was conducted in Portugal, (Dantas, Santos & Dias et al., 2014). One study was conducted in Russia, (Jargin, 2013). Three studies were conducted in Serbia, (Dunjic, Maric & Dunjic et al., 2008; Ljubicic, 2019; Novović, Pavkov & Smederevac et al., 2013. Two studies were conducted in Spain, Cutrim Jr, Stuchi & Valenca, 2013; Gómez-Durán, Martin-Fumadó & Litvan et al., 2013).

Three studies were conducted in South Africa, (Moen & Shon, 2020a; Moen & Shon, 2020b; Ogunwale & Abayomi, 2012). One study was conducted in Taiwan (Amorado, Lin & Hsu, 2008). Three studies were conducted in Tunisia (Dakhlaoui, Khemiri & Gaha et al., 2009; Ellouze, Damak & Bouzuita et al., 2017; Oueslati, Fekih-Romdhane & Zerriaa et al., 2018). Two studies were conducted in Turkey (Dogan, Demirci & Deniz et al., 2010; Sahin, Sahin & Tavasli, et al., 2016). Five studies were conducted in United Kingdom, (Baxter, Duggan & Larkin, et al., 2001; Bojanić, Flynn & Gianatsi et al., 2020; Bows, 2019; d'Orban & O'Connor, 1989; Holt, 2017). The remaining study was conducted in Zimbabwe, Menezes, (2010).

A summary of study characteristics are presented in Table 3. Studies utilised diverse samples, however, the majority of identified studies did not clearly state the sample from which perpetrators were derived. The samples utilised in the studies identified in this review

included: media sources, autopsy reports, psychiatric evaluation reports, Home Office Homicide Index, case records, personal contacts and follow-up information provided by hospital and/or prison records, arrested individuals and hospital admissions and recruited samples from forensic science departments.

This review intended to capture all studies where the phenomena of interest related to parricide. As outlined in Table 3, for most studies, the phenomenon of interest was parricide. However, some studies included in this review had a slightly different focus, some relating to matricide, familicide or double parricide specifically. Of the remaining studies, the phenomena of interest included domestic homicide and elder abuse.

There were no restrictions regarding research design, as a result a variety of research designs were utilised within the studies selected for inclusion. As shown in Table 3, the majority of studies were case studies. However, some studies utilised a retrospective design to review parricide cases, newspaper surveillance designs, descriptive designs, cross-sectional designs with self-report measures, case content analyses, retrospective observational designs, comparative designs phenomenological designs.

Table 3: Parricide Study Characteristics

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main findings
Adinkrah	2017	Ghanaian media sources from 1990 to 2016	Patricide	Newspaper surveillance	Extent of Patricide in Ghana Demographic characteristics of assailants and victim. Modus operandi. Temporal and spatial aspects. Motives and circumstances surrounding the crime.	Qualitative and quantitative	Patricide is a rare crime. Sons were more likely than daughters to kill their fathers. Adult children were more likely than children to commit patricide. A significant number of the patricides were triggered by the offender's mental illness. The predominant circumstance was conflict between son and father over a range of issues. Three of the 18 patricides were influenced by the perpetrators' beliefs that their fathers were maleficent witches who had bewitched them. Patricide offenses were typically spontaneous rather than premeditated.
Adinkrah	2018	Ghanaian media sources from 1990 to 2016	Matricide	Newspaper surveillance	Extent of Matricide in Ghana Demographic characteristics of assailants and victim. Modus operandi. Temporal and spatial aspects. Motives and circumstances surrounding the crime	Qualitative and quantitative	Sons were more likely than daughters to kill their mothers. Matricide offenders were more likely to suffer from serious psychiatric disorders. Matricide offenses generally occurred in the victim's home. All cases of matricide were characterized by excessive physical force and extreme violence. Ghana differed from matricides in Western nations in four respects: o None of the 21 matricides was perpetrated with a firearm. o In none of the cases did the offender act with an accomplice. o None of the matricide offenses was perpetrated by a child. o Suspicion that the mother-victim was a maleficent witch was an significant trigger in matricide perpetration.
Aguilar	2019	California counties: Los Angeles County and Orange County from 1990 to 2015	Parricide	File record review of official public documents and online news publications	Differences between male parricides and female parricides: Offender demographics. Offense characteristics. Motivation for the offense. Victimology Presence of mental illness	Qualitative and quantitative	There were differences between male parricide and female parricide in weapon choice, motivation, and mental illness. Firearms were more frequently used to kill fathers and knives were more frequently used to kill mothers. Males were more motivated to kill because of an argument, whereas females were more motivated to kill by a parent-child relationship. Males were characterized by psychotic disorders compared to females who tended to be characterised by mood disorders.
Amorado et al.,	2008	Case files provided to John Jay College of Criminal Justice by the FBI Behavioural Science Unit	Parricide	Case content analysis	History of parental abuse in parricide offender backgrounds Mental illness in parricide offenders. Crime scene characteristics of parricides. Distinctions between crime scenes of adult and juvenile parricide offenders	Qualitative and quantitative	Mental illness and abuse were not significantly different for juvenile compared to adult offenders. There were significant differences for the number of victims and movement of the victim's body after death between juvenile and adult offenders. There were differences between juvenile and adult offenders in initial approach to victim and overkill. Juveniles did not significantly experience more abuse in the hands of their parents compared to the adults. Juveniles were more likely to commit double parricide than adults. Adults were more likely to move the body after the offense. Fathers had significantly more overkill than mothers.
Baxter et al.,	2001	Patients admitted to one of the three high-secure hospitals in England and Wales between 1972 and 1996 with an index offence of parricide	Parricide	Comparative case analysis	Description of a large series of parricides committed by those with mental disorder. Distinguish mentally disordered individuals who commit parricide from those convicted of other homicides.	Qualitative and quantitative	Parricide offenders were more likely to suffer from schizophrenia but less likely to have had a disrupted childhood and criminal history compared to those who had killed a stranger. Parricide offenders had made a previous attack on their victim in 40% of cases.

Table 3 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main findings
Bojanić et al.,	2020	Case series of homicide convictions from 1997-2014 in England and Wales from the Home Office Statistics Unit of Home Office Science. Greater Manchester Police offenders' convictions records from the Police National Computer. Psychiatric court reports. NHS Trusts	Parricide	Data driven approach	Description of the characteristics of parricide offenders with a focus on mental illness and clinical care Examination of Heide's typology of parricide through a data-driven approach	Qualitative and quantitative	Parricide offenders were predominantly male, unmarried, and unemployed. A third of offenders were diagnosed with schizophrenia and 28% had been in contact with mental health services before the offense. Three types of parricide offenders were devised from the results of latent class analysis: middle-aged with affective disorder, previously abused, and seriously mentally Ill. These findings were in line with Heide's typology.
Boots et al.,	2006	Numerous large databases that house local, regional, national, and international publications written in the English language and conducted during 2003	Parricide	Content analysis	Incident based data. Offender characteristics. System-processing data. Post-disposition data. Motives and other items of clinical interest. Heide's typology.	Qualitative and quantitative	Twelve significant differences were discussed between U.S. and non-U.S. cases of parricide with respect to characteristics of parricide incidents, motives and other areas of clinical interest in parricide offenders, and Heide's typology.
Bourget et al.,	2007	Consecutive coroners' files between 1990 and 2005 in Québec	Parricide	Review of medical and psychiatric records	Similarities and differences between samples of cases of matricide and patricide Factors that may be characteristic of parricide committed by men versus those characteristics of the same crime committed by women.	Qualitative and quantitative	Approximately 15 percent of the perpetrators attempted suicide following the parricide. A psychiatric motive, typically arising from depression or a psychotic illness was determined for 65.5 percent of the offenders. 67 percent of them had a psychotic disorder. There were similarities and differences were found between cases of matricide and patricide.
Bows et al.,	2019	UK Police force data	Domestic homicide	Data Analysis	Gender patterns in domestic homicide involving older victims. Qualitative differences between older victims of domestic homicide and younger victims	Qualitative and quantitative	There were differences in domestic homicide of older men and women in relation to the perpetrator gender and relationship and differences between intimate-partner homicides and those perpetrated by other family members.
Carabellese et al.,	2014	Not reported	Matricide	Case Study	Relationship between Capgras syndrome and violence	Qualitative	Capgras' syndrome was a specific risk factor for violence towards others, in cases were the murder occurred as a result of a delusionally misidentified person.
Catanesi et al.,	2015	Two Italian Forensic Psychiatry Departments between 2005 and 2010	Matricide	Phenomenological	The role of the mother–son bond in the aetiology of matricide by mentally disordered sons.	Qualitative	Most matricide offenders suffered from psychotic disorders, especially schizophrenia. A "pathologic" mother–son bond was found in all cases. The dynamics of the mother–son relationship coupled with unique personalities and life experiences of both mother and son are fundamental to cases of matricide.
Cutrim Jr et al.,	2013	Not reported	Parricide	Case study	Psychiatric assessment and criminal responsibility	Qualitative	The patient suffered from schizotypical disorder and demonstrated cognitive and volitive impairment. He was found not guilty of murder by reason of insanity. He was later diagnosed with paranoid schizophrenia.

Table 3 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main findings
Dakhlaoui et al.,	2009	Schizophrenic patients hospitalized between June 1979 and March 2008 in the forensic psychiatry department at the psychiatric hospital in Tunis	Parricide	Retrospective observation	Description of the profile of psychotic parricide	Qualitative and quantitative	The sample accounted for 20.8% of psychotic homicides hospitalized during the same period and approximately 30% of homicides committed by schizophrenic patients. There were as many as patricides as matricides. The main contributing factors that have are an young age (28 years), being single (70%), socio-cultural poverty, unemployment, paranoid delusions, hallucinations, and recent treatment interruption. Some signs of this parricide are often present but misunderstood, such a sense of situational impasse, a request for help, or reluctance during interview.
Dantas et al.,	2014	Autopsy reports of parricide victims at the North Services of the National Institute of Legal Medicine and Forensic Sciences of Portugal 2003-2011	Parricide	Retrospective observational	Characterisation of victims and perpetrators, the type of practices involved, analysing their consequences through the results of forensic autopsies and judicial decisions concerning cases of parricide.	Qualitative and quantitative	Both victims and perpetrators were typically males. The assaults occurred at home, with witnesses present, and the perpetrator remained at the scene after the assault. The main reasons for the assaults were untreated psychiatric illness and financial conflicts in the cases of adult parricide and attempts to protect the mother from intimate partner violence in younger ones.
de Borba-Telles et al.,	2017	Patients charged with parricide under psychiatric care in the Forensic Psychiatric Hospital	Parricide	Cross-sectional analysis	Sociodemographic and psychiatric characteristics, killing methods and criminal background of parricide offenders admitted into a forensic inpatient mental health facility	Qualitative and quantitative	Most parricides were young and had little or no formal schooling. All perpetrators were adult males, 94.4% were single, and 77.8% did not have prior convictions. All offenders acted alone, predominantly against elderly victims. The parricide was committed at their parent's household in 83.3% of cases, and only one used a firearm. After perpetrating the crime, 27.8% attempted to escape the scene. Most perpetrators suffered schizophrenia or had an antisocial personality.
Di Vella et al.,	2017	Not reported	Patricide	Case study	Case report	Qualitative	The case reported was considered "unusual" due to the age of the aggressor, the diagnosis of psychiatric disorders, that the victim was the father, and that the murder was extremely violent.
Dogan et al.,	2010	Not reported	Matricide	Case study	Case report	Qualitative	33-year-old daughter who had been receiving treatment for schizophrenia for 15 years, murdered and dismembered mother
d'Orban et al.,	1989	Case records. Follow-up information was obtained from the patient's current or last consultant from current hospital or prison records and from personal contact	Parricide	Retrospective review of cases	Sociodemographic and psychiatric characteristics of parricide offenders	Qualitative and quantitative	Six offenders were schizophrenic, five had psychotic depression, three had personality disorders, and one was alcoholic. Two of the patricides had no psychiatric disorder but retaliated against violent fathers. Regardless of psychiatric diagnosis, matricides were mostly single, socially isolated women in mid-life, living alone with a domineering mother in a mutually dependent but hostile relationship. Similar characteristics are found in male matricides, who are predominantly schizophrenic. These features are of greater significance in matricide than the specific form of psychiatric disorder. Compared with filicides, matricides were significantly older, were single, and more often suffered from mental illness and substance abuse. Possible homicidal risk associated with delusions of poisoning and hypochondriacal delusions.

Table 3 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main findings
Dunjić et al.,	2008	Autopsy reports at the Institute of Judicial Medicine Faculty of Medicine, University of Belgrade 1991-2005	Parricide	Retrospective observational	Sociodemographic and psychopathological characteristics of parricide offenders Analysis of circumstances of parricide and psychiatric morbidity	Qualitative and quantitative	Parricide offenders were on average, the majority were males, 60.6% experienced psychiatric symptoms, most commonly schizophrenia, alcohol dependence, personality disorder. Victims were slightly, predominantly males, and 21.2% had a diagnosed mental illness. Parricide is a rare kind of homicide and accounts for 3% of all homicides. Offenders are typically unemployed males in early adulthood who have mental disorder.
Ellouze et al.,	2017	Not reported	Matricide	Case study	Case report	Qualitative	Single man, unemployed and consumed alcohol. He was consulted for a paranoid schizophrenia and he was aggressive with his mother. This aggressiveness was fuelled by persecution and filiations' delusions. At the time of the murder, his mother had appeared to him in a terrifying form that he felt that he had to kill her to defend himself. Highlights the difficulty of matricide prevention.
Fegadel	2014	National database, National Incident-Based Reporting System (NIBRS) database (1991-2010)	Parricide	Data analysis	Offender characteristics Victim characteristics Weapons used	Quantitative	Typical offender was a white male involving in single-victim, single-offender parricide and stepparricide. Victims of single-victim, single-offender stepparricide were younger than biological parents slain. The weapons that predominated in single-victim, single-offender parricide and stepparricide incidents were firearms and knives or cutting instruments. More than half of offenders used a firearm when killing a father or stepfather. Offenders who killed their stepmother used a firearm in less than half of the incidents. Offenders who killed their mother used diverse methods such as a firearm, knife/cutting instrument, blunt objects, personal weapons, or other means.
Fegadel et al.,	2015	NIBRS database (1991–2010)	Double Parricide	Data analysis	Juvenile and adult involvement in parricides Offender, victim, and incident characteristics	Quantitative	The typical double parricide offender who acted alone was a White male around 30 years of age. When multiple offenders were involved, the offenders tended to be younger and were more likely to include a female accomplice.
Fegadel et al.,	2017	NIBRS database (1991–2010)	Familicide (parents as victims)	Data analysis	Family victim types Victim, offender, and incident characteristics	Quantitative	The typical familicide offender was a White male approximately 26 years of age. Firearms predominated as murder weapons in these incidents; however, when a biological mother was one of the victims, offenders used more diverse methods. Only one case of familicide involved a female offender.
Fegadel et al.,	2018	Supplementary Homicide Report (SHR) and NIBRS (1991–2010)	Parricide	Data analysis	Comparison of the correlates of single victim-single offender parricide incidents in the United States from 1991 to 2010 across the two databases	Quantitative	Offender, victim, and weapons data for parents and stepfathers were generally consistent across the two databases. There were few statistically significant differences between the two data sets were observed.

Table 3 continued

Author	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main findings
Fodor et al.,	2019	Not reported	Parricide	Case Study	Case report	Qualitative	Capgras symptom seemed to be associated with violent behaviour. Non-adherence to treatment played an essential role in the development of violent behaviour, parricide.
Gabison-Hermann et al.,	2010	Parricide patients hospitalised in the Henri-Colin secure unit (1997–2007)	Parricide	Retrospective review of cases	Population of parricide patients and description of their evolution after the crime	Qualitative and quantitative	The sample included 29 parricides and 32 victims. Paranoid schizophrenia was the most prevalent diagnosis. The evolution of the sample on average, 7 years after the crime showed that 59% of patients have activities (working or therapeutic activities), 71% of them still have an involuntary admission procedure going on.
Gómez-Durán et al.,	2013	Not reported	Matricide	Case study	Case report	Qualitative	In both cases the offenders suffered from intense isolation, originating primarily in their disorders, but reinforced by their families. In both cases, the mothers almost certainly had mental disorders, which may have affected their perceptions of the needs of their children. The most important implication of these stories is that families whose difficulties lead them to be socially avoidant may be at higher risk of poor health and of not being recognised as needing health and social supports.
He	2012	Homicide cases from Chicago police department (1965-1995)	Parricide	Data analysis	Relationship between parricide and gender, age, weapon, motivation, and relationship to victim. Comparison between demographic factors of parricide.	Qualitative and quantitative	The majority parricide is matricide, and males committed significantly more parricide than females. Victim ordering was also consistent with previous studies: biological fathers, biological mother, stepfather, stepmother, and foster mother. Females tended to be older than their males when they were murdered. The majority of victims were black; similarly, the majority of offenders were black. Offenders of age 50 and above were most likely to kill their female parents and stepparents were much older than biological parents when they were murdered. Child abuse did not seem to be involved in any of the parricide cases.
Heide	2013	SHR database (1976–2007)	Matricide	Data analysis	Comparison between the two female victim types in the United States	Quantitative	More than 70% of mothers and stepmothers were White and killed in single victim, single offender incidents. Killers were adult sons in between 67% and 87% of incidents. Stepmothers and their stepchildren, relative to mothers and their offspring, were significantly younger. 64% percent of stepchildren, compared with 35% of biological children, were under age 25 at the time of their arrest for murder. A higher percentage of juveniles than adult killers was involved in multiple offender incidents involving mothers. A higher percentage of female juveniles were involved in multiple offender incidents involving the deaths of mothers and stepmothers. A higher proportion of female adults, compared to males, were involved in multiple offender matricide incidents. Offenders who killed stepmothers, in comparison to mothers, were more likely to use guns. Juvenile matricide offenders were more likely to use firearms than their adult counterparts.
Heide	2014	SHR database (1976–2007)	Patricide	Data analysis	Comparison of victim, offender, and case correlates in incidents when fathers and stepfathers were killed	Quantitative	More than 80% of fathers and stepfathers were killed in single victim, single offender homicides. Killers were adult sons and stepsons in more than 70% of the cases. Juvenile offenders were less likely to be involved in the killings of fathers and stepfathers in more recent years. Stepfathers and stepchildren, compared to fathers and their offspring, were younger. Juvenile offenders were more likely than their adult counterparts to use firearms to kill fathers (79% vs. 54%) and stepfathers (72% vs. 58%). Gender differences in weapons used to kill fathers were found among juvenile and adult offenders; males more likely to use firearms than females.

Table 3 continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Heide	2007	SHR database (1976 to 1999)	Parricide	Data analysis	Offense circumstances and victim and offender correlates are reported. Juvenile involvement in incidents in which parents were killed is examined. *Update to Heide (1993)	Quantitative	The top two circumstances (other argument, other not felony) comprised 81% of the circumstances involved in patricide incidents. In matricide incidents, these two circumstances comprised 76% of the total. The typical victim killed in patricide incidents was in their early 50s. The typical victim killed in matricide incidents was in her late 50s. In matricide cases, 75% of victims were White. In patricide cases, 68% of victims in this study were White. The proportionate involvement of males in the killing of victims in patricide incidents was 87%. Males also were disproportionately represented in the killings of victims in matricide events 84% in the present study.
Hellen et al.,	2015	Autopsy records of the Institute of Legal Medicine of the University Hospital of Düsseldorf, Germany, (2006-2011)	Matricide	Retrospective review of cases	Circumstances and motives for the murder Perpetrator and victim characteristics	Qualitative	Two women killed their mothers because they were overburdened by caring for them. Both women showed compulsive tendencies s therefore not surprising that especially these women lack coping strategies while dealing with an elderly mother in need of care. Overstress resulting in the accidental killing of the person causing and triggering the negative feelings has to be assumed.
Holcomb	2000	Arrested individuals and hospital admissions	Parricide	Retrospective review of cases	Offender and victim characteristics	Qualitative	Most prominent characteristics across matricide types are severe mental illness, a domineering mother, a hostile-dependent relationship with the mother, a passive or withdrawn father, and over kill behaviour. Self-affirmation motive suggests several interventions to prevent violence against the mother or its equivalents.
Holt	2017	Home Office Homicide Index (1977–2012)	Parricide	Data analysis	Characteristics of offenders, victims, incidents and court outcomes	Quantitative	There was no significant association between gender of offender and whether a single-victim or double parricide is committed. Almost a third of parricides that involved multiple offenders involve females as the 'principal offender'. There is a significant relationship between the offenders' gender and whether other offenders are involved. Gender of victims is evenly distributed. 37 per cent of female victims were 70 years or over compared with 29 per cent of male victims. There was a significant association between whether the perpetrator is an adult or juvenile, and the gender of the victim (juveniles were more likely to kill fathers). No other significant associations were found between adult and juvenile offenders. 14 per cent of victims and 35 per cent of offenders were intoxicated at the time of the killing(s). Most frequent method of killing in parricides: use of a sharp or blunt instrument (60%). Shooting (7%). Shooting is more common by male perpetrators.
Hubbell et al.,	2000	Newspaper accounts LexisNexis, Access World News, and Google	Parricide	Content analysis	Offender and victim demographics, incident characteristics, and the processing of offenders from the initial charge through conviction and sentencing	Qualitative	Adoptive mothers and fathers died in almost all incidents, 95% of mothers and 95% of fathers. Approximately 76% of adoptive children acted alone when they killed/attempted to kill their adoptive parents in single victim (20%) or multiple victim (56%) incidents. In 91% of the incidents, adopted sons acted alone (74%), with non-family members (17%) were the perpetrators. Firearms were the most common weapon type (30% of cases). Multiple weapons, sharp objects, and blunt objects (used in 59% of the weapons used). Killings as a result of a fight/conflict (26%) or from psychosis/mental illness (24%). The following antisocial motives were reported: to acquire money/proceeds from insurance policy (35%), to achieve freedom from parents (20%), and to date the person of their choice (9%). Evidence of overkill was reported in 39% of incidents.

Table 3 continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Jargin	2013	Not reported	Elder abuse	Case Study	Case report	Qualitative	The perpetrators were mentally healthy or had a personality disorder. Parricide is not always recognised as such by victims and social environment. Borderline cases can include involvement of older people in binge drinking, denial of help, and manipulation towards suicide.
Jung et al.,	2014	Korea Police Crime Analysis System, from (2006-2013)	Parricide	Data analysis	Demographic features and criminal characteristics of individuals who committed parricide and filicide	Quantitative	Parricides caused by schizophrenic murders accounted for 39.6% of all cases. Psychiatric illness was a very important predictor in parricide
Lauerma et al.,	2010	Not reported	Matricide	Case study	Case report	Qualitative	23-year follow-up of the case of a transvestite, possibly transsexual, man who killed his mother by strangulation at the age of 20, and later in two separate cases strangled a female victim towards whom he felt sexual desire.
Le Bihan et al.,	2012	Parricide inpatients in a maximum-security hospital at Cadillac, near Bordeaux in France	Parricide	Descriptive study	Recognition of crime, the apparent motives and behaviour following the facts who could alter the expression of truth	Qualitative	These offenders were often single (80.3%), unemployed (69.6%) and lived with the victim (60.7%). Common psychiatric conditions included: schizophrenia, often paranoid, or a schizoaffective disorder (85.7%), paranoid reading (10.7%), more rarely a psychotic disorder related to psycho-active substances (1.8%) or an emotionally unstable personality (1.8%), intelligence is most often average (78.6%). The 64 victims are, were the mother (51.6%), father (40.6%) or grandparent (7.8%). There were eight case of double parricide. The crime is mostly perpetrated at the victim's home that the offender shares.
Le Bihan et al.,	2004	Parricide offenders in a maximum-security hospital for dangerous insane patients in Cadillac, near Bordeaux (1963-2003)	Parricide	Descriptive study	Characteristics of individuals who committed parricide	Qualitative	Most offenders were single, living with their parents and had no profession. Mental illness of perpetrators included schizophrenia, usually paranoid type, persistent delusional disorder and substance-induced psychotic disorder. The disorder had been present from 1 to 5 years or in some for more than 10 years (33.3%). Auditory hallucinations were frequent, and delusions were mostly of the persecution or influence type. Homicide often seemed to be an emotional reaction of defence, with no apparent motive, impulsive, very violent and committed within the family household. The weapon used was usually one that was accessible. There was no difference between schizophrenics and paranoiacs regarding degree of organization. Typological analysis of 'acting out' revealed that most crimes were of the behavioural type: aggressive, affective, expressive.
Lee et al.,	2017	Parricide offenders with schizophrenia who were admitted to National Forensic Hospital in Gongju city (2014-2015)	Parricide	Cross-sectional study	Personality characteristics in parricide offenders	Quantitative	The parricide offender group were significantly higher on the following variables: L, F, Hs, Hy and Pd than the comparison group. Pd and Si significantly increased the odd ratio of the sexual offender group by 2.77 times and 0.32 times, respectively. The offenders of parricide may have developed the following characteristics: hypochondriasis, hysteria and psychopathic deviate. (L: lie, F: infrequency, K: defensiveness, Hs: hypochondriasis, D: depression, Hy: hysteria, Pd: psychopathic deviate, Mf: masculinity-femininity, Pa: paranoia, Pt: psychasthenia, Sc: schizophrenia, Ma: hypomania, Si: social introversion)
Leveillee et al.,	2010	Bureau du Coroner en Chef du Québec (1990-2003)	Parricide	Descriptive	Descriptive profile of every parricide case	Qualitative	Majority of parricide offenders were unemployed and were living with their parents. Many of them used excessive violence during the killing and one third consulted a mental health professional before the parricide. Mental state (psychotic or mood disorder) and anger (following an argument) motivation were highly represented within parricide cases.

Table 3 Continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Liettu et al.,	2009	Forensic psychiatric examination statements	Parricide	Case review	Comparison of diagnoses and criminal responsibilities of matricidal and patricidal offenders	Qualitative	Matricidal offenders suffered more commonly from a psychotic disorder than patricidal offenders. A greater proportion of patricidal offenders had a personality disorder. Among schizophrenic offenders the paranoid subtype was more common in the group of matricidal offenders than in the group of patricidal offenders. Borderline personality disorder was more frequently found among patricidal offenders than among matricidal offenders. Matricidal offenders were more commonly found not guilty by reason of insanity than patricidal offenders. For matricidal offences, the most common motive was a mental disorder, whereas patricidal offences were most often motivated by a long-term conflict. In addition, patricidal acts were more likely to be preceded by threat by the victim than matricidal acts.
Maas et al.,	1984	Not reported	Double parricide	Case study	Characteristics of homicidal, particularly parricidal patients, these two patients are compared with one parricidal and six homicidal patients.	Qualitative	Fathers were killed before the mothers. Mothers were fawning and were perceived by other family members or friends as spoiling their sons. They also refused to believe reports of psychiatric illness in their son and were frequently defensive when the subject was raised. Fathers were overly indulgent but not weak and took responsibility for their sons' actions but did not consider them as expressions of psychosis. Father-son conflicts reported. History of criminality and aggression.
Marleau et al.,	2006	Institut Philippe Pinel de Montréal security hospital for forensic patients or persons presenting with psychiatric dangerousness	Parricide	Comparative study	Comparison of adult parricide offenders and adolescent parricide offenders.	Qualitative and quantitative	Adult offenders tended to suffer from severe mental disorders, have a history of violent behaviour and psychiatric antecedents, and are more likely to threaten their parents. Adolescents were less predictable in their acting out and present several profiles as a function of victims' sex, number of victims, diagnostic elements, and being witness to or victim of intrafamilial violence.
Menezes	2010	Hospital-wide survey of individuals in Zimbabwe who were charged with homicide of their biological parents (1980-1990)	Parricide	Retrospective and national cross-sectional survey	Similarities and differences between matricide and patricide committed by mentally disordered offenders	Qualitative and quantitative	About one-third of the offenders were known to the psychiatric services and the rest were found to be mentally ill at the time of the crime when they were tried in court. Most of the offenders were suffering from a psychotic illness and one offender had a diagnosis of personality disorder. Half of the offenders had been to a traditional healer before committing the crime. Most of the offenders used a blunt instrument, 15 used sharp instruments and one woman used strangulation. Firearms were not used in committing parricide.
Millaud et al.,	1996	Institut Philippe Pinel de Montréal security hospital for forensic patients	Parricide	Case study	Sociodemographic characteristics of offenders and offense characteristics	Qualitative and quantitative	The mentally ill parricidal men in our sample were unmarried, unemployed, and usually lived with the victim. Edged weapons (knives) were frequently used, firearms less so. Mental illness played a significant role in who the victim is. Psychotic pathology substantially increased the risk of murderous assault for the mother. Although psychosis was present in all the patients, the associated personality disorders seem to have played a significant role in who the victim was. Diagnosis of alcohol and drug abuse was as frequent as a diagnosis of paranoid schizophrenia (41.7%).
Moen et al.,	2020a	Crime records from JUTASTAT database Newspaper articles and true crime books	Parricide	Newspaper surveillance	Offense and offender characteristics of parricides	Qualitative and quantitative	Mothers and fathers were equally likely to be killed, but the offenders were predominantly male. Parricides in South Africa were predominantly unplanned events that morphed out of the ongoing social interactions between victims and offenders that escalated into arguments and lethal fights. Arguments constituted the most common source of conflict between parents and their offspring.

Table 3 continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Moen et al.,	2020b	Crime records from JUTASTAT database Newspaper articles and true crime books	Double parricide	Newspaper surveillance	Offense and offender characteristics of parricides	Qualitative and quantitative	Multiple victim parricides were equally likely to be premeditated and emerge spontaneously during the ongoing social interactions. Domestic arguments and verbal abuses by relatives contribute to the typical conflicts that end in multiple victim parricides. Firearms were the most common method of killing multiple victims. Black Africans were underrepresented in the parricide cases. Whites and Asians/Indians (minority groups in South Africa) were disproportionately represented in parricides in general and multiple victim parricides in particular.
Newhill *d'Orban et al., 1989, Maas et al., 1984 and Sadoff 1971 not included in this data because they were identified in the systematic search and are presented separately.	1991	Not reported	Parricide	Literature review	Characteristics of the adult perpetrator and the role of the victim.	Qualitative	Perpetrator characteristics: Under age 25, male, diagnosis of paranoid schizophrenia/personality disorder, paranoid delusions, emotional lability, inability to manage anger and anxiety effectively, olfactory and auditory hallucinations, preoccupation with violent thoughts, non-compliance with medication and substance abuse was common. Interpersonal dynamics: Parental victim could be rated high on construct of "expressed emotion". Offender engaged in a hostile-dependent relationship with the parent. History of violence toward others. Psychiatric staff experienced negative countertransference based on viewing patient as "characterological" and "manipulative" resulting in a tendency to "dismiss" the patient as not worthy of therapeutic effort. Patient projected blame for difficulties on others.
Lipson et al., 1986		Not reported	Matricide	Case study	Offender and victim characteristics.	Qualitative	Offender had paranoid, psychosis/ dependent personality. Victim was considered to be an overbearing, interfering mother.
Chamberlain., 1986		Not reported	Double parricide	Case study	Offender and victim characteristics.	Qualitative	Offender had an acute manic episode with paranoid ideation. Victim characteristics: father was erratic and explosive, mother was warm.
Cravens et al., 1985		Not reported	Patricide and double parricide	Cohort study	Offender and victim characteristics.	Qualitative	5 offenders felt that fathers threatened their masculinity; all had pathological interpersonal dynamics
Green., 1981		Not reported	Matricide	Cohort study	Offender and victim characteristics.	Qualitative	Close-confining mother-son relationship. Offenders were considered to be dependent and immature. Mothers were previewed as dominant.
Novović et al.,	2013	Not reported	Parricide	Case Study	Schizoid personality structure as a precursor for brutal offenses. Dissociation during the commitment of crime Killer personality and motivations for the crime	Qualitative	A person with schizoid personality sometimes become a perpetrator of a brutal offense in situations where they feel they are in danger of punishment, and their personal space is being threatened. Dissociation can be activated by murder itself as a way to protect the murderer from the traumatic experience that may overburden their resources.
Ogunwale et al.,	2012	Not reported	Matricide	Case report	Psychosocial, contextual and clinical issues involved in the perpetration of matricide by patients with schizophrenia	Qualitative	There were complex psychodynamic, phenomenological, and contextual factors in the act of matricide by schizophrenic offenders. Ambivalent relationships existed between schizophrenic offenders and their mothers. Adequate clinical interventions are needed for families of schizophrenic patients to resolve psychological tension which might contribute to the murder of the mother.
Orellana et al.,	2013	Not reported	Matricide	Case study	Ventromedial Prefrontal Cortex lesion in homicidal behaviour	Qualitative	Secondary psychotic syndrome associated with a lesion in the frontal neural network, which is disturbed in psychopathy, could facilitate homicidal behaviour.

Table 3 continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Oueslati et al.,	2018	Not reported	Patricide	Case study	Highlight that PTSD can develop after committing patricide	Qualitative	Misdiagnosing a PTSD in homicide offenders with schizophrenia exposed them to a persistent psychological stress. Stress worsened the outcome of schizophrenia. Violent behaviour such a suicide or violent offenses occurred as a result.
Raymond et al.,	2020	Not reported	Double parricide	Case Study	The role of schizophrenia in double parricide	Qualitative	Adolescent parricides were rarely the result of a mental disorder but resulted from suffering severe abuse from the parent. Offenders were mostly young men with paranoid schizophrenia with persecutory delusions, substance use and/or antisocial comorbidity and living at the parental home.
Raymond et al.,	2015	Henri Colin secure unit (1996-2010)	Parricide	Cross-sectional with self-report	Clinical and forensic characteristics of parricidal patients. Evolution of patients that had left the unit.	Qualitative and quantitative	Offenders were mostly young men, single, unemployed, living with the victim prior to the assault (77.5%), and with a history of psychiatric disorder (72.5%). Offenders tended to have a diagnosis of schizophrenia (87.5%), significant criminal or violent history. Some offenders had attempted suicide before or after the offense. The assault was mostly committed in the parent's house with an edged weapon, characterised by brutality and was not typically premeditated. Precipitating factors: substance use and non-adherence to psychotropic medication. Matricide was more frequent than patricide. Half of the patients were working or attending therapeutic activities, and most were actively in contact with their family, living as compliant outpatients with no signs of violent behaviour.
Sadoff	1971	Not reported	Parricide	Case study	Psychodynamic difficulties	Qualitative	There was usually a cruel and unusual relationship between victim and murderer and ambivalent bond between child and parent. There was a high predictability of violence and borderline or schizoid personality. Often, parental abuse 'pushes' the child to explosive violence.
Sahin et al.,	2016	Psychiatric evaluation reports of the 4th Specialization Board of the Council of Forensic Medicine (2009-2011)	Parricide	Descriptive study	Similarities and differences among types of parricide committed by adult offenders.	Qualitative	There were one hundred thirty-five adult perpetrators of parricide (125 males, 10 females), 51.9% committed patricide, 40% committed matricide and 8.1% committed double parricide. Most of the perpetrators used sharp instruments as the killing method. No mental disorders were detected in 58.5% of the perpetrators, psychotic disorders were identified in 30.4% of the cases. Use of sharp instruments as the killing method was predominant and were used mostly by matricide offenders with psychotic disorders. Psychotic disorders were the most commonly detected mental disorders in the parricide offenders, most of them did not suffer from mental disorders.
Teixeira et al.,	2012	Not reported	Matricide	Case study	Motivations for matricide with cannibalism and self-mutilation	Qualitative	Reports of mutilation of genitals and eyes in schizophrenic patients are found in medical literature; however, there are few cases where such acts were committed in the first psychotic episode. Matricide is generally less common than patricide, and the offender is usually the male son. This case is severe, complex, and likely the first case described in matricide literature followed by cannibalism and mutilation of the penis and hand.
Trotta et al.,	2020	Not reported	Patricide	Case study	Overkill in a patricide case and the role of Capgras delusion	Qualitative	The offender was aged 45, unmarried and lived with the victim. Diagnosis of bipolar disorder, personality disorder and depression, unemployed for 19 years before the crime, the point at which he first experienced delusions. Offender was taking prescribed medications quetiapine and lithium carbonate. There had been non-adherence to medication leading up to the murder, the victim had sought help for this. Offender was diagnosed with schizoaffective disorder with acute paranoid delusion was given after the murder.

Table 3 continued

Author(s)	Year	Sample	Phenomenon of Interest	Design	Evaluation	Research Type	Main Findings
Valenca et al.,	2009	Not reported	Matricide	Case study	The role of bipolar disorder in matricide	Qualitative	The offender was considered not guilty by reason of insanity, due to a mental disorder that affected her entire understanding and determination of the practiced delict. She has been under inpatient forensic psychiatric care for two years. Mental health professionals should be aware of the risk of violent behaviour in patients that present a long history of mental disorders and present episodes of violence during the acute phase, threats against relatives and friends, or the lack of regular psychiatric treatment.
Viñas-Racionero et al.,	2017	Non-random national sample of familicide cases provided by the FBI Behavioural Science Unit via a collaborative project with John Jay College of Criminal Justice. (1984-2000)	Familicide	Retrospective review of cases	Offenders' characteristics and their relationship with the victims. Victims' characteristics and their concerns about the offenders. Offenders' behaviour prior to the murders. Crime scene behaviours of both offenders and victims. Offenders' post-offense behaviour and law enforcement investigation.	Qualitative and quantitative	The majority of offenders experienced interpersonal family conflicts due to parental control, substance use, or physical violence. Prior to the murders, 50 % of the offenders reported to others their intent to kill their families. All of the victims were specifically targeted and most of the homicides were planned shooting attacks (75 %) rather than spontaneous eruptions. Following the homicides, 75 % of the offenders stole money from their families, and in 50 % of the cases they either called their friends to report the murders or to plan leisure activities. All offenders were immediate suspects and 81.25 % confessed to the homicides.
West et al.,	2010	Not reported	Parricide	Case study	Typologies for sons and daughters that kill their parents	Qualitative	Sons that killed their mothers: Often immature, passive, and dependent, schizophrenia is common, often single and living with mother, fathers absent. Mothers were often domineering, demanding, and possessive. Mothers were often the only victim. Excessive force was often used. Motives for killing mother: delusional beliefs, altruism, threat of separation, or arguments. Sons that kill fathers: Schizophrenia was common, they were often single. Fathers were often domineering and aggressive, the only victim. Relationship with son was often cruel and abusive. The crime often involved excessive force. Following the crime, the perpetrator experienced relief, rather than remorse. Daughters that kill mothers: Often middle-aged, single, and living with mother, psychosis is common. Mothers were often the only victim with a hostile and dependent relationship with the daughter. Murder often involves excessive force. Daughters that kill their fathers: Less likely to be psychotic, relationship with father is often tyrannical and relationship between father and daughter was likely to be violent.
Wick et al.,	2008	Forensic Science SA Adelaide, Australia (1985-2004)	Matricide	Retrospective review of cases	Perpetrator and victim characteristics. Killing methods and cause of death. Legal outcomes of murder trials. Motivations for killing.	Qualitative and quantitative	In all cases weapons such as blunt objects including knives, firearms or ligatures were involved in the assaults, with injuries inflicted by the weapons causing death in 10 cases. In five cases trauma was caused by more than one injurious agent/action: immersion and burning. In four cases there were multiple (>10) significant injuries inflicted by perpetrators suffering from schizophrenia 'mental impairment' and a 'combination of psychiatric disorders. One perpetrator committed suicide after killing his mother. Six of the ten surviving perpetrators were found not guilty of murder on the grounds of mental illness or impairment, and one perpetrator had the charge reduced from murder to manslaughter due to underlying mental conditions that included previous brain injury. Intra-familial tensions with underlying psychiatric illness in the perpetrator are common.

Perpetrator Characteristics

A summary of the characteristics of the perpetrators identified within the included studies are presented in Table 4. Most studies (n=62) reported the mean age of participants. However, one study reported the median age of perpetrators (Bojanić et al., 2020), and the other study did not clearly report the age of perpetrators but made it clear that the perpetrators were over 18 years old (Raymond et al., 2020). In addition, all studies reported the gender of the perpetrators.

Of the included studies, only twenty-one studies reported the ethnicity of the perpetrators (Aguilar, 2019; Bojanić et al., 2020, Boots et al., 2006; Cutrim Jr. et al., 2013; Dantas et al., 2014; de Borba-Telles et al., 2017; d'Orban et al., 1989; Fegadel, 2014; Fegadel et al., 2015; Fegadel et al., 2017; Fegadel et al., 2018; He, 2012; Heide, 2013; Heide, 2014; Heide, 2007; Holt, 2017; Hubbell et al., 2000; Menezes, 2010; Moen et al., 2020; Moen et al., 2020; Viñas-Racionero et al., 2017). The remaining forty-three studies did not report the ethnicity of parricide perpetrators.

As mentioned previously, data regarding the perpetrator's psychiatric conditions were extracted from eligible studies were possible. The majority of included studies (n=52) report the psychiatric conditions of parricide perpetrators. However, twelve studies did not report any data relating to perpetrator's psychiatric conditions (Fegadel, 2014; Fegadel et al., 2015; Fegadel et al., 2017; Fegadel et al., 2018; He, 2012; Heide, 2013; Heide, 2014; Heide, 2007; Holt, 2017; Moen et al., 2020; Moen et al., 2020; Sadoff, 1971).

Data pertaining to parricide perpetrators' substance use were extracted from thirty-seven studies (Adinkrah, 2017; Adinkrah, 2018; Aguilar, 2019; Amorado et al., 2008; Baxter et al., 2001; Bojanić et al., 2020; Boots et al., 2006; Bourget et al., 2007; Bows et al., 2019; Catanesi

et al., 2015; Cutrim Jr et al., 2013; Dakhlaoui et al., 2009; Dantas et al., 2014; de Borba-Telles et al., 2017; Di Vella et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Dunjić et al., 2008; Ellouze et al., 2017; Fodor et al., 2019; Holcomb, 2000; Hubbell et al., 2000; Jargin, 2013; Jung et al., 2014; Lauerma et al., 2010; Le Bihan et al., 2012; Le Bihan et al., 2004; Leveillee et al., 2010; Liettu et al., 2009; Marleau et al.,2006; Menezes, 2010; Millaud et al., 1996; Newhill, 1991; Ogunwale et al., 2012; Raymond et al. 2015; Sahin et al., 2016; Valenca et al.,2009; Viñas-Racionero et al., 2017). The remaining twenty-six studies did not report information regarding perpetrators substance use.

As mentioned previously, data regarding perpetrators previous experiences of abuse were extracted, but only twenty studies reported this information (Aguilar, 2019; Amorado et al., 2008; Bojanić et al., 2020; Catanesi et al., 2015; Cutrim Jr. et al., 2013; Dakhlaoui et al., 2009; Dantas et al., 2014; de Borba-Telles et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Gómez-Durán et al., 2013; Hubbell et al., 2000; Lauerma et al., 2010; Le Bihan et al., 2004; Marleau et al., 2006; Novović et al., 2013; Raymond et al., 2020; Raymond et al., 2015; Sadoff; 1971; Viñas-Racionero et al., 2017). The remaining forty-four studies did not provide any data relating to perpetrators prior experience of abuse.

Table 4: Parricide Perpetrator characteristics

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Adinkrah	2017	18	94.4% male	19.7	Not reported	Mental illness factored into crime (33.3%)	Mentioned not clearly reported	Not reported
Adinkrah	2018	21	81% male	31.5	Not reported	Some form of psychiatric illness (33.3%)	Mentioned not clearly reported	Not reported
Aguilar	2019	18	66.7	35	Hispanic/Latino (50%) Caucasian (38.9%) Asian (11.1%)	Bipolar Disorder (20%) Major Depression (20%) Schizoaffective Disorder (20%) Panic Disorder (20%) Post-Traumatic Stress Disorder (20%)	Alcohol Amphetamines Cannabis Cocaine Opioid Sedative/Hypnotic/Anxiolytic LSD Ecstasy *Broken down by gender	Physical and sexual abuse reported *broken down by gender
Amorado et al.,	2008	17	88.2%	30	Not reported	Mental illness (65%)	Drug history (53%) Alcohol history (41%)	Abuse (41.2%) Neglect (23.5%)
Baxter et al.,	2001	98	91	30.6	Not reported	Schizophrenia (78.6%) Mania (1%) Depression (8%) Personality disorder (17%) No data (2%)	Alcohol (17.4%) Illicit drugs (7.1%)	Not reported
Bojanić et al.,	2020	340	88	30 (median)	Black and minority ethnic group (16%)	Mental illness (56%)	History of alcohol misuse (55%) History of drug misuse (61%)	Offender was a victim of child abuse (56%)
Boots et al.,	2006	282	85	20	White (65%) Asian (28%) Black (7%)	Mental illness (17%)	Alcohol and drug use (11%)	Abuse (33%)
Bourget et al.,	2007	73	95.9	30.6	Not reported	Psychotic disorder (67%)	Substance abuse (2.8%)	Not reported
Carabellese et al.,	2014	2	100	19.5	Not reported	Schizophrenia (50%) Capgras syndrome (100%)	Not reported	Not reported
Catanesi et al.,	2015	9	100	36.5	Not reported	Schizophrenia (94.44%) Schizoaffective disorder (11.11%) Psychosis not specified (11.11%) Personality disorder (33.33%)	Reported for one case (type not specified)	Emotional and physical abuse reported

Table 4 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Cutrim Jr. et al.,	2013	1	100	32	Hispanic (100%)	Schizophrenia (100%)	Cannabis use (100%)	Sexual abuse reported
Dakhlaoui et al.,	2009	16	100	28	Not reported	Mental illness (81%)	Addictive behaviour (31%)	Physical and emotional abuse reported *not clearly reported
Dantas et al.,	2014	7	85.7% male	29	Caucasian (100%)	Schizophrenia (14.29%) Depression (14.29%) Depression and domestic violence (14.29%) Domestic violence (28.57%) Unknown (28.57%)	Alcohol use (57.14%) Drug use (14.29%)	Physical and emotional abuse reported *Individual case studies
de Borba-Telles et al.,	2017	18	100% male	29.2	Caucasian (83.3%)	Diagnosed with a psychiatric illness before the offense (83.3%) Schizophrenia (61.1%), Antisocial personality disorder (16.7%) Moderate intellectual developmental disorder (11.2%) Bipolar disorder (5.6%)	Severe substance related disorder (5.6%)	Physical abuse (22.2%)
Di Vella et al.,	2017	1	0%	45	Not reported	No significant mental health history	Past use of cannabis, cocaine and heroin	Not reported
Dogan et al.,	2010	1	0	33	Not reported	Schizophrenia (100%)	No history of substance abuse	Emotional abuse reported
d'Orban et al.,	1989	17	0	39.5	Two from the West Indies One from North America One in Europe Remaining 13 from UK	Schizophrenia (35.29%) Psychotic depression (29.41%) Personality disorders (17.65%) Alcoholism (5.88%)	Alcohol use (41%)	Physical and emotional abuse reported
Dunjić et al.,	2008	33	87.8	31.2	Not reported	Schizophrenia (24.2%) Personality disorder (15.2%) No psychiatric diagnosis (39.4%)	Drug addiction (3%)	Not reported

Table 4 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Ellouze et al.,	2017	1	100	31	Not reported	Schizophrenia (100%)	Alcohol use (100%)	Not reported
Fegadel	2014	603	84.4	30.5	White (77%) Black (22%) Asian/Pacific Islander and American Indian/Alaskan Native (2%)	Not reported	Not reported	Not reported
Fegadel et al.,	2015	35	91.4	29.8	White (95%) Black (6%)	Not reported	Not reported	Not reported
Fegadel et al.,	2017	14	92.9	24	White (71.43%) Black (28.57%)	Not reported	Not reported	Not reported
Fegadel et al.,	2018							
	NIBRS Dataset	603	84.4	31	White (77%) Black (22%) Asian/Pacific Islander American (1%) Indian/Alaskan Native (1%)	Not reported	Not reported	Not reported
	SHR Dataset	3887	86.6	31.3	White (70%) Black (28%) Asian/Pacific Islander American (1.5%) Indian/Alaskan Native (1%)	Not reported	Not reported	Not reported
Fodor et al.,	2019	2	100	53	Not reported	Schizophrenia (100%) Capgras delusion (100%)	No history of substance use	Not reported
Gabison-Hermann et al.,	2010	29	96.50%	29	Not reported	Schizophrenia (79.3%)	Not reported	Not reported
Gómez-Durán et al.,	2013	2	50%	40	Not reported	Autistic Spectrum Disorder (100%)	Not reported	Emotional abuse
He	2012	242	84.70%	27	Black (57%) White (24%)	Not reported	Not reported	Not reported
Heide	2013	3118	84%	32	White, (72.1%) Black (26.1%) American Indian/Alaskan Native (0.5%) Asian/Pacific Islander (1.2%)	Not reported	Not reported	Not reported

Table 4 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Heide	2014	5043	87.50%	26.05	White (66.6%) Black (31.5%) American Indian/Alaskan Native (0.9%) Asian/Pacific Islander (1.0%)	Not reported	Not reported	Not reported
Heide	2007	3122 2436	70.55%	27.5	White (67.2%) Black (30.4%) Oriental (1%) Indian (0.9) Other (0.1%) Unknown (0.4%)	Not reported	Not reported	Not reported
Hellen et al.,	2015	2	0%	37	German (100%)	Obsessive compulsive personality traits (100%) Schizotypal personality trait (50%)	Not reported	Not reported
Holcomb	2000	13	76.92	24.46	Not reported	Epilepsy (7.69%), psychosis (15.38%), schizophrenia (30.77%), abnormal personality (7.69%), narcissistic personality (7.69%), schizoaffective disorder (7.69%), not reported (15.38%)	Intoxicated (7.69%) Drug dependence (7.69%) Not reported (84.62%)	Not reported
*Excluded – age under 16 years old. Benedek & Comrnell (1989), Mouridsen & Tolstrup (1988), Post (1982), Post (1982), Scher! & Mack (1966), Schwade & Geiger (1953), Tanay (1976), Winfield & Ozturk (1959)								
Akuffo (1991)	*1*	*100*	*31*	*Not reported*	*Epilepsy, Psychotic*	*Not reported*	*Not reported*	
Guttmacher (1960)	*1*	*0*	*38*	*Not reported*	*Psychosis*	*Not reported*	*Not reported*	
Hackfield (1934)	*1*	*100*	*32*	*Not reported*	*Schizophrenia*	*Not reported*	*Not reported*	
Hill & Sargant (1943)	*1*	*100*	*20*	*Not reported*	*Abnormal personality*	*Not reported*	*Not reported*	
Kromm etal. (1982)	*1*	*0*	*17*	*Not reported*	*Narcissistic personality*	*Not reported*	*Not reported*	
McCully (1978)	*1*	*100*	*18*	*Not reported*	*Schizophrenia*	*Not reported*	*Not reported*	
MacDonald (1986)	*1*	*100*	*23*	*Not reported*	*Antisocial personality*	*Not reported*	*Not reported*	
Meloy (1996)	*1*	*100*	*33*	*Not reported*	*Schizoaffective disorder*	*Not reported*	*Not reported*	
Polledri (1997)	*1*	*100*	*21*	*Not reported*	*Not reported*	*drug dependence*	*Not reported*	
Raizen (I 990)	*1*	*100*	*22*	*Not reported*	*Schizophrenia, paranoid*	*Not reported*	*Not reported*	

Table 4 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Holcomb (continued)	*2000*							
Vaisanen & Vaisanen (1983)		*1*	*0*	*21*	*Not reported*	*Not reported*	*intoxicated*	*Not reported*
Wertham (1941)		*1*	*100*	*17*	*Not reported*	*None*	*Not reported*	*Not reported*
Holt	2017	693	89.80%	32.5	White (84%) Black (8%) Asian (7%)	Not reported	Not reported	Not reported
Hubbell et al.,	2000	46	91.30%	19.3	White (74.4%) Black (15.4%) Other (10.3%)	Mental illness/Psychosis (23.9%)	Substance use (6.5%)	Abuse reported (17.4%)
Lauerma et al.,	2010	1	100%	20	Not reported	Severe psychopathy	Alcohol use reported	Abuse reported
Le Bihan et al.,	2004	42	100%	29.9	Not reported	Schizophrenia (83.3%) Persistent delusional disorder (14.3%) Substance-induced psychotic disorder (2.4%)	Alcohol abuse (52.4%) Drug use (mainly cannabis, 40.5%)	Abuse reported (19.1%)
Le Bihan et al.,	2012	56	100%	30.9	Not reported	Paranoid schizophrenia/ schizoaffective disorder (85.7%) Psychotic disorder related to psycho- active substances (1.8%) Emotionally unstable personality (1.8%)	Alcohol use (16%) Drug use (16%)	Not reported
Lee et al.,	2017	73	84.90%	41.23	Not reported	Schizophrenia or schizoaffective disorder (85.7%) Psychotic disorder related to psycho-substances (1.8%) Emotionally labile personality (1.8%)	Not reported	Not reported
Leveillee et al.,	2010	16	100%	31	Not reported	Matricidal offenders: Psychosis (25.6%), Personality/substance-related disorder (25.6%), Other (1.2%). Patricidal offenders: Psychosis (16.0%), Personality /substance-related disorder (29.2%), Other (4.7%) *Broken down into sub-types in-text	Matricidal offenders: Alcohol use (58.1%), Drug use (11.6) Patricidal offenders: Alcohol use (65.1), Drug use (16.0)	Not reported

Table 4 continued

Author	Year	Total number of subjects (n)	Gender (% Male)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Liettu et al.,	2009	192	100%	Matricidal offenders (30.1) Patricidal offenders (27.1)	Not reported	Matricide offenders o Paranoid schizophrenia (28%) o Cluster A personality disorder (15.4%) o Cluster B personality disorder (28.2) o Cluster C personality disorder (61.5) Patricide offenders o Paranoid schizophrenia (2%) o Cluster A personality disorder (7.4%) o Cluster B personality disorder (42.6%) o Cluster C personality disorder (54.4%)	Matricidal offenders o Alcohol use (58.1%) o Drug use (11.6%) Patricidal offenders o Alcohol use (65.1%) o Drug use (16.0%)	Not reported
Maas et al.,	1984	2	100%	32	Not reported	Paranoid schizophrenia (100%)	Not reported	Not reported
Marleau et al.,	2006	43	93%	31.21	Not reported	Paranoid schizophrenia (56%), Bipolar mood disorder (with psychosis) (12%) Schizoaffective disorder (9%). Delusions of persecution (67%) Grandeur (23%) Mandatory auditory hallucinations (40%) Axis I diagnosis most often involving narcissistic and borderline personality traits (26%).	Substance abuse in the past most (54%)	Family violence (30%) Victim of violence (17%)
Menezes	2010	39	87%	35	African (100%)	Male o Schizophrenia/psychosis (41%) o Epilepsy (7.6%) o Personality disorder (2.5%) Female o Schizophrenia/psychosis (7.6%) o Personality disorder (7.6%)	Alcohol and cannabis use (25%)	Not reported
Millaud et al.,	1996	12	100%	31	Not reported	Paranoid schizophrenia (41.7%) Paranoid disorder Delusional disorder associated with psychoactive substances (16.7%) Bipolar disorder with psychosis (16.7%) Depressive disorder with psychosis (8.3%) Borderline disorder (16.7%) Passive-aggressive personality (16.7%) Dependent personality (8.3%)	Alcohol and drug abuse (41.7%) Alcohol consumption or drug use (33.3%)	Not reported
Moen et al.,	2020a	18	88.89%	23	White (38%), Black (24%), Asian (20%), Other (7%)	Not reported	Not reported	Not reported

Table 4 continued

Author(s)	Year	Total number of perpetrators (n)	Gender (%Male)		Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Moen et al.,	2020b	58	79		20	Black (22%) White (56%) Asian/Indian (17%) Other (6%)	Not reported	Not reported	Not reported
Newhill	1991	2	100	Case 1	45	Not reported	Paranoid schizophrenia	Not reported	Not reported
				Case 2	Not reported	Not reported	No mental illness	Alcohol use	Not reported
				Case 3	24	Not reported	Paranoid schizophrenia, with passive-aggressive features. Psychosis and delusions.	Artane use	Not reported
	***Within Newhill, 1991**			Case 4	19	Not reported	Anti-social personality disorder	Drug abuse/mixed substances.	Verbally aggressive father
Lipson et al., 1986		*1*	*100*		*Not reported*	*Not reported*	*Paranoid psychosis/ dependent personality (100%)*	*Not reported*	*Not reported*
Chamberlain., 1986		*1*	*100*		*Not reported*	*Not reported*	*Acute manic episode with paranoid ideation (100%)*	*Not reported*	*Not reported*
Cravens et al., 1985		*10*	*100*		*Not reported*	*Not reported*	*Primarily schizophrenia*	*Not reported*	*Not reported*
Green., 1981		*58*	*100*		*Not reported*	*Not reported*	*Primarily schizophrenia. Personality disorders and endogenous depression reported*	*Not reported*	*Not reported*
Novović et al.,	2013	1	100		27	Not reported	Schizoid personality (100%)	Not reported	Emotional and physical abuse reported
Ogunwale et al.,	2012	2	50		26.5	Not reported	Schizophrenia (100%)	Cannabis use (50%)	Not reported
Orellana et al.,	2013	1	0		62	Not reported	Psychosis (100%)	Not reported	Not reported
Oueslati et al.,	2018	1	100		29	Not reported	Schizophrenia and PTSD (100%)	Not reported	Not reported
Raymond et al.,	2020	2	50		22 and 50s	Not reported	Schizophrenia (50%) Bipolar disorder (50%)	Not reported	Abuse reported (50%)

Table 4 continued

Author(s)	Year	Gender (% Male)	Total number of perpetrators (n)	Age (M)	Ethnicity	Mental Illness	Substance Use	Prior experiences of abuse
Raymond et al.,	2015	40	97.5	28	Not reported	Schizophrenia (87.5%): Paranoid (75%), Disorganized, (7.5%) Undifferentiated (5%). Delusional disorders (5%), Schizoaffective disorder (2.5%) Personality disorder (5%)	Alcohol associated with cannabis (20%) cannabis alone (15%), polydrug use (12.5%) alcohol alone (7.5%), no alcohol/drugs (32.5%)	Physical (>50%) Sexual abuse (10%)
Sadoff	1971	100	1	19.5	Not reported	Not reported	Not reported	Abuse reported
Sahin et al.,	2016	92.6	135	30.73	Not reported	History of Psychosis (24.4%) Major depression (3%) Bipolar disorder (2.2%) Antisocial personality disorder (2.2%) Epilepsy (1.5%) Anxiety disorder (1.5%) Psychosis diagnosed after the offense (30.4%)	Alcohol dependency (4.4%)	Not reported
Teixeira et al.,	2012	100	1	22	Not reported	Schizophrenia (100%)	Not reported	Not reported
Trotta et al.,	2020	100	1	45	Not reported	Schizoaffective disorder (100%) Capgras delusion (100%)	Not reported	Not reported
Valenca et al.,	2009	0%	1	28	Not reported	Bipolar disorder (100%)	Drug use (100%)	Not reported
Viñas-Racionero et al.,	2017	84.21	19	18	Caucasian (78.95%)	Depression (5.26 %) Schizophrenia (5.26%)	History of substance use (47.37 %) Marijuana (31.58%) Cocaine (26.32%) Crystal meth (10.53%) LSD (10.53%) Alcohol (5.26 %)	Physical and sexual violence reported (21.05%)
West et al.,	2010	100	1	37	Not reported	Schizophrenia (100%)	Not reported	Not reported
Wick et al.,	2008	90.9	11	28.7	Not reported	Mental illness (90.9%)	Not reported	Not reported

Victim Characteristics

A summary of victim characteristics are presented in table 5. The majority of studies reported the gender of victims. However, the gender of victims was not reported in seven studies (Gómez-Durán et al., 2013; Le Bihan et al., 2004; Lee et al., 2017; Leveillee et al., 2010; Moen et al., 2020; Raymond et al., 2015; Sadoff; 1971).

Over half of the studies (n=37) included in this review did not report the age of victims and one study had missing age data (Jargin, 2013). However, the remaining twenty-five studies reported the mean age of parricide victims (Aguilar, 2019; Amorado et al., 2008; Bourget et al., 2007; Catanesi et al., 2015; Dantas et al., 2014; de Borba-Telles et al., 2017; Di Vella et al., 2017; Dogan et al., 2010; Dunjić et al., 2008; Fegadel, 2014; Fegadel et al., 2015; Fegadel et al., 2017; Fegadel et al., 2018; Heide, 2013; Heide, 2014; Heide, 2007; Hellen et al., 2015; Holt, 2017; Hubbell et al., 2000; Leveillee et al., 2010; Menezes, 2010; Moen et al., 2020; Trotta et al., 2020; Viñas-Racionero et al., 2017; Wick et al., 2008). The remaining study reported the age range of victims (Bows et al., 2019). In addition, there were limited data regarding victim ethnicity. As a result, the majority of studies (n=53) failed to report the ethnicity of victims. However, victim's ethnicity was reported in nine studies and is presented in Table 5 (Bows et al., 2019; Fegadel, 2014; Fegadel et al., 2015; Fegadel et al., 2017; Fegadel et al., 2018; He, 2012; Heide, 2013; Heide, 2014; Heide, 2007; Holt, 2017; Viñas-Racionero et al., 2017).

In the majority of studies (n=39), the relationship of the victim to the perpetrator was mother and/or father, with data being presented in tandem. However, in sixteen studies, the relationship between the victim and perpetrator was mother-child (Adinkrah, 2018; Carabellese et al., 2014; Catanesi et al., 2015; Dogan et al., 2010; Ellouze et al., 2017; Heide, 2013; Heide, 2007; Hellen et al., 2015; Holcomb, 2000; Lauerma et al., 2010; Ogunwale et al.,

2012; Orellana et al., 2013; Teixeira et al., 2012, Valenca et al., 2009; West et al., 2010; Wick et al., 2008). In five studies, the relationship between victim and perpetrator was father-child (Adinkrah, 2017; Cutrim Jr. et al., 2013; Di Vella et al., 2017; Oueslati et al., 2018; Trotta et al., 2020). In three studies the relationship between victim and perpetrator was not reported (Gómez-Durán et al., 2013; Lee et al., 2017; Sadoff, 1971). In the remaining study, there were multiple family relationships including, parents, grandparents, and siblings (Viñas-Racionero et al., 2017).

Table 5: Victim Characteristics

Author(s)	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
Adinkrah	2017	18	100	Not reported	Not reported	Father
Adinkrah	2018	21	0	Not reported	Not reported	Mother
Aguilar	2019	18	44.4	62.8	Not reported	Father (n=8), Mother (n=10)
Amorado et al.,	2008	22	38.5	57	Not reported	Father (n=8), Mother (n=14)
Baxter et al.,	2001	98	42.0	Not reported	Not reported	Father (n=41), Mother (n=57)
Bojanić et al.,	2020	359	51.0	Not reported	Not reported	Father (n=183), Mother (n=176)
Boots et al.,	2006	226	29.0	Not reported	Not reported	Father (n=66), Mother (n=160)
Bourget et al.,	2007	64	60.0	61.4	Not reported	Father (n=38), Mother (n=26)
Bows et al.,	2019	97	82.0	60-69 (range)	White (64%), Unknown (31%)	Mother and Father
Carabellese et al.,	2014	2	0	Not reported	Not reported	Mother
Catanesi et al.,	2015	9	0	62.3	Not reported	Mother
Cutrim Jr. et al.,	2013	1	100	Not reported	Not reported	Father
Dakhlaoui et al.,	2009	16	50	Not reported	Not reported	Father (n=8), Mother (n=8)
Dantas et al.,	2014	7	85.7	59	Not reported	Father (n=6), Mother (n=1)

Table 5 continued

Author	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
de Borba-Telles et al.,	2017	19	61.2	63.3	Not reported	Father (n=12), Mother (n=7)
Di Vella et al.,	2017	1	100	73	Not reported	Father
Dogan et al.,	2010	1	0	57	Not reported	Mother
d'Orban et al.,	1989	17	17.7	Not reported	Not reported	Father (n=3), Mother (n=14)
Dunjić et al.,	2008	Not reported	54.5	63.7	Not reported	Father and mother
Ellouze et al.,	2017	1	0	Not reported	Not reported	Mother
Fegadel	2014	603	56.2	57.4	White (77%), Black (22%), Asian/Pacific Islander and American Indian/Alaskan Native (<2%)	Father (n=339), Mother (n=264)
Fegadel et al.,	2015	70	50	56.9	White (94%) Black (6%)	Father (n=35), Mother (n=35)
Fegadel et al.,	2017	42	45.8	39.5	White (81%) Black (19%)	Father (n=19), Mother (n=23)
Fegadel et al.,	2018	603	56.2	58.7	White (75%) Black (23%)	Father (n=339)/Mother (n=264)
		3887	55.8	58.4	White (69%) Black (28%)	Father (n=2169)/Mother (n=1718)
Fodor et al.,	2019	2	50	Not reported	Not reported	Father (n=1), Mother (n=1)
Gabison-Hermann et al.,	2010	32	50	Not reported	Not reported	Father (n=16), Mother (n=16)

Table 5 continued

Author	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
Gómez-Durán et al.,	2013	Not reported	Not reported	Not reported	Not reported	Not reported
He	2012	242	33.1	Not reported	Black (68.2%) White (24.8%)	Father (n=80), Mother (n=162)
Heide	2013	3118	0	54.81	White (72.1%), Black, (26.1%), American Indian/Alaskan Native, (0.5%) Asian/Pacific Islander (1.2%)	Mother
Heide	2014	5043	100	55.7	98% of fathers killed were White (67%), Black (32%)	Father (n=3,686), Stepfather (n= 1,357)
Heide	2007	5781	55.16	56.3	*Fathers:* White (67.6.%), Black (30.1%), Oriental (1%), Indian (0.8%), Other (0.1), Unknown (0.4%) *Mothers*: White (75%), Black (22.6%), Oriental (1.1%), Indian (0.5%), Other (0.2%), Unknown (0.3%)	Father (n=3189) Mother(n=2592)
Hellen et al.,	2015	2	0	83	Not reported	Mother
Holcomb	2000	2	0	Not reported	Not reported	Mother
Holt	2017	693	51.0	60.5	White (84%), Black (8%), Asian (7%)	Father (n=353), Mother (n=340)
Hubbell et al.,	2000	46	49.4	54.1	Not reported	Father (n=22), Mother (n=23)

Table 5 continued

Author	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
Lauerma et al.,	2010	1	0	Not reported	Not reported	Mother
Le Bihan et al.,	2004	49	Not reported	Not reported	Not reported	Father (n=20), Mother (n=49)
Le Bihan et al.,	2012	44	45.5	Not reported	Not reported	Father (n=20), Mother (n=24)
Lee et al.,	2017	Not reported	Not reported	Not reported	Not reported	Not reported
Leveillee et al.,	2010	Not reported	Not reported	61.9	Not reported	Mothers and fathers
Liettu et al.,	2009	192	55.2	Not reported	Not reported	Father (n=106), Mother (n= 86)
Maas et al.,	1984	2	50.0	Not reported	Not reported	Father (n=1), Mother (n=1)
Marleau et al.,	2006	Not reported	56%	Not reported	Not reported	Mothers and Fathers
Menezes	2010	39	47.8	60	100% African	Fathers (n=19), Mothers (n=20)
Millaud et al.,	1996	12	50.0	Not reported	Not reported	Fathers(n=6), Mothers (n=6)
Moen et al.,	2020a	46	Not reported	44	Not reported	Mothers and Fathers
Moen et al.,	2020b	74	45.0	49	Not reported	Fathers (n=33), Mothers (n=41)
Newhill	1991	5	40.0	Not reported	Not reported	Father (n=2), Mother (n=2), Grandmother (n=1)
Jargin	2013	3	66.7	Missing data	Not reported	Father (n=1), Mother (n=2)
Jung et al.,	2014	338	48.2	Not reported	Not reported	Father (n=163), Mother (n=175)

Table 5 continued

Author	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
Novović et al.,	2013	2	50.0	Not reported	Not reported	Father (n=1), Mother (n=1)
Ogunwale et al.,	2012	2	0	Not reported	Not reported	Mother
Orellana et al.,	2013	1	0	Not reported	Not reported	Mother
Oueslati et al.,	2018	2	100	Not reported	Not reported	Father
Raymond et al.,	2020	4	50	Not reported	Not reported	Father (n=2), Mother (n=2)
Raymond et al.,	2015	Not reported	Not reported	Not reported	Not reported	Father (40%), Mother (50%), Parental couple (7.5%)
Sadoff	1971	3	Not reported	Not reported	Not reported	Not reported
Sahin et al.,	2016	Not reported	54.5%	Not Reported	Not reported	Mothers and Fathers
Teixeira et al.,	2012	1	0	Not reported	Not reported	Mother
Trotta et al.,	2020	1	100	61	Not reported	Father
Valenca et al.,	2009	Not reported	0	Not reported	Not reported	Mother

Table 5 continued

Author	Year	Number of victims (n)	Gender (% Male)	Age (Mean)	Ethnicity	Relationship to perpetrator
Viñas-Racionero et al.,	2017	42	45.2	36	Caucasian (71.43 %), African American (23.81 %), Unknown (4.76 %)	Parents and siblings (31.25 %); parents and other family members such as grandparents, uncles, or cousins (12.5 %); mother, mother's partner, and the offender's child (6.25 %); only children (6.25 %); and only parents if no siblings were in the family (43.75 %)
West et al.,	2010	Not reported	0	Not reported	Not reported	Mother
Wick et al.,	2008	11	0	61	Not reported	Mother

Synthesis of Findings

This review aimed to identify articles that investigated all forms of CPDA in order to identify the causes, drivers, and aggravating factors of CPDA. Therefore, it was pertinent that articles examining parricide were included. Parricide represents the most extreme case of CPDA wherein a child murders their parent(s). Qualitative synthesis of the findings from all eligible articles provided information pertaining to family dynamics and perpetrator psychopathology; methods of killing and whether these differed by age and sex of the perpetrator/victim. The qualitative synthesis revealed five main themes that consistently appeared in the literature and included, family dynamics, psychopathology, methods of abuse, and perpetrator characteristics such as gender, age, substance use, previous experiences of abuse and their relationship to the victim. As a result, these findings were considered alongside the findings from CPDA articles to devise several typologies for CPDA perpetrators.

The relationship between child and parent seemed to be an aggravating factor that contributed to parricide, but there were different dynamics depending on the gender of the victim. In cases of matricide, most mothers were described as domineering, demanding, and interfering, and the relationship between mother and son tended to be pathological (Catanesi et al., 2015; Gómez-Durán et al., 2013; Holcomb, 2000, Newhill., 1991; Sadoff 1971; West et al., 2010). However, in some cases, the mother was described as warm or overindulgent (Maas et al., 1984; Newhill, 1991). With regards to fathers, they were typically described as being explosive (Maas et al., 1984; Newhill, 1991) or conversely passive and uninvolved in their child's life (Holcomb, 2000; West et al., 2010). That said, in all cases of parricide there appeared to be a cruel and bizarre relationship between parent and child, and that their

feeling towards each other was best described as ambivalence (Sadoff, 1971). Moreover, the perpetrators of parricide where often labelled as dependent and immature (Newhill,1991; West et al., 2010). Consistent with the pathological relationships between children and their parent/s, parricide perpetrators reported significant amounts of childhood abuse experienced at the hands of their parents.

There were frequent reports of prior parent-to-child abuse, with most offenders reporting multiple types of abuse, including physical, emotional and sexual (Aguilar, 2019; Amorado et al., 2008; Bojanić et al., 2020; Catanesi et al., 2015; Cutrim Jr. et al., 2013; Dakhlaoui et al., 2009; Dantas et al., 2014; de Borba-Telles et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Gómez-Durán et al., 2013; Hubbell et al., 2000; Lauerma et al., 2010; Le Bihan et al., 2004; Marleau et al., 2006; Newhill, 1991; Novović et al., 2013; Raymond et al., 2020; Raymond et al., 2015; Sadoff, 1971; Viñas-Racionero et al., 2017). Therefore, the literature suggests that parent-to-child abuse is an aggravating factor for not only later CPDA but also, parricide. Nevertheless, research has highlighted the association between child abuse and mental illness. Therefore, it is unsurprising that in all the articles that reported the perpetrators previous experiences of abuse also reported perpetrator mental illness also (Aguilar, 2019; Amorado et al., 2008; Bojanić et al., 2020; Catanesi et al., 2015; Cutrim Jr. et al., 2013; Dakhlaoui et al., 2009; Dantas et al., 2014; de Borba-Telles et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Gómez-Durán et al., 2013; Hubbell et al., 2000; Lauerma et al., 2010; Le Bihan et al., 2004; Marleau et al., 2006; Newhill, 1991; Novović et al., 2013; Raymond et al., 2020; Raymond et al., 2015; Sadoff, 1971; Viñas-Racionero et al., 2017). As a result, mental illness also seems to play a significant role in the perpetration of parricide.

The frequently mentioned mental illnesses/dysfunctions in the parricide literature identified were psychotic-, affective- and personality-disorders, with schizophrenia and psychosis being the most reported mental illnesses in parricide offenders in the majority of studies. In addition, personality disorders were frequently reported (Baxter et al., 2001; Catanesi et al., 2015; de Borba-Telles et al., 2017; d'Orban et al., 1989; Dunjić et al., 2008; Hellen et al., 2015; Holcomb, 2000; Le Bihan et al., 2012; Lee et al., 2017; Leveillee et al., 2010; Liettu et al., 2009; Marleau et al., 2006; Menezes, 2010; Millaud et al., 1996; Newhill, 1991; Novović et al., 2013; Raymond et al., 2015; Sahin et al., 2016). Therefore, mental illness seems to be significant in parricide offenders. However, there are further complexities when the substance use of perpetrators is considered alongside mental illness.

In most studies that reported mental illness, substance use was also reported. Whilst there is an abundance of literature suggesting that most parricide offenders have a history of substance use, there is little evidence to suggest that parricide perpetrators were typically intoxicated at the time of the offense (Holt, 2017). This is consistent with Gottlieb and Gabrielsen (1992) who found that those involved in intra-family homicide were generally older and less often intoxicated compared to those who killed people outside of their family. Indeed, research has generally found that the association between fatal violence and having a schizophrenia disorder is not explained by comorbid substance abuse (Bennett, Ogloff, Mullen, Thomas, Wallace & Short, 2011). In the current review Holcomb (2000) and Holt, (2017) found that many parricide offenders were not intoxicated at the time of the offense. This is consistent with the frequent premeditation shown by these parricide offenders (Moen & Shon, 2020b; Viñas-Racionero et al., 2017), which brings us to the motivations of parricide offenders.

In cases of parricide, the offense itself tended to be triggered by several situational factors, however, the most common factor seemed to be psychotic episodes (Bourget et al., 2007; Carabellese et al., 2014; Cutrim Jr et al., 2013; Dogan et al., 2010; d'Orban et al., 1989; Ellouze et al., 2017; Fodor et al., 2019; Gabison-Hermann et al., 2010; Liettu et al., 2009, Maas et al., 1984; Teixeira et al., 2012; Valenca et al., 2009). However, arguments between parent and child also seemed to be a significant trigger for parricide (Moen, 2020a; Moen, 2020b), as did financial issues (Dantas et al., 2014). However, the literature also suggested that both neglect and carer burnout, or the inability for the child to continue caring for their parent was also a trigger for parricide (Gómez-Durán et al., 2013; Hellen et al., 2015). Moreover, the living arrangements between parent/s and child also seemed to be a significant factor in the perpetration of parricide. Studies highlighted that parents were at a greater risk of parricide when they shared their home with their child (d'Orban et al., 1989; Le Bihan et al., 2004; Le Bihan et al., 2012; Leveillee et al., 2010; Millaud et al., 1996; Trotta et al., 2020; Raymond et al., 2020; Raymond et al., 2015; West et al., 2010). Despite the situational factors that contributed to parricide, several perpetrator characteristics were also identified.

The gender of offenders was one of the most significant literature findings. The majority of parricide offenders discussed in the literature were male. Although males appeared most likely to commit parricide, in cases where the perpetrators were female, the father was less likely to be the victim (Di Vella et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Hellen et al., 2015; Orellana et al., 2013). Females did not usually target their abuse towards fathers, not kill even when the female had been a victim of sexual abuse by the father; the female did her father, but instead killed her mother (Moen & Shon, 2020b). This can be explained in terms of ‘failure to protect’, whereby the mother failed to protect her daughter from the

abuse, in turn the daughter has sought revenge for her mother's lack of protection. Nonetheless, the age of parricide offenders was apparent in most of the literature and there was an interesting relationship between the age and gender of offenders.

The age of parricide perpetrator varied somewhat depending on the gender of the offender. Male offenders were typically younger than female offenders and were generally in their late-twenties or early-thirties when they committed parricide. In contrast to male offenders, female parricide offenders were typically in their late thirties when they committed parricide (Di Vella et al., 2017; Dogan et al., 2010; d'Orban et al., 1989; Hellen et al., 2015; Orellana et al., 2013). However, in cases described as stemming from carer burnout, perpetrators of parricide where typically female, but were approximately 50 years old (Hellen et al., 2015) which is understandable as older children are more likely to have parents with significant support needs. That said, carer burnout seems to have different motivations to other types of parricide. The overarching theme in most cases of parricide is retribution or revenge, whether that is misdirected towards parents due to psychosis, or a result of animosity stemming from childhood abuse. However, in cases of carer burnout, the parricide served as an attempt to end suffering, either for themself or their parent/s, rather than to seek retribution. Regardless of the gender of the perpetrator, it was evident from the literature that the majority of parricide victims were females.

The vast majority of studies included in this review stated that females were at a greater risk for matricide than males were of patricide (Adinkrah, 2018; Aguilar, 2019; Amorado et al., 2008; Baxter et al., 2001; Boots et al., 2006; Carabellese et al., 2014; Catanesi et al., 2015; Dogan et al., 2010; d'Orban et al., 1989; Ellouze et al., 2017; Fegadel et al., 2017; He, 2012;

Heide, 2013; Hellen et al., 2015; Holcomb, 2000; Hubbell et al., 2000; Lauerma et al., 2010; Le Bihan et al., 2012; Menezes, 2010; Moen et al., 2020; Newhill, 1991; Jung et al., 2014; Ogunwale et al., 2012; Orellana et al., 2013; Teixeira et al., 2012; Valenca et al., 2009; Viñas-Racionero et al., 2017; West et al., 2010; Wick et al., 2008). Again, in the majority of parricide cases, regardless of the perpetrator or victim's gender, excessive force was used, and overkill was commonly reported in the literature (Amorado et al., 2008; Dogan et al., 2010; Hubbell et al., 2000; Lauerma et al., 2010; Leveillee et al., 2010; Teixeira et al., 2012; Trotta et al., 2020; West et al., 2010).

In the majority of parricide cases, the perpetrator used weapons including either blunt objects or sharp instruments (Holt, 2017; Hubbell et al., 2000; Menezes, 2010; Sahin et al., 2016). Although the use of firearms was reported, this tended to be more frequent in American cases (Heide, 2013; Heide, 2014; Heide, 2007; Fegadel, 2014; Fegadel et al., 2015; Fegadel et al., 2017; Fegadel et al., 2018), compared to cases that occurred elsewhere. This may be due to American firearm laws and accessibility. Nevertheless, other weapons were frequently used by perpetrators to kill their parents, but in many cases, the weapon choice seemed to be one of convenience and accessibility at the time of the offense (Moen &Shon, 2020a; Moen & Shon, 2020b).

Conclusions

- Parent-to-child abuse is an aggravating factor which may lead to parricide.

- Parenting styles, specifically negligent and authoritarian, may increase the risk of parricide, particularly where the parent-child relationship is pathological and characterised by hostility and dependency.

- History of drug use is common amongst parricide offenders, but it is unclear as to whether substance use is an aggravating factor in parricide cases. It appears that under certain circumstance alcohol may contribute to parricide.

- Mental illness, particularly psychotic disorders, are reported in the literature as a significant cause of parricide due to hallucinations and delusions, that are persecutory towards the parent. Mood-disorders and personality disorders also play a significant role in parricide. Developmental disorders also seem to contribute to parricide, usually in the form of neglect or physical violence.

- Most parricide offenders are males in their late-twenties/early-thirties, with female parricide offenders being typically older than male offenders (late-thirties), or fifties when considering overburdened carers.

- Weapons are frequently used in cases of parricide and overkill is commonly reported.

Examining Child to Parent Abuse in Police Data

Introduction

Police organisations collect crime data as a matter of business. Yet using such data for research purposes is often hampered by concerns around gaps in intelligence (Sheptycki, 2017) or inherent bias (Brantingham, 2017) due to issues in the recording practices and accuracy of crime data. In 2014, the then HMIC highlighted numerous issues and failings in the accurate recording of crime and data integrity across forces in England and Wales (HMIC, 2014). Since then, however, police forces have made substantial advancements in crime recording practices, with rolling inspections reporting improvements across many forces (HMICFRS, 2020). In particular, the Lancashire Constabulary crime data integrity re-inspection (HMICFRS, 2019) found that the force had greatly improved its practice in crime recording, raising the overall judgement from 'inadequate' in 2014, to 'good' in 2019. This included improvements in recording violent and sexual offences, to ensure effective reporting of domestic abuse cases.

In recording such crimes, a wealth of data is collected in relation to the perpetrator, victim, their relationship, risk levels, offences, and outcomes. As such, the data collected by the police affords critical insight into how various types of domestic abuse occur across a range of different dynamics. Furthermore, this work has become more critical due to the formation of multidisciplinary networks now established across many parts of the UK and in Lancashire specifically, the Lancashire Violence Reduction Network (LVRN, 2021), could use findings into CPDA to directly tackle domestic abuse and its underlying causes.

From an initial scan of Lancashire Constabulary systems, the current project identified that the data collected by the force contained a critical field ('relationship to victim') that would

allow for detailed investigation into child to parent abuse cases. As such, strand 2 of the project aimed to explore the possibility of forming a transparent data extraction, description and analysis of child to parent data, that could be replicated and applicable to other forces in England and Wales.

Method

Study Design and Context of Police systems

A secondary source design was used to explore child to parent abuse and to form typologies of cases. The secondary design focused on extracting information from Lancashire Constabulary's data store, which uses the CONNECT system to hold People, Objects, Location and Event (POLE) data. The focus of the data extraction was domestic abuse crimes and incidents that were recorded on the police system within the sample dates (27th November 2018 to 28th February 2021). The dates were chosen due to the CONNECT system being introduced in November 2018, and improvements to crime data integrity occurring around these dates.

For the purposes of extraction, a domestic abuse crime is where there is a primary notifiable crime with an included domestic abuse investigation. Separate to crimes, a domestic abuse Incident extracted from CONNECT is a reported incident that has been subsequently followed up by the police for further action (for example they require a risk assessment to be conducted) but is not attached to a notifiable crime. Cancelled crimes were removed from the dataset. All domestic abuse crimes and incidents recorded between the dates 27th November 2018 to 28th February 2021 were extracted from CONNECT using SQL Server Management Studio.

Two main extracts were provided containing different datasets, these are outlined below.

Data Extraction Procedure

For the first extract, the most recent DA incident/crime has been returned per suspect (named 'case level data').

For both Victims and Suspects the following fields have been provided; Gender, Age (by calculating the difference between the individual's date of birth and the date the offence was committed), Officer Defined and Self Defined Ethnicity, Iteration Group (unique person ID), Relationship of the Suspect to the Victim and an indicator field which shows when the victim is 16 or more years older than the suspect. The data was filtered for specific relationship types, including:

- Daughter
- Dependent
- Grandchild
- Great Grandchild
- Nephew
- Niece
- Son
- Step Daughter
- Step Son
- Adopted Child
- Adopted daughter
- Adopted Grandchild
- Adopted granddaughter
- Adopted grandson
- Child
- Child-In-Law
- Daughter-in-law
- Ex Foster Child
- Ex-Child In Law
- Ex-daughter-in-law
- Ex-son-in-law
- Foster Child
- Granddaughter
- Grandson
- Half-daughter
- Half-son
- Niece / Nephew
- Son-in-law
- Step Child
- Step-Grandchild
- Step-granddaughter
- Step-grandson

Incident/Crime details for Location, Offence type and Outcomes have also been provided; this was alongside BCU (Base Command Unit), Town, Postcode, Eastings and Northings, Recorded Date, Incident Number (Unique to each crime/incident), Home Office Crime Group (HOCR), Primary Offence, Included Offences, Crime Outcome, Outcome Type, Method of Reporting, Risk Assessment Rating and Risk Assessment Type.

Each suspect's incidents/crimes were ranked chronologically and were used to identify previous offenders of DA within this time frame. A separate dataset of DA victims was

extracted and used to cross reference whether the suspects identified had also been victims of domestic abuse at any point during the timeframe.

The second extract containing volume data (named 'count level data') was provided with the following fields; Incident Number (unique to each crime/incident), Recorded Date, Primary Offence, Included Offences, Crime Outcome, Outcome Type, Relationship of the Suspect to the Victim, Suspect and Victim Iteration Groups (unique person ID) and an indicator field which shows when the Victim is 16 or more years older than the Suspect. A filtered and a non-filtered version of this was provided.

Some of the fields used in these extracts are not mandatory in CONNECT and therefore can be left blank. Where this is the case NULL values were returned.

Data Analysis

The analysis is presented in four separate chapters: 1) Analysis of counts and Crime Harm Index (CHI); 2) analysis of case level data; 3) deep dive of random sample; and, 4) formation of typologies.

The first data chapter concerns an analysis of the overall daily counts of domestic abuse and child to parent abuse across Lancashire. This includes repeat incidents to provide an overview of the case demand handled by Lancashire Constabulary throughout the sample period. This was followed by an examination of the daily Crime Harm Index (CHI) to visualise trends over time (Sherman et al., 2016). Furthermore, examining both counts and trends would allow for the full context of demand to be examined, with the CHI being more sensitive to the types of crime being committed per day, in addition to the raw counts.

The case level data in the second chapter involves the de-duplication of incidents to form a dataset whereby each observation (row of data) related to a separate and unique suspect of child to parent abuse. The chapter outlines the procedures used to de-duplicate, manage missing data, and present findings into the unique suspects across the sample of child to parent abuse.

A deep dive was conducted on 20 cases randomly selected from the case level data. The third data chapter, therefore, focuses on the thematic analysis (Braun & Clarke, 2006) of 'case dashboards' which included the incident summary and dash risk assessment narrative.

All the of the previous data chapters and the systematic literature review provide context and insight needed to form typologies into CPDA to parent abuse. The final data chapter concerns the subsequent formation of typologies, using both a theoretical and data driven approach. The theoretical method involves the application of findings from the systematic literature review onto the mapped case level variables to form typologies of child to parent abuse. The data driven approach concerns the use of cluster analysis, determining whether this procedure provided clusters that presented a good fit of the data and could be considered typologies in their own right.

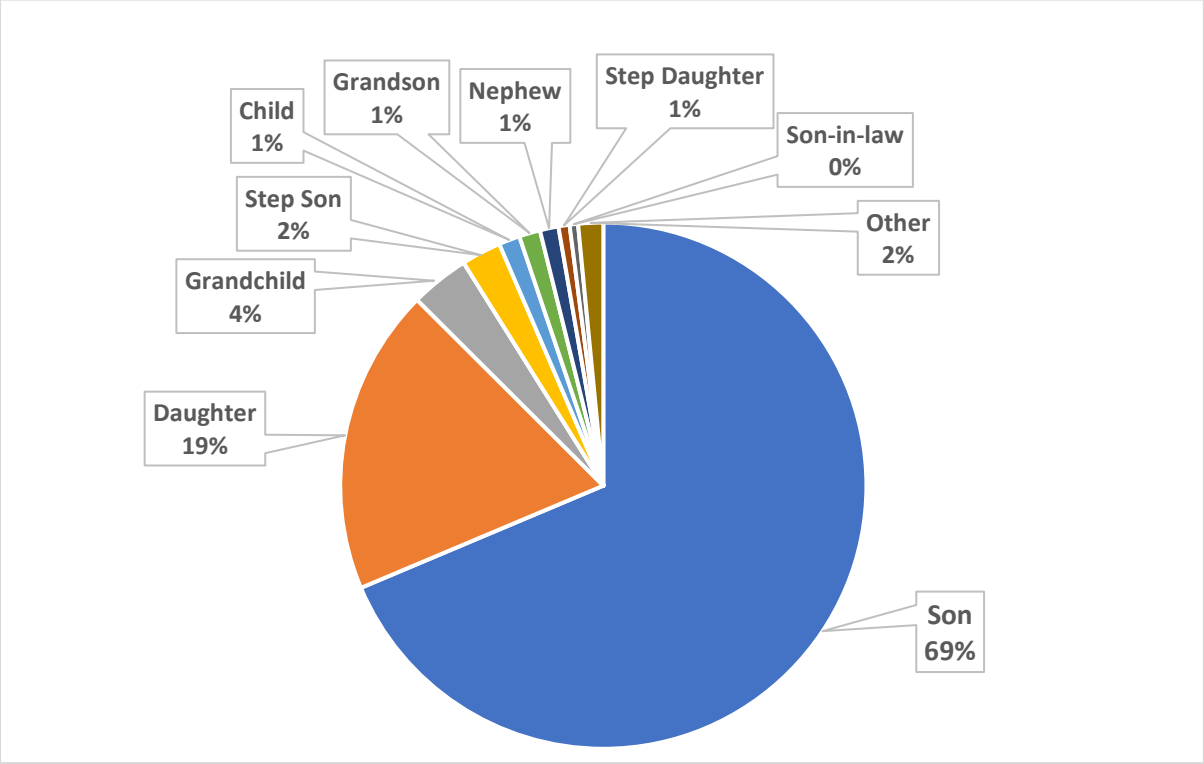
Data Chapter One: Examination of the Child to Parent Abuse Counts

The data extraction from the police concerned daily count data in relation to all domestic abuse cases, and the subset of CPDA cases, that occurred in Lancashire between 27th November 2018 to 28th February 2021. The query returned a total 66,973 domestic abuse cases, with CPDA forming 10.7% (*n* = 7,171) of the overall total.

The CPDA data concerned cases where the victim was 16 years or older than the suspect and included a child to parent relationship (Figure 3 provides the proportion of relationship to victim categories across the child to parent sample). It is important to note that in this overall count data there was no control for repeat offending. This was to provide an overview and to better understand the demand being placed on the police force. In conjunction, it should also be noted that the recording of the relationship often did so by defining the sex (relationship states 'grand-daughter') in addition to some which did not (relationship states 'grandchild'). This would make any initial description of the data difficult to interpret, meaning that aggregation of data (when examining case level data) would be appropriate to de-gender the variable and allow for a more concise coding of the relationship dynamic.

As seen in the below figure, however, the proportion of each relationship category follows a trend from highest with the most immediate relationships, being the victim's children (son and daughter as the largest groups), moving to the more distant relationships with grandchildren and stepchildren. What is also distinct in this data is where sex is identified, the proportion of male perpetrators to female is much larger.

Figure 3: proportion of 'relationship to the victim' across child to parent case sample.



Across the sample, there were similar proportions of crimes and incidents (see Table 6). Within the current study, incidents referred to those events that do not fall into the Home Office Crime Groups and are, therefore, defined as "non-crime".

Table 6: Proportion of crimes and incidents across all domestic abuse cases and child to parent cases (as a subset).

Sample	**DA Crimes** *n* (%)	**Incidents** *n* (%)	**Total**
All DA	47,097 (70.3)	19,876 (29.7)	66,973
Child to parent DA	4,705 (65.6)	2466 (34.4)	7,171

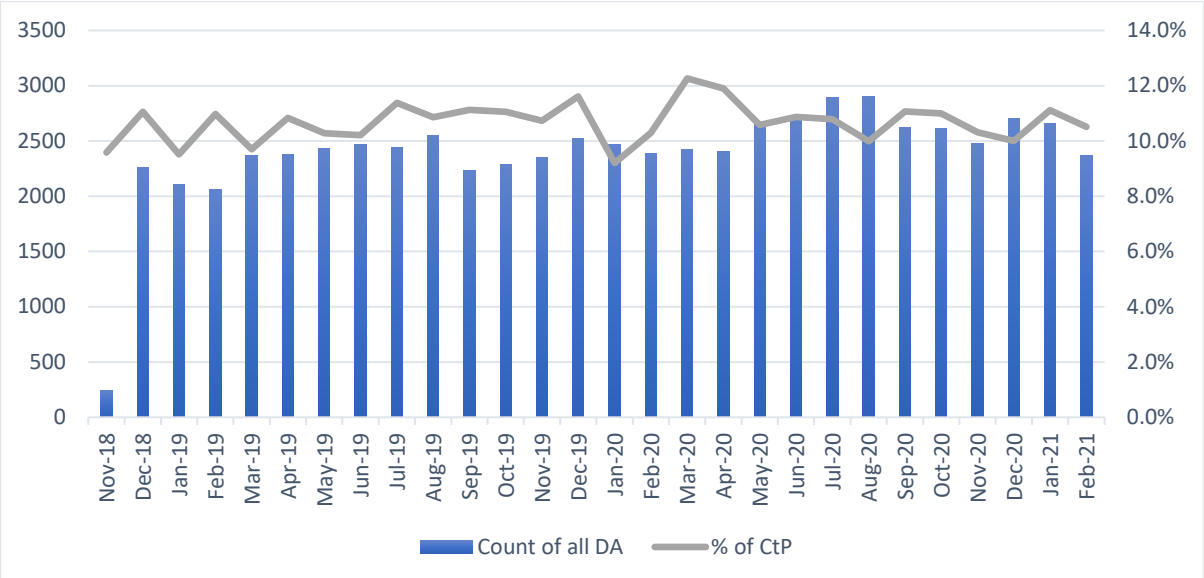
Breaking down the data into daily counts for all forms of domestic abuse, the smallest daily count was 31 cases, with the highest being 149 cases. Overall, the mean average illustrated

how there were 81.2 cases (SD = 14.8) per day across the sample timeframe. When examining CPDA only, this ranged from 1 case to 19 cases across the daily counts and provided a mean average of 8.7 cases (SD = 3.2) a day.

As CPDA is a subset of all domestic abuse cases, it was possible to map the proportion of these cases within overall domestic abuse counts over time by aggregating the daily counts into their respective months. Figure 4 illustrates the count of all DA in bars on the left-hand axis, with the proportion child to parent abuse displayed by the line and % on the right-hand axis of the graph. The graph illustrates a relatively consistent 10-12% proportional trend of child to parent abuse cases within overall domestic abuse counts each month.

It is also important to note that the data displayed November 2018, which only had counts across 4 days of recorded data. However, even with so few days recorded, the proportion of child to parent abuse remained consistent from this monthly count, through the rest of the months with 'fuller' data.

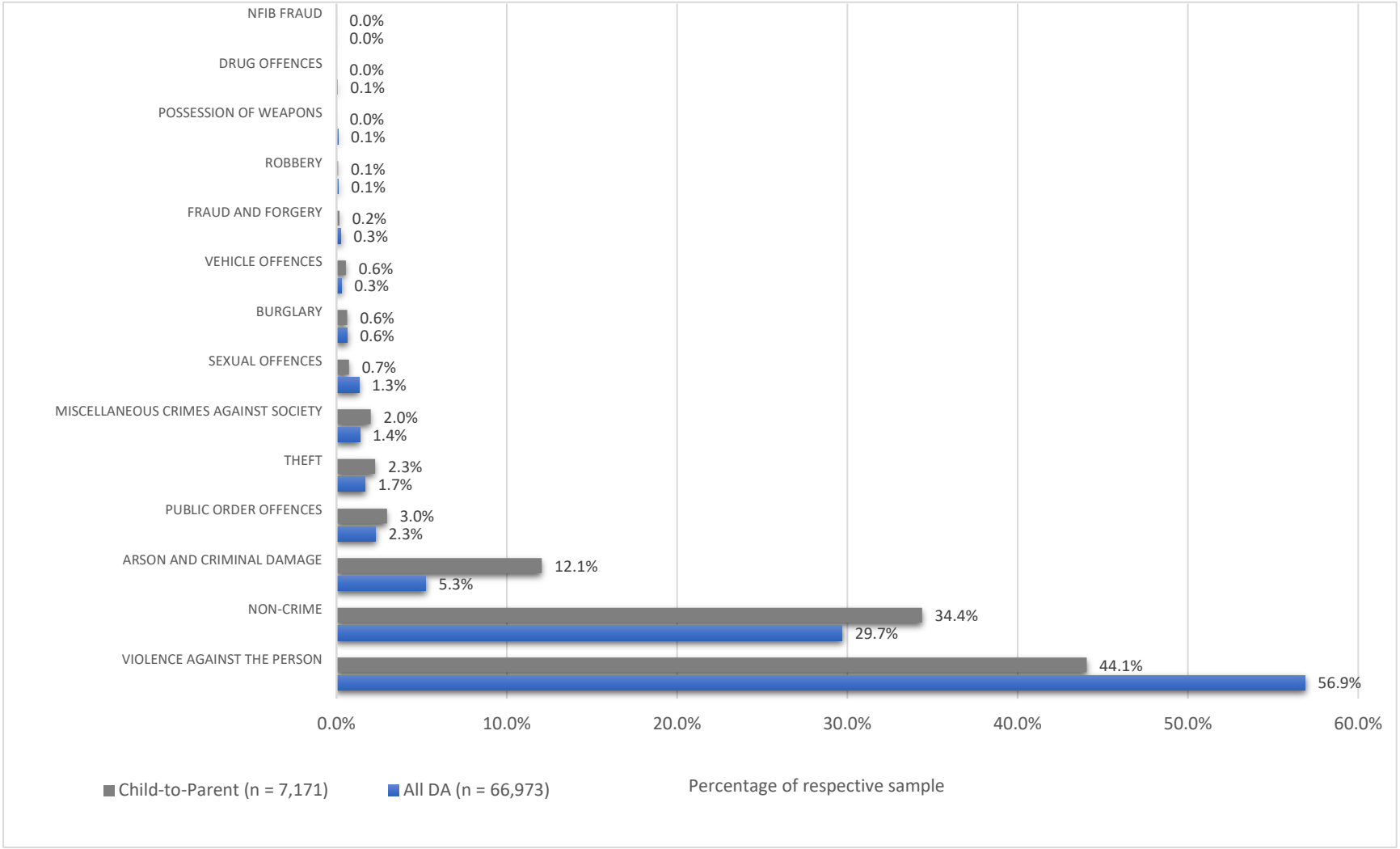
Figure 4: Proportion of Child to parent cases across all DA cases.



To better understand the makeup of this cohort of perpetrators, the primary offences of both groups (all DA and child to parent DA) were contrasted, alongside the outcomes to these offences. As mentioned, “non-crimes” refer to DA incidents that do not fall into a Home Office Crime Group (see Figure 5 on next page).

As illustrated, the majority of DA fell into violence against the person. In terms of proportion, there were seemingly less offences against the person involved in CPDA, with slightly greater proportions of other crimes presented, particularly non-crime and arson and criminal damage. What can also be seen from the comparison between the crime groups of the two cohorts is the higher percentage of sexual offences by almost twice as many in all DA than those in the CPDA group. It could be argued that this reflects the literature around sexual violence where almost a quarter of perpetrators of sexual abuse directed it towards their adult partner, or ex-partner, indicating that this type of domestic abuse is more likely within an intimate partnership or general family abuse, rather than manifesting in the CPDA (Holt & Devaney, 2015).

Figure 5: Proportions of crimes recorded across all domestic abuse cases and child to parent cases.



Leading on from the primary offence was the police outcome of the investigation (again note that as incidents did not require a crime outcome they are recorded as “non-crime”). This breakdown found that both cohorts had close parallels where the most commonly recorded outcome for both was no further action/evidential difficulties/other, meaning the investigation was concluded and no conviction was made. This can be for several reasons, such as lack of evidence, a witness or victim withdrawing their support from the investigation, and so forth.

Figure 6: Count of outcomes for all DA.

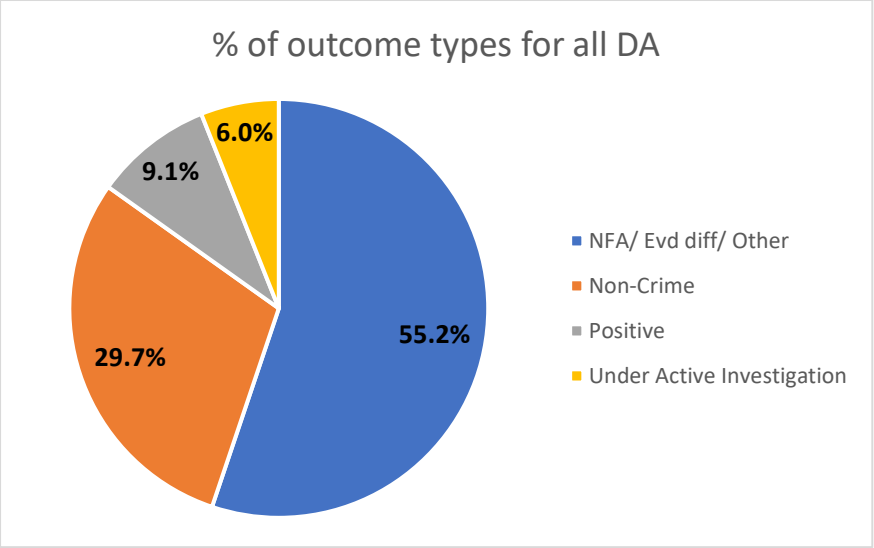
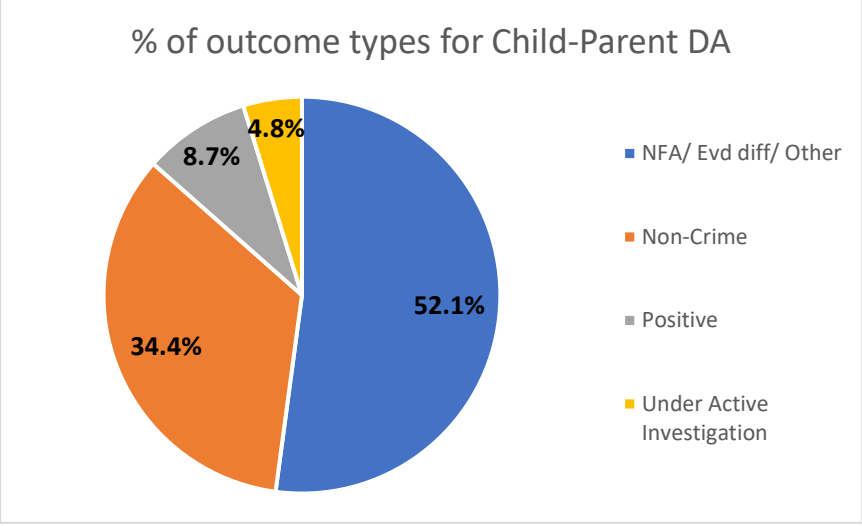


Figure 7: Count of outcomes for child to parent DA.



Modelling daily counts of child to parent abuse

In order to determine whether there were important trends in child to parent abuse across the weekdays and family holidays, the research team used statistical modelling to examine the daily count data. Much like previous analysis examining daily crime count data (Kirby & Birdsall, 2021; Kirby et al., 2004), the current dataset was considered as discrete count data (Dimitrova et al., 2017) requiring alternative analysis to linear regression.

As none of the days presented counts of zero, Poisson regression was first considered. This analysis is then often followed by negative binomial regression since criminological data rarely conforms to the assumption that the variance is equal to the mean (required by Poisson), whereby Negative Binomial employs an extra parameter to handle overdispersion (MacDonald & Lattimore, 2010). Therefore, the Poisson modelling within the current analysis was followed by a main effects negative binomial regression using log link. Since SPSS does not estimate the dispersion parameter by default, Maximum Likelihood Estimation (MLE) was specified when modelling through negative binomial.

The models were built using two main variables, day of the week and family holidays. The days of the week examined the counts across each weekday (Monday through Sunday), using Monday as comparator against all other days. The family holiday variable considered Christmas (24th-26th December), New Year (31st December-1st January), Mother's Day and Father's Day, whilst using non-family holidays as a comparator. The models were first compared for goodness of fit, through Pearson's goodness of fit, and used both the Bayesian Information Criterion (BIC) and Akaike Information Criterion (AIC) (Burnham & Anderson, 2004) to determine the better fitting model.

Examining the value/df of the Poisson model highlighted that the model did suffer from slight overdispersion.

Whilst the BIC provided figures that were very similar (indicating similar fit), the AIC illustrated how the Negative Binomial provided a better fit of the data. This was because the difference between the Negative Binomial (AIC_{min}) and the Poisson model (AIC_i) was $\Delta i = 5.6$ (Δi = 4241.173 - 4235.515). As 5.6 falls between 4-7, Burnham and Anderson (2004) explain that there is considerably less support for the Poisson model. Through a direct comparison of the models, overall, the analysis found that the Negative Binomial Model provided a slightly better fit of the data over the Poisson regression, but also provided a slightly weaker model in comparison to its respective null.

Table 7: Comparison of goodness-of-fit metrics between Poisson and Negative Binomial Models.

Test Statistic	Poisson	Negative Binomial
Pearson's value/df	1.156	1.012
Omnibus Test	X^2 (10) = 23.709, p = .008	X^2 (10) = 20.268, p = .027
AIC	4241.173	4235.515
BIC	4293.042	4292.100

As such, parameter estimates from the Negative Binomial regression were used to interpret the data on daily counts of child to parent abuse. The analysis found that day of the week had no statistically significant association with daily counts of CPDA. The results demonstrated that none of the days presented a statistically significant increase or decrease in comparison to Monday ($p > .05$). This indicated that the daily counts of CPDA were not associated to days of the week, with weekends and weekdays all presenting similar levels of cases.

An examination of family holidays highlighted statistically significant results. As illustrated by the Exp(β) in Table 8 below, the analysis found that counts of CPDA increased by 37% during the Christmas period and by 41% during New Year, when both were compared against non-

family holidays ($p < .01$ respectively). Mother's and Father's Day did not provide statistically significant findings ($p > .05$).

Table 8: Parameter estimates for the Negative Binomial regression model of daily counts of child to parent abuse.

Parameter	Wald Chi-Square	*p* value	Exp(β)	95% CI for Exp(β)	
				Lower	Upper
Monday (Comparator)	-	-	1.00	-	-
Tuesday	0.46	0.50	0.97	0.88	1.06
Wednesday	0.00	0.99	1.00	0.91	1.10
Thursday	0.26	0.61	0.98	0.89	1.07
Friday	0.00	0.96	1.00	0.91	1.10
Saturday	0.10	0.97	1.00	0.91	1.10
Sunday	2.41	0.12	1.08	0.98	1.18
Non-Family Holiday (Comparator)	-	-	1.00	-	-
Christmas	8.63	*<0.01	1.37	1.11	1.69
New Year	7.11	*<0.01	1.41	1.10	1.83
Mother's Day	0.01	0.92	1.03	0.63	1.67
Father's Day	1.45	0.23	0.70	0.40	1.25

*Denotes a statistically significant finding to at least $p < .05$.

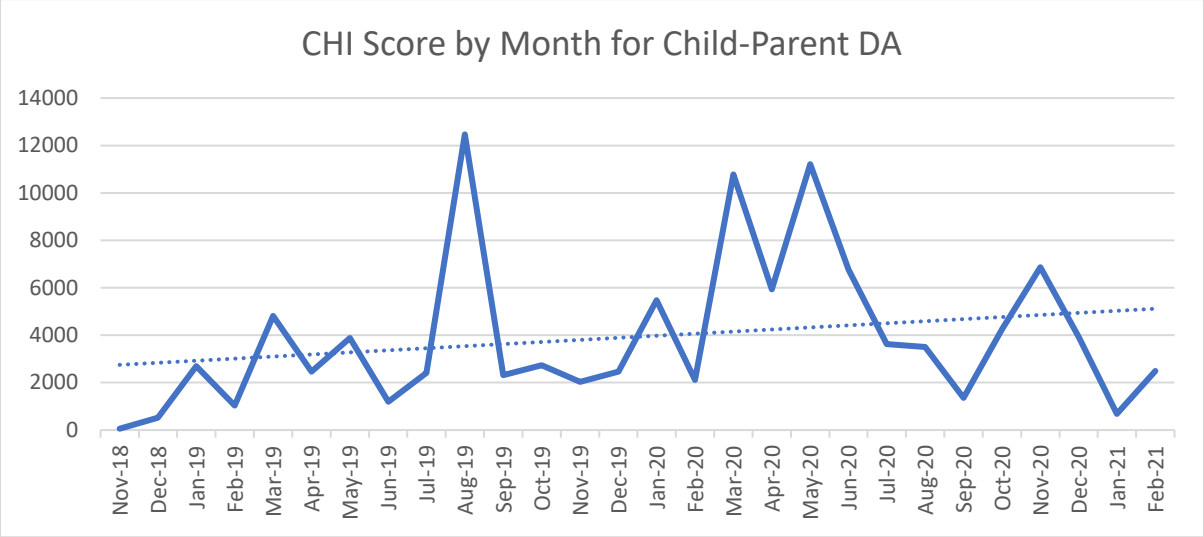
Applying the Crime Harm Index

In addition to examining raw daily counts and crimes separately, the two can be combined by weighting daily counts by their crime harm (Sherman et al., 2016). The Crime Harm Index (CHI) was developed in Cambridge and has been used globally as an alternative method of prioritising police resources by producing an index of harm for decision-making, as opposed to using crime counts that exclude any context or crime implications. As an example, a force may direct resources to one location as it has the highest recorded crime rate because it is perceived as having the most demand. Yet, this location is comprised of low-level thefts and anti-social behaviour. In comparison, another location with a lower crime rate may involve serious violent incidents (including attempted murder) which have a much higher impact on

police resources. Yet, the second location is not initially seen as a problematic area, because the police demand is not uncovered by examining only raw crime counts. By taking into account the crime harm, therefore, priority locations or individuals can be identified. The CHI is constructed by applying weighted scores to raw counts based upon the minimum sentencing that would be received for committing that crime. It should be noted that to conduct this analysis, all incidents were excluded (those marked as 'non-crime'), since crime harm scores can only be applied to criminal offences.

As illustrated below, there were several spikes in the crime harm of CPDA over the sample timeframe, most prominently in August 2019, and March and May 2020. It was important to further analyse these periods to determine whether this was as a result of a spike in crimes, or whether crime counts were stable and this was due to a shift in crime severity where murder, attempted murder, and child destruction may have occurred.

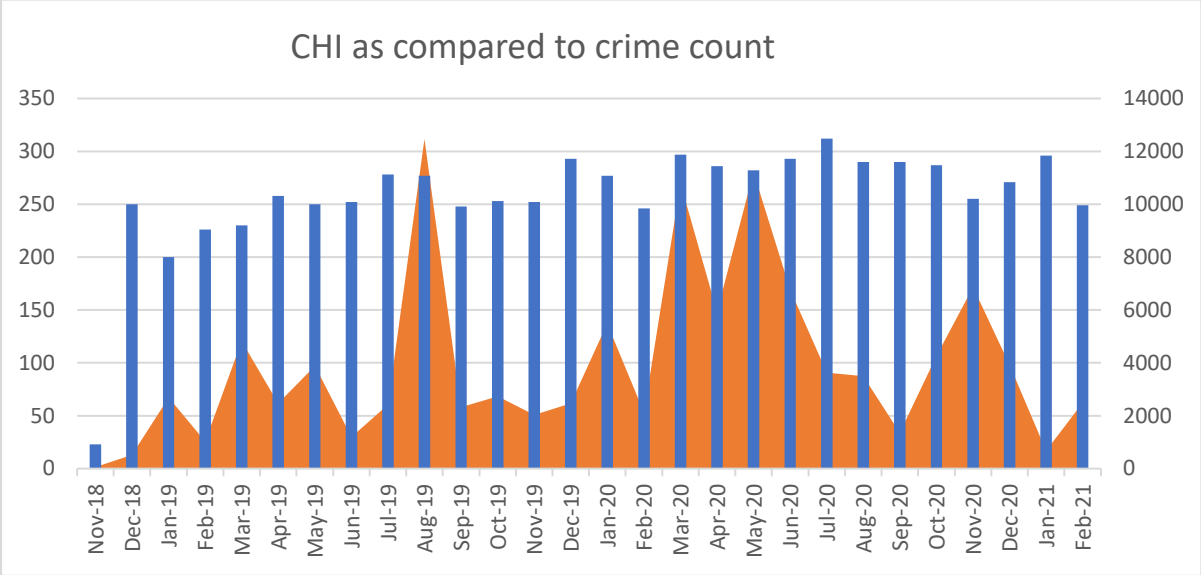
Figure 8 – the crime harm index score per month for child to parent domestic abuse.



In further breaking down the crime harm and crime count (see Figure 9 below), the spikes in crime harm (indicated by the orange surface) were appeared to spike independently to the

crime count (indicated by the blue bars). This suggested that the spikes in crime harm were not as a result of raw crime counts, but due to presence of more harmful crimes. Having analysed these time periods independently, each consisted of a higher proportion of serious violence than other months, including murder, attempted murder, grievous bodily harm, rape, and kidnapping making them 'harm hotspots'.

Figure 9: Comparison of the crime harm index score and crime count, per month, of child to parent abuse.



The identification of harm hotspots provide insight into the criminal behaviours behind the count data. In forming typologies later in the study, the use of the CHI to build a score of the suspect history would be important in identifying 'priority perpetrators' (Robinson & Clancy, 2020) or those who had a high harm history. This would be critical in forming typologies across a sample of suspects where only their most recent offence (and number of previous DA offences) appears within the data.

Summary

Across Lancashire, between the dates 27th November 2018 and 28th February 2021, there were a total of 66,973 domestic abuse cases. CPDA formed 10.7% (*n* = 7,171) of the overall total, and presented a consistent 10-12% of all domestic abuse cases per month. The vast majority of these CPDA related to direct children (son/daughter).

The daily counts of CPDA did not present a trend according to the days of the week, but statistical modelling did find that there was a 37% increase during Christmas and a 41% increase during New Year, when compared to daily counts across non-family holidays. In addition to examining raw counts, the application of the crime harm index to each day illustrated that there were 'harm hotspots' in particular months, even though the monthly counts were consistent. This illustrated how there were some months where more serious high harm crimes occurred, such as GBH, wounding, attempted murder.

The examination of overall count data lead to important considerations when examining the case level data. For example, to gain better insight into relationships, coding to de-sex the child to parent relationship (as this information is already captured in suspect and victim gender), and aggregate the variable by social proximity would allow for clearer insight. In addition, the CHI illustrated harm hotspots due to more serious crimes within the sample timeframe, even though monthly counts remained consistent. Therefore, when examining suspect history of domestic abuse, it would also be important to form a 'total harm score' in addition to examining the number of previous DA incidents and crimes they had been part of during the sample timeframe. This totalled harm score would be important for alter analysis when examining whether particular typologies were more likely to involved higher harm suspects.

Data Chapter Two: Understanding the case level data

Introduction

The following chapter provides a more detailed examination of the case level data across Lancashire. This focused on the second data extract (case level data) provided by the Lancashire Constabulary analysts. This dataset was extracted using the same criteria as the overall count data (i.e., where the victim was 16 years or older than the suspect and included child to parent relationship criteria), but in this instance returned data where each row related to a unique suspect. This was done by returning the most recent case involving any given suspect, whereby their previous history of perpetrating and being victim to a DA crime was aggregated against their iteration number as separate ID variable.

When examining the raw data, however, the analysts and research team noticed that there were still some duplicate rows of data. A manual review was then conducted by the research team for quality assurance and to handle missing data.

De-duplication

The duplicate rows often appeared with 2-4 rows regarding the same incident number. Upon manual review it was found that this had occurred for two reasons: 1) computational issue; and, 2) multiple victims within one incident.

In relation to the computational issue, the duplication was due to the data system having crimes 'attached' to investigations/incidents. If an investigation was conducted but no crime was attached, then this was extracted as a non-crime. If a crime was present and attached, then the crime was extracted and the investigation information deleted. However, when any information was missing from either the crime or the investigation (I.e., field was NULL for a

variable in the investigation, but contained the data within the crime), both a crime and an incident would be returned even though they related to the same incident. In order to handle the duplication, the crimes were prioritised in each case, whereby any missing data within this row was filled using data from the investigation row before then deleting the investigation/incident row.

The second set of duplications occurred when a single incident referred to more than one victim, whereby the incident occurred multiple times due to the difference in victim information. In these incidents, a separate variable was created which coded the case as either single or multiple victims. Cases involving multiple victims (*n* = 70) were copied to a separate spreadsheet to retain the data. To handle the duplication, the primary victim row was retained in the main dataset, with the others subject to deletion.

This resulted in a dataset of *n* = 4,393, where each row of data referred to a unique and individual suspect involved in a CPDA. This data was imported and coded within IBM SPSS v.27.

Missing data

There is no 'good' way of handling missing data, with each method presenting both strengths and limitations. Listwise deletion, pairwise deletion and mean imputation are the most common and easily accessible methods, but are considered to result in the introduction of bias (Myers, 2011). The bias is a result of either reducing effective sample size and not reflecting the full data in estimates, or artificially deflating variable variance when using the mean average to fill missing data (King *et al*., 1998). More appropriate methods for handling missing data are model-based methods, such as Maximum Likelihood, Expectation Maximisation and Multiple Imputation (Myers, 2011).

The main consideration in the approach to handling missing data is first understanding whether the data is Missing Completely at Random (MCAR), Missing At Random (MAR), or Missing Not At Random (MNAR) (Tabachnick & Fidell, 2013). Whilst MCAR relates to data that is missing without explanation or prediction, MAR relates to data missing due to another variable/explanation and MNAR relates to data that is missing within itself. To determine whether there were patterns within the missing data, Missing Value analysis was conducted across all variables within SPSS.

Across the sample the categorical fields of missing data mainly stated that the data was 'NULL'. This was treated as missing data, alongside cells that were blank in relation to numeric data fields.

Table 9: Count and proportion of missing data of all variables across the dataset.

Variable	Missing (from *n* = 4,393)	Missing (%)
DASH Risk	946	21.5
Victim Ethnicity	624	14.2
Suspect Ethnicity	491	11.2
Victim Gender	266	6.1
Suspect Gender	162	3.7
Victim Age	149	3.4
BCU Description	9	0.2
Suspect Age	1	0.0

To determine whether there was any underlying pattern to the missing data Little's MCAR chi-square statistic was used (IBM, 2021). This analysis found that there was no underlying pattern to the missing data ($p > .05$) indicating that the null hypothesis should be accepted and the data are considered MCAR. However, whilst this meant that listwise deletion would be appropriate, each row of data was of particular interest to the research team in forming typologies. Therefore, Expectation Maximisation was used to impute missing values for suspect and victim age (which were both missing small amounts of data (<5%)), and missing

categorical data was coded as 'not recorded' and treated as data in its own right (Tabachnick & Fidell, 2013).

Exploring case level data

Child to Parent Relationships

The research team aggregated the coding of the child to parent relationships, which resulted in five categories of relationship. These categories essentially removed the gendering of the relationship (as this was captured in the suspect and victim gender variables), in order to provide more direct insight into the social proximity of the child to parent relationship. As seen in Table 10 below, this coding illustrated how the vast majority (88.4%) of relationships concerned the direct children or dependents of the victim.

Table 10: Aggregated categories of child to parent relationships.

Relationship	***n***	**%**
Direct Child/Dependent	3,884	88.4
Step/Adopted Child	182	4.1
Grandchild	203	4.6
Niece/Nephew	64	1.5
Child-in-Law	60	1.4
Total Cases	**4,393**	**100**

Suspect Characteristics

Approximately three quarters of the suspects (*n* = 3,201, 72.9%) were male, with female presenting around a quarter of the sample (*n* = 1,030, 23.4%). The remaining cases involved suspect where the genders were not recorded (*n* = 162, 3.7%). Across the 4,393 cases, the mean average suspect age was 26.7 years (SD = 9.7), with the youngest suspect aged 16 and the oldest aged 74 years. In terms of ethnicity, the majority of suspects were White (*n* = 3,541,

80.6%), with 331 Asian (7.5%) and 30 Black (0.7%) suspects. The remaining cases concerned those where suspect ethnicity was not recorded (*n* = 491, 11.2%).

In addition to their demographics, the sampling also captured whether the suspect was involved in a previous DA investigation and victim of a DA investigation within the sample period. This found that 1,206 (27.5%) suspects had previously been investigated for DA, whereby the range of previous investigations was between 1-21 within the timeframe. From only those with previous investigations, the vast majority fell between 1-5 investigations (*n* = 1,128, 93.5%), with the remaining 78 (6.5%) being involved in 6-21 investigations over the sample period.

There were also 1,074 (24.4%) suspects who had been classified as a victim of a DA investigation, with victimisation ranging between 1-18 investigations across the sample timeframe. From only those who had a previous victimisation, the majority of suspects fell between 1-4 investigations (*n* = 964, 89.8%) with the remaining 110 (10.2%) recorded as a victim in 5-18 investigations.

Victim Characteristics

Two thirds of victims were female (*n* = 2,942, 67.0%), with males making up 27.0% (*n* = 1,185) and cases where victim gender was not recorded making up 6.0% (*n* = 266) of cases. The mean average victim age was 54.2 years (SD = 11.9), with the youngest victim aged 30 and the oldest victim aged 98 years. The majority of victims were White (*n* = 3,433, 78.1%), with 314 (7.1%) Asian victims, 22 (0.5%) Black victims, and 624 (14.2%) cases where victim ethnicity was not recorded.

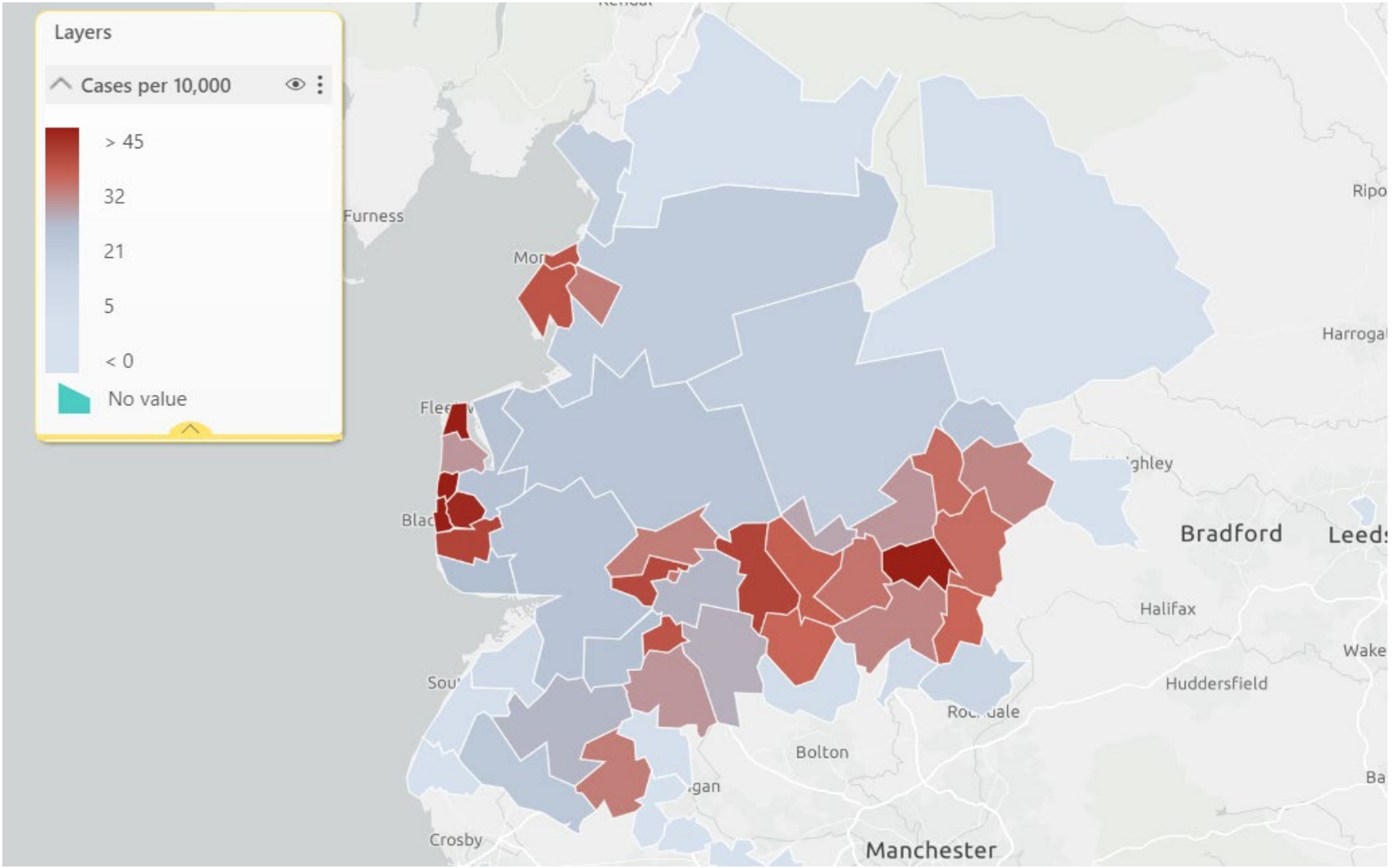
Location and Deprivation

In order to examine deprivation within the sample, the postcodes attached to each case were linked to the Indices of Multiple Deprivation (IMD) (GOV.UK, 2019). This specifically examined the IMD deciles across the UK, whereby the decile scoring was linked to the case level data using postcodes as a primary key. In relation to the IMD decile, a score of 1 indicated that the case related to a postcode that was in the top 10% of the most deprived areas in the UK, whereas a score of 10 related to a postcode that was in the 10% least deprived areas in the UK. Across the sample, the average IMD decile score was 3.3 (SD = 2.6). This amounted to 52.0% of the sample (*n* = 2,284) being in decile 1 and 2, with the remaining sample spread out over IMD deciles 3-10.

Further to the linkage of IMD, postcode districts were isolated from the sample and formed into count data. In conjunction, postcode district populations (estimates derived from the 2011 census) for the northwest were downloaded (Nomis, 2011). The two sets of data were linked, and CPDA cases per 10,000 people within each postcode district was heat-mapped across Lancashire to examine geographical hotspots (see Figure 10 on next page).

The mapping in Figure 10 illustrated how in the West BCU the child to parent cases were predominantly clustered in the Blackpool and Lancaster areas. In the East BCU there was a wide spread of cases per 10,000 population across Blackburn with Darwen, Hyndburn and Burnley areas. The South BCU had slightly warmer spots occurring near Preston and Skelmersdale. Overall, the mapping illustrated how the BCUs across the force had different geographical presentations of CPDA, with specific warm and hot spots in West and South, but a widespread demand across East.

Figure 10: Heatmap of child to parent abuse cases per 10,000 people in each postcode district, within Lancashire force area. Mapping includes all suspects within Lancashire area between 27th November 2018 to 28th February 2021.



Police Investigations

A similar proportion of crimes (*n* = 2974, 67.7%) and incidents (*n* = 1419, 32.2%) to that of the count level data were found within the case level data (which controlled for repeated suspects). With regards to the primary offences, violence against the person (67.7%) and arson and criminal damage (18.4%) were the main crime categories involved in CPDA cases.

Table 11: DA incidents and crimes broken down by Home Office Counting Rules for Recorded Crime. Primary offences that n < 10 were aggregated into 'other' HOCR group.

Investigation Type	**HOCR Group**	***n* (*%*)**
DA Incidents		**1,419 (*32.2*)**
	Non-Crime	1,419 (*100.0*)
DA Crimes		**2,974 (*67.7*)**
	Violence against the person	2,013 (*67.7*)
	Arson and criminal damage	547 (*18.4*)
	Theft	148 (*5.0*)
	Miscellaneous crimes against society	84 (*2.8*)
	Public order offences	78 (2.6)
	Fraud and forgery	39 (*1.3*)
	Burglary	26 (*0.9*)
	Vehicle offences	26 (*0.9*)
	Other	13 (*0.4*)
Total Cases		**4,393 (*100.0*)**

These cases, both incidents and crimes, were most commonly reported via a call to 999 (*n* = 2816, 64.1%). There were similar levels of cases being reported via non-999 telephone calls (*n* = 735, 16.7%) and through police generated methods (*n* = 617, 14.0%). All 'other' reports (*n* = 225, 5.1%) related to several different methods of reporting all with relatively low counts, including: emails, ambulance reported, safeguarding referrals, alarms, CCTV etc.

The DASH risk assessment was used to understand risk levels across all cases. Across the sample, there were 145 High (3.3%), 1,057 Medium (24.1%), and 2,245 Standard (52.1%) risk cases, with the remaining 946 (21.5%) cases involving no recorded risk assessment.

Examining the outcome of each investigation in Table 12, the most frequent crime outcomes were those aggregated into No Further Action/Evidential Difficulties/Other (*n* = 2,332, 53.1%). However, when drilling down into the coding, 85.4% of cases (*n* = 1,991) with this outcome related to a 'Type 16 - Named Suspect Identified: Evidential Difficulties Prevent Further Action: Victim Does Not Support (Or Has Withdrawn Support From) Police Action', indicating that victim cooperation with the police investigation was one of the main reasons behind the cases not progressing through to a 'positive' outcome. Whilst victim withdrawal has been highlighted as a critical issue in intimate partner abuse settings (Birdsall et al., 2020; Birdsall et al., 2017; Sleath & Smith, 2017), it appears that victim engagement with the police is a critical issue within the dynamic of CPDA cases also.

Table 12: Police outcomes across cases of child to parent abuse. All sub-categories with n < 10 were aggregated into 'other' outcome type.

Aggregated Outcomes	Outcome Type	*n* (*%*)
No Further Action/Evidential Difficulties/Other		**2,332 (*53.1*)**
	Type 16 - Named Suspect Identified: Evidential Difficulties Prevent Further Action: Victim Does Not Support (Or Has Withdrawn Support From) Police Action	1,991 (*85.4*)
	Type 15 - Named Suspect Identified: Victim Supports Police Action But Evidential Difficulties Prevent Further Action	167 (*7.2*)
	Type 21 - No Further Action. Further investigation which could provide evidence sufficient to support formal action being taken against the suspect is not in the public interest	72 (*3.1*)
	Type 12 - Prosecution Prevented-Named Suspect Identified But Is Too Ill (Physical Or Mental Health) To Prosecute	27 (*1.2*)
	Type 20 - Further action resulting from the crime report will be undertaken by another body or agency subject to the victim (or person acting on their behalf) being made aware of the act to be taken	19 (*0.8*)
	Type 14 - Evidential Difficulties Victim Based-Named Suspect Not Identified: Crime Confirmed But The Victim Either Declines Or Unable To Support Further Police Investigation To Identify The Offender	17 (*0.7*)
	Type 10 - Formal Action Against Offender is not in the Public Interest (Police)	12 (*0.5*)
	Other	28 (*1.2*)
Positive Outcome		**355 (*8.1*)**
	Type 1 - Charged/Summonsed/Postal Requisition	223 (*62.8*)
	Type 3 - Caution Adult	57 (*16.1*)
	Type 1A - Charged/Summons - alternate offence. Offender has been charged under the alternate offence rule.	25 (*7.0*)
	Type 8 - Community Resolution: Words of Advice	25 (*7.0*)
	Other	25 (*7.0*)
Under Active Investigation		**286 (*6.5*)**
Non-Crime		**1,419 (*32.3*)**
Total Cases		**4,393 (100.0)**

Summary

The descriptives of the case level data illustrated how majority of suspects were male (72.9%) and majority of victims were female (67.0%). Both suspects and victims were predominantly white, with their mean average ages indicating older victims to younger suspects, reflective of the CPDA dynamic (and the 16-year age filter applied to the dataset). With regards to the relationship, the vast majority of cases (88.4%) related to children who were direct children/dependents of the victim across the sample.

Around half of the cases occurred in the most deprived postcodes, with 52% occurring in either decile one or two of the IMD. When mapping out the child to parent cases while controlling for population across the whole of Lancashire, there appeared to be widespread cases across the east, with particular hotspots occurring in the west and warm spots in the south.

The most prominent crimes across the sample were violence against the person (67.7%) and arson and criminal damage (18.4%). Furthermore, examining the crime outcomes, majority of cases resulted in no further action/evidential difficulty/other outcomes (53.1%). However, when drilling down into the coding, 85.4% of cases (*n* = 1,991) with this outcome related to a 'Type 16 - Named Suspect Identified: Evidential Difficulties Prevent Further Action: Victim Does Not Support (Or Has Withdrawn Support From) Police Action'. This potentially indicates a potential dynamic in child to parent abuse, similar to that of intimate partner abuse, where the victim does not want to criminalise the suspect and instead are calling emergency services for help and support (Birdsall et al., 2017).

Data Chapter Three: Deep dive exploration of child to parent abuse cases

In order to provide context into the CPDA abuse cases, the study included a deep dive of 20 cases from the case level data. Due to technical issues, MG5's and MG11's were unavailable in the majority of cases. Consequently, the deep dive instead focused on the 'Dashboard' of each case in order to conduct qualitative analysis. Within the dashboard was a section dedicated to the 'incident summary', which provided a qualitative overview of the incident and details of the case, and the attached DASH risk assessment. This would provide an overview of both the incident summary and the impact to the victim.

The inclusion criteria for each case was that there must have been at least one line of text relating to the summary (no upper bound limit), and some indication about the status of the DASH risk assessment (including when it was not completed, but explanation as to why).

Table 13: Illustrates random sampling of case level data to select 20 random CPDA abuse cases. Relationship, DASH rating, data driven and theoretical typologies are retrospectively linked to deep dive sample for context.

ID	Random ID	CTP Rel.	DASH Rating	Data Driven Typology (retrospective application)	Theoretical Typology (retrospective application)
1	2332	Son	Standard	Intimidating, coercive and controlling offenders	No Typology
2	4207	Grandson	N/A	Higher frequency DA only offenders	ASD
3	885	Son	Standard	Behavioural problem offenders	ASD; BPD
4	3905	Step-Son	Standard	Isolated incident offender	ASD
5	2258	Son	Standard	Higher frequency DA only offenders	ASD
6	4673	Son	Medium	Intimidating, coercive and controlling offenders	Schizophrenia/Psychosis; BPD
7	4493	Son	Standard	Isolated incident offender	ASD; BPD
8	312	Son	Standard	Isolated incident offender	ASD; BPD
9	3296	Son	Standard	Behavioural problem offenders	Schizophrenia/Psychosis
10	1253	Son	Medium	Isolated incident offender	ASD
11	1949	Son	N/A	Higher frequency DA only offenders	ASD
12	582	Child	Medium	Behavioural problem offenders	No Typology
13	474	Son	Medium	Behavioural problem offenders	Schizophrenia/Psychosis; BPD
14	2017	Son	N/A	Isolated incident offender	ASD
15	3349	Daughter	Standard	Higher frequency DA only offenders	No Typology
16	2706	Son	Standard	Isolated incident offender	ASD; BPD
17	93	Son	Standard	Isolated incident offender	ASD
18	4487	Daughter	Standard	Isolated incident offender	BPD
19	2954	Daughter	Medium	Isolated incident offender	BPD
20	3624	Son	N/A	Isolated incident offender	ASD

Cases were randomly selected using a random number generator to provide an ID number that referred to the case level ID. The case level ID number was then linked to the Police case reference number within the main data, allowing the research team to search and access the casefile. The subsample of cases were then accessed via the user interface of the police Connect database, before being copied and pasted into a MS Word file. The unsanitised data was stored on the police systems and subject to thematic analysis, through the use of MS Word and MS Excel, and following the six steps established by Braun & Clarke (2006).

Inter-rater reliability

In order to determine the validity and consensus within the qualitative coding, inter-rater reliability was conducted. The researcher first analysed the data to form themes (and subthemes for further context), which were recorded, explained and coded next to each case. As each of the 20 cases could have been subject to any of the five themes developed, a total of 100 codes were made (theme coded = 1; theme not coded = 0) across the analysis. As the raw data could not leave the police systems, the theme titles, explanations and raw data was presented to the VRN analyst as a secondary rater. The secondary rater read through the raw data and coded the themes they believed to be present against each case, resulting in 100 codes for comparison.

Upon completion of coding by the secondary rater, inter-rater reliability was calculated based upon the exact agreement across all 100 codes. Cohen's Kappa (κ) was selected to provide an inter-rater result that controlled for chance agreement, whereby interpretation of the result is as follows:

<0.01	No agreement
0.01 – 0.20	Slight agreement
0.21 – 0.40	Fair agreement
0.41 – 0.60	Moderate agreement
0.61 – 0.80	Substantial agreement
0.81 – 1.00	Perfect agreement

However, since the development of the statistic, more recent research has criticised the original interpretation of inter-rater as being too lenient, whereby a more commonly accepted cut-off for acceptable inter-rater reliability is $\kappa > .06$.

Within the current study, the kappa coefficient indicated a 'substantial' level of agreement ($\kappa = .712$) between the researcher and secondary rater, and was greater than the commonly accepted threshold level of .60 (McHugh, 2012).

Results

Across the 20 randomly selected cases, five core themes were developed from the data: Problematic behaviour; mental health and substances; escalation/de-escalation; living arrangements; and, parental resistance. Within each theme, several subthemes were apparent. The following section explains the themes generated with supporting quotations from the case dashboards.

Problematic Behaviour

This theme was coded across all 20 (100%) cases and related to the different behaviours that were reported within the incident summary and were often the reason why the police were initially called out to the incident.

The main component of the theme related to cases that involved a verbal altercation (*n* = 11), which mainly consisted of arguments between the child suspect and parent victim:

> *"were having a verbal argument in front of the children" (Case 7)*
>
> *"involved in some form of argument with her daughter" (Case 15)*
>
> *"have been arguing in the morning" (Case 20)*

Cases also recorded physically aggressive behaviour from the child suspects (*n* = 7), which involved a range of aggressive and violent behaviours. This ranged from aggressive behaviour involving damage or throwing objects:

> *"…then became enraged kicked a toy across the room… He then left the address and pushed a recycling bin over outside of the address" (Case 8)*

Through to aggressive behaviour leading to violence in the form of self-harm or harm towards the victim:

> *"sporadic moments of agitation and violence towards his grandparents and is assaulting his grandfather for no reason" (Case 2)*
>
> *"…son was smashing up the house and trying to self-harm by hitting himself over the head with a wine bottle…" (Case 10)*

There were four cases in which the victim stated the suspect had a criminal history and displayed a history of the behaviour within the current incident. However, these statements were often vague with little to no supporting information, involving statements such as the

victim stating they had been arrested “for all sorts” (Case 13) and that they had “called the police on him before” (Case 11) with no further detail.

Finally, there were also two cases where the victim reported experiencing abuse from their ex-partner. Whilst this was not directly related to the current child-to-parent incident, both victims highlighted issues with re-traumatisation:

> *“The victim stated she had previously been victim to DV where she had been in fear of her life and the incident tonight took her straight back to that place.” (Case 17)*

> *“…been suffering… since her last relationship which was abusive in nature…” (Case 20)*

Mental Health and Substances

A second prominent theme, coded across 15 cases (75%), was mental health issues, alcohol and substances. The theme related to both suspects and victims illustrating mental health issues, as well as both prescribed medication alongside drug and alcohol abuse.

The largest subtheme related to the abuse of drugs (*n* = 7) and alcohol (*n* = 5), with suspects taking a range of substances including: cannabis (Cases 1 and 20); cocaine (Case 10 , 11 and 12); ketamine (Case 12); spice (Case 14); and simply stating “takes drugs” (Case 13).

In addition to substance misuse, around a quarter of all cases (*n* = 5) involved alcohol. However, whilst majority of cases involved alcohol abuse:

> *“…he was very drunk… he drinks excessively” (Case 6)*

> *“…is a heavy drinker, often drunk” (Case 9)*

"…was very intoxicated and had been round at his friend's house next door drinking 1/2 litre of vodka" (Case 10)

One case appeared to concern alcohol consumption due to a party.

"has been at a… birthday party… with her son" (Case 16)

The above cases differed to those which involved medication that were prescribed (*n* = 2). Such cases tended to involve individuals who had mental health problems and had been prescribed medication but had "stopped taking this" (Case 3).

Mental health issues were directly mentioned (*n* = 5), with the suspect also being recorded as considering suicide (*n* = 5). Three cases (Cases 3, 6 and 20) involved both subthemes, with two separate cases mentioning mental health issues (Case 2 and 18) and two separate mentioning suicidal thoughts (Case 1 and 10). The mental health issues outlined largely involved the suspect struggling with depression and anxiety:

"suffers with mental health issues as he is always saying he feels suicidal and low" (Case 3)

In addition to controlling their emotions due to Asperger's:

"…has traits of Asperger's and they have recently noticed a big decline in the MH of [suspect]" (Case 2)

"…suffering with Asperger's and struggles controlling his emotions" (Case 20)

The prominence of suicidal thoughts within the sample was mainly due to the questioning within the DASH risk assessment, where cases made a generic confirmation that the suspect had expressed it but had taken no action towards it. This was in comparison to an explicit mention of committing suicide within the incident summary itself:

"had said to her that he was going to try and hang himself" (Case 10)

In addition to the presence of suspect mental health, three cases involved the victim also mentioning they were struggling with their mental health. All three cases expressly mentioned, both within the incident summary and DASH, how the victim was struggling with "depression" (*Case 17, 18 and 20)*.

Escalation/De-escalation

There were 14 (70%) cases that involved either an escalation of abuse, or a de-escalation based upon the current incident.

The most prominent subtheme was that the abuse was getting worse or more frequent (*n* = 6), illustrated mainly through the DASH risk assessment. These cases often involved a generic statement highlighting that the behaviour within the current incident was worsening or happening more often, with the victim either stating this was due to a decline in the suspect's mental health:

"…due to mental health [suspect] has been getting more argumentative" (Case 3)

"Temper and criminal damage has become more frequent" (Case 20)

or worsening drug use:

"It is happening more often as he is getting worse on the drugs" (Case 11)

"It has got worse recently due to his drug use" (Case 13)

In addition, and again mainly due to the questioning of the DASH, a second subtheme was victims who feared that the suspect was going to use violence towards them (*n* = 7). This mainly highlighted the fear or frustration of victims who were subject to physical violence or threats of physical violence.

"He keeps hitting me for no reason and sometimes it is out of the blue" (Case 2)

"had removed herself from the address and run down the street into a carpark as she feared for her safety" (Case 10)

"I am scared he could potentially hurt me" (Case 11)

In contrast to the escalation within the above cases, other cases involved de-escalation as the victim explicitly stated that they either did not want to pursue a prosecution (*n* = 5), often because they wanted help for the suspect as opposed to punishment:

"This is not supported by grandfather as he just wants [suspect] to receive help" (Case 2)

"…wanting help in trying to cope with the daughter as she is struggling" (Case 18)

"She did not want pursue police action and just wanted help for herself and her son" (Case 20)

or the incident did not involve any criminal behaviour and mainly concerned an argument between family members:

> *"Police attended to ensure all was well. No issues with welfare of children who were happy, and family were in good spirits. No offences were disclosed" (Case 7)*

> *"No offences, drunken verbal argument between mother and son" (Case 16)*

Living Arrangements

There were 11 (55%) cases that concerned issues with the suspect's and victim's living conditions. The largest subtheme of the data was the suspect unwantedly gaining entry to the victim's property (*n* = 7), with the suspect either entering the unsecured property without invite:

> "*He turns up on a regular occasion and lets himself into the address (they never lock the door)" (Case 3)*

To the suspect being refused entry into the property and subsequently causing damage to enter:

> *"…damage was caused as a result of informant's son repeatedly going out of the address and not being allowed back in" (Case 4)*

> *"…with nowhere else to go and due to the bitter cold, he came back within 10 minutes and was arrested…" (Case 6)*

Within the cases, three of the suspects appeared to be trying to use the victims address as a place to stay as they were homeless (Case 1, 11 and 14).

A second subtheme were victims who had allowed the suspect to stay, but then wanted the suspect to leave (*n* = 2) or begin paying rent (*n* = 1), leading to disagreements. This was often due to the suspect inviting unwanted friends over, or having drug or alcohol problems which made the victim feel unsafe:

> *"explained that she put her son up 2/3 days ago after he came home and she decided to give him a 2nd chance, but he was told no drugs or alcohol. However, on the night in question he had been to [location] with a friend and upon his return seemed to be out of it" (Case 14)*

> *"The victim stated she just wanted the Police to remove her son and his friend… Both parties had left the scene prior to Police arrival" (Case 17)*

A final subtheme related to the victim receiving prevention advice. This often related to ensuring the suspect was not allowed in the address and to ensure that the address was secured.

> *"Safeguarding advice given to [victim] not to allow [suspect] back into the property for the remainder of the evening and to contact police if he returns to prevent any further issues" (Case 8)*

> *"Informant was advised that once we had left with [suspect] to lock the doors and not open them back up to him" (Case 14)*

Parental Resistance

The theme of parental resistance appeared in seven (35%) cases and related to specific behaviour where the suspect would become aggressive or argumentative following the parent victim instructing the suspect to do something:

> *"…refuses to get a job to pay rent" (Case 7)*

> *"…mother has told daughter (suspect) to do some household jobs. Daughter has refused to tidy her bedroom" (Case 18)*

Or the parent victim has refused to provide them with something that they requested:

> *"…dad has refused to replace the TV with his brothers TV, he has then started punching walls and thrown a mirror and some towels down the stairs" (Case 5)*

> *"…had become angry that [victim] would not lend him a cigarette" (Case 8)*

> *"…money which she has been sending to him, however her ex-partner [ex-partner] ([suspect's] dad) has told her that the money she is sending is being spent on drugs. As a result, she has given her daughter a bag of food to pass on to [suspect] rather than giving him money. He has not liked this so has been ringing and messaging her demanding money" (Case 11)*

Summary

Overall the themes within the deep dive illustrated how there was a rough divide in the types of cases responded by police. Approximately, half of the cases involved suspects who abused drugs, alcohol and displayed aggressive or violent behaviour, whereas the other half of cases involved a range of more specific issues or verbal altercations. This is consistent with the

findings of the systematic review of CPDA cases. The literature would suggest that cases involving substance use and acts of physical aggression from the child are likely to families where there was domestic abuse and poor parenting (e.g., authoritarian or negligent parenting styles). The wider literature on adverse childhood experiences would also suggest that these perpetrators may have experienced multiple adversities in addition to exposure to domestic abuse including neglect and direct abuse (e.g., Kobulsky, Yoon, Bright, Lee, & Nam, 2018). Such perpetrators may use substances to help manage distress stemming from these early childhood experiences and would benefit from a trauma-informed approach to intervention (Santo, Campbell, Gisev, Tran, Colledge, Di Tanna, & Degenhardt, 2021).

Where CPDA appears to be focused around family conflict the literature suggests that this may be driven by parenting practices (e.g., Diggs, Neppl, Jeon & Lohman, 2017). Negtive relationships with parents is associated with lower offspring emotional autonomy (Parra & Oliva, 2009) which is a predictor of poor coping in stressful situations (e.g., Marusak, Thomason, Sala, Crespo & Rabinak, 2018) such as family conflict. Interventions here may be best suited to improve parenting (e.g., Chan & Chan, 2013) and/or family mediation (Mohammad & Azman, 2018).

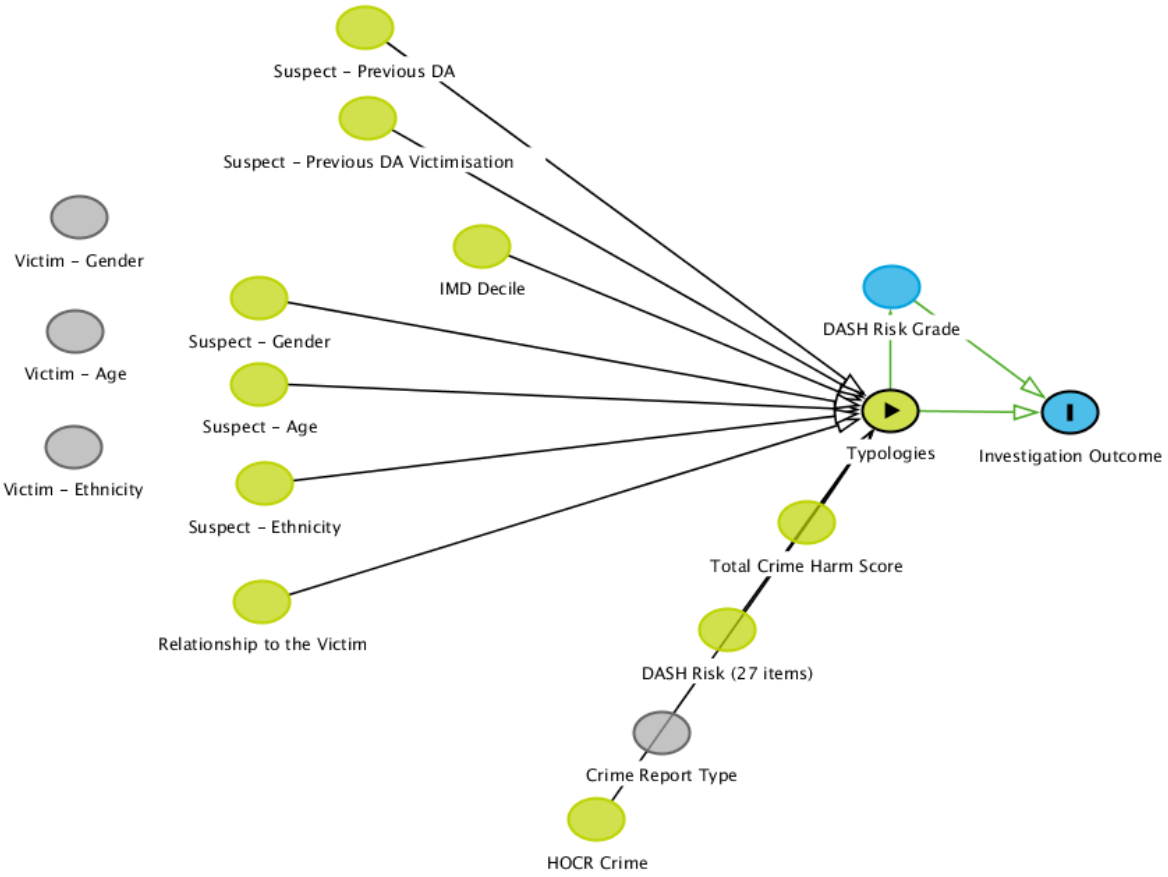
Although these broad themes fit the literature it is important to understand the dynamics involved in CPDA more. Therefore, the next chapter explores the development of a typology of CPDA.

Data Chapter Four: The formation of child to parent case typologies

The project aimed to develop a typology of CPDA that would provide potential insight into the dynamics occurring across the *n* = 4,393 case level sample. The basis of the data driven typologies was to form typologies through cluster analysis of the police data, using the qualitative themes as context. The theoretical typologies would use the systematic literature review to isolate characteristics of cases, which could then be coded against the police data.

In order to develop two sets of independent analyses, the research team split into two groups, one to focus on theoretical typology development and the other to focus on data driven clusters. The research team agreed that a maximum of five types within a typology would be usable in practice. Therefore, the theoretical typology aimed to discern five broad types of relationship dynamics using knowledge from the systematic review, in conjunction to (and independently of) the data driven typology which formed a typology from the dataset itself. Both sets of analyses used an agreed set of variables for typology formation to ensure a consistent approach. In addition, the approach would allow for later a comparison and contrast of typologies to explore the outcomes of both analyses. Figure 11 below illustrates the variables that were agreed to be included within the formation of typologies; however, not all were used in each analysis.

Figure 11: Directed Acyclic Graph (DAG) illustrating the temporal organisation of variables within police data and their contribution towards the formation of typologies. Grey dots represent observed variables that were not considered in typology formation. Green dots represent variables that were used to form the typologies. The blue dots indicate outcome variables, which were examined following the formation of typologies.



Theoretical formation of typologies

A theoretical typology was formed using information from the systematic literature review, whereby five distinct dynamics were identified (see Table 14 below).

Table 14: Overview of theoretical typology and DASH items

Typology Code	Typology Name	Explanation	Coded When
1	ASD	Autism Spectrum disorders (ASD) are a group of complex developmental disabilities that are characterised by difficulties with social interaction, speech and nonverbal communication, and restricted/repetitive behaviours.	Male; DASH24 not present.
2	ADHD/Trauma	Attention deficit hyperactivity disorder (ADHD) is a developmental disorder that includes two types: hyperactive and inattentive and is characterised by either an excess of hyperactive and impulsive behaviours (hyperactive type) or the inability to pay attention to details or effectively organise tasks (inattentive type). Some individuals experience a combination of the two. Trauma is the consequence of aversive life-events that threaten an individual's sense of safety and security.	Age <25; DASH24 &27 present; History of DA; IMD <4.
3	Depression/ ASPD	Depression is a mental illness characterised by a constant feeling of sadness that prevents an individual's from engaging with their normal activities. Antisocial personality disorder (ASPD) Is a mental health condition characterised by a consistent lack of regard for morality and the feelings of others. Individuals with ASPD tend to lack remorse and treat others harshly or with cruel indifference.	Male; Age 25+; DASH24 &27 present; History of DA; IMD <3.
4	Schizophrenia/psychosis	Schizophrenia is a long-term mental illness that involves a disconnection in the relationships between thought, emotion, and behaviour and creates a faulty perception of the world. This leads to inappropriate actions and feelings, withdrawal from reality and personal relationships into fantasy and delusion, and a sense of mental fragmentation. Psychosis is not an illness, but a symptom of some mental and physical illnesses and can also occur in response to extreme trauma and substance misuse. Psychosis affects information processing in the brain and leads to a loss of touch with reality.	Male; Age 30+; DASH24 present.
5	BPD	Borderline personality disorder, also known as emotionally unstable personality disorder and is characterised by intense and rapid mood swings, a fear of abandonment, intense anger, and impulsive behaviour. Those with BPD tend to lack a strong sense of who they are and often have intense, but unstable relationships with others.	HOCR 'non-crime'; Total Crime Harm <10.

Once theoretical typologies had been agreed, the research team re-joined to code the categories across the data. In order to code new variables across several parameters of existing ones, the research team exported the main case level data into RStudio v1.1.463 and attached the data to a dataframe (labelled x.df). Installing the 'tidyverse' package, the case_when() function was nested inside the mutate() function to code typologies. Only variables highlighted within the DAG (Figure 11) were used in coding the typologies (see Appendix A for R script).

All typologies were exported to .xlsx and then linked back to the main case level data in Excel. To understand the prevalence separately and with overlap two types of coding were formed. The first considered each typology as its own dummy variable in order to examine individual frequency (see Table 15); however, the data was also combined into one column of information in order to illustrate overlap, with all blank cells coded as 'No Typology' (see Table 16).

Table 15: Theoretical typologies without overlap across the n = 4393 cases of CPDA abuse.

Typology Group(s)	n (of 4,939)	%
ASD	2374	54.0
BPD	1363	31.0
Schizophrenia/Psychosis	323	7.4
Depression/ASPD	77	1.8
ADHD/Trauma	55	1.3

Table 16: Theoretical typologies and their overlap across the n = 4393 cases of CPDA abuse.

Typology Group(s)	n (of 4,393)	%
ASD	1652	37.6
ASD; BPD	722	16.4
BPD	513	11.7
Schizophrenia/Psychosis	175	4.0
Schizophrenia/Psychosis; BPD	94	2.1
Depression/ASPD; Schizophrenia/Psychosis	42	1.0

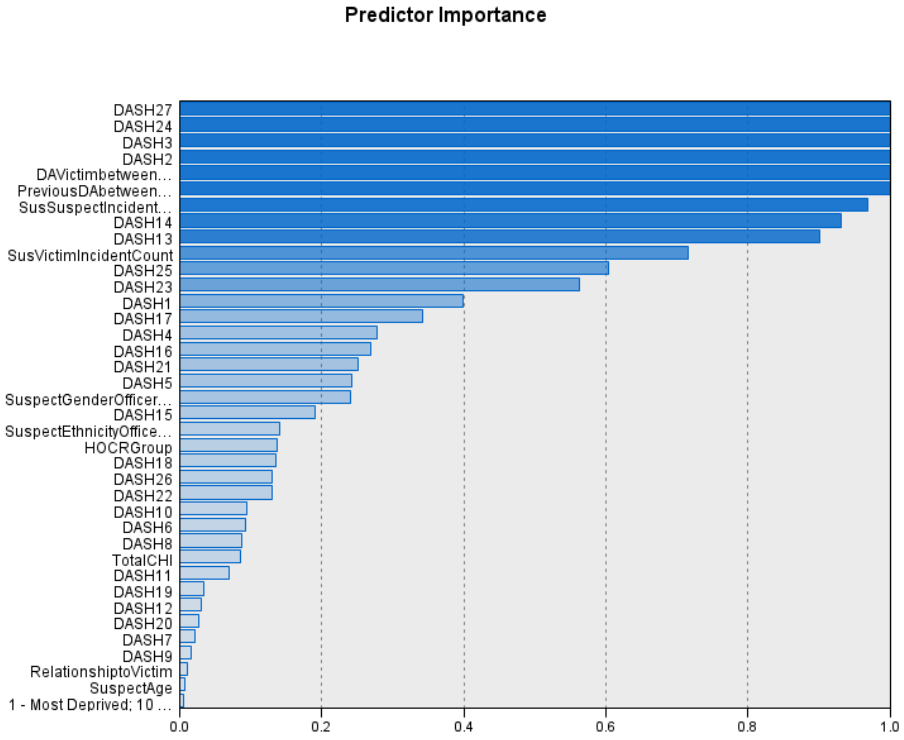
ADHD/Trauma	38	0.9
Depression/ASPD	18	0.4
ADHD/Trauma; BPD	17	0.4
Depression/ASPD; Schizophrenia/Psychosis; BPD	12	0.3
Depression/ASPD; BPD	5	0.1
No Typology	*1105*	*25.2*

To examine the typologies against the cluster analysis conducted in SPSS, each of the five dummy typologies (coded as: typology name/not present) were copied into SPSS alongside the existing imported case level data.

Data driven formation of typologies

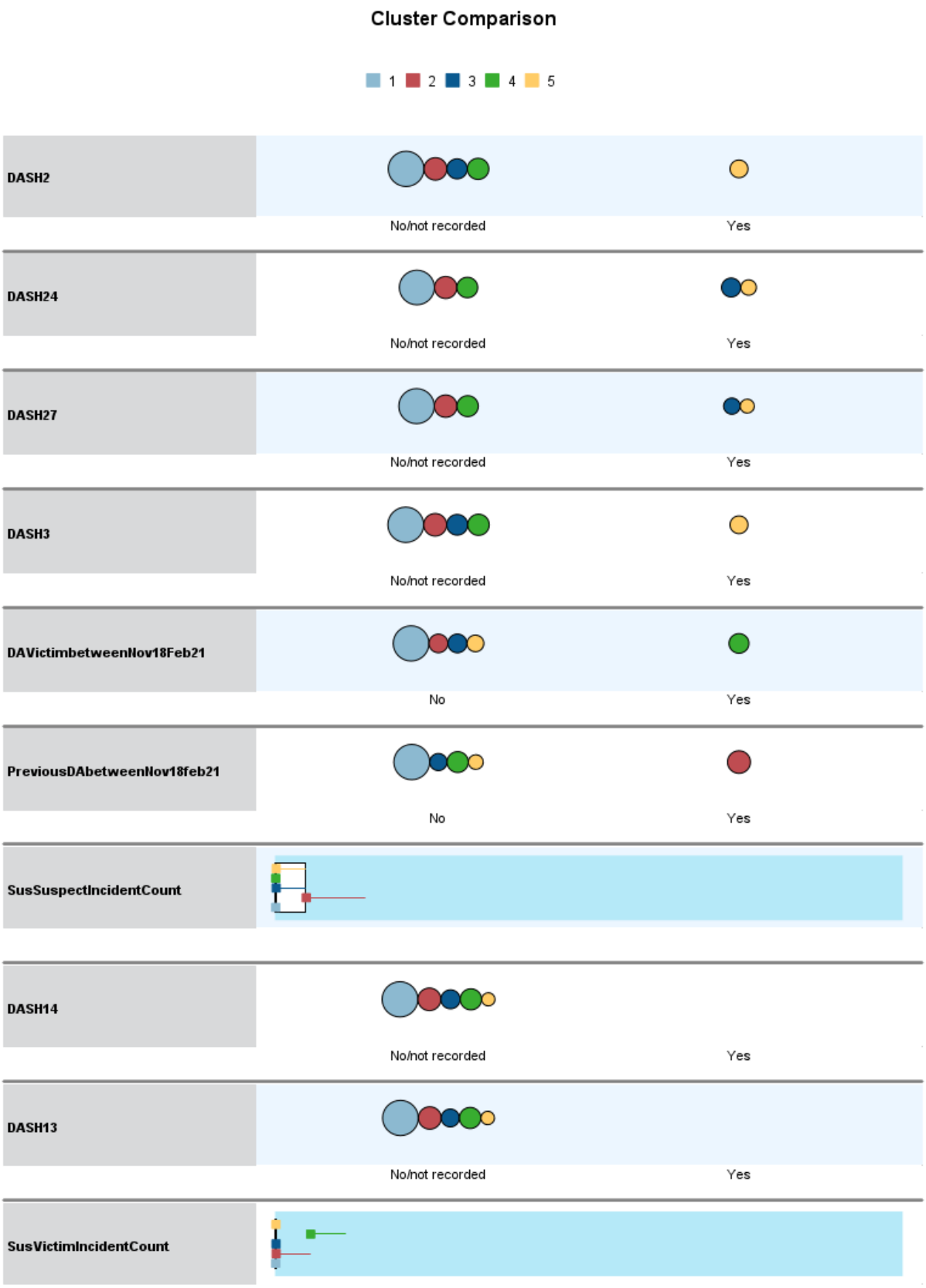
Two-step cluster analysis was used to classify the variables highlighted within the DAG (Figure 11), to a fixed number of five clusters. The output illustrated a silhouette of cohesion = 0.3 which indicated a 'fair' fit of the data and suggested valid within- and between- cluster distances (Norusis, 2008). In terms of predictor importance, clusters were largely distinguished based on particular DASH questions and their previous DA criminal and victimisation history. Across the clusters, and as seen in Figure 12, the DASH questions that were important in the distinction of clusters were questions: 27 (1.00); 24 (1.00); 3 (1.00); 2 (1.00); 14 (0.93); and, 13 (0.90). The Non-DASH variables with importance above 0.60 were whether the suspect had been a victim of DA within sample period (1.00) and the count of these incidents (0.72), as well as whether the suspect had been a previous suspect of DA within the sample period (1.00) and the count of these incidents (0.97).

Figure 12: Two-step cluster analysis predictor importance plot.



The analysis formed 5 clusters which were relatively evenly split across clusters 2-5, but were dominated by cluster 1. Cluster 1 consisted of 1,814 cases (41.3%) and was the largest cluster, with a size ratio of 3.63 in comparison to the smallest cluster. The smallest was cluster 5 which consisted of 500 cases (11.4%). In order to understand the meaning behind the clusters, a cluster comparison provided visualisation of cluster majorities across all five clusters (Figure 13).

Figure 13: Cluster comparison across the predictors with >.60 importance.



Cluster 1 – 'Isolated incident offenders' (n = 1814, 41.3% of total sample).

The largest cluster, cluster 1, related to 1,814 cases where no DASH questions were present, and fell within the majority coding of all other variables. The cluster seemed to mainly concern cases where the suspect had no previous history of being a suspect (*n* = 1,810, 99.8%) or victim (*n* = 1,798, 99.1%), in addition to no mention of criminal history within question 27 of the DASH (*n* = 1,777, 98.0%). This suggested the cluster related to cases that were isolated incidents of police reported CPDA. As such the cluster was labelled isolated incident offenders.

Cluster 2 – 'higher frequency DA only offenders' (n = 744, 16.9% of total sample)

Clusters 2 and 4 had similar presentation across the sampling the predictor variables, but in relation to previous perpetration (cluster 2) and victimisation (cluster 4).

All of the cases within cluster 2 (*n* = 744) were associated with the suspect being involved as a suspect in previous DA cases within the sample period. From the counts, the median average of previous cases for suspects within this cluster was 1 (cluster 2 *IQR* = 2), in comparison to all other clusters which involved a median average of 0 (cluster 1 *IQR* = 0; cluster 3 *IQR* = 1; cluster 4 *IQR* = 0; and, cluster 5 *IQR* = 1). This cluster was similar to cluster 3 and 5 which also involved suspects that committed previous DA, but crucially differed because it did not contain any recorded drugs, alcohol or mental health issues, and related to DA perpetration only. Subsequently, cluster 2 was termed 'higher frequency DA only offenders'.

Cluster 3 – 'Behavioural problem offenders' (n = 673, 15.3% of total sample)

Both cluster 3 and 5 were conceptually similar in their presentation across the predictor variables. Cluster 3 was associated with DASH questions 24 and 27. This indicated that there were issues with drugs, alcohol and mental health (Q24), and criminal history (Q27). There were 425 cases out of 673 (63.2%) which concerned no previous DA from the suspect within the sample period, meaning that the criminal history largely related to crimes other than DA, or DA cases that fell outside of the sample period. Whilst not apparent within Figure 13 (as the visualisation places the cluster dot in the majority category), this cluster was also distinguished by questions 13 and 14 of the DASH. In this instance, 208 cases (30.1%) involved suspects committing abuse more often (Q13) and 149 cases (22.1%) where the abuse was getting worse (Q14).

The main distinguishing feature between this cluster and cluster 5, was that it was not associated with question 2 or 3, meaning that the victim did not report feeling frightened of the suspect within cluster 3. Furthermore, there was an association in relation to HOCR group, whereby cluster 3 was more likely to involve non-crimes (*n* = 279, 41.5%), whereas all other clusters were associated with violence against the person. This suggests that the behaviour involved in the most recent incident did not meet the threshold of criminal behaviour, but a police investigation or response was still needed, likely due to the known history of behavioural issues with the suspect.

Cluster 4 – 'victimised offenders' (n = 660, 15.0% of total sample)

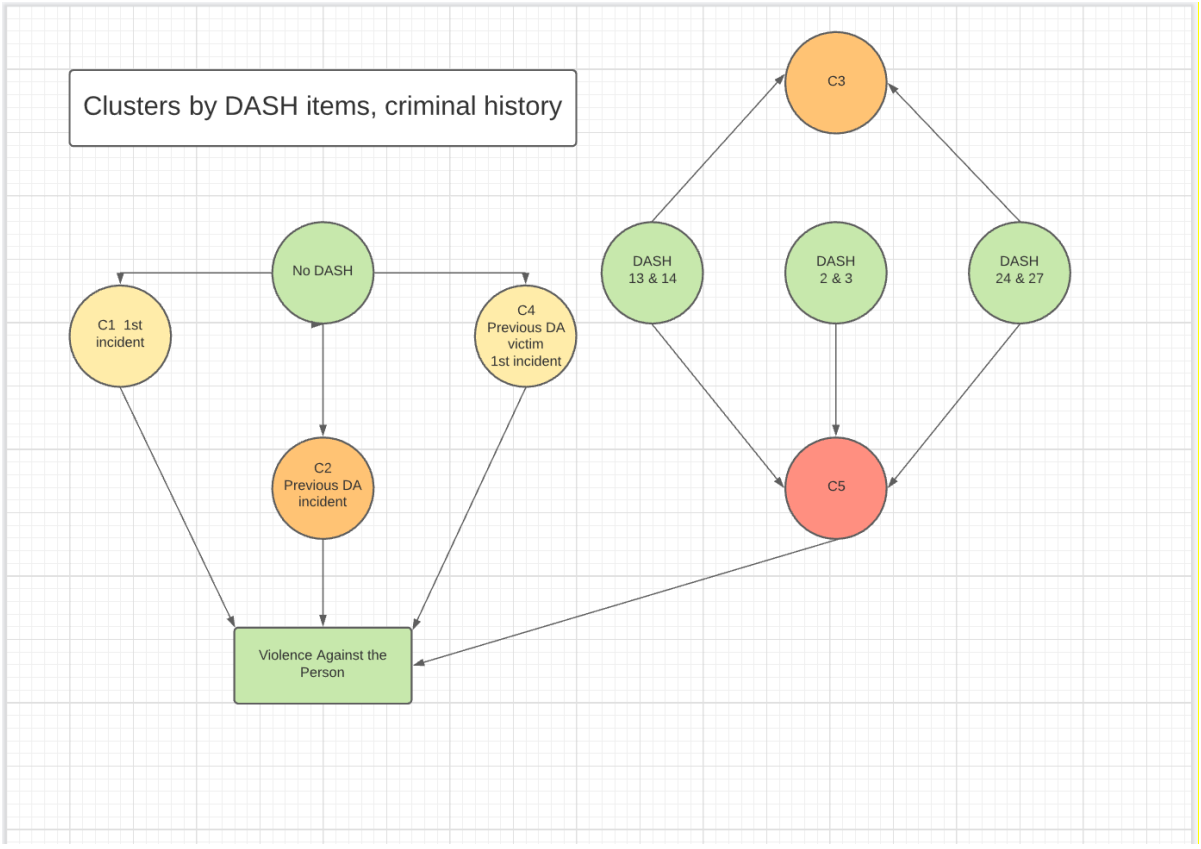
Cluster 4 related to 660 cases where there was an association with suspects who had been a victim in previous domestic abuse incidents within the sample period (*n* = 559, 84.7%). Similar to the presentation in cluster 2, the median average number of incidents the suspect had previously been victim to was 1 (cluster 4 *IQR* = 1). This differed to all other clusters which had a median average of 0 incidents (cluster 1 *IQR* = 0; cluster 2 *IQR* = 1; cluster 3 *IQR* = 0; and, cluster 5 *IQR* = 0). In addition, whilst not an important factor in distinguishing the clusters, cluster 4 illustrated an association with female suspects (*n* = 323, 48.9%). Due to the profile of the cluster, it was named 'victimised suspects' for further discussion. It is also important to note that victimised offenders were also associated with not being a previous suspect of DA (*n* = 635, 96.2%), meaning the cluster related to predominantly the first incident of offending from the suspect who had been previously victimised in the sample period.

Cluster 5 – 'intimidating, coercive and controlling offenders' (n = 500, 11.4% of total sample)

Cluster 5 was associated with DASH questions 2, 3, 24 and 27. This cluster appeared to relate, therefore, to cases in which the victim was frightened of the suspect (Q's 2&3), in addition to the suspect having issues with drugs, alcohol or mental health (Q24) and having a criminal history (Q27). It is important to note, that the criminal history involved in the cluster did not all relate to previous domestic abuse within the sample period, with 315 cases out of the 500 (63.0%) concerning no previous domestic abuse within the sample period. Whilst not apparent within Figure 13, the cluster was also distinguished by questions 13 and 14 of the DASH, whereby 239 cases (48.8%) involved suspects committing abuse more often (Q13) and 248 cases (49.8%) where the abuse was getting worse (Q14).

Also of interest, even though it had little importance in forming the typologies, was the median age of clusters 3 and 5. Both related to suspects whose median age was 26 years (cluster 3 *IQR* = 14; cluster 5 *IQR* = 12), in comparison to clusters 1 and 4 whose median age was 24 years (cluster 1 *IQR* = 14; cluster 4 *IQR* = 12) and cluster 2 with a median age of 23 years (cluster 2 *IQR* = 14). This illustrated that the clustering around those with drug, alcohol and/or mental health issues, and those with a criminal history involved a slightly older suspect demographic in comparison to cases without this dynamic.

Diagram A: The psychologically informed CPDA (PiCPDA)



The pattern observed above in diagram A is somewhat similar to Holtzworth-Munroe's & Stuart's (1994) intimate partner violence typology with the first group appearing 'family only' perpetrators (C1, C2 and C4). The second group are similar to the dysphoric perpetrators, typified by emotion dysregulation, general criminality, trauma and substance use. The third

group appears similar to the generally violent perpetrators in that they use violence both inside and outside of the home, they are coercive and intimidating.

Risk of Parricide Cases

In addition to forming theoretical and data driven typologies, the research team also pooled knowledge on parricide (the killing of one's parent) that was prevalent within the academic literature. Whilst majority of this originated from outside of the UK, the learning was applied to the current sample to code demographics across the sample who would be at risk of different types of parricide. This included: Possible male murderers; possible female murderers; and possible carer burnout murders. The first two mainly related to the male and female demographics who were recorded as more likely to commit parricide. The latter category referred to elder suspects of any gender (50's and older) who were often caring for their terminally ill parents (approximately 70's and older) but were overburdened by their caring responsibilities and parricide served as an attempt to end suffering, either for themself or their parent.

The same procedure in R (see Appendix A for R script) was used to code a new variable which identified parricide risk. The coding considered possible male murderers when the male suspect was between 29 and 34 years of age, had issues with mental health, drugs and/or alcohol, and the relationship to the victim was either a direct, step, or adopted child/dependent. Possible female murderers were coded when the same criteria applied, but the female suspect was aged between 35-54 years.

Possible carer burnout murderers were coded when both male and females were aged 55+ and were the direct children/dependent of the victim, who was at minimum 16 years or older (meaning victims were a minimum age of 71 years).

The coding illustrated that there were 151 cases (3.4%) of males that fit the demographic of potential parricide offender, with 36 cases (0.8%) of potential female parricide offenders, and 53 cases (1.2%) of potential carer burnout parricides. In order to examine whether any of the cases had any previous serious Offences Against The Person (OATP) attached to them, the unfiltered child to parent crime data was used to identify the most serious OATPs present within the sample timeframe. Once these crimes were identified, the suspect iteration ID's were searched against the identified serious OATP offences to link the serious crimes to each unique suspect in the case level data.

Table 17: Identification of the serious offences against the person relating to suspects within the current case level dataset. Please note, this offence does not necessarily relate to the most recent offence committed by the suspect and could relate to any of their previous DA related crimes.

Offences Against the Person Crime	**n**
Attempted murder (Indictable)	2
EXPIRED Attempted - GBH serious wound without intent (s20)	1
EXPIRED GBH serious wound without intent (s20)	5
Malicious Wounding: wounding or inflicting grievous bodily harm	5
Wounding with intent to do grievous bodily harm (Indictable)	38
All Cases	**51**

The serious OATP crimes were then aligned to the current sample of potential parricide offenders in order to examine how representative the parricide profiling was. This found that 3 out of the 51 cases of serious OATP fit the coding of possible parricide cases, of which all 3 related to potential male parricide offenders.

However, as data relating to the serious OATP was being processed, the research team noticed a surprising trend in the data driven clusters and the serious OATP crimes. In order to test the trend, a dummy variable of serious OATP crime was coded against the suspects in the cases level data, which was subject to chi square testing against the data typologies. This test found that there was a strong statistically significant association between serious OATP and the data driven typologies, χ^2 (4, n = 4,393) = 122.344, p < .001, ϕ_c = .167. Standardised residuals (at 95% CI, meaning anything above 1.96 was greater than expected and -1.96 was less than expected) illustrated how serious OATP presented greater than expected counts in data typologies 4 (6.6) and 5 (6.7), in comparison to data typologies 1 (-4.2), 2 (-2.9) and 3 (-2.4). This highlighted that the serious crimes against the person were significantly more likely to be committed by suspects coded into the '*victimised offenders'* (*n* = 26, 51.0%) and *'intimidating, coercive and controlling offenders'* (*n* = 22, 43.1%) typologies in comparison to all others (*n* = 3, 5.9%).

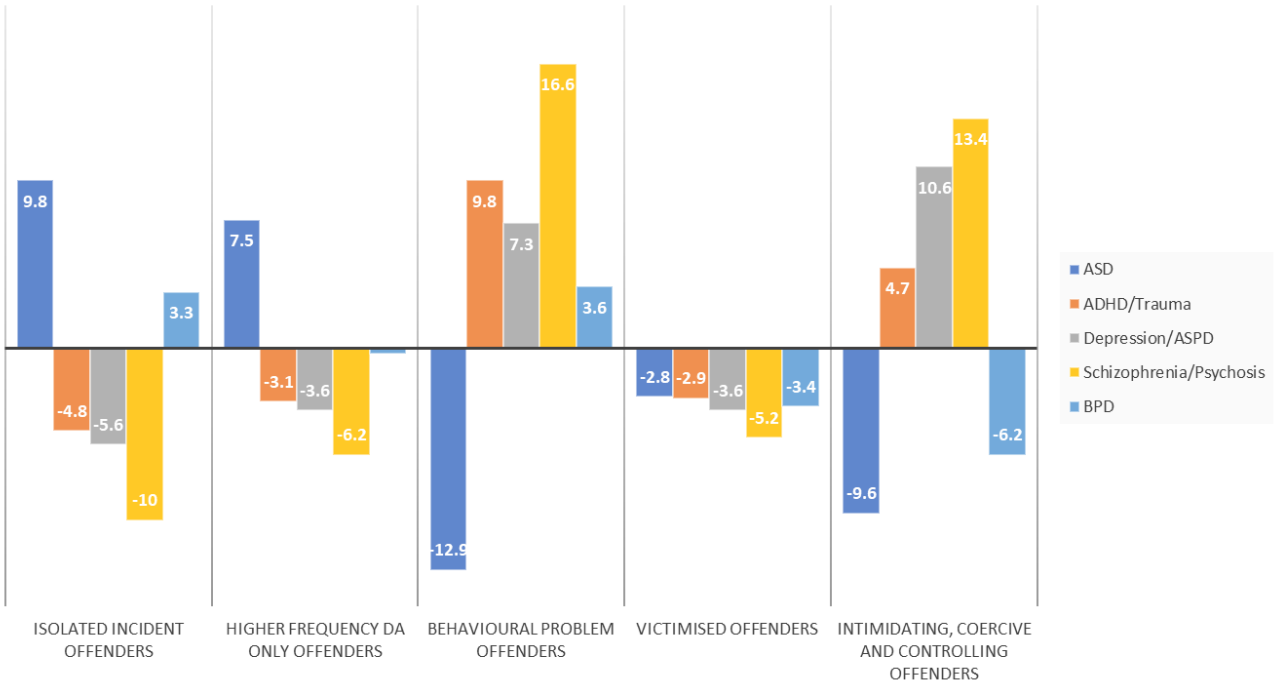
However, whilst this at first appeared to be an interesting finding, the association was linked to a dynamic of the clustering which placed a minority of cases within the cluster identified as 'victimised offenders'. In this instance, the cluster related to 660 cases, whereby 559 (84.7%) were previous victims. The remaining 101 cases had a range of dynamics which meant they weren't coded into the other clusters. Within this 101 cases fell the 26 cases of serious offences against the person. The reasoning behind its placement within this cluster seemed to be linked to the fact that DASH questions 24 and 27 were not present and the suspects had no previous history of DA. Whilst this meant that they *should* have appeared within the isolated offenders cluster, this cluster was exclusionary of cases that had consistent DASH questions present. Therefore, the clustering excluded these cases from isolated incident offenders, because DASH question 1 (relating to causing physical injury) was coded as present.

As a result of the minority of cases did not fit well with the other clusters formed, meaning the software placed the cases in the cluster interpreted as 'victimised offenders' as it was the best *fit* for the cases when forcing five clusters. It is critical to note, therefore, that the true 'victimised offenders' (*n* = 559, 84.7%) appearing within the typology did not relate to serious offences against the person, and in fact had very small total CHI scores (mainly ranging between 0-10). The 22 cases involving serious offences against the person that were clustered into 'intimidating, coercive and controlling offenders' were likely due to such cases involving issues with mental health, drugs and alcohol (DASH question 24 present). To conclude 51% of offenders using serious violence against the person did not fit adequately within the typologies, falling within the victimised typology even though they illustrated no previous victimisation. These require further study but may include relationships with no history of violence or problematic behaviour and a previously unknown perpetrator (PUP), where the perpetrator reaches some type of crisis point such as carer burnout parricides identified in the SR. These PUPs however, may also include relationships with an intimidating, coercive and controlling PUP who only offends within the home. In this case, if the incident of serious violence was subjected to a serious case review it may be apparent that there was history of offences which were never reported. Further research on these cases is needed and may allow additional/alternative items to used during the DASH assessment in CPDA cases. As forty per cent of the seriously violent incidents were committed by those classified in the 'intimidating, coercive and controlling offenders' due to their higher DASH score however, this suggests that these items are appropriate for this type of CPDA perpetrator.

Comparison of Theoretical Typologies and Data Driven Typologies

Following on from the formation of theoretical and data driven typologies, the research team brought together the separate analyses to compare and contrast themes developed across the sample. As the theoretical typologies were not mutually exclusive and contained an overlap of multiple typologies, each theoretical typology was broken down across a contingency table with expected and observed counts for each cell. To visualise the relationship, the standardised residuals were plotted for each of the theoretical typologies, within the data driven typologies.

Figure 14: Plot of standardised residuals for the theoretical typologies within the data driven typologies. Positive residuals indicate greater than expected counts, and negative residuals indicate less than expected counts.



As illustrated, 'isolated incident offenders' were associated with ASD and BPD, suggesting that this cluster of cases related to suspects who may have had difficulty in understanding and/or controlling their emotions and subsequent behaviour. Furthermore, psychological research highlights the overlap between the two psychological conditions, whereby those suffering

from BPD can often demonstrate traits of autism (Dudas et al., 2017). It is also likely that at least some of these are actually emerging higher frequency perpetrators early in their criminal career and/or perpetrators whose CPDA is sporadic and so not captured within the sampling timeframe. It is also possible that 'isolated incidents' type also includes emerging higher frequency perpetrators. Similarly, the second type relating to 'higher frequency DA only offenders' presented with similar theoretical typology association. Therefore, this type could refer to cases where the psychological conditions were more acute, possibly leading to more frequent incidents of abuse but without causing fear to the parent victims. It is also possible of course that some parents do not report feeling afraid even when they are. Reporting fear is known to be significantly less likely with men compared to women in a variety of cases (e.g., McLean & Anderson, 2009) including family violence (e.g., Graham-Kevan & Powney, 2021) so future research is needed to explore whether sex of the victim influences reports of fear in CPDA cases. Another reason to not report fear to the responding officers is so that the parent's child is not seen as 'dangerous' but instead in need of help (e.g., Sayal, Tischler, Coope, Robotham, Ashworth,Day, C., & Simonoff, 2010). Furthermore, 'higher frequency DA only perpetrators' type captures only incidents within the sampling timeframe so it is likely that additional incidents may have been recorded prior to the sampling period in a proportion of cases or will emerge in the future. Due to system changes, incidents before the current study's timeframe is not readily available. However, longitudinal follow-up would allow an exploration of this type in terms of genuine isolated incident and emergent higher frequency perpetrators. Additionally, in terms of understanding these cohorts, absolute number of incidents should be explored alongside the time from first incident and frequency between incidents. Indeed. it is likely that cases that show a pattern of sporadic incidents may differ to those where incidents are clustered more tightly.

The ‘victimised offenders’ type had a negative relationship with the theoretical typologies generated. This could suggest that the victimised offenders were made up of predominantly female suspects who were reacting to or resisting (Johnson, 2010) DA that was committed against them in the sample timeframe. However as females are less likely to be stopped and questioned by police they have a decreased likelihood of police interaction (e.g., Garland, Lau, Yeh, McCabe, Hough & Landsverk, 2005; Greenberg & Lippold, 2013; Williams, Rivera, Neighbours & Reznik, 2007), are more likely to be treated leniently compared to male suspects (Brunson & Miller, 2006; Durán, 2008; Gabbidon, Higgins & Potter, 2011) comparing male and female CPDA cases in terms criminality directly may not accurately reflect similarities in actual behaviour.

The typologies relating to ‘behavioural problem offenders’ and ‘intimidating, coercive and controlling offenders’ were both linked to ADHD/trauma, depression/ASPD, and schizophrenia/psychosis. It is important to note that ADHD/trauma and depression/ASPD were mutually exclusive based on age, whereby ADHD/trauma was coded when the suspect was younger than 25, and depression/ASPD was coded when the suspect was 25 years or older. This was to reflect the issues relating to ADHD and childhood trauma being more likely to be observed in earlier years, in comparison to ASPD traits which were associated with adults between ages of 25-44 years (Moran, 1999). Furthermore, Moran (1999) highlights that the creation and introduction of ASPD by the American Psychiatric Association was to better refine understandings of psychopathy. It, therefore, appears appropriate that the cases relating to ‘behavioural problem offenders’ and ‘intimidating, coercive and controlling offenders’ encapsulates all of the above theoretical explanation in understanding the behaviours of these data typologies. In addition, there was a positive relationship with BPD in the behavioural problem offenders, but a negative relationship within the intimidating,

coercive and controlling offenders typology. This could suggest that some cases coded as BPD involved issues with mental health, drugs and/or alcohol, or the suspect had a criminal history and the victims within the case were seeking help for the suspect. This would be in comparison to the intimidating, coercive and controlling offenders, who were more likely to commit crime and cause the victim to fear the suspect.

Exploring the typologies across overall DASH risk grade and crime outcomes

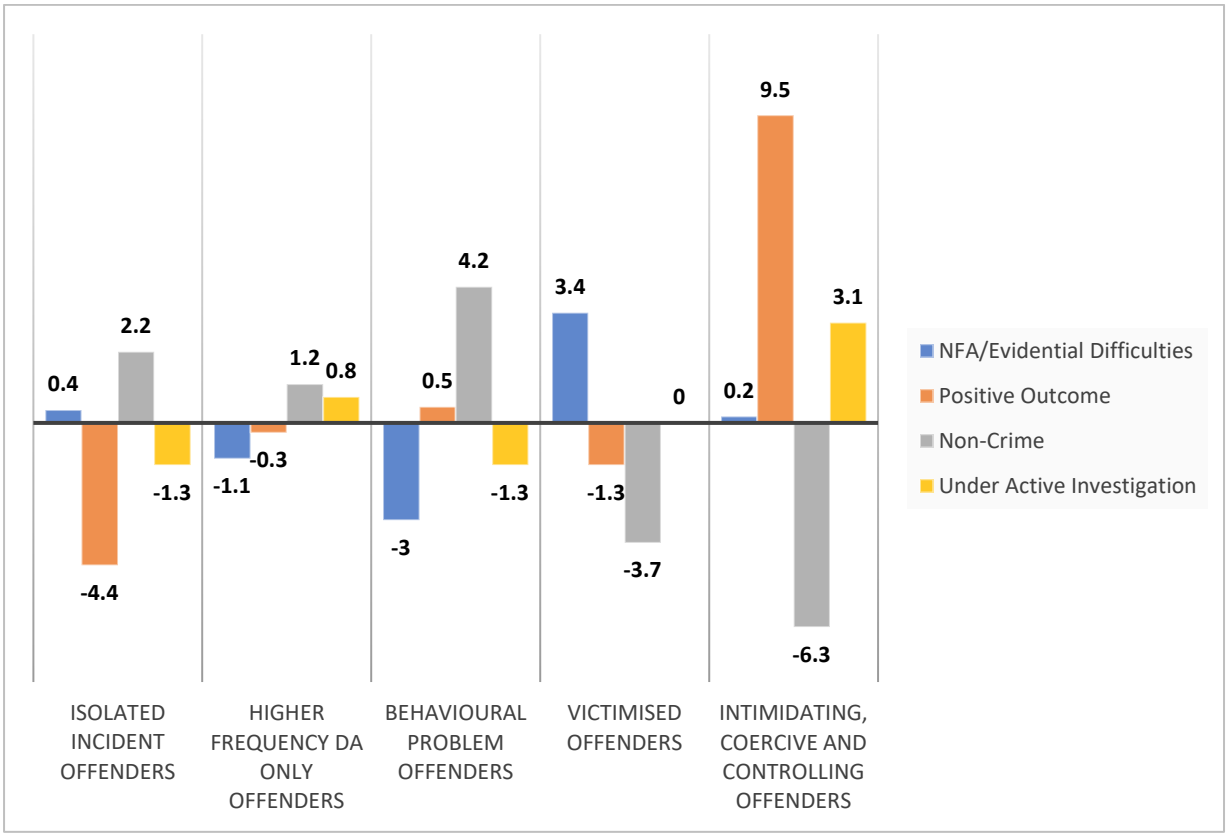
As outlined in the DAG (Figure 11), there were two recorded variables that occurred either alongside the formation of the typologies or immediately after. These related to the overall DASH risk grade and the outcome of the investigations across the sample.

Firstly, the DASH risk grade was an important factor to examine descriptively as the formation of the typologies were based on particular questions being present. However, the overall grade was still of interest as officers are able to use professional judgement and grade risk assessments as higher risk even when few or no factors are present. Therefore, it was important to assess whether the formation of typologies was consistent with the risk grading of CPDA abuse cases. Chi square analysis found that there was a statistically significant association between the typologies and overall risk grade, χ^2 (12, n = 4393) = 1387.154, p < .001, ϕ_c = .324. The test found that isolated incident offenders and higher frequency DA only offenders were associated with 'standard' risk or 'not recorded' cases. Victimised offenders did fall within expected counts across all risk levels. Behavioural problem offenders were associated with 'standard' and 'medium' risk cases. Finally, intimidating, coercive and controlling offenders were associated with 'medium' and 'high risk' cases. The findings were consistent with expectations that the typologies derived from the coding of more present

questions in the DASH were those graded as higher risk (for example, intimidating, coercive and controlling offenders were clustered when DASH 2, 3, 13, 14, 24 and 27 were present).

Crime outcome, however, was not considered in the formation of typologies and was examined to determine whether particular types with the typologies were more likely to result in certain crime outcomes. Again, chi square analysis was used to test for an association between the variables and found a moderate statistically significant association, χ^2 (12, n = 4,393) = 224.955, $p < .001$, $\phi_c = .131$. In order to interpret the data, standardised residuals were plotted across the typologies.

Figure 15: Plot of standardised residuals for crime outcomes across the data driven typologies. Positive residuals indicate greater than expected counts, and negative residuals indicate less than expected counts.



The residuals indicate how isolated incident offenders were more likely to be involved in non-crimes and were less likely to involve positive outcomes. It could be that outcomes such as

charging suspects were not appropriate for the crimes involved within the type, especially in cases where the victim had called the police in order to get support agency help rather than entry into the criminal justice system. Higher frequency DA offenders fell within expected counts across the crime outcomes, indicating a mixture of outcomes to the investigations which may well be predicated on type involving a repeated offending which may have needed a criminal justice response in order to ensure the suspect received support and treatment.

Victim offenders were associated with greater cases of NFA/evidential difficulty, perhaps relating to the victim not supporting police action or the case not being in the public interest given the previous victimisation of the suspect.

Behavioural problem offenders were associated with non-crime cases, against illustrating how the type may have been related to cases where no crimes had been committed, but the behaviour of the suspect needed addressing by police and support agencies. This differed to the intimidating, coercive and controlling offenders typology, whereby cases where associated with positive outcomes and cases under active investigation.

Summary

Combining the findings from the analyses, the theoretical typologies generated from the systematic literature review compliment the data driven typologies. As demonstrated, certain psychological types were associated to particular data driven types, which was a result of the typologies focusing on similar variables. As the data driven typology involved all cases and were mutually exclusive, it is recommended that this typology is used as an underlying framework, with the theoretical typology overlaid to provide psychological explanations for the behaviours within the data driven typology. This resulted in the creation of five category

typology where categories membership was a mixture of both data driven and systematic theoretical insight and were applicable to the full sample of cases.

With the agreed combination of types within the typologies, further verification could be drawn across the five types by examining the overall DASH risk grade and outcomes of the investigation, as well as understanding a potential risk for parricide.

Therefore, the outcome of the current project has been the distinct profiling of cases into typologies of CPDA. Isolated incident offenders and higher frequency DA only offenders appeared to be thematically similar, involving potential behaviours from ASD and BPD types, associated with standard risk grades and more likely to involve a mixture of crime outcomes. This was likely due to a vast range of behaviour within the type, whereby the increased number of DA investigations (i.e., the suspect moving from type 1 to 2), could potentially illustrate a worsening of their behaviour within a domestic setting.

Similarly, behavioural problem offenders involved a greater range of potential psychological issues, including ADHD/trauma, depression/ASPD, and schizophrenia/psychosis, but such behaviour fell short of criminal offences and was more likely to be non-crime. As such, risk assessment were associated with standard and medium risk grades to potentially highlight the need for the suspect to receive help for their mental health, drug or alcohol related behaviour (especially in the cases that did involve DA crimes), but with the recognition that the behaviour may not be currently causing fear to the victim and parental victims may be actively supportive of the suspect.

Victimised offenders were negatively associated with the psychological types, not associated to a particular DASH risk grade, and the cases were more likely to result in NFA/evidential difficulties. Overall, the type seems to suggest that such cases involved predominantly female

offenders who were potentially resisting DA from a parental figure or were part of a multi-assaultive household.

The final type within the typology reflects the most serious cases of CPDA, where the suspect has issues with mental health (possibly ADHD/trauma, depression/ASPD, or schizophrenia/psychosis), and causes the parental victim to fear for their safety. Such cases were associated with medium and high risk grades, which often resulted in a positive outcome in terms of charges or were still under active investigation. This type was also associated with serious offences against the person, meaning that this type could also be one that has an increased risk of parricide.

Discussion

This project sought to combine empirical evidence with real world data to develop a typology of CPDA that can be used by law enforcement and frontline agencies to guide intervention approaches. The systematic review of the literatures on CPDA and parricide informed the development of an empirically driven typology. Simultaneously police analysts developed a procedure for identifying CPDA within police data and subsequently statistically explored the identified case in terms of discrete types of CPDA cases. Using police collected demographic and geographical data alongside responses to officer assessment or risk via the DASH risk assessment to create a data-driven typology. These two typologies were then merged and tested in terms of officer assessment of risk and case outcomes.

The psychologically informed CPDA (PiCPDA) is a first attempt at an empirically and data driven typology and represents a significant step in understanding CPDA in terms of perpetrator risk and need. This typology will need to be tested and refined to maximise its impact and utility.

The findings of this project support the utility of combining empirical research with real-life data to develop a typology that could be used to guide policing and intervention approaches in CPDA. In terms of policing, this project suggests that the DASH has some utility in terms of predicting risk of serious violence in half of these cases, but in the remaining cases it is likely to fail to identify the risk the victim/s face. Therefore, there is a need to refine the DASH for use with CPDA cases or develop a bespoke tool that incorporates DASH areas of salience including victim fear, escalation in frequency and severity, drugs, substance use and mental health but expands upon them. Mental health, for example should be expanded to ask specifically about different types of mental health difficulties (e.g., ASD, BPD, Psychosis). Ages

of the victim and perpetrator and whether they are living at the same home should be recorded, as should carer responsibility. Questions regarding fear could be expanded to include terminology that captures male victims experiences. As intimidating and coercive offenders were at higher risk of serious violence, items to assess a victim's assessment of their 'space for action' (Stark, 2009), such as questions like:

- Do you find yourself walking on eggshells?

- Do you refrain from do things due to concerns regarding how X would react?

may be useful additions to any assessment. Future research should follow CPDA cases to explore how they change across time so that offences concerning CPDA are better understood and the PiCPDA typology developed here can be further refined.

In terms of interventions, most interventions are for children (e.g., Information guide: adolescent to parent violence and abuse (APVA) Home Office) and appear focused on the child parent relationship. These are likely to be suitable for the family only CPDA cases identified in the current project (clusters 1, 2 and 4). For cluster 3 and 5, interventions to address the perpetrator's mental health and/or substance difficulties are needed prior or alongside the child parent relationship interventions. For cluster 5 perpetrators there is likely to be a greater need for safety planning and victim support alongside addressing underlying perpetrator needs around mental health and substance use difficulties. Due to the coercive nature of these perpetrators' behaviour interventions options around personality disorder may be appropriate also. Additionally, the victims of cluster 5 may benefit from psychologically informed approaches.

Limitations

The research literature frequently failed to disaggregate CPDA cases in terms of important contextual characteristics such as victim and perpetrator age, risks and needs and family dynamics. The Parricide literature was much better at contextualising the cases and so the dynamics were clearer. The theoretical typology developed here is a significant step in understanding the complexities and risks surrounding CPDA however it requires further analysis and longitudinal follow-up to develop it further.

The current project utilised empirical literature and police data to develop and conduct initial tests of its utility in data held by Lancashire Constabulary. Although this approach has strengths, it also has limitations. Unfortunately, case level information in terms of MG5s and MG 11s were not available to use to explore CPDA more fully, neither were victim and suspect statements and any court documents. This restricted the capacity to explore incident dynamics in terms of salient information identified in the empirical literature. Future research should seek to explore the typology in relation to this more contextual information to develop the typology further. Similarly, victim and suspect interviews would have allowed researchers to explore the lived experience of those involved and use this to enrich the typology and therefore future research should seek to capture these perspectives.

Due to the short time-frame for this ambitious project there still remains a lot of potential analysis that could be conducted on the data. It is anticipated that the research team will seek additionally funding to facilitate this work. Additionally, it would be helpful to revisit these CPDA cases on a yearly basis in order to understand the developmental trajectory of CPDA. It

is likely that some types contain cases that will progress into different clusters over time and only longitudinal data will allow this progression to be investigated.

The demographic make-up of Lancashire differs from other geographical regions in terms of ethnicity and so future research should compare the current findings to data collected by other forces to enable understanding of similarities and differences.

Recommendations

- Further analysis is conducted to explore case level information using MG5s and MG11s.
- Longitudinal follow-up of the CPDA cases identified through this project.
- Qualitative research exploring the lived experience of suspects, victims and other family members in terms of early childhood, onset of CPDA, progression and escalation and/or desistance of CPDA.
- Adaptation of the current DASH or development of a bespoke CPDA assessment that is developed to identify types of CPDA and risks of escalation and harm.
- The development of a range of potential intervention approaches is likely to be important to be able to intervene in the types of CPDA and at different time points within the types. These should be developed to meet the risk, need and responsivity factors identified by the current research but also the additional research recommend above.

Conclusion

CPDA is a common form of family violence which accounts for over ten per cent of all domestic abuse incidents. It is therefore important to understand the different types of CPDA and how

these may develop longitudinally in terms of chronicity, severity and potential lethality. Understanding the dynamics of CPDA is important and imperative to be able to respond effectively to this common but complex crime that has generally received very little societal or political attention.

References

Adinkrah, M. (2017). Patricides and Step-Patricides in Ghana: Victims, Offenders, and Offense Characteristics. *Journal of family violence, 32*(8), 817-829. doi:10.1007/s10896-017-9939-y

Adinkrah, M. (2018). Matricide in Ghana: Victims, offenders, and offense characteristics. *International Journal of Offender Therapy and Comparative Criminology, 62*(7), 1925-1946. doi:10.1177/0306624X17706891

Aguilar, C. (2019). *A Comparative Study of Sons and Daughters Who Commit Parricide: A Pilot Study*: California State University, Long Beach.

Akuffo, E. (1991). Rehabilitation following matricide in a patient with psychosis, temporal lobe epilepsy and mental handicap. *British Journal of Hospital Medicine.* 45, 108-9.

Amorado, R. M., Lin, C.-Y., & Hsu, H.-F. (2008). Parricide: An Analysis of Offender Characteristics and Crime Scene Behaviorsof Adult and Juvenile Offenders. *4*(1), 1-32.

Baxter, H., Duggan, C., Larkin, E., Cordess, C., & Page, K. (2001). Mentally disordered parricide and stranger killers admitted to high-security care. 1: A descriptive comparison. *Journal of Forensic Psychiatry, 12*(2), 287-299

Bennett, D. J., Ogloff, J. R. P., Mullen, P. E., Thomas, S. D. M., Wallace, C., & Short, T. (2011). Schizophrenia disorders, substance abuse and prior offending in a sequential series of 435 homicides. Acta Psychiatrica Scandinavica, 124(3), 226–233. https://doi.org/10.1111/j.1600-0447.2011.01731.x

Birdsall, N., Kirby, S., & McManus, M. (2017). Police–victim engagement in building a victim empowerment approach to intimate partner violence cases. *Police Practice and Research*, *18*(1), 75-86.

Birdsall, N., Kirby, S., & Phythian, R. (2020). Cooperative actors in domestic abuse and their association with prosecution: implications for the criminal justice system. *The Police Journal*, advanced online publication: https://doi.org/10.1177/0032258X20931922.

Bojanić, L., Flynn, S., Gianatsi, M., Kapur, N., Appleby, L., & Shaw, J. (2020). The typology of parricide and the role of mental illness: Data-driven approach. *Aggressive behavior, 46*(6), 516-522. doi:10.1002/ab.21906

Boots, D. P., & Heide, K. M. (2006). Parricides in the media - A content analysis of available reports across cultures. *International Journal of Offender Therapy and Comparative Criminology, 50*(4), 418-445. doi:10.1177/0306624x05285103

Bourget, D., Gagne, P., & Labelle, M. E. (2007). Parricide: A comparative study of matricide versus patricide. *Journal of the American Academy of Psychiatry and the Law, 35*(3), 306-312.

Bows, H. (2019). Domestic homicide of older people (2010–15): A comparative analysis of intimate-partner homicide and parricide cases in the UK. *British Journal of Social Work, 49*(5), 1234-1253. doi:10.1093/bjsw/bcy108

Bramer, W. M., Rethlefsen, M. L., Kleijnen, J. *et al.* (2017). Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. *Syst Rev* **6,** 245. https://doi.org/10.1186/s13643-017-0644-y

Brantingham, P. (2017). The logic of data bias and its impact on place-based predictive policing. *Ohio State Journal of Criminal Law*, *15*, 473-486.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, *3*(2), 77-101.

Browne, K. D. and C. E. Hamilton (1998). "Physical violence between young adults and their parents: Associations with a history of child maltreatment." Journal of family violence 13(1): 59-79.

Brunson R, and Miller J. (2006) Gender, race, and urban policing: The experience of African American youths. Gender & Society. 2006;20:531–552.

Burnham, K., & Anderson, D. (2004). Multimodel inference: Understanding AIC and BIC in model selection. *Sociological Methods and Research, 33*(2), 261-304.

Calhoun, B. H., Ridenour, T. A., & Fishbein, D. H. (2019). Associations between child maltreatment, harsh parenting, and sleep with adolescent mental health. Journal of Child and Family Studies, 28(1), 116–130. https://doi.org/10.1007/s10826-018-1261

Condry and Miles (2015) Uncovering Adolescent to Parent Violence (Palgrave).

Carabellese, F., Rocca, G., Candelli, C., & Catanesi, R. (2014). Mental illness, violence and delusional misidentifications: The role of Capgras' syndrome in matricide. *Journal of Forensic and Legal Medicine, 21*, 9-13. doi:10.1016/j.jflm.2013.10.012

Catanesi, R., Rocca, G., Candelli, C., & Carabellese, F. (2015). Matricide by Mentally Disordered Sons: Gaining a Criminological Understanding Beyond Mental Illness--A Descriptive Study. *International Journal of Offender Therapy and Comparative Criminology, 59*(14), 1550-1563. doi:10.1177/0306624X14545772

Chamberlain, T. (1986). The dynamics of a parricide. American *Journal of Forensic Psychiatry.* 7, 11–23.

Chan, S. M., & Chan, K.-W. (2013). Adolescents' susceptibility to peer pressure: Relations to parent–adolescent relationship and adolescents' emotional autonomy from parents. Youth & Society, 45(2), 286–302. https://doi.org/10.1177/0044118X11417733

Chen, F. R., Raine, A., & Granger, D. A. (2018). Testosterone and proactive-reactive aggression in youth: The moderating role of harsh discipline. Journal of Abnormal Child Psychology, 46(8), 1599–1612. https://doi.org/10.1007/s10802-018-0399-5

Charoenwongsak, W., Kinorn, P., & Hongsanguansri, S. (2017). Parenting styles in children and adolescents with substance use disorders: A study from the Princess Mother National Institute on Drug Abuse treatment, Thailand. ASEAN Journal of Psychiatry, 18(2).

Condry, R., Miles, C., Brunton-Douglas, T. and Oladapo, A. (2020) Experiences of Child and Adolescent to Parent Violence in the Covid-19 Pandemic, University of Oxford

Cravens, J. M., Campion, J., Rotholc, A., Coven, F., & Cravens, R. A. (1985). A study of 10 men charged with patricide. *American Journal of Psychiatry.* 142, 1089–1092.

Cutrim Jr, R. J. C., Forte Stuchi, L., & Martins Valenca, A. (2013). Schizotypical disorder or schizophrenia? Assessment of penal responsibility in a patricide case. *Revista*

Colombiana de Psiquiatria, 42(3), 292-294. doi:http://dx.doi.org/10.1016/S0034-7450%2813%2970022-2

Dakhlaoui, O., Khemiri, O., Gaha, N., Ridha, R., & Haffani, F. (2009). Psychotic parricide: Clinical and analytic study about 16 cases. *Tunisie Medicale, 87*(12), 824-828.

Dantas, S., Santos, A., Dias, I., Dinis-Oliveira, R. J., & Magalhaes, T. (2014). Parricide: A forensic approach. *Journal of Forensic and Legal Medicine, 22*, 1-6. doi:http://dx.doi.org/10.1016/j.jflm.2013.11.008

de Borba-Telles, L. E., Menelli Goldfeld, P. R., Soares Barros, A. J., Schwengber, H. E., Peres-Day, V., & de Moraes-Costa, G. (2017). Is parricide a stable phenomenon? An analysis of parricide offenders in a forensic hospital. *Revista de la Facultad de Medicina, 65*(1), 9-13.

De la Torre-Cruz, M. J., García-Linares, M. C., & Casanova-Arias, P. F. (2014). Relationship between parenting styles and aggressiveness in adolescents. Electronic Journal of Research in Educational Psychology, 12(1), 147–169. https://doi.org/10.14204/ejrep.32.13118

de Veinsten, S. B. G. (2004). "Young violence towards parents." Interdisciplinaria Revista de Psicología y Ciencias Afines 21(Suppl): 205-220.

Diggs, O. N., Neppl, T. K., Jeon, S., & Lohman, B. J. (2017). The association of harsh parenting, parent-child communication, and parental alcohol use with male alcohol use into emerging adulthood. Journal of Adolescent Health, 61(6), 736–742. https://doi.org/10.1016/j.jadohealth.2017.06.025

Di Vella, G., Grattagliano, I., Romanelli, M. C., Duval, J., & Catanesi, R. (2017). The tragic tale of a father and son: an unusual patricide. *Clin Ter, 168*(3), e173-177.

Dimitrova, D., Kaishev, V., & Tan, S. (2017). Computing the Kolmogorov-Smirnov distribution when the underlying cdf is purely discrete, mixed or continuous. [Monograph (working paper)]. Available at: https://openaccess.city.ac.uk/id/eprint/18541/ (accessed 26/03/2021).

Dogan, K. H., Demirci, S., Deniz, I., & Erkol, Z. (2010). Decapitation and dismemberment of the corpse: A matricide case. *Journal of Forensic Sciences, 55*(2), 542-545. doi:http://dx.doi.org/10.1111/j.1556-4029.2009.01266.x

d'Orban, P., & O'Connor, A. (1989). Women who kill their parents. *The British Journal of Psychiatry, 154*(1), 27-33.

Dudas, R. B., Lovejoy, C., Cassidy, S., Allison, C., Smith, P., & Baron-Cohen, S. (2018). "The overlap between autistic spectrum conditions and borderline personality disorder": Correction. *PLoS ONE, 13*(1), Article e0190727. https://doi.org/10.1371/journal.pone.0190727

Dunjic, B., Maric, N., Dunjic, D., & Gasic, M. J. (2008). Parricide: psychiatric morbidity. *Srpski arhiv za celokupno lekarstvo, 136*(S2), 635-639.

Durán R. (2008). Legitimated oppression: Inner-city Mexican American experiences with police gang enforcement. Journal of Contemporary Ethnography. 38:143–168.

Ellouze, F., Damak, R., Bouzuita, I., Karoui, M., Ridha, R., & M'rad, M. F. (2017). Matricide in schizophrenia: a case report. *La Tunisie Medicale, 95*(5), 375-377.

Fegadel, A. R. (2014). Juvenile and adult involvement in double parricide and familicide in the US: An empirical analysis of 20 years of data.

Fegadel, A. R., & Heide, K. M. (2015). Double Parricide: An In-Depth Look at Two Victim Homicides Involving Parents as Victims. *Behavioral sciences & the law, 33*(6), 723-739. doi:10.1002/bsl.2189

Fegadel, A. R., & Heide, K. M. (2017). Offspring-perpetrated familicide: Examining family homicides involving parents as victims. *International Journal of Offender Therapy and Comparative Criminology, 61*(1), 6-24. doi:10.1177/0306624X15589091

Fegadel, A. R., & Heide, K. M. (2018). NIBRS and SHR: A comparison of two national homicide databases with respect to parricide. *Victims & Offenders, 13*(2), 235-256. doi:10.1080/15564886.2016.1246392

Fordor, L., Fehér, I., Szabados, Gy., Varga, É. J., Herold, R., & Tényi, T. (2019). Capgras symptom associated parricides: 2 case reports. *Orvosi Hetilap, 160*(42), 1673-1676. doi:http://dx.doi.org/10.1556/650.2019.31476

Gabbidon ,S.L., Higgins, G.E., & Potter, H. (2011). Race, gender, and the perception of recently experiencing unfair treatment by the police: Exploratory results from an all-black sample. Criminal Justice Review. 2011; 36:5–21.

Gabison-Hermann, D., Raymond, S., Mathis, D., & Robbe, G. (2010). Psychotic parricide: Description and evolution of patients hospitalised in the Henri-Colin secure unit. *Evolution Psychiatrique, 75*(1), 35-43. doi:http://dx.doi.org/10.1016/j.evopsy.2009.12.008

Gamez-Guadix, M. and E. Calvete (2012). "Child-to-parent violence and its association with exposure to marital violence and parent-to-child violence." Psicothema 24(2): 277-283.

Gamez-Guadix, M., et al. (2012). "Parenting styles and child to parent violence in Spanish population." Behavioral Psychology-Psicologia Conductual 20(3): 585-602.

Garland, A. F., Lau, A. S., Yeh, M., McCabe, K. M., Hough, R. L., & Landsverk, J. A. (2005). Racial and ethnic differences in utilization of mental health services among high-risk youths. American Journal of Psychiatry, 162(7), 1336–1343.

Gómez-Durán, E. L., Martin-Fumadó, C., Litvan, L., Campillo, M., & Taylor, P. J. (2013). Matricide by failure to act in autism. *Journal of Autism and Developmental Disorders, 43*(2), 495-497. doi:10.1007/s10803-012-1590-0

Gottlieb, P., & Gabrielsen, G. (1992). Alcohol-intoxicated homicides in Copenhagen, 1959–1983. International Journal of Law and Psychiatry, 15(1), 77–87. https://doi.org/10.1016/0160-2527(92)90028-Y

GOV.UK. (2019). English indices of deprivation 2019. Available at: https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019 (accessed 25/03/2021).

Graham-Kevan, N. (2008). Children's Aggression Towards Parents. XVIII World meeting of the International Society for Research on Aggression, 12th – 13th July Budapest, Hungary.

Green, C. M. (1981). Matricide by sons. *Medicine, Science and Law.* 21, 207–214.

Greenberg, M. T., & Lippold, M. A. (2013). Promoting healthy outcomes among youth with multiple risks: Innovative approaches. Annual Review of Public Health, 34, 253–270.

Guttmacher, M. S. (1960). The mind of a murderer. American Book-Stratford Press.

Hackfield, A. W. (1933). Crimes of unintelligible motivation as representing an initial symptom of an insidiously developing schizophrenia. *American Journal of Psychiatry*. 91, 639-68.

He, L. (2012). *A comparison of factors associated with parricide in Chicago from 1965 to 1995*: Southeastern Louisiana University.

Heide, K. M. (2013). Matricide and Stepmatricide Victims and Offenders: An Empirical Analysis of U.S. Arrest Data. *Behavioral Sciences & the Law, 31* (2), 203-214. doi:10.1002/bsl.2056

Heide, K. M. (2014). Patricide and Steppatricide Victims and Offenders: An Empirical Analysis of U.S. Arrest Data. *International Journal of Offender Therapy and Comparative Criminology, 58*(11), 1261–1278. doi:10.1177/0306624X13495168

Heide, K. M., & Petee, T. A. (2007). Parricide: an empirical analysis of 24 years of U.S. data. *Journal of interpersonal violence, 22*(11), 1382-1399. doi:10.1177/0886260507305526

Hellen, F., Lange-Asschenfeldt, C., Ritz-Timme, S., Verhulsdonk, S., & Hartung, B. (2015). How could she? Psychosocial analysis of ten homicide cases committed by women. *Journal of Forensic and Legal Medicine, 36*, 25-31. doi:http://dx.doi.org/10.1016/j.jflm.2015.08.007

Hill, D., & Sargant, W. (1943) A case of matricide. *The Lancet*. 526-7.

HMIC. (2014). Crime recording: A matter of fact. An interim report of the inspection of crime data integrity in police forces in England and Wales. HMIC, London.

HMICFRS. (2020). Reports – Rolling programme of crime data integrity inspections. Available at: https://www.justiceinspectorates.gov.uk/hmicfrs/our-work/article/crime-data-integrity/reports-rolling-programme-crime-data-integrity/ (accessed 29/03/2021).

HMICFRS. (2019). Lancashire Constabulary: Crime Data Integrity re-inspection 2019. Available at: https://www.justiceinspectorates.gov.uk/hmicfrs/publications/lancashire-constabulary-crime-data-integrity-re-inspection-2019/#violence-against-the-person (accessed 29/03/2021).

Holcomb, W. R. (2000). Matricide: Primal aggression in search of self-affirmation. *Psychiatry, 63*(3), 264-287.

Holt, A. (2017). Parricide in England and Wales (1977–2012): An exploration of offenders, victims, incidents and outcomes. *Criminology & Criminal Justice: An International Journal, 17*(5), 568-587. doi:10.1177/1748895816688332

Holt, S., & Devaney, J. (2015). Understanding domestic abuse and sexual violence. In D. Healy, C. Hamilton, Y. Daly, & M. Butler (Eds) *The Routledge handbook of Irish criminology (*pp.70-88). London, Routledge.

Home Office Information guide: adolescent to parent violence and abuse (APVA)

Hsu, M. C., Huang, C. Y., & Tu, C. H. (2014). Violence and mood disorder: Views and experiences of adult patients with mood disorders using violence toward their parents. *Perspectives in psychiatric care, 50*(2), 111-121.

Hsu, M.C., & Tu, C. H. (2013). Adult patients with schizophrenia using violence towards their parents: a phenomenological study of views and experiences of violence in parent-child dyads. *Journal of advanced nursing, 70*(2), 336-349. doi:10.1111/jan.12194

Hubbell, J. T., Heide, K. M., & Khachatryan, N. (2019). Adopted children who kill their adoptive parents. *Behavioral sciences & the law, 37*(5), 473-492. doi:10.1002/bsl.2427

Ibabe, I., Arnoso Martínez, A., & Elgorriaga Astondoa, E. (2020). Child-to-Parent Violence as an Intervening Variable in the Relationship between Inter-Parental Violence Exposure and Dating Violence.

IBM. (2021). Missing value analysis. Available at: https://www.ibm.com/support/knowledgecenter/SSLVMB_27.0.0/statistics_mainhelp_ddita/spss/mva/idh_miss.html (accessed 24/03/2021).

Jargin, S. V. (2013). Elder abuse and neglect versus parricide. *International journal of high risk behaviors & addiction, 2*(3), 136-138. doi:10.5812/ijhrba.14983

Jimenez-Garcia, P., Contreras, L., Perez, B., Cova, F., & Cano-Lozano, M. C. (2020). Adaptation and Psychometric Properties of the Child-to-Parent Violence (CPV-Q) in Young Chileans. *Revista Iberoamericana De Diagnostico Y Evaluacion-E Avaliacao Psicologica, 3*(56), 33-46. doi:10.21865/ridep56.3.03

Johnson, B., Richert, T., & Svensson, B. (2018). Parents as victims of property crime committed by their adult children with drug problems: Results from a self-report study. *International review of victimology, 24*(3), 329-346.

Johnson, B., Richert, T., & Svensson, B. (2020). Physical violence and property damage towards parents, committed by adult children with drug problems. *Journal of family violence*. doi:10.1007/s10896-020-00181-1

Johnson, M. P. (2010). *A typology of domestic violence: Intimate terrorism, violent resistance, and situational couple violence*. University Press of New England, New Hampshire (NH).

Jung, S. K., Lee, J. R., Kim, J. Y., Taq, G. J., Oh, I. J., & Myoung, E. C. (2014). Analysis of parricide and filicide in Korea. *Korean Journal of Legal Medicine, 38*(2), 66-72.

Kageyama, M., Yokoyama, K., Horiai, Y., & Solomon, P. (2020). Pilot study of a video-based educational program to reduce family violence for parents of adult children with schizophrenia. *Psychiatric quarterly*, 1-14.

Kernsmith, P., & Craun, S. W. (2008). Predictors of weapon use in domestic violence incidents reported to law enforcement. Journal of Family Violence, 23(7), 589–596. https://doi.org/10.1007/s10896-008-9181-8

King, G., Honaker, J., Joseph, A., & Scheve, K. (1998). Listwise deletion is evil: What to do about missing data in political science (Unpublished manuscript). St. Louis, MO: Washington University in St. Louis.

Kirby, S., & Birdsall, N. (2021). Kicking off: Is the association between the FIFA world cup and domestic abuse an international phenomenon, *The Police Journal.* https://doi.org/10.1177/0032258X211007182.

Kirby, S., Francis, B., & O'Flaherty, R. (2014). Can the FIFA world cup football (soccer) tournament be associated with an increase in domestic abuse? *Journal of research in crime and delinquency*, *51*(3), 259-276.

Kobulsky, J. M., Yoon, S., Bright, C. L., Lee, G., & Nam, B. (2018). Gender-moderated pathways from childhood abuse and neglect to late-adolescent substance use. Journal of Traumatic Stress, 31(5), 654–664. https://doi.org/10.1002/jts.22326

Kromm, J., Vasile, R. G., & Gutheil, T. G. (1982). Occupational therapy in the assessment of a woman accused of murder. *Psychiatric quarterly,* 54, 85-96.

Labrum, T., & Solomon, P. (2020). Serious mental illness and incidents between adult children and parents responded to by police. *Psychological medicine*, 1-10.

Lauerma, H., Voutilainen, J., & Tuominen, T. (2010). Matricide and two sexual femicides by a male strangler with a transgender sadomasochistic identity. *Journal of Forensic Sciences, 55*(2), 549-550. doi:http://dx.doi.org/10.1111/j.1556-4029.2009.01280.x

Le Bihan, P., & Benezech, M. (2004). Degree of organization of pathological parricide: Modus operandi and criminological profile in 42 cases. *Annales Medico-Psychologiques, 162*(8), 615-625. doi:http://dx.doi.org/10.1016/j.amp.2004.06.014

Le Bihan, P., Ureten, S., & Lavole, Y. (2012). On the recognition of crime in forensic psychiatry: A study on parricide. *Annales Medico-Psychologiques, 170*(2), 145-146. doi:10.1016/j.amp.2012.01.016

Lee, S. Y., Lim, M. H., Lee, J., Shim, G., Kim, Y., Do, J. A., . . . Lee, J. W. (2017). Minnesota Multiphasic Personality Inventory Characteristics of Parricide Offenders with

Schizophrenia in Korea. *Psychiatry investigation, 14*(2), 166-171. doi:10.4306/pi.2017.14.2.166

Leveillee, S., Lefebvre, J., & Vaillancourt, J. P. (2010). Parricide committed by adult men: Descriptive variables and motivations. *Evolution Psychiatrique, 75*(1), 77-91. doi:http://dx.doi.org/10.1016/j.evopsy.2009.12.001

Liem, M., Levin, J., Holland, C., & Fox, J. A. (2013). The Nature and Prevalence of Familicide in the United States, 2000–2009. *Journal of Family Violence.* 28, 351–358. https://doi.org/10.1007/s10896-013-9504-2

Liettu, A., Saavala, H., Hakko, H., Rasanen, P., & Joukamaa, M. (2009). Mental disorders of male parricidal offenders: A study of offenders in forensic psychiatric examination in Finland during 1973-2004. *Social Psychiatry and Psychiatric Epidemiology, 44*(2), 96-103. doi:http://dx.doi.org/10.1007/s00127-008-0419-9

Lipson, C. T. (1986). A case report of matricide. *American Journal of Psychiatry.* 143, 112–113.

Loinaz, I., & de Sousa, A. M. (2020). Assessing risk and protective factors in clinical and judicial child-to-parent violence cases. The European Journal of Psychology Applied to Legal Context, 12(1), 43–51.

LVRN. (2021). Welcome to Lancashire Violence Reduction Network. Available at: https://www.lancsvrn.co.uk/ (accessed 30/03/2021).

Lyons, J., Bell, T., Fréchette, S., & Romano, E. (2015). Child-to-parent violence: Frequency and family correlates. *Journal of family violence, 30*(6), 729-742. doi:10.1007/s10896-015-9716-8

Macdonald, J. M. (1978). The murderer and his victim. In Thomas C. C., (2nd Eds) The laugh of Satan: a study of a familial murder. *Journal of Personality Assessment.* 42, 81-91.

MacDonald, J., & Lattimore, P. (2010). Count models in Criminology. In Piquero A and Weisburd D (eds) *Handbook of Quantitative Criminology*. New York: Springer, pp.683-698.

Maas, R. L., Prakash, R., Hollender, M. H., & Regan, W. M. (1984). Double parricide—matricide and patricide: A comparison with other schizophrenic murders. *Psychiatric quarterly, 56*(4), 286-290. doi:10.1007/BF01064474

Marleau, J. D., Auclair, N., & Millaud, F. (2006). Comparison of factors associated with parricide in adults and adolescents. *Journal of family violence, 21*(5), 321-325. doi:10.1007/s10896-006-9029-z

Marusak, H. A., Thomason, M. E., Sala, H. K., Crespo, L., & Rabinak, C. A. (2018). What's parenting got to do with it: Emotional autonomy and brain and behavioral responses to emotional conflict in children and adolescents. Developmental Science, 21(4), 1–11

Meloy, R. J. (1996). Orestes in southern California: A forensic case of matricide. *The Journal of Psychiatry and Law.* 24, 77-102.

McHugh, M. L. (2012). Interrater reliability: the kappa statistic. *Biochemia medica*, *22*(3), 276-282.

McManus, M., Almond, L., & Bourke, J. (2017). Exploring child-to-parent domestic abuse: Offender characteristics and DASH individual risk factors associated with recidivism. *Journal of Forensic Psychology, 2*(3), 1-6.

McLean, C.P., & Anderson, E.R. (2009). Brave men and timid women? A review of the gender differences in fear and anxiety, Clinical Psychology Review, Volume 29, 6, 496-505, https://doi.org/10.1016/j.cpr.2009.05.003

Menezes, S. B. (2010). Parricides by mentally disordered offenders in Zimbabwe. *Medicine, science, and the law, 50*(3), 126-130. doi:10.1258/msl.2010.010012

Millaud, F., Auclair, N., & Meunier, D. (1996). Parricide and mental illness. A study of 12 cases. *International journal of law and psychiatry, 19*(2), 173-182. doi:10.1016/0160-2527(96)00003-9

Moen, M., & Shon, P. (2020a). Attempted and Completed Parricides in South Africa, 1990-2019. *International Journal of Offender Therapy and Comparative Criminology*, 306624X20928023. doi:10.1177/0306624X20928023

Moen, M., & Shon, P. (2020b). Multiple-victim parricides in South Africa, 1990–2019. *Journal of Investigative Psychology and Offender Profiling 17(3)*, 264-279. doi:10.1080/15564886.2020.1758862

Moen, M., & Shon, P. (2020c). Female victims and offenders in South African parricides, 1990-2019. *Victims & Offenders, 15*(6), 793-809. doi:10.1080/15564886.2020.1758862

Mohammad, T., & Azman, A. (2018). Perspectives of juvenile offenders undergoing victim-offender mediation with their own family members: A qualitative study. Victims & Offenders, 13(7), 995–1012. https://doi.org/10.1080/15564886.2018.152076

Moran, P. (1999). The epidemiology of antisocial personality disorder. *Social psychiatry and psychiatric epidemiology*, *34*(5), 231-242.

Myers, T. (2011). Goodbye, Listwise Deletion: Presenting Hot Deck Imputation as an Easy and Effective Tool for Handling Missing Data. *Communication Methods and Measures,* 5(4), 297-310.

Newhill, C. E. (1991). Parricide. *J. Fam. Violence, 6*(4), 375-394.

Nomis. (2011). Usual resident population. Available at: http://www.nomisweb.co.uk/census/2011/ks101ew (accessed 25/03/2021).

Norusis, M. J. (2008). SPSS 16.0 guide to data analysis (2nd ed.). Upper Saddle River: Prentice Hall.

Novović, Z., Pavkov, G. M., Smederevac, S., Drakić, D., Bugarski, T. (2013). The role of schizoid personality, peritraumatic dissociation and behavioral activation system in a case of parricide.

Ogunwale, A., & Abayomi, O. (2012). Matricide and schizophrenia in the 21st century: A review and illustrative cases. *African Journal of Psychiatry (South Africa), 15*(1), 55-57. doi:http://dx.doi.org/10.4314/ajpsy.v15i1.8

Office of National Statistics (2018). Understanding domestic abuse accessed on 20.4.2021 at https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/bulletins/domesticabuseinenglandandwales/yearendingmarch2018

Orellana, G., Alvarado, L., Muñoz-Neira, C., Ávila, R., Méndez, M. F., & Slachevsky, A. (2013). Psychosis-related matricide associated with a lesion of the ventromedial prefrontal cortex. *Journal of the American Academy of Psychiatry and the Law, 41*(3), 401-406.

Oueslati, B., Fekih-Romdhane, F., Zerriaa, O., Jelalia, I., Ghazeli, I., Menif, L., & Ridha, R. (2018). Post-traumatic stress disorder in a homicide offender with schizophrenia. *European Psychiatry, 48*(Supplement 1), S436. doi:http://dx.doi.org/10.1016/j.eurpsy.2017.12.023

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *PLOS Medicine* 2021;18(3):e1003583. doi: 10.1371/journal.pmed.1003583

Parra, A., & Oliva, A. (2009). A longitudinal research on the development of emotional autonomy during adolescence. The Spanish Journal of Psychology, 12(1), 66–75. https://doi.org/10.1017/S1138741600001487

Polledri, P. (1997). Forensic psychotherapy with a potential serial killer. *British Journal of Psychotherapy.* 13, 473-88.

Raymond, S., Larhant, C., Mahe, V., & Marcel, E. (2020). Is double parricide an archetype of schizophrenic acting out? *Evolution Psychiatrique, 85*(2), 169-178. doi:http://dx.doi.org/10.1016/j.evopsy.2019.10.001

Raymond, S., Léger, A. S., & Lachaux, B. (2015). A descriptive and follow-up study of 40 parricidal patients hospitalized in a French secure unit over a 15-year period. *International journal of law and psychiatry, 41*, 43-49.

Raizen, K. H. (1960). A case of matricide-patricide. *British Journal of Delinquency.* 10, 277-94.

Rheaume, L. M. (2009). *The role of parenting styles and parenting practices in adolescent aggression toward primary caregivers*: University of Hartford.

Robinson, A. L., & Clancy, A. (2020). Systematically identifying and prioritising domestic abuse perpetrators for targeted intervention. *Criminology & Criminal Justice*, advanced online publication: https://doi.org/10.1177/1748895820914380.

Sadoff, R. L. (1971). Clinical observations on parricide. *The Psychiatric quarterly, 45*(1), 65-69. doi:10.1007/BF01574789

Sahin, E., Sahin, M. F., Tavasli, A., Gul, M. C., Seyhan, O. F., Demirbuga, S., & Aliustaoglu, F. S. (2016). Parricide cases of adult offenders from Turkey: A descriptive study. *Journal of Forensic and Legal Medicine, 39*, 151-155. doi:10.1016/j.jflm.2016.01.024

Sánchez, V. V., Tobón, R. J. R., Solís, J. L. R., Flores, M. d. P. G., & Yedra, L. R. (2019). Child-to-parent violence in emerging mexican adults: an exploratory analysis. *Revista Electrónica de Psicología Iztacala, 22*(3), 2534-2551.

Santo, T., Jr., Campbell, G., Gisev, N., Tran, L. T., Colledge, S., Di Tanna, G. L., & Degenhardt, L. (2021). Prevalence of childhood maltreatment among people with opioid use disorder: A systematic review and meta-analysis. Drug and Alcohol Dependence, 219. https://doi.org/10.1016/j.drugalcdep.2020.108459

Sayal, K., Tischler, V., Coope, C., Robotham, S., Ashworth, M., Day, C., Simonoff, E. (2010). Parental help-seeking in primary care for child and adolescent mental health concerns: Qualitative study. British Journal of Psychiatry, 197(6), 476-481. doi:10.1192/bjp.bp.110.081448

Sheptycki, J. (2017). Liquid modernity and the police métier; thinking about information flows in police organisation. *Global Crime*, *18*(3), 286-302.

Sherman, L., Neyroud, P. W., & Neyroud, E. (2016). The Cambridge crime harm index: Measuring total harm from crime based on sentencing guidelines. *Policing: A Journal of Policy and Practice*, *10*(3), 171-183.

Sleath, E., & Smith, L. L. (2017). Understanding the factors that predict victim retraction in police reported allegations of intimate partner violence. *Psychology of Violence*, *7*(1), 140-149.

Simmons, M., McEwan, T. E., & Purcell, R. (2020). A Social-Cognitive Investigation of Young Adults Who Abuse Their Parents. *Journal of interpersonal violence*, 886260520915553. doi:10.1177/0886260520915553

Simmons, M. L., McEwan, T. E., Purcell, R., & Huynh, M. (2019). The abusive behaviour by children- indices (abc-i): A measure to discriminate between normative and abusive child behaviour. *Journal of family violence*. doi:10.1007/s10896-019-00071-1

Smith, J. R. (2015). Expanding Constructions of Elder Abuse and Neglect: Older Mothers' Subjective Experiences. *Journal of Elder Abuse & Neglect, 27*(4-5). doi:10.1080/08946566.2015.1082527

Storey, J.E., & Strand, S. (2012). The characteristics and violence risk management of women arrested by the police for intimate partner violence. The European Journal of Criminology, 9, (6), https://doi.org/10.1177/1477370812453403

Sun, G. C., & Hsu, M. C. (2016). Effects of nurse-led child- and parent-focused violence intervention on mentally ill adult patients and victimized parents: A randomized controlled trial. *International journal of nursing studies, 60*, 79-90. doi:http://dx.doi.org/10.1016/j.ijnurstu.2016.03.002

Svensson, B., Richert, T., & Johnson, B. (2020). Parents' experiences of abuse by their adult children with drug problems. *Nordic Studies on Alcohol and Drugs, 37*(1), 69-85. doi:10.1177/1455072519883464

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics (6th edition). Pearson, London.

Taylor, P. J., & Kalebic, N. (2018). Psychosis and homicide. Current Opinion in Psychiatry, 31(3), 223–230. https://doi.org/10.1097/YCO.0000000000000411

Teixeira, E. H., Meneguette, J., & Dalgalarrondo, P. (2012). Matricide, followed by cannibalism and self-mutilation of penis and hand in a schizophrenic patient motivated by religious delusions. *Jornal Brasileiro de Psiquiatria, 61*(3), 185-188. doi:http://dx.doi.org/10.1590/S0047-20852012000300011

Trotta, S., Mandarelli, G., Ferorelli, D., & Solarino, B. (2020). Patricide and overkill: a review of the literature and case report of a murder with Capgras delusion. *Forensic science, medicine, and pathology*. doi:10.1007/s12024-020-00314-4

Trull-Oliva, C., & Soler-Masó, P. (2021). The opinion of young people who have committed violent child-to-parent crimes on factors that enhance and limit youth empowerment. *Children and Youth Services Review, 120*. doi:10.1016/j.childyouth.2020.105756

Vaisanen, l., & Vaisanen, E. (1983). Matricide where the daughter was an instrument for the suicide of her mother. *Psychiatria Fennica.* Suppl., 119-22.

Valenca, A. M., Mezzasalma, M. A., Nascimento, I., & Nardi, A. E. (2009). Matricide and bipolar disorder. *Revista de Psiquiatria Clinica, 36*(4), 170-174. doi:http://dx.doi.org/10.1590/S0101-60832009000400007

Valente, J. Y., Cogo-Moreira, H., & Sanchez, Z. M. (2017). Gradient of association between parenting styles and patterns of drug use in adolescence: A latent class analysis. Drug and Alcohol Dependence, 180, 272–278. https://doi.org/10.1016/j.drugalcdep.2017.08.015

Viñas-Racionero, R., Schlesinger, L. B., Scalora, M. J., & Jarvis, J. P. (2017). Youthful familicidal offenders: Targeted victims, planned attacks. *Journal of family violence, 32*(5), 535-542. doi:10.1007/s10896-016-9836-9

Vigurs, C., Schucan-Bird, K., Quy, K., Gough, D., (2016). What works: Crime reduction systematic review series no 5. The impact of domestic violence perpetrator programmes on victim and criminal justice outcomes: A systematic review of reviews of research https://whatworks.college.police.uk/Research/Systematic_Review_Series/Documents/perpetrator_programmes.pdf

Wertham, F. (1941). The matricidal impulse: critique of Freud's interpretation of Hamlet. *Journal of Criminal Psychopathology*. 2, 455-64.

Walker G. (2016). Imagining the Unimaginable: Parricide in Early Modern England and Wales, c.1600-c.1760. Journal of family history, 41(3), 271–293. https://doi.org/10.1177/0363199016644706

West, S. G., & Feldsher, M. (2010). Parricide: Characteristics of sons and daughters who kill their parents. *Current Psychiatry, 9*(11), 20-38.

Wick, R., Mitchell, E., Gilbert, J. D., & Byard, R. W. (2008). Matricides in South Australia–a 20-year retrospective review. *Journal of Forensic and Legal Medicine, 15*(3), 168-171.

Williams, K., Rivera, L., Neighbours, R., & Reznik, V. (2007). Youth violence prevention comes of age: Research, training and future directions. Annual Review of Public Health, 28, 195–211.

Zuquetto, C. R., Opaleye, E. S., Feijó, M. R., Amato, T. C., Ferri, C. P., & Noto, A. R. (2019). Contributions of parenting styles and parental drunkenness to adolescent drinking. Brazilian Journal of Psychiatry, 41(6), 511–517. https://doi.org/10.1590/1516-4446-2018-0041

Appendix A – R Script for Theoretical Typology and Parricide Coding

```
#Install packages and library.
install.packages("tidyverse")
install.packages("readxl")
install.packages("xlsx")

library(dplyr)
library(readxl)
library(xlsx)



#Write in Excel file and attach to dataframe.
x.df <- data.frame(read_xlsx("Data for R.xlsx"))
View(x.df)
#All imported factors are character strings, numeric are numeric.
#So change all characters to factors.
x.df <- x.df %>% mutate_if(is.character, as.factor)

#Create backup df for scripting.
Backup.df <- data.frame(x.df) #Use this when I need to store progress to Backup.df.
x.df <- data.frame(Backup.df) #Use this when I inevitably break x.df.

#SECTION ONE - CODING OF TYPOLOGIES
#Best solution is using case_when.
#Example script
df %>%
  mutate(New = case_when(Mother == 0 & Father == 0 ~ 0, #condition 1
                         Mother == 0 & Father == 1 ~ 1, #condition 2
                         is.na(Mother) & Father == 1 ~ NA_real_, #condition 3
                         TRUE ~ 99)) #all other cases
```

```
#Test to see application. Appears to work
x.df %>%
  mutate(Typology1 = case_when(Crime == "DA Crime" & SusGen == "Male" ~ 1,
                               TRUE ~ 99))
#This script takes cases where there is a crime committed by a male suspect and codes them as 1,
#with remaining cases all being returned as 99.

#Can use this method to code theoretical typologies.

#So, break down levels of important variables for typologies
levels(x.df$DASH27)
levels(x.df$PrevDASus)
levels(x.df$DASH24)
levels(x.df$SusGen)
levels(x.df$HOCR)

#Typology 1 - ASD. This is based on no DASH24, and Suspect gender is male.
x.df <- x.df %>%
  mutate(ASD = case_when(DASH24 == "No/not recorded" & SusGen == "Male"
                         ~ "ASD",
                        TRUE
                         ~ "Not Coded"))
x.df$ASD <- as.factor(x.df$ASD)
summary(x.df$ASD) # Illustrates coding of n = 2,374 cases as potential ASD.

#Typology 2 - ADHD/Trauma. This is based on presence of DASH27, Presence of Prev DV,
#Presence of DASH24, younger adults (<25) and low (1&2&3) IMD.
x.df <- x.df %>%
  mutate(ADHD_Trauma = case_when(DASH27 == "Yes" & PrevDASus == "Yes" & DASH24 == "Yes"
                                 & IMD <4 & SusAge <25
                        ~ "ADHD/Trauma",
                        TRUE
```

```
                    ~ "Not Coded"))
x.df$ADHD_Trauma <- as.factor(x.df$ADHD_Trauma)
summary(x.df$ADHD_Trauma) # Illustrates coding of n = 55 cases as potential ADHD/Trauma.

#Typology 3 - Depression/ASPD. This is based on presences of DASH27, Presence of Prev DV,
#Presence of DASH24, and low (1&2&3) IMD, but suspect gender is male, and age is 25 or older.
x.df <- x.df %>%
  mutate(Depression_ASPD = case_when(DASH27 == "Yes" & PrevDASus == "Yes" & DASH24 == "Yes"
                                     & IMD <3 & SusGen == "Male" & SusAge >24
                                   ~ "Depression/ASPD",
                                   TRUE
                                   ~ "Not Coded"))
x.df$Depression_ASPD <- as.factor(x.df$Depression_ASPD)
summary(x.df$Depression_ASPD) # Illustrates coding of n = 77 cases as potential Depression_ASPD

#Typology 4 - Schizophrenia/Pyschosis. This is based on presence of DASH24, suspect gender
#being male and age of 30+ years.
x.df <- x.df %>%
  mutate(Schizophrenia_Psychosis = case_when(DASH24 == "Yes" & SusGen == "Male" & SusAge >29
                                     ~ "Schizophrenia/Psychosis",
                                     TRUE
                                     ~ "Not Coded"))
x.df$Schizophrenia_Psychosis <- as.factor(x.df$Schizophrenia_Psychosis)
summary(x.df$Schizophrenia_Psychosis) # Illustrates coding of n = 323 cases as
#potential Schizophrenia_Psychosis.

levels(x.df$HOCR)
#Typology 5 - BPD. When current crime is non-crime
#and the total Crime harm of suspect is 10 or less - equiv to 1 affray/vehicle steal.
x.df <- x.df %>%
  mutate(BPD = case_when(HOCR == "Non-Crime" & TotalCHI <11
                                 ~ "BPD",
```

```
                              TRUE
                              ~ "Not Coded"))
x.df$BPD <- as.factor(x.df$BPD)
summary(x.df$BPD) # Illustrates coding of n = 1,363 cases as potential BPD.

#Write out Excel file to put alongside case level data:
Export <- data.frame(x.df$ASD,
                     x.df$ADHD_Trauma,
                     x.df$Depression_ASPD,
                     x.df$Schizophrenia_Psychosis,
                     x.df$BPD)
write.xlsx(Export, file = "Theoretical Typology Coding.xlsx")


#SECTION TWO - CODING OF PARRICIDE RISK
#For next chapter, code out possible parricide demographics on new data.
x.df <- data.frame(Backup.df)

#Male murders - Males >28 years <35 years, DASH 24 present, (direct, step, and adopted children)
#Female murders - Female >34 years <54 years, DASH 24 present, (direct, step and adopted
#children)
#Carer burnout - Male and females, >54years, (direct children only).

#As coding seems to be mutually exclusive, can pass all as one command:
levels(x.df$ReltoVic)

x.df <- x.df %>%
  mutate(parricide = case_when(SusGen == "Male" & SusAge >28 & SusAge <35 &
                                 DASH24 == "Yes" &
                                 ReltoVic == "Direct Child/Dependent"
                               ~ "Possible Male Murderers",
                               SusGen == "Male" & SusAge >28 & SusAge <35 &
                                 DASH24 == "Yes" &
```

```
                    ReltoVic == "Step/Adopted Child"
                  ~ "Possible Male Murderers",

                SusGen == "Female" & SusAge >34 & SusAge <55 &
                  DASH24 == "Yes" &
                  ReltoVic == "Direct Child/Dependent"
                  ~ "Possible Female Murderers",
                SusGen == "Female" & SusAge >34 & SusAge <55 &
                  DASH24 == "Yes" &
                  ReltoVic == "Step/Adopted Child"
                  ~ "Possible Female Murderers",

                SusAge >54 & ReltoVic == "Direct Child/Dependent"
                  ~ "Possible Carer Burnout Murderers",

                TRUE ~ "Not Coded"))

x.df$parricide <- as.factor(x.df$parricide)
summary(x.df$parricide)

Parricide_Export <- data.frame(x.df$parricide)
write.xlsx(Parricide_Export, file = "Parricide Coding.xlsx")
```