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The co-occurrence of child and intimate partner maltreatment in the family: Characteristics of the violent perpetrators

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Running Title: Co-occurrence of child and intimate partner maltreatment

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The co-occurrence of child and intimate partner maltreatment in the family: Characteristics of the violent perpetrators

Abstract

This study considers the characteristics associated with mothers and fathers who maltreat their child and each other in comparison to parents who only maltreat their child. 162 parents who had allegations of child maltreatment made against them were considered. The sample consisted of 43 fathers (Paternal Family - PF) and 23 mothers (Maternal Family - MF) who perpetrated both *partner and child maltreatment*, together with 23 fathers (Paternal Child - PC) and 26 mothers (Maternal Child - MC) who perpetrated *child maltreatment only*. In addition, 2 fathers (Paternal Victim – PV) and 23 mothers (Maternal Victim – MV) were *victims of intimate partner maltreatment and perpetrators of child maltreatment* and 7 fathers (Paternal Non-abusive Carer – PNC) and 15 mothers (Maternal Non-abusive Carer – MNC) *did not maltreat the child but lived with an individual who did*. 40.7% of parents perpetrated both intimate partner and child maltreatment within their family unit. However, fathers were significantly more likely to maltreat both their partner and child (57%) than mothers (26%) and mothers were significantly more likely to be victims of intimate partner violence than fathers. PF fathers conducted the highest amount of physical and/or sexual child maltreatment whilst MC and MV mothers perpetrated the highest amount of child neglect. Few significant differences between mothers were found. PF fathers had significantly more factors associated with development of a criminogenic lifestyle than PC fathers. Marked gender differences were demonstrated with PF fathers demonstrating significantly more antisocial characteristics, less mental health problems and fewer feelings of isolation than MF mothers. MC mothers had significantly more childhood abuse, mental health problems, parenting risk factors and were significantly more likely to be biologically related to the child than PC fathers. This study suggests that violent families should be assessed and treated in a holistic manner, considering the effects of partner violence upon all family members, rather than exclusively intervening with the violent man.

Key words: intimate partner violence, child maltreatment, family violence, co-occurrence

Introduction

The Co-occurrence of Family Violence

The presence of intimate partner violence in the family home has been shown to be a significant risk factor for various forms of child abuse and neglect (Browne, 1993; Browne & Hamilton, 1999; Cox et al, 2003; Rumm et al, 2000; Tajima, 2000). Children living with partner abuse are at risk of being the direct victims of separate incidents of abuse by the parent/s and/or getting caught up in the parental violence. Appel and Holden's (1998) review demonstrates whilst children living in the context of spouse abuse are at high risk of physical abuse themselves, the prevalence rates fluctuate dramatically across studies due to methodological issues. For example, retrospective studies conducted with representative community samples provided an estimate base rate of co-occurrence at 6% in the USA, whilst retrospective reports from clinical samples of abused women or children, using a conservative definition of child abuse, demonstrate a median co-occurrence rate of 40% (Appel & Holden, Op.Cit.). Edelson's (1999) review also reports co-occurrence rates between 30 – 60% for the majority of the 31 studies considered. Despite the methodological discrepancies across studies, the literature clearly demonstrates a considerable overlap between partner and child maltreatment. In addition to child physical abuse, links between wife abuse and child sexual abuse have also been established (Farmer & Pollock, 1998; Goddard & Hilliar, 1993; Hester & Pearson, 1998).

Women are often seen as the primary victims of partner violence due to higher injury levels and the initiation of violence for self defence purposes (Saunders, 2002). However, approximately 100 research studies have documented rates of partner violence to be equal for both men and women (e.g. Archer, 2000; 2002; Fiebert, 2001) and Archer (2000) in his meta-analytic review demonstrates that whilst women are injured more often that men, men constitute approximately one third of those injured. Therefore, when exploring the links between partner and child abuse, it is important to consider the role that both mothers and fathers play in the violent interaction. It is evident that the child may be victimised by the perpetrator of partner abuse because that is their usual mode of interpersonal control with all family members (Salzinger et al, 2002). Indeed, McCloskey et al (1995)

found that children living with women who were abused by their male partner are at serious risk of sexual assault from that partner. Additionally, considering the woman as a possible perpetrator of partner maltreatment, Ross (1996) reported that women who abused their male partners were twice as likely to abuse their children.

However, it is not only uni-directional perpetrators of partner abuse who maltreat their child/ren. Victims of partner abuse must also be considered. Indeed, Straus & Gelles (1990) showed that women abused by their partners were twice as likely to physically abuse their children, than non-abused women. Similarly, Salzinger et al (2002) demonstrated that the presence of partner abuse in addition to existing family stress, increased the chances of child abuse occurring by more than 2.5 times. Examination of who aggressed against the child revealed that both perpetrators and victims of partner abuse were abusive. Indeed, according to mothers' self reports, they were more likely to be physically aggressive to their child than the domestically violent fathers. However, Salzinger et al's (2002) research classed all mothers as victims of partner abuse, without differentiating between mothers involved in reciprocal partner abuse and child maltreatment and those who were uni-directional victims of partner abuse and perpetrators of child maltreatment. Indeed, Dixon and Browne (2003) distinguish between models of family violence that detail the mother as a victim of spouse abuse (Paternal and Hierarchical family violence) and those where she is being actively involved in reciprocal spouse maltreatment (Reciprocal family violence). This distinction needs to be considered to gain a more detailed explanation of the link between partner violence and child maltreatment.

Given the co-occurrence between partner and child abuse and the potential involvement and effects on all family members, adopting a holistic approach to the aetiology, maintenance and intervention with violent families is necessary to reduce all forms of abuse and intergenerational transmission of maltreatment. Indeed, some professionals have judged families with co-occuring child and partner abuse to be a higher risk to children, in terms of injury severity and are thus deemed to be more in need of services (Beeman et al, 2001; Browne & Hamilton, 1999).

Discriminating between perpetrators

Despite the high co-occurrence of child and partner abuse documented in the family violence literature, little attention has been attributed to identifying characteristics that discriminate between those perpetrators who only abuse their adult partner and those who also abuse their child. Research has shown the co-occurrence of partner and child maltreatment to be associated with low socio-economic status, larger household size, higher numbers of family stressors, maternal distress, psychopathology, more caregiver alcohol or drug problems, maternal childhood abuse and poor quality of parent-child relationships, especially with the father (Coohey, 2004; Hartley, 2002; O'Keefe, 1995). Hartley (2002) distinguished co-occurrence in terms of physical child abuse and neglect. Descriptive analysis found that families with *spouse abuse and child neglect* had significantly fewer biological fathers and more maternal substance abuse and mental health problems, in comparison to families with *child neglect only*. In addition, families with *spouse abuse and child physical abuse* had significantly higher paternal substance abuse, mental health problems and criminal convictions/incarceration in comparison to families with *child physical abuse only*.

To address these issues the present study investigated variables that have been previously shown to be associated with both child and intimate partner abuse in the research literature. It has been argued that family violence is caused and maintained by a number of diverse mechanisms associated with biological, psychological and sociological theories of abusive behaviour (Browne & Herbert, 1997). Previous typology research has differentiated between spouse abusing men using a variety of different theoretically-driven etiological variables such as psychopathology, early childhood and peer experiences, attachment styles, impulsivity and attitudes toward violence (Holtworth-Munroe & Stuart, 1994). These factors have also largely been associated with a high risk of child maltreatment (Dishion et al, 1991; Morton & Browne, 1998).

Previous research using theoretical approaches derived from social learning and developmental psychopathology needs to be incorporated into an integrated model to explain the co occurrence of

partner and child maltreatment and family violence in general (Appel & Holden, 1998). This study draws on the literature from these theoretical approaches to explore the prevalence of variables associated with pathological parenting. Variables monitoring the extent of parents' childhood maltreatment, juvenile delinquency, adult criminality, history of abusive relationships, psychopathology, adult substance abuse, factors associated with adult mental health problems and high risk parenting are investigated and compared between groups of parents who perpetrate concurrent partner and child maltreatment in comparison to parents who only maltreat their child.

Method

Participants

105 child maltreatment cases were examined, providing psychological report information on 164 parents (75 men and 89 women) who were individually assessed by a forensic psychology consulting service on their suitability to parent, following allegations of child maltreatment. Participants lived in the English Midlands or South Wales and were assessed by the service between June 1996 and June 2003. All clients provided their written consent for data derived during their assessment to be used anonymously for research purposes.

Psychological reports were available for both parents from the same family in 59 cases and for one parent only in 46 cases. Thus, in total 105 families were considered. The ages of parents ranged from 17 – 56 years (mean age = 30; SD = 8.14). The age of the index child ranged from 1 month to 15 years (mean age = 4.6, SD = 4.26). Information on ethnicity was only available for 58 (35.4%) parents. Of this sub-sample, 53 (91.4%) parents were classified as white UK, 1 (1.7%) Asian, 1 (1.7%) African-Caribbean and 3 (5.2%) African-Caribbean/White UK.

Ninety seven (59.1%) parents were perpetrating, or looking after their child who was receiving physical and/or sexual abuse and 67 (40.9%) parents were neglecting or looking after their child who was neglected.

Procedure

Psychological reports gave detailed information on childhood, criminal and romantic relationship histories, mental health problems and parenting factors (see Appendix 1). Thus, data is based on the psychological report of each individual client. This report is constructed from interviews with the client and cross-verification of client self report with additional sources, such as medical records, social services, school and police reports and reports from witnesses and family members. In addition, psychometric tests assessing psychopathology (Millon Clinical Multiaxial Inventory - MCMI-III; Millon et al, 1997) and parenting stress (Parenting Stress Index – PSI; Abidin, 1995) were available. The 'Index of Need' checklist (Browne, 1989; 1995; Browne & Saqi, 1988) was also completed from the available file information. These tools are described in the measures section.

Parents were deemed to be *partners* if a level of romantic/intimate attachment was discussed in the report and/or parents were married, cohabiting or living separately. In cases where one or more children were considered to be at risk of child maltreatment, parenting information relating to the child involved in the most recent incident of maltreatment (index child) was considered for the sake of clarity.

In cases where a child or partner suffered multiple forms of abuse or neglect, the most active form of abuse was designated to define abuse type (Browne & Herbert, 1997). Thus, sexual abuse overrides physical and neglect; and physical abuse overrides neglect. This follows the 'coexistence of different forms of maltreatment model' presented by Browne and Herbert (1997, p11). For the purpose of this study, cases of physical and sexual child abuse are concatenated into one category of 'physical and/or sexual child abuse'. These cases may have suffered multiple forms of abuse, including neglect. Cases of neglect were classified as 'child neglect'; in these cases the child will not have suffered any other forms of abuse.

Content analysis of the psychological reports was conducted using a standardised proforma, designed to extract specific and reliable information. Three independent raters extracted information associated with a risk of family violence. Additional demographic information was also collected. Variables were recorded as present or absent. With regard to the psychometric measures, MCMI-III sub-scales were grouped into three clusters of personality disorder outlined by DSM-IV (APA, 2000). These clusters are 'odd or eccentric' (Cluster A); 'dramatic or emotional' (Cluster B); 'anxious or fearful' (Cluster C) and a severe clinical syndrome scale which included the presence of thought disorder, major depression or delusional disorder. As per MCMI guidelines, any profile that was not valid (according to the validity scale) was disregarded and a Base Rate score of 75 was used as the criteria to indicate the presence of personality traits and a severe clinical syndrome.

PSI subscales were also recoded to represent the presence or absence of a score elevated above the 75th percentile (i.e. the cut-off for clinical significance) on the 'Child Domain' and 'Attachment' subscale. The 'Child Domain' score provides a representation of the parent's perception of the child characteristics. The 'Attachment' sub-scale is indicative of the type of attachment between the parent and child.

To ensure the reliability of data collection, variables were systematically extracted from reports using definitions outlined in the coding dictionary (Appendix 1). Inter-rater and intra-rater reliability was measured to assess the validity and reliability of data obtained using the standardised proforma. Each rater completed the proforma for the same two parents at two different points in time. Agreement between the three researchers reached a 100% concordance for inter-rater reliability for each variable measured. Agreement within each individual rater over time also met a 100% concordance rate for intra-rater reliability.

Measures

Millon Clinical Multiaxial Inventory (MCMI-III) - The MCMI-III (Millon et al, 1997) is a self report, 175 item questionnaire. This psychometric measure is based on the DSM-IV classification system (APA, 2000) and provides clinicians with information on 14 personality disorders (11 clinical personality patterns and 3 severe personality pathology) and 10 clinical syndromes (7 clinical syndromes and 3 severe syndromes), for adults undergoing psychological or psychiatric assessment or treatment. In addition, 3 modifying indices and 1 validity index are incorporated into this test. A base rate score of 75 indicates the presence of a personality trait or clinical syndrome, a score of 85 or above indicates the presence of a personality disorder or prominence of a clinical syndrome

Parenting Stress Index (PSI; Abidin, 1995) - The PSI is a parent self-report, 101-item questionnaire, designed to identify potentially dysfunctional parenting and parent child interactions. An optional 19-item Life Events stress scale is also provided. This instrument measures two areas: child domain and parent domain. The child domain is divided into distractibility/hyperactivity, adaptability, reinforces parent, demandingness, mood and acceptability. The parent domain is divided into competence, isolation, attachment, health, role restriction, depression and spouse. Scores above the 75th percentile are considered to represent clinical significance.

The Index of Need - The 'Index of Need' (depicted in appendix 1) is a weighted checklist that measures the presence or absence of 14 risk factors for child maltreatment within the family (Browne, 1989; 1995; Browne & Saqi, 1988). A total score is derived from the presence and absence of each factor. Scores of 6 and above are considered to reflect at risk parenting.

Definitions of acronyms

Parents were designated to specific groups for analytic comparison. Group titles are referred to by acronyms, which are defined below;

- Father perpetrator of child maltreatment and perpetrator of intimate partner maltreatment (Paternal Family - PF)

- Mother perpetrator of child maltreatment and perpetrator of intimate partner maltreatment (Maternal Family - MF)

- Father perpetrator of child maltreatment only (Paternal Child - PC)

- Mother perpetrator of child maltreatment only (Maternal Child - MC)

- Father victim of intimate partner violence and perpetrator of child maltreatment (Paternal Victim – PV).

- Mother victim of intimate partner violence and perpetrator of child maltreatment (Maternal Victim – MV)

- Father did not maltreat the child but lived with the mother who did (Paternal Non-abusive Carer – PNC)

- Mother did not maltreat the child but lived with the father who did (Maternal Non-abusive Carer – MNC)

Results

Group Membership

All cases of intimate partner violence were characterised by physical abuse, with the exception of two cases, in which the mother received psychological abuse only. These cases were not included in further analysis to ensure consistency in abuse type across cases. The number of parents classified by each of the stipulated groups is depicted in Figure 1. Demographic information and the type of child maltreatment perpetrated by parents characterised by each group is shown in Table I.

Figure 1 and Table I here

Rates of concurrent family violence

Examining results from the perspective of the individual perpetrator, 66 parents perpetrated violence to both their partner and child, providing a 40.7% co-occurrence rate within this sample. However, from a holistic family perspective 91 (56.2%) parents experienced partner and child maltreatment in their home, either as a result of them or their partner conducting both types of maltreatment concurrently within the family or because both parents conducted one type of maltreatment (intimate partner violence or child maltreatment) each within the family.

Group Comparisons

Gender discrepancy

Bivariate analysis was conducted to examine if fathers (n=75) were significantly more likely to be assigned to a group in comparison to mothers (n=87) (using an alpha criterion = 0.0125 to correct for type 1 error across 4 tests). Fathers were significantly more likely to conduct concurrent forms of maltreatment within the family (PF; n = 43, 57.3%) than mothers (MF; n = 23. 26.4%), (χ^2_1 = 7.104, p = 0.008). In addition, mothers were significantly more likely to be classified as victims of intimate partner violence (MV; n = 23, 26.4%) than fathers (PV; n = 2, 2.7%) (χ^2_1 = 17.438, p = 0.000). No significant differences resulted between non-abusive carers (PNC; n = 7, 9.3% and MNC; n = 15, 17.3%) or perpetrators of child maltreatment only (PC; n = 23, 30.7% and MC; n = 26, 29.9%).

Examining group differences between Mothers

Demographic information

No significant differences were found between the ages of parents or index child in MF, MC, MV and MNC groups.

Significant differences in the marital status *within* each group were found (using an alpha value of 0.016 to correct for Type 1 error across 3 tests). MF and MV mothers were significantly more likely to

cohabit than live separately (χ^2_1 = 13.8, p = 0.000). MNC mothers were significantly more likely to cohabit than live separately and be married than live separately (Fishers Exact = 0.010, p<0.016). No other significant differences resulted.

No significant differences were found *between* the number of MF, MC, MV and MNC mothers who cohabited, were married or lived separately from their partner (using an alpha value of 0.008 to correct for Type 1 error across 6 tests).

Type of child maltreatment perpetrated

As MNC mothers did not perpetrate child maltreatment this group was not included in the analysis. The frequency with which mothers in MF, MC and MV groups perpetrated active or passive forms of child maltreatment *within* each group was examined. MC and MV mothers were significantly more likely to neglect the index child than physically/sexually abuse him or her (χ^2_1 = 7.692, p = 0.006 and χ^2_1 = 7.043, p = 0.008 respectively). MF mothers did not differ significantly in their form of passive or active abuse.

The frequency with which parents perpetrated active or passive forms of child maltreatment *between* MF, MC and MVC groups was also analysed. No significant differences were found (using an alpha value of 0.016 to correct for inflated type 1 error across 3 tests).

Comparison of group characteristics

The prevalence of characteristics for MF, MC, MV and MNC mothers are shown in Table 2. Where 4x2 Chi square tests could not be conducted, due to low expected frequencies in cells, Fisher exact tests were ran to determine if any significant differences between groups existed, using an alpha criterion = 0.008 to correct for type 1 error across 6 tests. Where this is necessary the range of Fisher Exact tests are presented in the Test Statistic column of Table II.

Table II here

Significant differences resulted between groups for 'current relationship difficulties' ($\chi^2_3 = 25.80$, p = 0.000), 'residing with a violent adult' ($\chi^2_3 = 20.60$, p = 0.000) and 'single parenthood' (Fisher Exact range = 0.007 – 1.000). Further post hoc analysis demonstrated that MF and MV mothers have a significantly higher prevalence for current relationship difficulties than MC mothers ($\chi^2_1 = 18.32$, p = 0.000 and $\chi^2_1 = 16.05$, p = 0.000 respectively). MF and MC mothers were significantly more likely to live with a violent adult ($\chi^2_1 = 16.61$, p = 0.000 and $\chi^2_1 = 8.846$, p = 0.003 respectively) in comparison to MC mothers. Additionally, MC mothers were significantly more likely to be a single parent than MNC mothers (Fishers Exact = 0.007, p<0.008).

Examining group differences between Fathers

PV and PNC groups were not included in further statistical analysis as they were deemed unsuitable due to their small sample size. Thus, comparisons of PF and PC groups were conducted.

Demographic information

No significant differences were found between the ages of parents or index child in PF and PC groups.

Significant differences in the marital status *within* each group were found (using an alpha value of 0.016 to correct for Type 1 error across 3 tests). PF fathers were significantly more likely to cohabit than live separately ($\chi^2_1 = 16.298$, p = 0.000) and to be married than to live separately ($\chi^2_1 = 11.972$, p = 0.001). PC fathers were significantly more likely to cohabit than live separately ($\chi^2_1 = 13.8$, p = 0.000 respectively). No other significant differences resulted.

No significant differences were found *between* the number of PF fathers who cohabited, were married or lived separately from their partner in comparison to PC fathers.

Type of child maltreatment perpetrated

The frequency with which fathers perpetrated active or passive forms of child maltreatment *within* each group was examined. PF fathers were significantly more likely to physically and/or sexually abuse the index child than neglect him or her ($\chi^2_1 = 20.512$, p = 0.000). PC fathers did not differ significantly in their form of passive or active abuse.

No significant differences were found in the frequency with which fathers perpetrated active or passive forms of child maltreatment *between* PF and PC groups.

Comparison of group characteristics

The prevalence of characteristics for PF and PC fathers are shown in Table III. PF fathers have a significantly higher prevalence for a childhood abuse history ($\chi^2_1 = 7.07$, p = 0.008), factors associated with juvenile delinquency (juvenile substance abuse; $\chi^2_1 = 10.53$, p = 0.001), criminal history (convictions for violent/sexual offence; $\chi^2_1 = 11.85$, p = 0.001 and convictions for non-violent criminal offences; $\chi^2_1 = 9.16$, p = 0.002) adult substance dependency ($\chi^2_1 = 5.21$, p = 0.022), current relationship difficulties ($\chi^2_1 = 34.0$, p = 0.000), mental health factors (dramatic emotional personality cluster; $\chi^2_1 = 10.63$, p = 0.001), residing with a violent adult ($\chi^2_1 = 26.71$, p = 0.000) and index of need score which reflects 'at risk' parenting ($\chi^2_1 = 26.71$, p = 0.000). PC fathers have a significantly higher prevalence of having a physically/mentally-disabled child (Fishers Exact = 0.029, p<0.05) and scores above the 75th percentile on the PSI subscales of child domain and attachment ($\chi^2_1 = 5.01$, p = 0.025 and $\chi^2_1 = 5.64$, p = 0.018 respectively).

Table III here

Gender Comparisons

Frequency of uni-directional intimate partner violence

For the majority of MF cases (n = 21; 91.3%) reciprocal partner maltreatment occurred, with only 2 cases (8.7%) characterised by female uni-directional abuse. However, in PF cases 19 (44.2%) were characterised by reciprocal abuse and the remaining 24 cases (55.8%) by male uni-directional violence. PF fathers were significantly more likely to administer uni-directional partner abuse in their relationship than MF mothers ($\chi^2_1 = 13.934$, p = 0.000).

Perpetrators of family maltreatment (PF and MF)

Statistical analysis examined characteristic differences between PF and MF and PC and MC groups, thus criterion alphas were lowered to 0.025, using the Bonferroni correction procedure, to correct for type 1 errors across two tests.

Demographic information

No significant differences were found between the age of parents, index child or marital status of PF and MF parents.

Type of child maltreatment perpetrated

The frequency with which parents perpetrated active or passive forms of child maltreatment *between* PF and MF parents was analysed. No significant differences were found.

Comparison of group characteristics

Table IV demonstrates the prevalence of characteristics for each group and highlights significant differences. PF fathers showed a significantly higher prevalence of factors associated with juvenile delinquency (juvenile substance abuse; $\chi^2_1 = 5.19$, p = 0.023; fighting with peers at school; $\chi^2_1 = 7.44$, p = 0.006) and criminal history (convictions for violent/sexual offence; $\chi^2_1 = 8.13$, p = 0.004 and convictions for non-violent criminal offence; $\chi^2_1 = 11.35$, p = 0.001) in comparison to MF mothers.

MF mothers displayed a significantly higher prevalence of mental health factors (previous suicide attempt/ideation; $\chi^2_1 = 9.33$, p = 0.002 and presence of a severe clinical syndrome; Fishers Exact = 0.024) and the parenting risk factor of feelings of isolation (Fishers Exact = 0.014).

Perpetrators of Child maltreatment (PC and MC)

Demographic information

No significant differences were found *between* the age of parents, index child or marital status of PC and MC parents.

Type of child maltreatment perpetrated

The frequency with which parents perpetrated active or passive forms of child maltreatment *between* PC and MC groups was analysed. PC fathers showed a trend for being more likely to physically and/or sexually abuse their child than MC mothers ($\chi^2_1 = 4.469$, p = 0.035).

Comparison of group characteristics

MC mothers had a significantly higher prevalence of childhood physical and/or sexual abuse ($\chi^2_1 = 6.53$, p = 0.011), mental health factors ('odd eccentric' personality cluster; $\chi^2_1 = 6.29$, p = 0.012 and presence of a severe clinical syndrome; $\chi^2_1 = 5.94$, p = 0.015) and parenting risk factors (single parenthood; Fishers Exact = 0.002 and Total Index of Need score; $t_{45} = -2.85$, p = 0.007) in comparison to PC fathers. PC fathers were significantly more likely to have no biological relation to the index child that they maltreated (Fishers Exact = 0.004).

Table IV here

Discussion

This study considers intimate partner violence and child maltreatment from the perspective of the individual perpetrator. It was found that 2 in 5 parents (40%) perpetrated both partner and child

maltreatment within the family unit, corroborating previous literature, which demonstrates high co-occurrence rates for both forms of violence (Appel & Holden, 1998; Cox et al, 2003, Edleson, 1999; Falshaw & Browne, 1997). However, examination of rates by gender showed that fathers were significantly more likely to conduct both forms of maltreatment than mothers (57% and 26% respectively) and mothers were significantly more likely to be victims of partner violence than men. This demonstrates that whilst fathers and mothers do commit both forms of maltreatment within the family, fathers do so with greater frequency.

Group Comparisons

As significant differences between mothers were centred on relationship difficulties, it is possible that relationship factors need to be measured more closely when considering variables associated with mother's concurrent family violence. However, the use of relationship difficulties as a discriminating group factor is limited, as it is unknown whether relationship difficulties encouraged partner abuse or resulted as a consequence of the abuse. Additionally, mothers who abused their child only (MC) were significantly more likely to be a single parent in comparison to mothers who did not abuse their child but lived with a parent who did (MNC). Thus, in accordance with previous research it could be postulated that the stress of being a single parent for MC mothers increases the chances of them maltreating their child, whilst a two parent family acts as a protective factor for MNC mothers (Browne & Saqi, 1988; Cerezo et al, 1996; Crouch et al, 2001; Dixon et al, 2005).

Fathers who perpetrated both partner and child maltreatment (PF) were significantly more likely to have experienced factors associated with developmental psychopathology and criminogenic lifestyle in comparison to fathers perpetrating child maltreatment only (PC). Of particular interest, PF fathers were significantly more likely to present with 'dramatic/emotional' personality traits. Thus, PF fathers demonstrate similar personality characteristics to the Generally Violent/Antisocial and Dysphoric/Borderline subtypes of partner abusing men proposed by Holtzworth-Munroe & Stuart (1994). This is consistent with previous research, which has found the 'Dysphoric/Bordeline' subtype

to have the highest child abuse potential (Herron & Holtzworth-Munroe, 2002). However, unlike Holtzworth-Munroe and Stuart (1994), this study does not distinguish between antisocial and borderline personality traits and only considers the presence of a trait rather than a disorder; thus, it is not possible to draw conclusions about specific forms of psychopathology. Additionally, PC fathers had a significantly higher prevalence of parenting stress factors in comparison to fathers who maltreated both child and partner. Thus, father's negative perceptions and insecure attachment to their child is associated with child maltreatment more frequently for these fathers.

Gender comparisons

PF fathers are significantly more likely to engage in physical and/or sexual child maltreatment than neglect, whilst MC and MV mothers are significantly more likely to neglect him or her. Thus, fathers who maltreat both their partner and child within the family unit are likely to do so in a physically aggressive manner.

The characteristics that significantly distinguish PF and MF groups are PF father's higher prevalence of factors associated with an antisocial lifestyle and MF mother's higher prevalence of factors associated with mental health problems and feelings of isolation. Therefore, the findings demonstrate that men characterised by high levels of antisocial/criminal behaviour are most likely to engage in concurrent forms of family violence in addition to extra-familial aggression. Furthermore, discrimination of PC and MC parents found that MC mothers also had a significantly higher prevalence for characteristics associated with mental health problems and a childhood abuse history. Thus, in this study, maternal mental health is associated with the perpetration of child maltreatment for mothers classified by *both* co-occurring and child maltreatment only families, in comparison to fathers from the same family pattern.

Additionally, MC mothers were significantly more likely to be single parents than PC fathers. Thus, mothers were more likely to report that they reared their child alone, despite having a romantic

partner. As previously stated, this factor is consistently associated with child maltreatment in the literature (Browne & Saqi, 1988; Cerezo et al, 1996; Crouch et al, 2001; Dixon et al, 2005).

Practical Implications

It is evident from this study that both mothers and fathers can aggress against their partner, child or both. Therefore, this lends support for the need to explore violent families from a more holistic perspective in both research and practice, considering the overlap of child and partner maltreatment and the effects of intimate partner violence upon all members of the family rather than exclusively considering the violent man.

An integrated perspective of child and partner abuse will increase interagency collaboration and integrative treatment for the family. As Osofsky (2003) states "the necessary integration of this perspective into the work of law enforcement, the judicial system and social service providers has not yet occurred" (p161). Indeed, research examining police recognition of the links between spouse and child abuse demonstrated a lack of referral between Child Protection Units and Domestic Violent Units (Browne & Hamilton, 1999), highlighting a partnership gap. The Police are in a position to aid the prevention and intervention of child maltreatment by providing child protection professionals with information on the criminal background of a parent who has aggressed against their intimate partner. In relation to the findings of this study, a father who aggresses against his female partner and has a serious history of developmental psychopathology and criminogenic lifestyle would be at high risk of physical child maltreatment, and thus this information should be passed on to child protection for further investigation.

Furthermore, findings showed that mothers who maltreated their child were more likely to have mental health problems than fathers. Although child maltreatment is not an inevitable product of parental mental illness, evidence suggests that some parents cannot meet the needs of their children due to mental health problems, which may be associated with partner abuse (Browne & Herbert,

1997). Consequently, these parents have a greater risk of their child being removed into care (Sheppard, 1997). Therefore, results highlight the need for practitioners to be aware of a) the role that parental mental health problems have in increasing the risk for child maltreatment and b) the need for interagency collaboration between adult and child mental health and social services (Falkov & Davies, 1997; Jolley & Maitra, 2000). Indeed, Reder and Duncan (1999) in their study of fatal child abuse emphasise the need for such collaboration, encouraging liaison both within and between health and social services, rather than encouraging specialists to focus on meeting the needs of one specific client group. Additionally, the Royal College of Psychiatrists (2002) have acknowledged that care in the community has resulted in an increasing number of adults who are treated for psychiatric disorders whilst living with their families and children and thus emphasise the need for psychiatrists to work closely and effectively with other services. For example, health visitors working in primary care are well placed to determine parental risk profiles for child maltreatment and family dysfunction and consequently carry out early intervention and/or refer families for more detailed assessment or prevention work such as to community mental health teams.

The implications for considering the overlap of family violence extend to custody cases and visitation rights during the legal proceedings of abuse allegations or relationship breakdowns. Examining domestic violent offenders within the context of the family as a whole is important if cycles of aversive family interactions are to cease. For example, it is important to accurately understand and assess the risk that a spouse-abusing male will pose to his children or the risk that a victimised female will pose to her children post-separation from the violent partner.

Finally, an integrated approach will empirically inform the design of prevention and treatment programmes for men and women who abuse within the family. This study shows the importance of examining an offender within the context of their family, in order to understand the aetiology and maintenance of violence. Using this approach, it should be apparent that parents who maltreat their child can have very different treatment needs. For example, just fewer than fifty percent of MF and PF

parents were in a reciprocally violent relationship with their partner in addition to maltreating their child. In such families the mother's partner violence needs to be addressed, in addition to the father's, rather than simply viewing her as a victim of his violence. For those couples that wish to stay together, intervention may focus on relationship counselling or family therapy in addition to parenting skills and programmes that will address their aggression, such as anger management. This is in contrast to parents who maltreat their child only. This study found factors of single parenting, negative perceptions of the child and insecure attachments with the child to be associated with their maltreatment. Therefore, it is plausible that intervention focused on an increase in social support and parenting skills would better address their child maltreatment. The reliable identification of risk factors associated with perpetrators of child and partner abuse or child abuse only is necessary to inform such practice.

Methodological Considerations

The present findings are based on cross-sectional, non-randomised data, making generalisations to the wider population difficult. Indeed, the nature of the sample can moderate the findings of studies of family violence. Populations selected with high rates of male aggression are likely to report extreme male violence in comparison to community samples or young dating couples (Archer, 2002; Johnson, 1995). In addition, the lack of control groups limits the interpretation of the present findings. Groups of 'non-maltreating/at risk of child maltreatment' and 'non-maltreating/not at risk of child maltreatment' parents are needed as comparison groups to accurately determine group differences.

In this study, the severity or context of the partner violence was not known and it was not possible to determine who the main perpetrator of intimate partner violence was. It is plausible that mothers were acting in self-defence or were less severe in their actions (Archer, 2002). Additionally, the frequency of mothers involved in performing acts of physical violence against a partner is determined by self-report of the client and where possible corroborated by additional evidence. Thus, parents may have exaggerated the presence of aggressive acts by their partner, especially if they had a vested interest to

present to the courts in a favourable light in order to gain rights over access to a child. Indeed, research has shown that people are more likely to report partner violence than their own violence (Riggs et al, 1989).

Conclusion

The findings of this study demonstrate the importance of adopting a holistic perspective to family violence, considering the effects of partner violence upon all members in a violent family, rather than exclusively considering the abusive man, who has been the primary focus of research examining the perpetration and prevention of domestic violence. Whilst the study supports the high co-occurrence of partner and child maltreatment in violent families, and demonstrates that fathers are significantly more likely to perpetrate concurrent forms of abuse than mothers, it is evident that mothers do aggress against their partner, child or both.

These findings support researchers who assert that general samples can provide evidence of both men and women being physically aggressive in intimate relationships (Archer, 2002; Johnson, 1995; Straus, 1997). The present study has extended this concept to the wider family. It is demonstrated that mothers who perpetrate or are victims of partner violence may also maltreat their child, using active or passive forms. However, claims of mutual abuse must be interpreted with a full understanding of women's use for violence (Renzetti, 1999), as exploration of perpetration by females often ignores the context and consequences of these assaults. Indeed Straus, (1995) found that the injury women receive requires them to seek medical attention seven times more often, whilst other research has demonstrated that wives usually instigate aggression for self defence purposes (Dobash, et al, 1992: Saunders, 1986). However, as Archer (2002) asserts, considering women as victims of partner violence is too narrow and addressing the issue of female violence does not need to detract from the intervention and prevention of abuse against women (Archer, 2002).

Appendix 1   Coding Dictionary

Type of child and partner maltreatment (definitions were taken from Browne and Herbert, 1997).
Physical – tissue injury (scratches, bruising, burns, welts) broken bones (including fractures and dislocations), and/or damage to internal organs
Sexual – inappropriate sexual touching, invitations and/or exhibitionism, inappropriate non-penetrative sexual interaction (digital penetration, fondling, masturbation), attempted, actual, anal or vaginal penetration, incest, coerced or forced penetration.
Neglect (child only) – withholding love and affection, non-organic failure to gain weight/thrive, frequent unavailability of parent or guardian
Psychological – verbal assault, denigration, humiliation, scapegoating, confusing atmosphere, rejection, withholding of food and drink, enforced isolation and restriction of movement.

Physically /sexually abused as a child
Record as present if the parent discloses that they were physically and/or sexually abused during their childhood (prior to 16 years of age)

Factors associated with juvenile delinquency
Juvenile substance abuse – Record as present if they used alcohol, cannabis, cocaine, heroin, amphetamine or other illegal drugs during their adolescence.
Fighting with peers at school – Record as present if there is evidence of them getting in several fights during their school years (3 or more).

Criminal history
Conviction for violent/sexual offence – record as present if the parent has received 1 or more criminal convictions for a violent and/or sexual offence.
Conviction for non-violent criminal offence – record as present if the parent has received 1 or more conviction for theft, fraud or driving offences

Adult dependency for drugs or alcohol
Record as present if the parent disclosed during interview and/or professional reports stated that they had a dependency for alcohol, cannabis, cocaine heroin amphetamine or other illegal drugs during adulthood.

Relationship History
Involvement in a past violent relationship/s – record as present if the parent discloses/stated in professional reports, that they have been physically/sexually abusive, physically or sexually abused or involved in reciprocal physical and/or sexual abuse in a past romantic relationship/s. Romantic relationship is defined by the parents perception/disclosure that a level of romantic and intimate attachment existed with that person.
Current relationship difficulties – record as present if the parent discloses frequent arguing or feels that the partner is not supportive or does not provide enough care in the relationship, or if it was stated in professional reports.

Mental health factors
Previous suicide attempt/ideation – record as present if the parent has attempted/ruminated about committing suicide in the past, or during/immediately after the index offence
Treated for mental illness/depression – code as present if the parent discloses a history of being treated for mental illness or depression

MCMI – III: Cluster A *(odd/eccentric)* – code as present if the parent scores a base rate of 75 or over on the Schizoid (1); Schizotypal (S); Paranoid (P) sub-scales.

MCMI – III: Cluster B *(dramatic/emotional)* – code as present if the parent scores a base rate of 75 or over on the Histrionic (4); Antisocial (6a); Narcissistic (5); Borderline (C) sub-scales.

MCMI – III: Cluster C *(anxious/fearful)* – code as present if the parent scores a base rate of 75 or over on the Avoidant (2a); Dependent (3); Compulsive (7) sub-scales.

Presence of a severe clinical syndrome – code as present if the parent scores a base rate of 75 or over on the following severe clinical syndromes; Thought disorder (SS); Major depression (CC); Delusional disorder (PP).

Parenting risk factors
-Static
Under 21 at child's birth – code as present if the parent was under 21 years of age at the time of the child's birth

Not biologically related to the index child – code as present if the parent is not biologically related to the index child

-Dynamic
Residing with a violent adult - code as present if the parent is a known violent adult or is living with a known violent adult (i.e. that person has convictions for violence, or it is disclosed that they have been violent to past romantic partners, acquaintances, strangers or children).

Feelings of isolation – code as present if the parent discloses that they felt isolated with no one to turn to

Serious financial difficulties - code as present if the parent discloses/stated in professional reports that they experienced serious financial difficulties (not being able to make payments for basic needs such as food or rent or parenting equipment).

Single parenthood – code as present if the parents discloses that they are bringing up the index child or children on their own, without the help of a partner. NB: just because an individual discloses they are having a romantic intimate relationship with a partner does not mean that they perceive that partner to have an active role/responsibility to bring up the child.

-Child
Index child has a physical or mental disability – code as present if the index child has a diagnosed mental or physical disability

Parenting risk factors – checklist score
Total Index of Need score
Record the presence of each risk factor below from the file information. If a risk factor is present, the score specified in brackets next to each factor is awarded. A Total Index of Need score is derived and recorded (maximum score of 25).

Single parent (3)	Child with physical or mental disabilities (1)
Mother or partner under 21 years of age (1)	Feelings of isolation (1)
Mother or partner not biologically related to child (1)	Serious Financial Problems (2)
Mother or partner physically and/or sexually abused as a child (2)	Mother or partner treated for mental illness or depression (2)
Twins or less that 18 months between births (1)	Dependency for drugs or Alcohol (2)
Complications during birth/separated from baby at birth (1)	Adult in the household with violent tendencies (3)
Infant seriously ill, premature or weighed under 2.5kg at birth (2)	Mother or partner feeling indifferent about their baby (3)

Parenting stress factors –psychometric data
Parenting Stress Index: Child domain – code as present if the parent achieves a percentile score of 75 or above
Parenting Stress Index: Attachment - code as present if the parent achieves a percentile score of 75 or above

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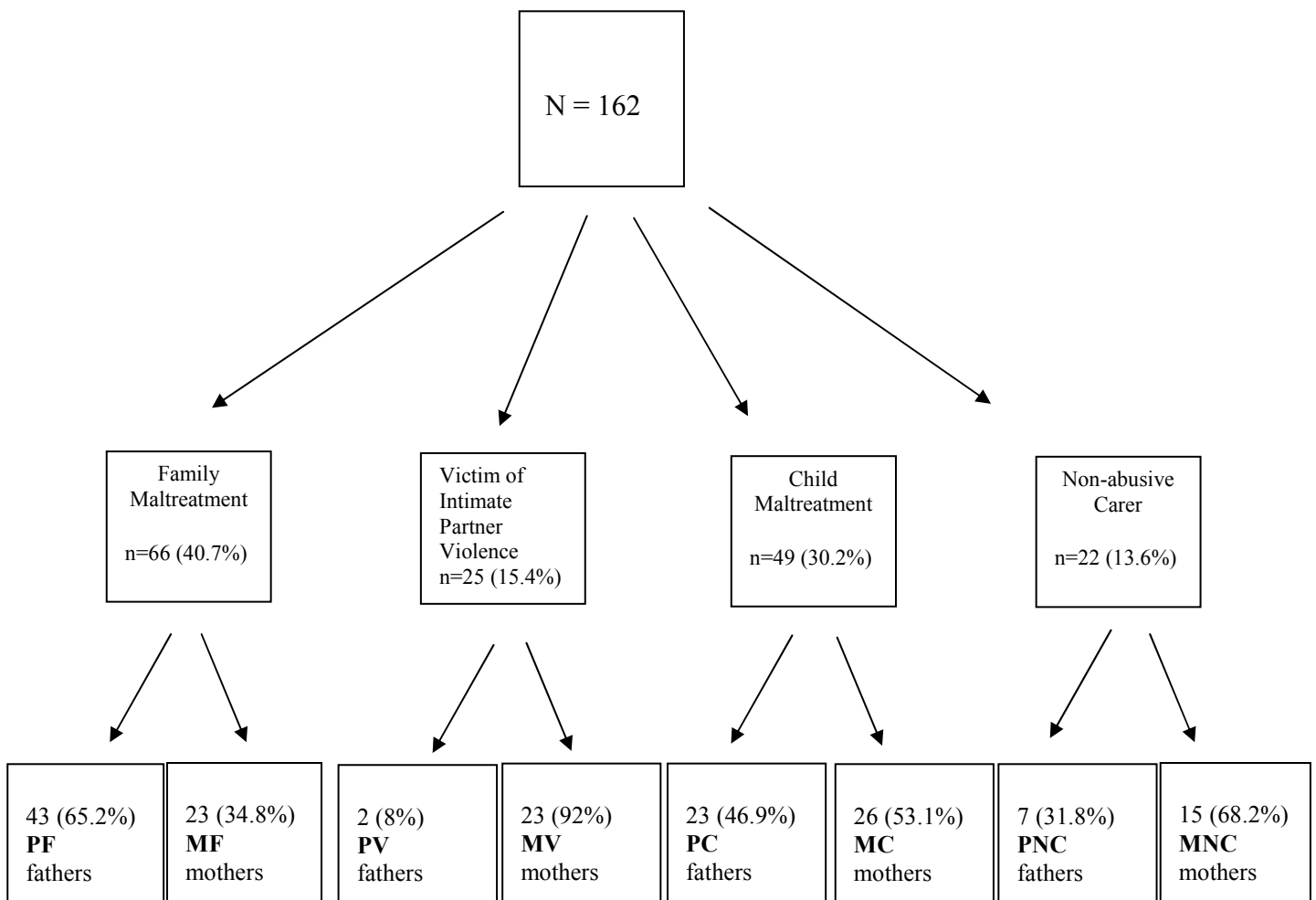
Figure 1. The number of parents classified into groups of 'Family Maltreatment', 'Child Maltreatment', 'Victims of Intimate Partner Violence' and 'Non-abusive Carers' (n = 162)

Table I: Demographic information for each group of family violence

Demographics	PF (n = 43)	MF (n = 23)	PC (n = 23)	MC (n = 26)	PV (n = 2)	MV (n = 23)	PNC* (n = 7)	MNC* (n = 15)
Age of parent	30.7 (SD:7.5)	27.7 (SD:5.5)	32.7 (SD:10.8)	29.6 (SD:8.5)	32.5 (SD:2.1)	29.2 (SD:8.3)	27.7 (SD:6.9)	30.7 (SD:8.8)
Age of index child	4.3 (SD:4.2)	4.3 (SD:4.2)	5.4 (SD:4.7)	5.9 (SD:4.3)	8 (SD:0)	4.21 (SD:3.8)	3.5 (SD:4.3)	4.1 (SD:4.6)
Cohabiting	21(48.8%)	14 (60.9%)	14 (60.9%)	12 (48%)[+]	1 (50%)	14 (60.9%)	5 (71.4%)	7 (46.7%)
Married	18 (41.9%)	7 (30.4%)	7 (30.4%)	5 (20%)[+]	1 (50%)	6 (26.1%)	0	7 (46.7%)
Living separately	4 (9.3%)	2 (8.7%)	2 (8.7%)	8 (32%)[+]	0	2 (13%)	2 (28.6%)	1 (6.7%)
Perpetrator of active child maltreatment (physical and/or sexual abuse)[++]	32 (74.4%)	12 (52.2%)	14 (60.9%)	8 (30.8%)	2 (100%)	7 (30.4%)	5 (71.4%)	16 (100%)
Perpetrator of passive child maltreatment (neglect)[++]	11 (25.6%)	11 (47.8%)	9 (39.1%)	18 (69.2%)	0	16 (69.6%)	2 (28.6%)	0

* The non-abusive carers did not maltreat their child. The maltreatment highlighted was perpetrated by their male (for MNC) and female (for PNC) partner.

[+] Data describing the marital status of parents was not available in 1 case, thus percentages are calculate using an n size of 25 for the MC group.

[++] see procedure section for a description of how child maltreatment categories were determined.

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Table II: Characteristics differentiating mothers in Maternal Family (MF), Maternal Child (MC), Maternal Victim (MV) and Maternal Non-abusive Carer (MNC) groups.

Characteristic	MF N = 23**	MC n = 26**	MV n = 23**	MNC n = 15**	Test Statistic*
	n %	n %			
Physically /sexually abused as a child	12/21 (57.1)	14/24 (58.3)	12/23 (52.2)	8/15 (53.3)	$\chi^2_3 = 0.23$, p = 0.972
Factors associated with juvenile delinquency					
Juvenile substance abuse	6/17 (35.3)	9/18 (50)	5/17 (29.4)	1/12 (8.3)	$\chi^2_3 = 5.81$, p = 0.121
Fighting with peers at school	3/18 (16.7)	4/23 (17.4)	4/21 (19)	4/14 (28.6)	FE range = 0.669 - 1.000[+]
Criminal History					
Conviction for violent/sexual offence	5/21 (23.8)	3/26 (11.5)	3/23 (13)	2/15 (13.3)	FE range = 0.674 - 1.000[+]
Conviction for non-violent criminal offence	7/21 (33.3)	9/26 (34.6)	7/23 (30.4)	2/15 (13.3)	$\chi^2_3 = 2.374$, p = 0.498
Adult dependency for drugs or alcohol	10/22 (45.5)	9/24 (37.5)	5/23 (21.7)	2/15 (13.3)	$\chi^2_3 = 0.57$, p = 0.125
Relationship History					
Involvement in a past violent relationship/s	10/18 (55.6)	13/21 (61.9)	11/20 (55)	5/14 (35.7)	$\chi^2_3 = 2.42$, p = 0.489
Current relationship difficulties	17/18 (94.4)	4/17 (23.5)	17/19 (89.5)	9/14 (64.3)	**$\chi^2_3 = 25.80$, p = 0.000**
Mental health factors					
Previous suicide attempt/ideation	13/19 (68.4)	9/25 (36)	11/19 (57.9)	4/13 (30.8)	$\chi^2_3 = 6.89$, p = 0.076
Treated for mental illness/depression	13/22 (59.1)	14/24 (58.3)	12/23 (52.2)	5/15 (33.3)	$\chi^2_3 = 2.92$, p = 0.404
MCM – III Cluster A (odd/eccentric)	8/20 (40)	12/22 (54.5)	9/19 (47.4)	2/12 (16.7)	$\chi^2_3 = 4.82$, p = 0.185
Cluster B (dramatic/emotional)	10/20 (50)	7/22 (31.8)	10/19 (52.6)	3/12 (25)	$\chi^2_3 = 3.70$, p = 0.295
Cluster C (anxious/fearful)	10/20 (50)	16/22 (72.7)	11/19 (57.9)	9/11 (81.8)	$\chi^2_3 = 4.42$, p = 0.220
Presence of a severe clinical syndrome	7/20 (35)	9/22 (40.9)	7/19 (36.8)	3/12 (25)	$\chi^2_3 = 0.87$, p = 0.832
Parenting risk factors					
-Static					
Under 21 at child's birth	2/23 (8.7)	3/24 (12.5)	4/23 (17.4)	2/15 (13.3)	FE range = 0.665 - 1.000[+]
Not biologically related to the index child	0/22 (0)	1/24 (4.2)	1/23 (4.3)	0/15 (0)	FE = 1.000[+]
-Dynamic					

Residing with a violent adult	22/22 (100)	11/24 (45.8)	20/23 (87)	11/15 (73.3)	$\chi^2_3 = \mathbf{20.60}$, $\mathbf{p = 0.000}$
Feelings of isolation	8/21 (38.1)	6/21 (28.6)	7/19 (36.8)	5/14 (35.7)	$\chi^2_3 = 0.550$, $p = 0.919$
Serious financial difficulties	10/20 (50)	13/21 (61.9)	9/21 (42.9)	6/15 (40)	$\chi^2_3 = 2.21$, $p = 0.531$
Single parenthood	3/22 (13.6)	9/24 (37.5)	4/23 (17.4)	0/15 (0)	**FE range = 0.007 – 1.000**[+]
-Child					
Index child has a physical or mental disability	3/22 (13.6)	7/24 (29.2)	0/23 (0)	1/15 (6.7)	FE = 0.289
Parenting risk factors – checklist score					
Total Index of Need score	mean = 9.05	mean = 7.88	mean = 8.26	mean = 6.27	$F_{(3,\ 80)} = 2.14$, $p = 0.102$
Parenting stress factors –psychometric data					
PSI – Child domain	5/11 (45.5)	12/16 (75)	5/15 (33.3)	6/11 (54.5)	$\chi^2_3 = 5.70$, $p = 0.127$
Attachment sub-scale	5/11 (45.5)	9/16 (56.3)	8/15 (53.3)	6/12 (50)	$\chi^2_3 = 0.33$, $p = 0.954$

*test statistics are highlighted in bold to demonstrate significance ; [+]FE = Fishers Exact statistical test; **The initial figure refers to the number of parents who had the characteristic, the second is the valid n size of each characteristic once missing data had been taken into account. [+] The range of results for 6 group comparisons using Fishers Exact and $\alpha = 0.008$ are reported.

Table III: Characteristics differentiating fathers who perpetrate family maltreatment and child maltreatment (PF v PC)

Characteristic	PF n = 43**		PC n = 23**		Test Statistic*
	n	%	n	%	
Physically /sexually abused as a child	22/39	(56.4)	5/23	(21.7)	$\chi^2_1 = 7.07$, **p = 0.008**
Factors associated with juvenile delinquency					
Juvenile substance abuse	24/35	(68.6)	5/21	(23.8)	$\chi^2_1 = 10.53$, **p = 0.001**
Fighting with peers at school	20/36	(55.6)	5/19	(26.3)	$\chi^2_1 = 4.29$, p = 0.038
Criminal History					
Conviction for violent/sexual offence	26/42	(61.9)	4/23	(17.4)	$\chi^2_1 = 11.85$, **p = 0.001**
Conviction for non-violent criminal offence	33/43	(76.7)	9/23	(39.16)	$\chi^2_1 = 9.16$, **p = 0.002**
Adult dependency for drugs or alcohol	23/40	(57.5)	6/22	(27.3)	$\chi^2_1 = 5.21$, **p = 0.022**
Relationship History					
Involvement in a past violent relationship/s	7/28	(25)	6/19	(31.6)	$\chi^2_1 = 0.25$, p = 0.621
Current relationship difficulties	34/36	(94.4)	4/21	(19)	$\chi^2_1 = 34.0$, **p = 0.000**
Mental health factors					
Previous suicide attempt/ideation	10/38	(26.3)	7/21	(33.3)	$\chi^2_1 = 0.33$, p = 0.569
Treated for mental illness/depression	13/39	(33.3)	10/23	(43.5)	$\chi^2_1 = 0.64$, p = 0.424
MCMI –III Cluster A (odd/eccentric)	13/37	(35.1)	4/22	(18.2)	$\chi^2_1 = 1.93$, p = 0.164
Cluster B (dramatic/emotional)	21/37	(56.8)	3/22	(13.6)	$\chi^2_1 = 10.63$, **p = 0.001**
Cluster C (anxious/fearful)	17/37	(45.9)	9/22	(40.9)	$\chi^2_1 = 0.142$, p = 0.706
Presence of a severe clinical syndrome	3/37	(8.1)	2/22	(9.1)	$\chi^2_1 = 0.00$, p = 0.957
Parenting risk factors					
-static					
Under 21 at child's birth	2/42	(4.8)	2/23	(8.7)	FE = 0.610
Not biologically related to the index child	8/41	(19.5)	9/23	(39.1)	$\chi^2_1 = 2.91$, p = 0.088
-Dynamic					
Residing with a violent adult	37/40	(92.5)	7/23	(30.4)	$\chi^2_1 = 26.71$, **p = 0.000**
Feelings of isolation	3/34	(8.8)	3/21	(14.3)	FE = 0.664
Serious financial difficulties	22/38	(57.9)	8/21	(38.1)	$\chi^2_1 = 2.12$, p = 0.145

Single parenthood	1/40 (2.5)	0/23 (0)	FE = 1.000
-Child		
Index child has a physical or mental disability	3/40 (7.5)	7/23 (30.4)	**FE = 0.029**
Parenting risk factors – checklist score		
Total Index of Need score	mean = 8.15	mean = 5.09	$t_{61} = 4.01$, p = 0.000
Parenting stress factors –psychometric data		
PSI – Child domain	8/23 (34.8)	12/17 (70.6)	$\chi^2_1 = 5.01$, p = 0.025
Attachment sub-scale	12/26 (46.2)	14/17 (82.4)	$\chi^2_1 = 5.64$, p = 0.018

*test statistics are highlighted in bold to demonstrate significance ; $^+$FE = Fishers Exact statistical test; **The initial figure refers to the number of parents who had the characteristic, the second is the valid n size of each characteristic once missing data had been taken into account.

Table IV: Characteristics differentiating mothers and fathers who perpetrate family maltreatment (PF v MF) or child maltreatment (PCvMC)

Characteristic	PF (n = 43**) n %	MF (N = 23**) n %	Test Statistic* (PCvMC)	PC (n = 23**) n %	MC (N = 26**) n %	Test Statistic*
Physically /sexually abused as a child	22/39 (56.4)	12/21 (57.1)	$\chi^2_1 = 0.00$, p = 0.956	5/23 (21.7)	14/24 (58.3)	**$\chi^2_1 = 6.53$, p = 0.011**
Factors associated with juvenile delinquency						
Juvenile substance abuse	24/35 (68.6)	6/17 (35.3)	**$\chi^2_1 = 5.19$, p = 0.023**	5/21 (23.8)	9/18 (50)	$\chi^2_1 = 2.89$, p = 0.089
Fighting with peers at school	20/36 (55.6)	3/18 (16.7)	**$\chi^2_1 = 7.44$, p = 0.006**	5/19 (26.3)	4/23 (17.4)	FE = 0.707
Criminal History						
Conviction for violent/sexual offence	26/42 (61.9)	5/21 (23.8)	**$\chi^2_1 = 8.13$, p = 0.004**	4/23 (17.4)	3/26 (11.5)	FE = 0.692
Conviction for non-violent criminal offence	33/43 (76.7)	7/21 (33.3)	**$\chi^2_1 = 11.35$, p = 0.001**	9/23 (39.1)	9/26 (34.6)	$\chi^2_1 = 0.11$, p = 0.744
Adult dependency for drugs or alcohol	23/40 (57.5)	10/22 (45.5)	$\chi^2_1 = 0.83$, p = 0.363	6/22 (27.3)	9/24 (37.5)	$\chi^2_1 = 0.55$, p = 0.460
Relationship History						
Involvement in a past violent relationship/s	7/28 (25)	10/18 (55.6)	**$\chi^2_1 = 4.39$, p = 0.036**	6/19 (31.6)	13/21 (61.9)	$\chi^2_1 = 3.68$, p = 0.055
Current relationship difficulties	34/36 (94.4)	17/18 (94.4)	FE = 1.000	4/21 (19)	4/17 (23.5)	FE = 1.000
Mental health factors						
Previous suicide attempt/ideation	10/38 (26.3)	13/19 (68.4)	**$\chi^2_1 = 9.33$, p = 0.002**	7/21 (33.3)	9/25 (36)	$\chi^2_1 = 0.04$, p = 0.85
Treated for mental illness/depression	13/39 (33.3)	13/22 (59.1)	$\chi^2_1 = 3.82$, p = 0.051	10/23 (43.5)	14/24 (58.3)	$\chi^2_1 = 1.04$, p = 0.308
MCM – III Cluster A (odd/eccentric)	13/37 (35.1)	8/20 (40)	$\chi^2_1 = 0.13$, p = 0.716	4/22 (18.2)	12/22 (54.5)	**$\chi^2_1 = 6.29$, p = 0.012**
Cluster B (dramatic/emotional)	21/37 (56.8)	10/20 (50)	$\chi^2_1 = 0.24$, p = 0.625	3/22 (13.6)	6/22 (27.3)	FE = 0.457
Cluster C (anxious/fearful)	17/37 (45.9)	10/20 (50)	$\chi^2_1 = 0.09$ p = 0.770	9/22 (40.9)	16/22 (72.7)	$\chi^2_1 = 4.54$, p = 0.033
Presence of a severe clinical syndrome	3/37 (8.1)	7/20 (35)	**FE = 0.024**	2/22 (9.1)	9/22 (40.9)	**$\chi^2_1 = 5.94$, p = 0.015**
Parenting risk factors – Static						
Under 21 at child's birth	2/42 (4.8)	2/23 (8.7)	FE = 0.610	2/23 (8.7)	3/24 (12.5)	FE = 1.000
Not biologically related to the index child	8/41 (19.5)	0/22 (0)	FE = 0.042	9/23 (39.1)	1/24 (4.2)	**FE = 0.004**
-Dynamic						
Residing with a violent adult	37/40 (92.5)	22/22 (100)	FE = 0.546	7/23 (30.4)	11/24 (45.8)	$\chi^2_1 = 1.18$, p = 0.278
Feelings of isolation	3/34 (8.8)	8/21 (38.1)	**FE = 0.014**	3/21 (14.3)	6/21 (28.6)	FE = 0.454
Serious financial difficulties	22/38 (57.9)	10/20 (50)	$\chi^2_1 = 0.33$, p = 0.566	8/21 (38.1)	13/21 (61.9)	$\chi^2_1 = 2.38$, p = 0.123

Single parenthood	1/40 (2.5)	3/22 (13.6)	FE = 0.124	0 /23 (0)	9/24 (37.5)	**FE = 0.002**
-*Child*						
Index child has a physical or mental disability	3/40 (7.5)	3/22 (13.6)	FE = 0.657	7 /23 (30.4)	7/24 (29.2)	$\chi^2_1 = 0.01$, p = 0.924
Parenting risk factors – checklist score						
Total Index of Need score	mean = 8.15	mean = 9.05	$t_{60} = -1.09$, p = 0.278	mean = 5.09	mean = 7.88	**t_{45}= -2.85, p = 0.007**
Parenting stress factors –psychometric data						
PSI – Child domain	8/23 (34.8)	5/11 (45.5)	FE = 0.709	12 /17 (70.6)	12/16 (75)	FE = 1.000
Attachment sub-scale	12/26 (46.2)	5/11 (45.5)	$\chi^2_1 = 0.00$, p = 0.969	14 /17 (82.4)	9/16 (56.3)	FE = 0.141

*test statistics are highlighted in bold to demonstrate significance ; +FE = Fishers Exact statistical test; **The initial figure refers to the number of parents who had the characteristic, the second is the valid n size of each characteristic once missing data had been taken into account