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Risk factors for female perpetrators of intimate partner violence within criminal justice
settings: A systematic review

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Abstract

There is a lack of understanding of the risk factors for female-perpetrated intimate partner violence (IPV) relative to men's IPV behaviours. Males can access offence-specific interventions in prison and on probation. However, depending on national criminal justice policies, female IPV perpetrators access general offending behaviour programmes only or offence-specific programmes that have been designed with male perpetrators in mind. The extent to which men's and women's treatment needs are similar or different is unclear. The aim of this systematic review was to synthesise what is known about the risk factors for IPV perpetration by women located within criminal justice settings to inform appropriate interventions for this group of offenders. Thirty-one studies met inclusion criteria and no factors meeting our definition of risk factor were identified. However, there were associations between IPV perpetration and experience of child abuse, substance use, borderline personality traits, attachment issues and experiencing trauma. It remains unclear what factors need to be targeted in interventions for female IPV perpetrators, although associations have pointed to possible predisposing factors. In order to improve the evidence base for IPV interventions, researchers need to clearly define the term 'risk factor', extending beyond reporting on prevalence only, and to increase understanding of the pathways to IPV perpetration among women.

Keywords

Domestic violence; systematic review; female perpetrators; risk factors; intimate partner violence

Introduction

Intimate partner violence (IPV) has traditionally been viewed as a problem affecting the lives of women and girls, and where females use IPV, they do so presumably to protect themselves from violent (male) partners (Dobash & Dobash, 1980; Johnson, 2006). However, the rates of male victimisation – in the UK, approximately one in 12 males report ever experiencing IPV (ONS 2016) – indicate that IPV is a social and health issue for a significant proportion of men and boys. Women and girls experience higher rates of IPV globally; however, men and boys experience additional barriers to accessing help (Hines, Brown and Dunning, 2007). Furthermore, the consequences of IPV in the lives of men have been relatively neglected. Attention has recently shifted to trying to better understand the nature of women's perpetration of IPV, tailoring clinical intervention and improving criminal justice measures. However, little is known about the risk factors and characteristics of criminal justice populations of women who perpetrate IPV, rendering the development of appropriate responses difficult. The aim of this systematic review is to synthesise studies located in criminal justice settings that have investigated the risk factors associated with female IPV perpetrators, in order to understand the intervention requirements of this population.

Identifying risk factors for IPV is complex, and part of the complexity is the lack of consistency in the way the term 'risk factor' is defined (Kraemer et al., 1997). Kraemer et al. (1997) define several terms related to risk that can all be used to define how characteristics are associated with an outcome (see Table 1 which outlines Kraemer et al.'s typology of risk factors). The first step is to establish a statistically significant association between the factor and the outcome, and include a judgement of the potency of this association. Of critical importance to establishing whether a factor is indeed a risk factor is its timing in relation to the outcome. When it comes to policy and clinical decisions for the treatment of IPV perpetration, it is the causal risk factors which are of most interest and importance – those

risk factors which have been demonstrated to precede the perpetration of IPV and, when changed, reduce the risk of future IPV perpetration. In the criminological literature, these are also referred to as criminogenic needs (Andrews & Bonta 2010) – dynamic individual and environmental factors which, when changed, impact on the likelihood of reoffending (Andrews, Bonta & Wormith 2006).

[Table 1 here]

Where studies have examined factors associated with women's use of IPV, they have tended to focus on motivations, that is, the reasons women give for perpetrating IPV (Langhinrichsen-Rohling, McCullars and Misra, 2012), and not risk. Without knowledge of risk being integrated into interventions, practitioners are constrained in selecting appropriate approaches to target the risk factors associated with the offending behaviour (Andrews & Bonta, 2010). Since 2010, only five papers have been published which consolidate the literature concerning the factors and motivations associated with women's use of IPV (Bair-Merritt et al., 2010; Capaldi, Knoble, Shortt & Kim, 2012; Costa et al., 2015; Spencer, Cafferky and Stith, 2016; Laskey, 2016). However, none has focused on women in criminal justice populations. In a systematic review of 23 articles, Bair-Merritt et al. (2010) focused on women's motivations for using IPV, finding that women's motivations were linked to expression of feelings in 70% of the studies and self-defence in 87% of studies, whereas coercive control was listed as a motivation in 61% of the included studies, challenging that the view that women only use IPV as a form of self-defence. The first systematic review to examine correlates of IPV perpetrated by men *and* women (Capaldi et al., 2012) found the following factors were related to IPV perpetration: deprivation (unemployment and low income), minority group membership (with income as a mediator), acculturation stress, financial stress, work related stress, exposure to violence between parents in the family of origin and experience of child abuse (low to moderate significant associations, which may be

mediated by an individual's anti-social behaviour and adult adjustment), involvement with aggressive peers in adolescence, conduct problems and anti-social behaviour (both often found to be mediators of early factors such as harsh parental treatment), substance abuse, being separated from partner, low relationship satisfaction and high discord/conflict. The authors noted that stronger associations were found for women between depression and alcohol use and IPV perpetration, although the direction of these associations is unclear. Capaldi et al.'s (2012) review did not include same-sex relationships however, as the studies with these samples did not meet the methodological inclusion criteria.

In a systematic review of longitudinal studies, Costa et al. (2015) found that abuse and childhood and adolescent problems experienced in the family of origin were consistent predictors of IPV for both men and women. Other significant predictors of IPV were childhood and adolescent behaviour problems (e.g. aggressive behaviour, withdrawal, conduct disorder), as well as adolescent alcohol and substance use. The authors found no studies of same-sex relationships, therefore these predictors are for heterosexual relationships, again highlighting this gap in the literature around prospective studies examining predictors of IPV perpetration in same-sex relationships. Spencer, Cafferky and Stith (2016) carried out a meta-analysis to assess the difference in risk markers between men and women's IPV perpetration, and found that only three out of the 60 investigated factors differed between the sexes. Alcohol use, male demand and female withdrawal relationship patterns and witnessing/experiencing family of origin violence were stronger predictors for male IPV. Most recently, Laskey (2016) conducted a systematic review of the characteristics, but not specifically risk factors, of female IPV perpetrators, finding nine relevant studies (Laskey, 2016). Laskey's inclusion criteria was limited to peer reviewed articles published between 2000-2015, where women were part of the sample and the studies examined the characteristics of the female IPV perpetrators. Common correlates for female IPV

perpetrators were: high prevalence of trauma symptoms, emotional dysregulation or loss of control, substance misuse, unstable mood, attachment issues and interpersonal dependency.

Systematic reviews that focus only on the risk factors or characteristics of female IPV perpetrators are lacking, with only one identified to date (Laskey, 2016). Previous reviews have failed to postulate how risk factors are defined and identified and do not specify the timing or precedence of the factors they are reviewing (Laskey, 2016; Bair-Merritt et al., 2010; Capaldi et al., 2012; Spencer et al. 2016). This has made it very difficult to draw conclusions about the causal risk factors associated with female perpetrated IPV. Where reviews that explore the characteristics of female IPV perpetrators do exist, they have explored: 1) the motivations for perpetration (Bair-Merritt et al., 2010), and therefore potentially missed studies which may have investigated the developmental and psychological antecedents that could be described as risk factors; and 2) a range of different samples such as community and student populations (Laskey, 2016; Spencer et al. 2016; Capaldi et al., 2012). Whilst this has given some indication of the factors associated with IPV perpetration, it may not be capturing the needs and risk factors of women who have perpetrated such serious or frequent IPV that they are accessing intervention within corrections systems or via other mandated systems, such as family or social services.

1.2 Objective

The objective of this review was to explore risk factors and motivations for IPV perpetration among women in criminal justice populations. In contrast to previous reviews, this review explores all intimate partner relationships and includes a range of abusive behaviours. Based on the legal definition of an adult in the UK, and the age at which women can enter the criminal justice system as an adult, it was decided to focus on women aged 18 and over in the review.

1. Method

2.1 Sources of literature

PRISMA (Moher, Liberati, Tetzlaff & Altman 2009) guidelines were used to guide the conduct and reporting of this review. Literature searches were conducted in Academic Search Complete, Cochrane, Cinahl, PsycINFO, Web of Science and EThOS. We also searched the reference lists of included studies.

2.2 Search strategy

Search terms were generated through discussion with review authors and taking into account terms used in previous reviews (Bair-Merritt et al., 2010; Williams, Gandour & Kub, 2008; Capaldi et al., 2012). The following search terms were used across all databases: (intimate partner violence or intimate partner abuse or intimate terrorism or domestic abuse or domestic violence or spous* abuse or marital violence or dating abuse or batter* or lesbian partner violence) AND (female or women or woman or gender symmetry or gender asymmetry) AND (offend* or perpetr*) AND (risk factor* or risk marker* or motivat* or predictor).

2.3 Inclusion and exclusion criteria

For studies to be included they had to have been reported in peer-reviewed journal articles, books, book chapters, theses or unpublished articles. All dates were included and studies were included where the authors had examined risk factors, correlates or motivations for use of IPV and reported comparative inferential analysis. Studies were included where the population was women aged 18 years or above that had ever perpetrated IPV (based on the definition of domestic violence as used by the Crime Survey for England and Wales, therefore including partner abuse – physical force, emotional or financial abuse or threats to hurt the respondent or someone close to them carried out by a current or former partner; and

sexual assault or stalking carried out by a current or former partner; ONS 2016) and were recruited from criminal justice or corrections systems. Therefore, this included women who had been arrested, charged, convicted, imprisoned, receiving intervention or in contact with probation services. Studies were excluded if the sample consisted entirely of individuals who had self-referred to interventions.

2.4 Study selection

A search was conducted in April 2016 and a total of 1869 records were initially identified (see Fig. 1). Duplicates were removed and an initial screening of titles and abstracts was conducted. Records were excluded at this point where it was obvious they did not fit the inclusion criteria, leaving 220 records that required reading in full. A second reviewer also applied the inclusion criteria to ten percent of the texts identified in the initial search (after duplicates removed) in order to assess inter-rater reliability. The level of agreement between raters was substantial (Cohen's $\kappa=0.71$). There were no major areas of disagreement and any minor discrepancies were resolved through discussion and consensus. Once the inclusion criteria had been applied to the 220 records and references in papers had been searched for additional relevant records, this resulted in 31 articles.

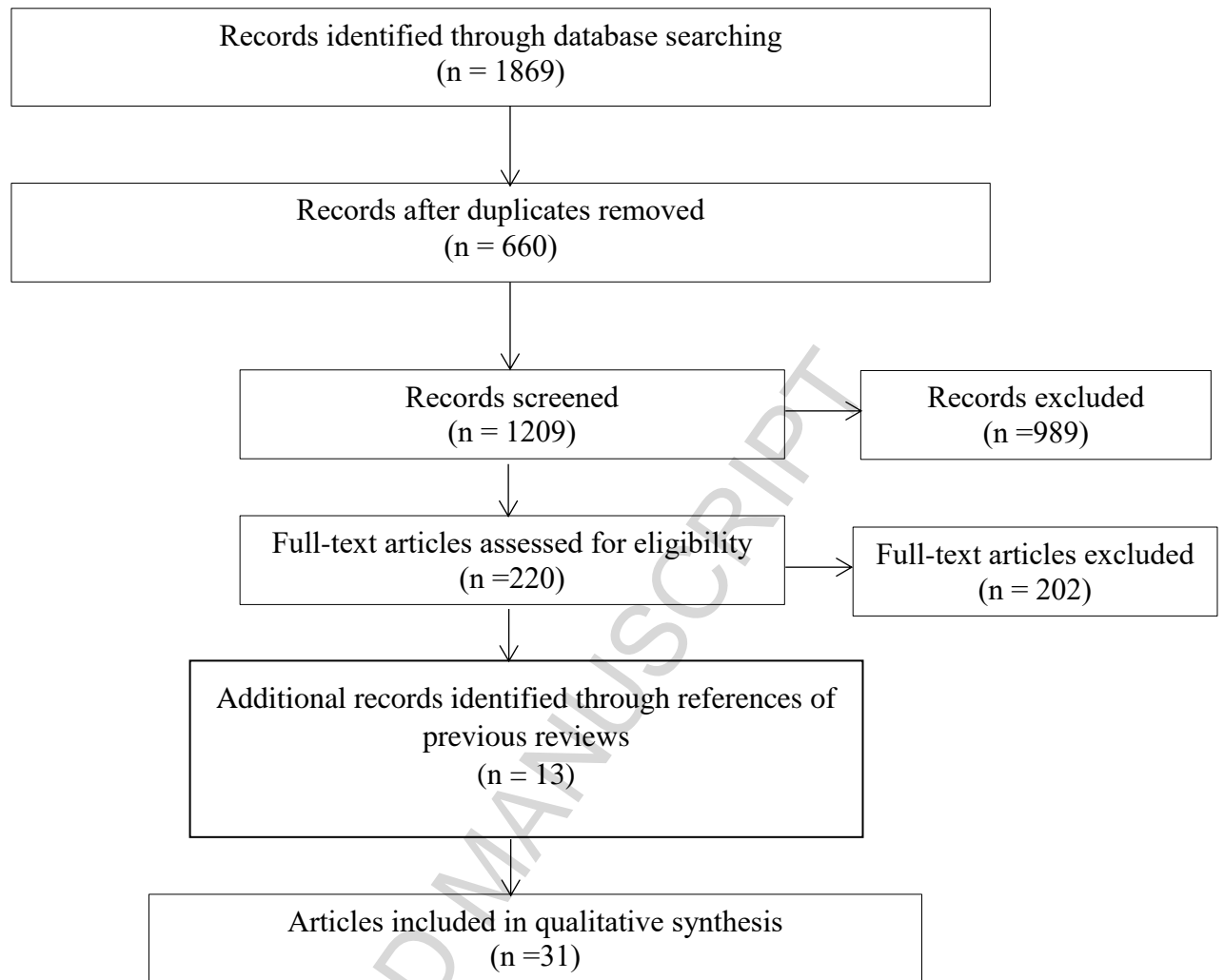


Fig. 1 Search strategy based on the PRISMA model

2.5 Data Extraction

Data were extracted by the first author using an electronic spreadsheet, which was piloted and agreed with other authors. Data extracted included population details, sampling, design, outcome measures, definition of IPV, risk factors/motivations studied and measures of association, including effect sizes where reported. As studies used different measures of outcomes, time frames and different analytic strategies, the data from each study has been drawn together from the data extraction form to allow for a narrative synthesis of results. The data did not allow for meta-analysis due to heterogeneity of outcome measures.

2.6 Quality assessment

Individual studies were assessed using the Mixed Methods Appraisal Tool (MMAT; Pluye et al., 2011). This appraisal tool enables the risk of bias to be assessed in quantitative, qualitative and mixed methods studies. Studies are rated on a star system, ranging from 1-4 stars, with 4 stars indicating the highest methodological quality. Within the narrative synthesis of results, those studies rated as one or two stars are referred to as low quality studies, whereas those rated as three or four stars are referred to as high quality studies. A second author assessed ten percent of the papers and there were no areas of disagreement in terms of quality assessment.

3. Results

3.1 Study characteristics

Thirty-one papers were included in this review (see Table 2), including 25 individual samples of a total of 3,038 female perpetrators drawn from the United States (25 studies), the UK (three studies), New Zealand (one studies), Poland (one studies) and Finland (one studies). Participants were recruited from IPV intervention programmes (20 studies), prisons/probation (five studies), having been arrested/charged for IPV (three studies), arrest/restraining order within longitudinal research (one study) or intimate partner homicide files were reviewed (two studies). Twenty-one studies compared female perpetrators to male perpetrators and six studies had no control group, two of which examined differences within samples of female perpetrators in an attempt to devise typologies of IPV perpetrators. Six studies compared female perpetrators with a female control group, either community samples (two studies), victims (one study), a clinical treatment sample (one study) a large cohort as part of a longitudinal study (one study) or a different female offender sample (one study). These figures do not add up to the total 31 studies as some used multiple control groups.

Most articles defined women as perpetrators by the fact that they had been arrested, convicted of or were receiving intervention for IPV (24 studies). This meant that where the control group were not categorised as perpetrators, they were assumed to have never perpetrated IPV. This is problematic as without knowing if control groups had perpetrated IPV, it is unclear if the study findings are a true reflection of the distinction between perpetrators and non-perpetrators. Eleven studies measured IPV perpetration using the Conflict Tactics Scale (Straus 1979). The majority of articles did not refer to sexuality of participants, though a few did exclude same-sex attracted women.

Only five studies were assessed via the MMAT as being of a four-star rating (see Table 2). Twelve studies were assessed as three-star, ten as two-star and four as one-star. Where studies are discussed in the results presented below, their MMAT rating is highlighted next to the reference by the number of stars. Eighteen studies relied solely on self-report data, with only four assessing for or considering social desirability bias (Henning, Jones & Holdford 2003; Henning, Jones & Holdford 2005; Robertson & Murachver 2007; Kernsmith 2006). Six studies relied solely on case file data, and the remainder used a combination of data sources, including self-report and case file data. Two studies also used information gained from victims' interviews to supplement offender interviews or case file reviews (Feder & Henning 2005; Henning & Feder, 2004).

Potential risk indicators and motivations are grouped together and presented in overarching themes below, with evidence for each presented from relevant studies where comparative inferential analysis has been conducted. Correlates and risk factors are considered first (section 3.2), then motivations (section 3.3). Finally, the two typology studies are examined separately (section 3.4). Effect sizes were inconsistently reported in only 11 of the 31 papers, making it difficult to compare studies on this basis. Therefore, effect sizes are reported within the table of findings only (Table 2).

[Table 2 here]

3.2 Potential risk indicators

3.2.1 Childhood adversity

The childhood adversity factors found in this review fall under the definition of Adverse Childhood Experiences (ACE; Felitti et al. 1998;) and included witnessing IPV and/or growing up a violent family and direct experience of different forms of child abuse.

Witnessing IPV

Five studies (16%), three of which were of high quality, examined the role of witnessing IPV. Self-report was solely relied on in three studies but used in four studies in total. The remaining study used case review methods which also likely relied on some self-report data. Four studies did not include a female control group therefore witnessing IPV cannot be identified as a correlate for IPV, less still, a risk factor. One low quality study (Hughes, Stuart, Gordon & Moore 2007**) found that family of origin violence did not predict physical aggression when considered with other predictor variables, suggesting that it is an interaction of factors that might explain IPV perpetration. However, all measures were based on self-report and participants were already taking part in an IPV intervention programme when questionnaires were administered. This could suggest the possibility of a social desirability bias, particularly where data collection for research is concurrent with participation in intervention. The one low quality study that included a female control group (Weizmann-Henelius et al. 2012**) suffered from incomplete data and it is unclear whether the study adequately controlled for systematic group differences. The study found that witnessing violence in the family of origin actually decreased the odds for intimate partner homicide relative to the non-partner homicide.

In two high quality studies, there was no difference in the proportions of men and women who reported experiencing domestic violence in their family of origin (Tolleson & Gross 2009***; Henning, Jones & Holdford 2003****). However, a study of Polish prisoners found that women were significantly more likely than men to state that conflict in the family of origin occurred ‘often/very often’ (Rode, Rode & Januszek 2015***). This difference in findings may be explained by the differing definitions used across these studies; constructions of ‘conflict’ and IPV may vary according to culture and gender.

Child abuse

Eight studies (26%) examined child abuse (operationalised as sexual abuse, physical abuse, emotional or psychological abuse, or a combination of these); two were appraised as low quality and six were of high quality. Seven of the eight studies had no female control group.

Three studies investigated the association between child abuse and IPV perpetration (Hughes et al. 2007**; Trabold, Swogger, Walsh & Cerulli 2014***; Millett, Kohl, Jonson-Reid, Drake & Petra 2013***). Hughes et al. (2007) found a positive association between self-reported parent-to-child violence and females’ physical aggression perpetration. However, this association became non-significant when perpetrators’ borderline personality features were included in the analysis, suggesting the role of personality in mediating the relationship between child abuse and IPV perpetration (see section 3.2.4 for further discussion of personality traits). Trabold et al. (2014) found that childhood sexual abuse was associated with perpetration of severe IPV. On the other hand, and in the only longitudinal study with a female control group, child maltreatment neither directly nor indirectly predicted adult women’s IPV perpetration (Millett et al. 2013). This study drew from a sample of 5377 women, and used triangulated data from a wide range of official and professional case files.

Of the sample, 3153 had a report of child abuse or neglect, and the control group was those women who had no reports of child abuse or neglect (n=2224). In total, 31 women had been arrested or received a restraining order for IPV perpetration. However, the lack of association between child maltreatment and female IPV perpetration could be explained by the low statistical power of the study. Further, there is a possibility that within the control group, there may be individuals who experienced child abuse but did not come into contact with professional services, and therefore may have been missed in the analysis. In comparison to male IPV perpetrators, three high quality studies, found that women perpetrators were significantly more likely to have experienced child sexual abuse (Rode et al. 2015***; Trabold et al. 2014***; Kernsmith 2006***). Instead of capturing a characteristic of female perpetrators however, it may reflect the higher preponderance of child sexual abuse victimisation among females in the general population (Stoltenburgh et al. 2011).

Summary of Childhood Adversity

Childhood events that were examined by studies found in this review included witnessing domestic violence and/or growing up in a violent family, and experiencing child abuse. There is little consistent evidence to support witnessing IPV as a correlate of IPV perpetration; family of origin violence did not predict IPV perpetration and in fact, lowered the odds of intimate partner homicide. No differences were detected between men and women. Studies rarely utilised control groups, therefore meaning it is difficult to tell if witnessing IPV in childhood is a contributing factor to IPV perpetration in adulthood. There is some evidence that child abuse is correlated with IPV perpetration. However, the only longitudinal study found that child maltreatment was not correlated with IPV perpetration and therefore was not a risk factor. Whilst the low statistical power of this study must be considered, given the interaction between child abuse and borderline personality features

found in Hughes et al.'s (2007**), it may be that the relationship between child abuse and IPV perpetration is possibly mediated by adult personality pathology.

3.2.2 Anti-social behaviour and attitudes

This factor refers to any measures of anti-social behaviour, anti-social attitudes or criminal behaviour and was examined in 11 studies (35%), of which four were low quality. No studies attempted to establish if criminality occurred before the perpetration of IPV. Also included in this section was behavioural problems recorded in childhood, which can be assumed to have occurred before the perpetration of IPV. However, the one study that examined this, reported characteristics self-reported by adults, rather than longitudinally measuring the presence of childhood behavioural problems in relation to IPV perpetration in later life. Only two studies (6%) included a female control group, using regression techniques to seek an association between criminality/anti-sociality and IPV perpetration, and both were of low quality (Robertson & Murachver 2007*; Weizmann-Henelius et al. 2012**).

Robertson and Murachver (2007) compared male and female IPV perpetrators in New Zealand prisons with groups of students and community participants (of both sexes) on measures of attitudes towards gender and "wife abuse". They found that in both men and women, hostility to women was the most significant factor associated with physical and psychological IPV perpetration. Whilst this might be expected in terms of men's violence towards women, it is harder to understand how such attitudes prompt women to be violent towards their partners. The authors found that overall, the imprisoned sample displayed more violence accepting attitudes than the non-imprisoned sample. Therefore, hostility to women may be part of an attitude that is more hostile overall in both men and women who perpetrate IPV, rather than a specific display of hostility towards women. Weizmann-Henelius et al. (2012) found that the impact of criminal history and prior violent criminality on intimate

partner homicide (IPH) was not significant in a sample of female IPH perpetrators in Finland, and that previous property offences decreased the likelihood of IPH in both sexes.

When compared with male perpetrators of IPV, only one high quality study found that men were more likely to have been arrested for violent offences in the past (Feder & Henning 2005****), but three other studies also assessed as of high quality found that there were no differences between the proportion of men and women who had previously used violence outside of the family home (Kernsmith 2006***; Busch & Rosenberg 2004****; and Stuart et al. 2006a***). High quality studies suggested that male IPV perpetrators are more likely to have engaged in past non-violent offending than females (Stuart et al. 2006a***; Feder & Henning 2005****; Trabold et al 2014***; Busch & Rosenberg 2004****). Male perpetrators also appear to be younger at age of first recorded crime (Busch & Rosenberg 2004****) and are more likely to violate probation/parole (Feder & Henning 2005****). These findings indicate that men who perpetrate IPV may be more likely than women to have been in contact with criminal justice systems for non-violent offences, but that men's and women's violent past is not particularly different. If men are more likely to be known to local police because of their past offending behaviour, one might argue that this is reflected in the higher numbers of men convicted of IPV related offences (because the police, prosecution services or court sentencing powers will take into consideration previous offending behaviour). If this argument is believed, then it is difficult to argue that past offending behaviour is a true causal risk factor for IPV perpetration, as it may actually be a reflection of how criminal justice services engage with offenders.

Behavioural problems

Conduct disorder in childhood was only examined in one high-quality study, which aimed to compare the childhood experiences of men and women convicted of an IPV-related

offence (Henning et al. 2003****). Questionnaires and interviews were conducted with perpetrators during their intake assessment at a Domestic Violence Assessment Centre. With the absence of a female control group, there is no statistical analysis presented in the study to determine an association between conduct disorder and IPV perpetration. The study found that women reported an average of 1.3 characteristics associated with conduct problems, with men reporting significantly more conduct problems at an average of 1.8. Therefore, it cannot be concluded that conduct disorder is even a correlation with IPV perpetration based on this evidence.

Summary of Anti-Social Behaviour and Attitudes

Within the studies found in this review, criminality or anti-sociality cannot be defined as a risk factor. Firstly, it is very difficult to design a study which establishes that criminal behaviour occurred before IPV perpetration, particularly given the fact that IPV perpetration is criminal behaviour itself. Indeed, the majority of the studies found in this review did not explore whether criminal behaviour was present before the perpetration of IPV, therefore it cannot be concluded that criminality or anti-sociality is a causal risk factor for IPV perpetration. Secondly, individuals who have engaged in past criminal behaviour may not necessarily be more likely to perpetrate IPV, but perhaps may just be more likely to come to the attention of the various criminal justice services and therefore treated more 'harshly'. Even where childhood behavioural problems were measured, this marker was not established as a causal risk factor for IPV perpetration, only that it was more likely to be prevalent in men than women. Wider criminality may well be a correlate of IPV perpetration, but even this cannot be established from existing data.

3.2.3 Substance use

Substance use was measured in 12 (39%) studies, four (13%) of which were low quality. Only one low quality study included a female control group (Weizman-Henelius et al. 2012**); they found that for female intimate partner homicide (IPH) perpetrators, risk increased when the *victim* was intoxicated at the time of the offence but not the perpetrator. This was compared to perpetrators of non-intimate homicide and perhaps suggests that where alcohol features within intimate relationships, this is a more salient factor than when the perpetrator-victim relationship is not intimate. This same study also found that diagnosis of drug dependence in perpetrators *decreased* the risk of IPH. Three other studies (two separate samples) sought an association between substance use and IPV perpetration and it was found that: 1) perpetrator reports of alcohol problems for both the perpetrator and their partner were related to physical abuse directly and indirectly via psychological abuse (Stuart et al. 2006a***); 2) perpetrator reports of their own drug use was a predictor of physical abuse but not psychological abuse and perpetrator reports of their own alcohol use weakly predicted psychological aggression (Stuart et al. 2008***); and 3) that when perpetrators reported they had been drinking, this was associated with greater odds of perpetrating physical violence, minor violence and severe violence than when they had not been drinking, whereas using marijuana use was associated with lower odds of perpetrating any physical violence (Stuart et al. 2013**). In all these studies however, the data is based on perpetrator self-reports, and Stuart et al.'s (2013) participants and a proportion of Stuart et al.'s (2006a) participants were part of a wider study requiring them to display hazardous drinking, demonstrating selection bias in the sample and therefore potentially skewing the results. A further difficulty with these studies is their failure to establish the temporality of the use of substances in relation to the IPV incidents. For example, do participants drink more on days when there is existing conflict within their relationship? Do participants drink as a result of IPV incidents? Or is the

alcohol specifically acting as a causal risk factor for the occurrence of IPV? Despite these unresolved questions, the combined results of the studies suggest that alcohol is a feature of a proportion of women's use of IPV and that it may be part of the contextual factors of IPV incidents.

Studies seem to suggest that there is little difference between male and female IPV perpetrators in terms of substance use. Five high quality studies found no difference in prevalence of substance use between men and women (Tolleson & Gross 2009***; Feder & Henning 2005***; Stuart et al 2006a***; Stuart et al 2008***; Busch & Rosenberg 2004***). There is some indication that men are more likely than women to report having used substances immediately prior to the offence (Friend, Langhinrichsen-Rohling & Eichold 2011*; Simmons, Lehman & Cobb 2008b***; Henning & Feder 2004*). However, this was contradicted by the one study reporting toxicology results taken after arrest for IPV, which found that women were more likely to use substances than men (Sebire 2013***). Although toxicology reports were not available in all instances of IPV, this contradiction in the data may suggest that alcohol is a stronger feature for women where incidents are of a more serious nature.

Summary of substance abuse

In summary, these studies show that substance use has, at best, been demonstrated to be a part of the story of IPV perpetration, and there is some evidence that it may be a correlate of IPV perpetration. However, no studies established the use of substances prior to IPV perpetration meaning the causal relationship between substance use and IPV perpetration cannot be established. Even in those studies investigating substance use at the time of the incident, it cannot be said to be a causal risk factor for IPV as it was not determined whether substance use occurred before, during or immediately after the violent incidents.

3.2.4 Mental health/psychopathology

This theme refers to problems experienced related to mental health and personality, including histories of psychiatric problems/diagnosis (with no specified diagnosis); specific mental health issues of depression, trauma, anxiety; psychopathy; and personality traits and personality disorders. Overall, 17 (55%) studies explored the relationship between one or more of these issues and IPV perpetration. Each factor is presented below.

Recorded mental health issues

Four studies (13%) explored whether female IPV perpetrators had a history of mental health issues, one of which was low quality. Only one of these studies sought an association between recorded mental health history and IPV perpetration; Weizmann-Henelius et al. (2012**) using a case file review design, reviewed Finnish cases of IPH alongside other homicide cases and found that psychiatric contact with mental health authorities prior to age 18 decreased the risk of IPH. This could suggest that access to mental health services is a protective factor against committing IPH.

Across studies, no differences were found between men and women on the following factors; current psychiatric diagnosis or personality disorder (Tolleson & Gross 2009***), hospitalisation or treatment for major mental illness (Henning et al. 2003****), recorded mental health issues and mental health issues as a motivator for IPH (Sebire 2013****). However, women were more likely than men to have been prescribed psychotropic medication and to have attempted suicide (Henning et al. 2003****).

Specific mental health issues

Six studies (19%) investigated specific mental health issues in female IPV perpetrators, three being of low quality. Stuart et al. (2006b***) investigated the association between scores on scales measuring PTSD, depression, anxiety and panic disorder and IPV

perpetration, finding no correlations. In contrast to this, Hughes et al. (2007**) measured PTSD symptoms only and found that they were negatively correlated with physical only IPV perpetration. A similar finding was also seen in Abel's (2001*) study who found that trauma symptoms were significantly less likely for perpetrators when compared to victims of IPV. Hughes et al.'s (2007) and Abel's (2001) studies suggest that the less trauma symptoms displayed by women, the more likely they are to perpetrate IPV. This could reflect the timing of the measurement of PTSD symptoms; if PTSD symptoms are measured sometime *after* the incident of IPV perpetration, this may not highlight symptoms that were present at the time or leading up to the IPV perpetration. However, it is noted that both of these studies were judged to be of low quality. For example, in Abel's (2001) study, the definition of perpetrator and victim was assessed by the nature of the services they were accessing only, meaning it was not known if victims had ever perpetrated IPV, nor if IPV perpetrators had every been victims. Further, although significant differences between these groups were highlighted (for example the age of the samples), these were not controlled for in the analysis. In contrast to these findings, trauma symptoms were higher for female perpetrators than in a female control group of women accessing clinical treatment (Goldenson, Geffner, Foster & Clipson 2007**). In comparison to men, female IPV perpetrators were more likely to report higher scores for depression and PTSD (Trabold et al. 2014***) and to score higher on scales measuring delusional disorder, major depression, bipolar, Somatoform and thought disorder (Henning et al. 2003****).

Personality traits

Nine (29%) studies explored either personality traits and/or personality disorder, four (13%) being of low quality. All four of the low quality studies explored an association between the personality traits being measured and IPV perpetration. Hughes et al. (2007**) found that borderline personality features were significantly positively correlated with

physical aggression perpetration. McKeown (2014**) found that borderline personality traits were positively associated with perpetrating psychological aggression. Goldenson et al. (2007**) found that female IPV offenders scored significantly higher than a female clinical comparison group on scales that measured Borderline, Antisocial, Dependent, Narcissistic and Histrionic traits. Significantly more female offenders also met the clinical cut-off scores on the Borderline, Antisocial and Narcissistic scales than the control group. Weizmann-Henelius et al. (2012**) found that female IPH offenders had significantly lower PCL-R scores than the non-IPH offenders on the Affective factor and Anti-social factor scores, but no difference between IPH and non-IPH offenders in meeting the cut-off score for Psychopathy were found. One high quality study found that borderline personality traits in women (assessed via the Personality Diagnostics Questionnaire) were related to self-reports of motivations for IPV perpetration of being unable to manage emotions, defence and domination-punishment (Ross 2011***). These different studies seem to suggest that borderline personality traits are a key factor of those women who have perpetrated IPV.

In studies that compared males and females, women were more likely to report compulsive and histrionic personality traits (Simmons, Lehman, Cobb & Fowler 2005***; Henning et al. 2003****) narcissistic personality traits (Simmons et al. 2005**) and borderline personality traits (Henning et al. 2003****). However, men were more likely to score higher on antisocial traits than women (Stuart et al. 2006a***; Stuart et al. 2008***).

Summary of mental health/psychopathology

Factors associated with mental health/psychopathology that were examined by studies in this review included: histories of mental health issues (with no specified diagnosis); specific mental health issues of depression, trauma and anxiety; psychopathy; and personality traits and personality disorders. Within criminal justice populations, there was no evidence

found that having a history of mental health issues is associated with IPV perpetration; other than one study exploring IPH, no attempts at seeking an association between recorded mental health issues and IPV perpetration have been made. There have only been a few attempts to investigate associations between specific mental health issues and IPV perpetration in criminal justice populations. Trauma is one important area that has emerged from the research, and there is conflicting evidence as to whether it is associated with IPV perpetration, depending on the nature of the comparison group. However, there is evidence to suggest that borderline personality traits are correlated with IPV perpetration but no evidence found as yet to whether these are a causal risk factor. Intuitively it may be assumed that personality traits come before IPV perpetration, however studies measure personality traits after the individual in the sample has perpetrated IPV and it therefore becomes very difficult to assess whether they are a causal risk factor for IPV perpetration. However, the evidence does seem to suggest there is a correlational relationship.

3.2.5 Adult attachment

Five (16%) studies examined adult attachment and its relationship to IPV perpetration, of which four were low quality. Two studies utilised a female control group, and demonstrated that attachment was more problematic for the perpetrators than the control group; Carney and Buttell (2005**) found that female perpetrators were significantly more likely to be overly dependent on their partners at pre-treatment levels compared to the female non-violent control group. This excessive dependency was found to be associated with psychological aggression, physical assault, sexual coercion and causing severe injury. Goldenson et al. (2007**) found that perpetrators had significantly higher scores on attachment anxiety and avoidance than the female clinical control group. Conversely, and using the same measure in a sample of UK female prisoners, McKeown (2014**) reported that attachment anxiety and attachment avoidance were not correlated with IPV perpetration

in women's previous or most recent relationship. In addition, regression analysis showed that attachment anxiety was negatively related to perpetrating physical assaults in their most recent relationship. The difference in findings here may be explained by the different methods used, as McKeown's sample were all selected from a prison, whereas Carney and Buttell and Goldenson et al. used a non-offending group as a comparison.

With regard to the differences between male and female IPV perpetrators, Rode et al. (2015^{***}) found that men were more likely to have an anxious/ambivalent attachment style. However, Simmons, Lehman and Cobb (2008a^{**}) found that female IPV perpetrators were more likely than male IPV perpetrators to indicate issues with attachment.

Summary of Adult Attachment

Evidence presented here is conflicting and it is not clear whether there is a correlation between attachment issues and IPV perpetration. This is particularly highlighted in two studies (Goldenson et al. 2007^{**}; McKeown 2014^{**}) which despite using the same measure, came to conflicting conclusions. However, the differences may be explained by the different control group samples. Again, the timing of the assessment of adult attachment is important for determining if this is a causal risk factor for IPV perpetration; it is not clear from the research whether adult attachment styles are formed prior to engaging in IPV perpetration, or whether the very nature of the relationships they form in adulthood impact the individuals' attachment.

3.3 Motivations

Motivations are the reasons that individuals provide for their perpetration of IPV. Insight into individuals' motivations allows practitioners to consider the internal thoughts and feelings of perpetrators when designing interventions, alongside risk factors. It is impossible to compare female IPV perpetrators to a female control group in relation to some of the

concepts below (for example, the motivation of self-defence), however, comparisons to male perpetrators are reported where they exist and to other female control groups where this is possible.

3.3.1 Management of negative emotions/interactions

This is related to times when individuals state that their reasons for perpetrating IPV is because of difficulties controlling their negative emotions or dealing with difficult interactions with others. It includes problems with managing anger, jealousy or other negative emotions and/or problems with communicating in relationships. Although poor management of negative emotions could be classified as a measurable psychological state or trait, and therefore its association with IPV perpetration could be investigated, in the studies identified in this review, management of negative emotions was only ever explored as a motivation for IPV perpetration. Therefore, it sits in this section of the results, rather than as a potential risk indicator.

Five (16%) studies were identified in which management of negative emotions/interactions were explored in relation to IPV perpetration, three of which were low quality. One study was qualitative in design (Hamberger, Lohr, Bonge & Tolin 1997*). Robertson and Murachver's (2007**) study was the only study which utilised female control groups. They found that in comparison to female students and female community participants, an incarcerated female sample reported more communication problems and fewer anger management skills as their motivation for perpetrating IPV. They also found that communication problems and lacking an alternative to violence were factors associated with physical and psychological IPV perpetration.

Similarities between women and men across this element were common across a number of studies. Robertson and Murachver (2007**) found that communication problems

and lacking an alternative to violence were factors associated with perpetrating physical and psychological IPV in both men and women, and negative attribution was associated with perpetrating physical IPV only in both men and women. In a qualitative study, Hamberger et al. (1997*) found that anger expression/tension release was a common theme for both women and men, and Kernsmith (2005**) also found that expressing anger was a common theme for both women and men. However, she also found that women were more likely to report feeling scared, powerless and weak in the context of violence and were also more likely to report emotional justification for their use of violence. Further differences between men and women were found by Rode et al. (2015***) who noted that men were significantly more likely than women to state they were relieving negative emotions when perpetrating IPV, and Sebire (2013****) found that men were more likely than women to endorse their commission of IPV as a result of infidelity in the relationship, suggesting a link to problems with managing feelings of jealousy.

Summary of management of negative emotions/interactions

Whilst this area has been explored in studies as a motivation for IPV, rather than a potential risk indicator, the evidence above suggests that management of negative emotions/interactions is a common theme for female IPV perpetrators. However, lacking from the research is an understanding of *why* this is a common motivation; it is not clear whether there are underlying risk indicators at work, such as poor impulse control or anger problems, and therefore makes it difficult to surmise what women might need in terms of interventions if this was to be a factor targeted in treatment.

3.3.2 Self-defence

Seven (23%) studies explored the motivation of self-defence in relation to perpetration of IPV, of which three were low quality. It would be impossible to compare self-

defence in female IPV perpetrators with a control group of women who have not committed IPV, therefore it is unsurprising that there are no studies of this kind to report on here.

Some indication as to whether self-defence is a motivation specific to female IPV perpetrators comes from those studies comparing women with men. Three higher quality studies found a significant difference between men's and women's endorsement of self-defence as a motivation. Sebire (2013****) carried out a review of police files and found that self-defence was significantly more likely to be a motivation for female than male perpetrators of IPH. Henning, Jones and Holdford (2005***) and Ross (2011***), both studies relying on self-report through questionnaires and interviews, also found that women reported self-defence more often than men. It is worth noting however, that men reporting self-defence in Henning et al.'s (2005) study was still as high as 50%. One high quality study conducted in Polish prisons, found no difference in the frequency that males and females reported using violence in self-defence (Rode et al. 2015***) and the same was also found by Kernsmith (2005**). Hamberger et al. (1997*) in qualitative interviews coded two themes of 'self-defence' and 'escape from aggression' as motives for IPV in women but this was not found in the male responses, although this was a study assessed as low quality. The motive of self-defence increased the likelihood for IPH among females but decreased the likelihood in males, again in a study of lower quality (Weizmann-Henelius et al. 2012**).

Summary of self-defence

It cannot be disputed that for some women in criminal justice settings, self-defence is a motivation for their use of IPV and there is some evidence that this is more commonly a reason given by women than men. This indicates that the context of violence that perpetrators of IPV experience is important to examine as a situational factor leading to IPV perpetration.

3.3.3 Control/instrumental gain

The use of IPV as a means of achieving control or for some instrumental gain was explored as a motivation for IPV in five studies (16%), three of which were low quality. It is only possible to assess the uniqueness of control as a motivation for female perpetrated IPV in comparison to men and the picture is mixed. In a low quality study, Hamberger et al. (1997*) found that both women and men reported themes of ‘coercive power’ and ‘get their attention’ as motivations for using violence, however themes of ‘control partner’s verbal behaviour’ and ‘effort to communicate’ were reported only for women. However, Robertson and Murachver (2007**) found dominance as a factor for both men and women. Likewise, Kernsmith (2005**) found no significant difference between women and men who reported carrying out IPV to stop their partner from doing something. In high quality studies, Rode et al. (2015***) found no significant difference in using IPV in order to humiliate the victim and found that men were significantly more likely to use IPV for subordination of their partner. However, Ross (2011***) found that women reported higher rates of controlling behaviour than men.

Summary of control/instrumental gain

The evidence suggests that for some women, gaining control over their partners using IPV, is indeed a motivation for its perpetration. Whilst it might be expected that this explanation for IPV would be more prevalent in men, the evidence suggests that women and men are both as likely to describe their motivation for perpetrating IPV as one linked to control. At a minimum, this might indicate that individuals are using maladaptive coping strategies when they want something to change within their intimate relationships, or that they make unrealistic demands on their partner or relationship. However, this could be indicative of much more serious coercive and controlling behaviour, and again demonstrates that this

motivation is important to explore with individuals to determine the extent of the damaging behaviour.

3.3.4 Retaliation

Retaliation was investigated in three studies (10%), with two of these studies being low quality. All studies explored the motivation of retaliation among men as well as women, again with mixed results. In low quality studies, Hamberger et al. (1997*) found that a common theme for both women and men was to use IPV in ‘response to verbal abuse’ however only women reported themes of ‘retaliation for previous abuse’ and ‘retaliation for previous verbal abuse’. Kernsmith (2005**) found that women were more likely than men to report using violence in response to previous abuse, to get back at their partner or to punish them. This could be an indication of other underlying variables; for example, it could be that women are more likely to ruminate in comparison to men, resulting in perpetrating IPV as a response to not dealing well with rumination and associated negative emotions. However, in a high-quality study, Rode et al. (2015***) found that men were more likely to report revenge or jealousy as a motivation for IPV than women. All these studies are based on self-report and therefore reflect the perpetrator’s internal motivation for their offending behaviour at the time of taking part in the research. It may be that the motivation they describe reflects their true motivation at the time of the offence, or it may be that individuals have built a narrative of the reasons for the behaviour over the course of time passed since the incident occurred.

Summary of retaliation

The evidence suggests that retaliation is clearly a motivation for a proportion of both male and female perpetrators of IPV. However, the concept of retaliation is described differently in each of the studies above; without an understanding of the thought processes

that occurred at the time of individuals' offending behaviour, it is difficult to know exactly what the factor of retaliation includes and why it is important for developing interventions.

Summary of motivations for female perpetrated IPV

Studies found in this review have revealed that common motivations for female perpetrated IPV include problems with management of negative emotions or interactions, self-defence, control or instrumental gain and retaliation. What is not clear from the studies is how some of these motivations manifest themselves to result in IPV perpetration. For example, poor management of negative emotions/interactions may be linked to underlying risk indicators such as problems with anger management or social skills deficits. The fact that motivations other than self-defence have been identified, including control and retaliation, and the fact that men have also been found to cite self-defence as a motivation for IPV, challenges the view that women's violence must always be considered in the context of men's abusive behaviour towards them.

3.4 Typology Studies

Two studies examined the risk factors of female IPV perpetrators and used the findings to create typologies. Babcock, Miller and Siard (2003**) categorised their sample of 60 women, who were attending a domestic violence intervention programme, into Generally Violent (GV) or Partner-Only Violent (PO) subtypes. They explored both risk factors and motivations for IPV, finding risk factors related to childhood adversity, mental health, negative emotionality, criminality/anti-sociality, and motivations of self-defence, control and retaliation. Fatania (2010***) explored risk factors of criminality/anti-sociality, childhood adversity, substance use, negative emotionality, mental health and the element of control with regard to how instrumental aggression is used for self-gain. She discovered three categories amongst a sample of 274 women in prison or on probation for an IPV related offence; Low-

Moderate Criminality and Low-Moderate Psychopathology (LMC-LMP), High-Moderate Criminality and High-Moderate Psychopathology (HMC-HMP) and High-Moderate Psychopathology and Low-Moderate Criminality (HMP-LMC). Smallest Space Analysis was used to discover these clusters of categories by carrying out reviews of individuals' assessments carried out in prisons.

In contrast to PO women, GV women more frequently witnessed their mothers' aggression towards their father (Babcock et al. 2003). Abuse in childhood was reported at high rates, although between the typologies, there were no significant differences in rates of childhood sexual abuse, (GV – 70%; PO – 58.8%) or childhood physical abuse (GV – 47.4%; PO – 35.5%). GV women were significantly more likely than PO women to report a desire to hurt others but there was no difference in the number of domestic violence or non-domestic violence related prior arrests. GV women were more likely to report trauma symptoms, a desire to hurt themselves and memory problems.

Fatania (2010) found that HMC-HMP women were significantly more likely than LMC-LMP and HMP-LMC women to report childhood behaviour problems and to have breached previous supervision, experienced extra-familial violence, pro-criminal attitudes, reckless behaviour, a history of custodial sentences and a younger age of first conviction and contact with the Police. This group of women were also more likely to demonstrate a history of drug use, whereas HMP-LMC women were more likely to demonstrate a history of alcohol use and to have used alcohol or drugs during their offence. HMC-HMP women were more likely to display impulsivity and inadequate interpersonal skills. HMP-LMC women were more likely to demonstrate depression, previous attempts at suicide and/or self-harm, experience psychiatric related problems or have been receiving psychiatric treatment at the time of their offence.

In terms of motivations for IPV, Babcock et al. (2003) found that GV women were more likely to state that they were violent because they lost control, were frustrated or were jealous. They were also likely to experience interpersonal problems. The second most cited motive for IPV among both GV and PO women was anger/frustration (20% of sample). Among both GV and PO women, self-defence was the most cited motive for IPV (28.3% of sample) and PO women were no more likely than GV women to endorse that their use of violence was in self-defence. GV women were more likely than PO women to state that their violence was because their partner was 'asking for it' or to 'push his buttons' and reported that they were also more likely to be violent as a means of control. Similarly, HMC-HMP women found in Fatania's (2010) study were more likely than other subtypes to demonstrate instrumental aggression for self-gain.

Summary of typology research

Both typology studies demonstrate the heterogeneity of female IPV perpetrators and the need for exploring the ways in which risk factors interact together to understand the developmental pathways to IPV. The different typologies explored in both studies have little overlap. The GV women in Babcock et al.'s study show some similarities to the HMP-LMC women in Fatania's study; GV women were more likely to report a desire to hurt themselves and trauma symptoms and HMP-LMC women were more likely to report attempts at suicide and self-harm, and psychiatric related problems. The lack of other similarities between these two studies may be explained by the fact that the subtypes in Babcock et al.'s work were defined a priori, whereas statistical techniques were used in Fatania's study to determine the subgroups based on particular factors. Further exploration of the factors associated with female IPV perpetrators is needed to confirm or expand these typologies.

4. Discussion

This was an exploratory systematic review aiming to characterise the research that had examined risk indicators for IPV perpetrated by women in criminal justice populations. A secondary exploratory aim of the review was to synthesise motivations for female-perpetrated IPV in criminal justice populations, as it was anticipated that some researchers would use both ‘risk factors’ and ‘motivations’ when examining this issue. To the authors’ knowledge, this is the first review to capture both the potential risk indicators and motivations of females who perpetrate IPV and who are situated within criminal justice systems. This review has also uniquely explored risk indicators against a set of defined criteria of ‘risk factors’ and related terms (Kraemer et al. 1997). This has enabled a critical exploration of the precedence of the factors or characteristics of female IPV perpetrators in order to think about what is known about the potential treatment needs of this group of women.

In total, 31 studies have been found in this review. No studies were excluded for methodological reasons because the review was intentionally exploratory. The focus of the review was on female perpetrators, regardless of their sexuality and some studies also included male perpetrators as participants. Whilst a comparison to male perpetrators was not the main focus of this review, this was not ignored, and overall has seemed to demonstrate that women and men share similar risk profiles (in the criminal justice context at least), as other reviews have shown (for example, Laskey 2015; Spencer, Cafferky and Stith 2016).

Compared to male perpetrators, little is known about this particular clinical population. Given that these women are increasingly likely to be located in criminal justice settings because of IPV perpetration, understanding their risk and need factors is vital for practitioners. The review has also revealed a lack of research in the UK; most studies, 25 of 31, were carried out in the US, with only three from the UK. Each of the three UK studies

adopted different methodologies: one reviewed case files of IPH cases seeking to understand motivations and associated variables (Sebire 2013); one examined an assessment system in a sample of female prisoners convicted of an IPV-related offence to seek clusters of associated risk factors (Fatania 2010); and the final study administered the CTS to a group of female prisoners to look for associations between attachment styles and personality disorder traits and perpetration of IPV (McKeown 2014). Only McKeown's (2014) is a published, peer reviewed study. This highlights a distinct lack of research of female perpetrators of IPV who are currently in the criminal justice system in the UK, and particularly highlights a lack of published work in this area. One further point of note is that no studies examined protective factors for female perpetrators of IPV, despite this being part of the inclusion criteria for this systematic review. Again, this demonstrates the paucity of research in this area and makes it difficult to draw conclusions about the ways in which factors interact together and how practitioners can best support women who are violent in intimate relationships.

4.1 Risk indicators

This review used Kraemer et al.'s (1997) definition of risk factor and its related terms as a framework for discussing the findings. Therefore, this allowed the following conclusions to be made of the risk indicators found in this review. None of the factors emerging from this review were found to be a causal risk factor of female perpetrated IPV. At best, there was some evidence that factors are correlated with IPV perpetration. These factors are: experiencing child abuse, substance use (particularly alcohol use), borderline personality traits, attachment issues and experiencing trauma. There was no evidence found that witnessing domestic violence, childhood behavioural problems, criminality/anti-sociality or having a history of mental health issues are correlated with female IPV perpetration, although these factors were all found to be present to some degree or other in female IPV perpetrators. Caution should be taken in interpreting these conclusions however. Where no associations

were found between the risk markers and IPV perpetration, this is not because there was evidence of no link, but that the design of the studies meant a link was not uncovered. For example, the small sample sizes in some studies may have failed to detect a possible effect. Studies that investigated the association between witnessing domestic violence and IPV perpetration largely did not include a control group in their design or did not account for confounding variables. Therefore, more evidence is needed to determine if IPV perpetration is linked to witnessing domestic violence. Where studies investigated criminality/anti-social behaviour and mental health, researchers did not investigate the temporality of the markers and therefore would be unable to conclude that these markers somehow predict or cause IPV perpetration. The risk markers that appear to be correlated with IPV perpetration in women, are from studies that sought an association. Despite there being a lack of control groups utilised in the studies, authors used statistical tests to explore associations (for example, within the factors of child abuse, alcohol use and adult attachment). Other risk markers were found to be associated with IPV perpetration depending on the control group used (for example, within the factors of trauma and adult attachment). However, it is important to note that temporality of the factors was still not explored in the design of the studies, therefore leaving doubt about whether the factors are indeed causally related to IPV perpetration in women or whether they are a consequence (for example, in the factors of substance use, trauma and adult attachment).

Authors noted an absence of the investigation of some risk indicators that are commonly researched in male IPV perpetrator samples. These risk indicators are those which affect relationships such as work-related stress or financial related issues (see Capaldi et al. 2012). In particular, papers noted the difference between male and female IPV perpetrators with regards to their income or rates of employment (Tolleson and Gross, 2009; Sebire 2013), however, this does not reflect the specific financial issues that might be at play between

couples where violence and abuse are present. For example, the victim of IPV being financially reliable on their partner and therefore not have the means to leave an abusive relationship. Future research should go further than reporting on unemployment rates or income levels, and consider what the impact of this is on the presence of violence within a relationship.

4.2 Motivations

Four types of motivation were apparent in this review; negative emotionality, self-defence, control/instrumental gain and retaliation. These concepts are distinguished from potential risk indicators because they seek to explain the function behind the perpetration of a specific behaviour and could not be used to divide populations into high or low risk categories, as a risk factor may be able to do (Kraemer et al. 1997).

Management of negative emotions/interactions appears to be a common theme for female IPV perpetrators, but it is not clear from the studies why this is the case. It may be that poor management of emotions is a potential risk indicator, but this review found that it was only ever reported as a reason for IPV perpetration, therefore fitting into the motivation themes. There is some discrepancy regarding the definition of control and retaliation across studies. There is likely disagreement in the definition of issues such as control and retaliation, highlighting an area in this field needing further consideration. These difficulties in definitions add to the complexity of the findings of this review. Langhinrichsen-Rohling et al. (2012) define expression of negative emotion and communication difficulties as two separate motivations for IPV perpetration, although they state that it is possible to argue that anger is not a motive for violence but an emotional state.

4.3 Factors Unique to Female Perpetrators

Consideration should also be given to the conclusions that can be drawn about the uniqueness of risk markers to this group of women. In comparison to men, as noted in other systematic reviews (Spencer et al. 2016) there seem to be more similarities than differences. Women were similar to men in the prevalence of those witnessing IPV, using violence outside of the family home, substance use (reported problems or at time of arrest; although some indication that alcohol may be more prevalent for women), recorded mental health issues, anger expression or as a way of communicating, use of control as a motivation for IPV and use of retaliation as a motivation for IPV. The areas which were found to be more prevalent for women include child sexual abuse and certain personality traits (compulsive, histrionic, narcissistic, and borderline). Borderline personality traits have been identified as being more prevalent in women in the general population (Tomko, Trull, Wood and Sher 2014) therefore without non-violent female control groups in studies, it is hard to identify this as a risk factor for IPV perpetration in women. Studies showed that men tended to be involved in more non-violent offending than women. This could suggest that for men, IPV perpetration is part of a wider picture of offending behaviour, whereas for women, it may be an isolated set of behaviours that would be 'out of the ordinary'. However, it may also reflect why IPV perpetrators are mostly found to be men; if they exhibit a pattern of offending behaviour that has attracted the attention of the criminal justice services, they may be more likely to be found to be an IPV perpetrator. Whereas for women, if IPV perpetration is a series of isolated behaviours, they are far less likely to come to the attention of the authorities and therefore be accused, charged or convicted of such an offence. Studies in this review did not establish the temporality of criminal behaviour, making it difficult to say if this is a causal risk factor for IPV perpetration. A further difference is that women were more likely to claim self-defence as a motivation for perpetrating IPV, however there is still evidence in this review that this is high for men.

There were a small number of differences found when female perpetrators were compared to female control groups. For example, there is some evidence that female perpetrators may have more attachment difficulties. However, a similar pattern has also been found with male IPV perpetrators; Babcock, Jacobson, Gottman and Yerington (2000) found that maritally violent men were more likely to show insecure attachment on the Adult Attachment Interview, than non-violent husbands. This again suggests the similarity indicates a factor that is distinctive for IPV perpetrators of both sexes.

Overall, there was some indication that child sexual abuse, attachment issues and personality disorder may be risk factors unique to female IPV perpetrators. However, the results of this systematic review demonstrate the heterogeneity of research design, samples used and construct definition, and these areas would certainly warrant further investigation in future research.

4.4 Typologies

What appears to be lacking in research found in this review is a clear examination of how risk factors work together or interact with each other to lead to the perpetration of IPV. In some areas of risk, studies found such contradictory evidence at times that the results appear to not make sense at all, and this did not seem to relate to the assessment of methodological quality. This was seen where significant differences were found between men and women for one factor where it was not found in another study. These discrepancies in findings may reflect interrelationships and unspecified moderating and mediating relationships between factors. Research is lacking that examines how risk factors may influence each other. Indeed, as Kraemer, Stice, Kazdin, Offord and Kupfer (2001) point out, understanding the aetiology of complex disorders or patterns of behaviour, requires an understanding of the effects of risk factors in the context of all other risk factors. They state,

“Accumulating risk factors and either counting or scoring them does little to increase the understanding of etiologic processes or of how interventions might be optimally timed, constructed or delivered to prevent or treat psychiatric conditions” (Kraemer et al. 2001 p.848). This is one of the major problems with the studies evaluated for this review; many described the prevalence of IPV perpetrators reporting certain experiences, without examining the association with the complex behaviour of IPV perpetration. This therefore does little to enhance our understanding of the risk factors for IPV perpetration nor the treatment needs of the individuals. Holtzworth-Munroe and Stuart (1994) point out that treating perpetrators as a homogenous group can cause difficulties; it leads to researchers averaging out scores on measures and making comparisons between violent and non-violent groups, which may lead to erroneous conclusions about effects. If there are typologies of perpetrator and clusters of risk factors at work, then drawing conclusions based on the whole group of ‘perpetrators’ may not highlight the true picture of the presence or absence of risk factors.

The two typology studies found in this review also lend more evidence that there are constellations of risk factors at work. This suggests that there does seem to be different types of women who perpetrate IPV. Babcock et al. (2003) found distinctions between women who are only violent towards their partner and those who are also violent to others. Fatania (2010) found that women who perpetrate IPV can belong to a high-moderate psychopathology cluster, within which there are two further sub-groups – those with low-moderate criminality and those with high-moderate criminality. Stewart, Gabora, Allegri and Slavin-Stewart (2014) have commented that there may have been a typology of female perpetrators in their review of Canadian correctional files, although this was hampered by small sample sizes meaning only trends could be observed. They noted that there seemed to be typologies of generally violent and partner-only violent women (using Babcock et al.’s identified

typologies) and that there was evidence of a smaller group of women within the study who were “highly assaultive” (Stewart et al. 2014 p182).

Some prior qualitative studies have attempted to bring together interactions of risk factors. Miller and Meloy (2006) used grounded theory and categorised the women in their sample into three categories, based on how they used violence in their relationships.

However, this distinction is largely based on the women’s motivations for using violence and transcripts were taken from group conversations with women whilst they were taking part in intervention. Using transcripts from group work may not reflect an individual’s narrative regarding their own behaviour; they may well be influenced by the other group members and/or the group facilitators, who have a role in assessing the individual’s progress within the intervention. Further, as seen from the results of this review, this methodology is quite different to examining women’s risk and need factors. Mappin, Dawson, Gresswell and Beckley (2013) carried out an intricate formulation with three women, finding a range of developmental and psychological factors related to these women’s trajectory of IPV perpetration. This in-depth exploration of needs and developmental history of a small sample of female perpetrators of IPV combined extensive interviews with the women, with involved professionals and reviews of case files. Given the difficulties establishing temporality of risk factors when using retrospective cross-sectional design studies, this type of qualitative study offers the chance to explore time frames and development of patterns of IPV perpetration not afforded by other studies.

4.5 Limitations

Only one longitudinal study was found in this review (Millett et al. 2013) and within this study, only 31 women from a pool of 5377 fit the study authors’ criteria for having committed IPV (either having been arrested or receiving a restraining order). Most studies

were cross-sectional in design, therefore relying on self-report and adequate recall of participants, and very few studies measured social desirability. Henry, Moffitt, Caspi, Langley and Silva (1994) highlight the difficulties of relying on self-report of psychosocial variables, finding low levels of agreement between prospective and retrospective measures of such variables. The focus on a criminal justice sample in this review comes with limitations; women who are known to criminal justice agencies will most likely have had to commit an offence serious and high profile enough that it warrants police intervention. This means that other types of 'hidden' IPV related behaviours, such as emotional and psychological abuse, may not be captured by most studies in this review.

An added complication in this review is the heterogeneity of study methodologies, outcome measures and definitions of key concepts. This makes it harder again to draw firm conclusions. Further to this, the cross-sectional design of the majority of studies means that where risk factors are measured, it is hard to conclude much more than correlation between the factors and the perpetration of IPV. The complication regarding the temporality of the risk factor relates back to Kraemer and colleagues' (1997) paper in which they discuss the crucial identification of factors before the occurrence of the outcome, in this case before the occurrence of perpetration of IPV. It may be that these factors are part of the picture of the female perpetrators criminogenic need, as suggested by the Risk Need Responsivity model (Andrews and Bonta 2010). Some of the factors found in this systematic review will have naturally occurred before any perpetration of IPV, for example child abuse or witnessing domestic violence as a child. However, these come with the caveat of accuracy of recall, as studies were largely based on retrospective self-report. Whilst many other factors explored in this review could have been present before the women begin perpetrating IPV, there is a chance that these characterisations may be "a symptom or a scar" (Kraemer et al. 1997 p. 340) of IPV perpetration; for example, mental health or substance misuse issues may appear

as a result of relationship breakdowns following violence and abuse perpetrated within that relationship. Despite this, there is evidence that these factors are present in varying rates across women who perpetrate IPV. Although it is almost impossible to unpick cause or effect, there is likely some connection between these factors and IPV.

A final, related limitation of this review is that the studies mostly used a definition of IPV based on having been arrested or convicted for one specific episode. Therefore, unless measures were used that captured both current and past IPV perpetration, the samples were based on current behaviours only. This means that studies did not capture the development of IPV or reflect the pattern of behaviours and associated risks.

4.6 Implications for future research and clinical practice

The heterogeneity of the studies found in this review reflects the lack of guiding theory in the field of IPV perpetration in women. Many studies have explored factors and variables that are assumed to be associated with IPV based on literature around male IPV perpetration or those factors associated with broader single factor theories (e.g. attachment theory, social learning theory). Future research now needs to focus on building theory, rather than empirical research that is designed to test theories that seem to be weakly associated with female IPV perpetration. In addition to this, future research should also now focus on exploring the interaction of risk factors and how this manifests itself as IPV perpetration. This should include exploring the presence of protective factors, which was distinctly lacking from the studies found in this review. Despite the need for theory building activity in the field, the Contextual Framework model (Bell and Naugle 2008) has the potential to explain IPV perpetration among women. The strength of this theory lies in explaining *how* variables and factors interact together to produce IPV perpetration. The model certainly warrants further investigation, alongside any future theory development.

There should also be further exploration of the comparisons between men and women, particularly to establish if a similar interaction of factors and pathway to IPV perpetration exists. This work should include a focus on establishing the uniqueness of risk factors to female IPV perpetrators by comparing this population not only with male IPV perpetrators, but also with non-violent females. Any future studies should seek to establish the precedence (or not) of risk factors to be able to make stronger conclusions about the causal nature of such factors. This will add to the development of theory in the field of IPV perpetration, particularly as the controversy around female IPV perpetration still exists. Whilst the cross-sectional research such as that identified in this review has been essential in beginning to identify the risk factors associated with IPV perpetration, there has been little richer exploration of the life histories of the female perpetrators. Future research could work on a case formulation type approach to develop full understanding of perpetrators histories, relying not only on self-report data but also on official case files.

The demonstrated heterogeneity of outcomes of the studies also has implications for clinical practice. The pathway to offending of each woman who encounters the criminal justice system having perpetrated IPV is not yet clearly understood or guided by theory. There is some indication from this review that common factors for such women could be the experience of child abuse, substance use problems (particularly alcohol use), borderline personality traits, attachment difficulties and possibility trauma experience. Clinicians who work with female IPV perpetrators should consider the possibility of each of these factors being present and how these lead to understanding of an individual's risk of violence as a preventative strategy. However, just because no other evidence was found of the presence of other factors, this does not mean that other factors are not equally as prevalent or important for these women; the design of many studies and their analysis meant that associations with other factors were not explored fully but these associations may well exist. The implication is

that full explorations with individuals who encounter the criminal justice system, for example through case formulation, should guide interventions offered. This would aim to target individual risk and need factors, and will then reduce the likelihood of the perpetrating IPV in the future.

5. Conclusions

This systematic review has highlighted gaps in knowledge in the field of female IPV perpetration, in areas such as theory, protective factors, the causal nature of risk factors, how risk factors interact together to develop into IPV perpetration and whether male and female IPV perpetrators have similar pathways to IPV offending. These existing gaps in knowledge must be further explored in order to provide effective intervention for females who perpetrate IPV. Without this knowledge, it is not known if current provision for those females entering the criminal justice system is reducing the likelihood that they will perpetrate violence towards intimate partners in the future, thus endangering their partners and themselves.

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Table 1: *Typology of factors and their association with the outcome of interest (Kraemer et al., 1997)*

<u>Name of factor</u>	<u>Description</u>
Concomitant or consequence	Factor is correlated to the outcome Precedence of factor to the outcome not yet established
Correlation	Factor is correlated to the outcome Precedence of factor to outcome not yet determined
Variable risk factor	A risk factor that can change or be changed with the administration of an intervention
Fixed marker	A risk factor that cannot change
Variable marker	A variable risk factor that when changes or is changed does not impact on the risk of the outcome
Causal risk factor	A variable risk factor that when changes or is changed has an impact on the risk of the outcome

Table 2: Study characteristics of 31 articles identified in literature search

Study, Country & Quality Rating	Sample size & Recruitment	Control Group	Measures of risk factor/motivation, definition of IPV	Findings
Abel (2001) US *	67 attending BIP	51 female IPV victims	Questionnaires: - Life Experiences Survey - Trauma Symptom Checklist-33 - Questions about previous social service utilisation IPV: Defined by offence they have been arrested for	Perpetrators less likely than victims to be exposed to threats, see others be threatened, be forced to have sex, to have accessed domestic violence victim services in past, to show trauma symptomology
Babcock, Miller & Siard (2003) US **	60 IPV intervention	No control group	Questionnaires completed as part of intake for programme: -Open questions about reason for violence -Author-created Reasons for Using Violence Scale -The Proximal Antecedents of Violent Episodes -General violence questionnaire -Trauma Symptom Checklist -Background variables IPV: Physical and Psychological IPV: CTS Each question followed by, 'how many times was this act committed in self-defence?'	Generally Violent (GV) women more likely than Partner Only (PO) women to agree that their violence was because "he was asking for it"; they "lost control"; they were "frustrated"; or in order "to push his buttons" GV women more likely than PO women to be violent as a means to control and in reaction to verbal abuse or out of jealousy; to report more traumatic symptoms; to report experiencing a desire to hurt themselves, a desire to hurt others, memory problems, and interpersonal problems; to report more frequently witnessing their mothers' aggression toward their fathers
Busch & Rosenberg (2004)	45 Arrested for IPV and	45 male perpetrators	Case file review: -Demographics -Frequency of DV offences	Men more likely than women to have a prior history of IPV; to have committed at least one prior nonviolent crime; to be younger at age of first crime (25.02 vs

US ****	attending year-long intervention		-Criminality -Substance abuse IPV: Defined by offence they have been arrested for	30.33)
Carney & Buttell (2005) US **	75 IPV intervention	25 female community sample	Intake interviews/assessments: -Interpersonal Dependency Inventory (IDI) IPV: All 5 subscales of CTS	Perpetrators more likely to be overly dependent on their partners than non-violent control group (pre-treatment); Excessive dependency associated with psychological aggression ($r=.466$), physical assault (minor: $r=.572$; severe: $r=.441$), sexual coercion (minor: $r=.350$; severe: $r=.498$) and severe injury ($r=.441$)
Fatania (2010) UK ***	274 In prison or on probation for an IPV offence	No control group	Review of OASys file: -Criminality -Psychopathology IPV: Physical violence as noted on OASys (Offender Assessment System)	HMC-HMP more likely than HMP-LMC to demonstrate: breach; extra-familial violence; childhood behavioural problems; instrumental aggression for self- gain; pro-criminal attitudes; reckless behaviour; high levels of impulsivity; history of drug use; inadequate interpersonal skills; history of custodial sentences; young age for first conviction and contact with police HMP-LMC more likely than HMC-HMP to demonstrate: use of weapon during IPV; alcohol and/or drug use during offence; psychiatric treatment at the time of IPV; history of alcohol abuse; depression; attempts at suicide and/or self-harm; experienced psychiatric related problems
Feder & Henning (2005) US **** <i>Sample overlaps with Henning, Jones and Holdford (2005) & Henning and</i>	317 Arrested for IPV	317 male perpetrators	Victim and Offender interviews; Case file review: -Characteristics of offence -Prior IPV -Characteristics of offence history -Characteristics of anti-social lifestyle IPV: Defined by offence they have been arrested for	Case file review: Males more likely to have had a prior arrest for a nondomestic violent offence, a prior arrest for a domestic violence offence, a prior arrest for a nonviolent offence, a prior violation of probation or parole, and a prior history of substance abuse Victim/offender interviews: Males more likely to have had a prior arrest for a nonviolent offence, have friends who get in trouble with the law, and have problems with alcohol/drugs in the last year

<i>Feder (2004)</i>				
Friend, Langhinrichsen- Rohling & Eichold (2011) US *	84 Charged with felony IPV offence	112 male perpetrators	Case review of archival records: -Presence of alcohol or other substance IPV: Defined by offence they have been arrested for	Males more likely to have use of drugs/alcohol at time of offence documented (79.2% vs 53.1%; $d=0.58$) Females more likely to have non-use of drugs/alcohol at time of offence documented
Goldenson, Geffner, Foster & Clipson (2007) US **	33 Court mandated IPV intervention	32 females receiving clinical treatment for depression	Questionnaires: -Demographics including experience of abuse in childhood -Experiences in Close Relationships Questionnaire-Revised -Trauma Symptom Inventory -Millon Clinical Multiaxial Inventory-III IPV: Defined by offence they have been arrested for	Offenders more likely than control group to have higher scores on attachment-related anxiety ($r=-.34$); to have higher scores on attachment-related avoidance ($r=-.39$); to have higher scores of total trauma ($r=-.41$); to have higher scores on Borderline ($r=-.39$), Antisocial ($r=-.46$) and Dependent subscales ($r=-.26$; MANOVA and ANOVA analysis); to meet clinical cut-off scores on Borderline, Antisocial and Narcissistic subscales (Post- hoc exploratory tests)
Hamberger, Lohr, Bonge & Tolin (1997) US *	66 Court referred to IPV intervention	215 male perpetrators	Intake interviews: -Motivation explored with question: "What is the function, purpose, or payoff of your violence?" IPV: Defined by offence they have been arrested for	Motivations identified: Anger expression/tension release (common with males); Retaliation for previous violence; Control verbal behaviour; Retaliation for previous verbal abuse; Response to verbal abuse; Coercive power (common with males); Effort to communicate; Get his attention (common with males); Escape from aggression; Self- defence
Henning, Jones & Holdford (2005) US *** <i>Sample overlaps with Henning</i>	159 Court ordered to assessment at IPV Assessment Centre	1,267 male perpetrators	Intake assessment: -Demographics -DVAC created scale for attribution of blame -Questions about denial of offence -DVAC centre created scale for minimisation of offence	Women more likely than men to report IPV as primarily self-defence (65.4% vs 50.0%)

<i>and Feder (2004) & Feder and Henning (2005)</i>	(DVAC)			-Author created scale to capture self-defence IPV: Defined by offence they have been arrested for	
Henning & Feder (2004) US *	1,126 Arrested for IPV	5,578 male perpetrators	Interviews with victims (where possible) and review of official files: -Demographics -Characteristics of current offence -Prior IPV – includes Psychological Maltreatment of Women Inventory, selection of questions from CTS and other questions -Characteristics of criminal history IPV: Defined by offence arrested for	Case file review: Males more likely to have prior arrest for non-DV violent offence, to have prior arrest for DV offence, to have prior arrest for non-violent offence, to have prior violation of parole and to have history of substance abuse or substance abuse related offences Victim interviews: Males more likely to violate supervision, to use alcohol/drugs prior to the offence, to have made threats to kill, to have prior arrest for non-DV violent offence, to have prior arrest for non-violent offence, to have friends that get in trouble with the law and to have problems with alcohol/drugs in the last year	
<i>Sample overlaps with Feder and Henning (2005) & Henning, Jones and Holdford (2005)</i>					
Henning, Jones & Holdford (2003) US ****	281 On probation for IPV offence	2,254 male perpetrators	Intake assessment: -Demographics -Childhood experiences -Questions about mental health and DVAC created scale of conduct disorder -Locke-Wallace Marital Adjustment Test -Substance Abuse Subtle Screening Inventory-III -Millon Clinical Multiaxial Inventory-III -Shipley Institute for Living Scale IPV: Defined by offence they have been arrested for	Females more likely to have witnessed severe interparental violence, to have ever been prescribed psychotropic medication, to have made prior suicide attempts Males more likely to have parent/caregiver use corporal punishment, to have prior treatment for substance abuse/dependence, to have childhood conduct problems, to be high risk of substance dependence according to scores on SASSI-III Women more likely than men to be assessed with delusional disorder, major depression, bipolar, somatoform, thought disorder, and the personality patterns compulsive, histrionic, borderline. Women more likely than men to have one or more elevated subscales on MCMI-III	
Hughes, Stuart,	80	No control	Questionnaires:	Partner's physical aggression and borderline personality	

Gordon & Moore (2007) US ** <i>Sample overlaps with Stuart et al. (2006b)</i>	Arrested for IPV offence and court referred to violence intervention	group	-Demographics -PTSD subscale of the Psychiatric Diagnostic Screening Questionnaire -Borderline Personality Disorder subscale of the Personality Diagnostic Questionnaire-4 -Child abuse version of CTS -Family of Origin Violence Questionnaire IPV: Physical aggression as defined by CTS2	features predict women's physical aggression perpetration, mediating the link between parent-to-child aggression in family of origin: -parent-to-child violence in family of origin positively correlated with physical aggression ($r=.25$; but becomes non-significant when borderline features added into regression analysis) <i>Multiple regression:</i> -partner's aggression was strongest predictor of physical aggression ($\beta=.62$) -PTSD symptoms negatively associated with physical aggression ($\beta=-.20$) -borderline personality features positively associated with physical aggression ($\beta=.22$)
Kernsmith (2005) US ** <i>Sample overlaps with Kernsmith (2006)</i>	54 Attending BIP	60 male perpetrators	Questionnaires: - Prior experience of emotional, sexual and physical abuse or witnessing domestic violence in childhood -Physical violence to others outside of partner -Perceived Behavioral Control Scale (modified) -Likert scale to measure emotional context of violence -Reasons for Violence Scale IPV: Defined by offence they have been arrested for	Factor analysis: women more likely than men to report using violence in response to previous abuse, to get back at partner or to punish a partner; women more likely to report using violence in response to previous abuse than to exert power and control Women more likely than men to report sexual abuse in childhood and adulthood, more likely to report feeling scared, powerless and weak in context of violence, more likely to report emotional justification for violence
Kernsmith (2006) US ***	54 Attending BIP	60 male perpetrators	Questionnaires: -Demographics -Prior experience of emotional, sexual and physical abuse (child-	Women more likely than men to report sexual abuse in childhood and adulthood, more likely to report physical abuse in previous relationships. When gender controlled for, sexual abuse predicts use of

*Sample overlaps
with Kernsmith
(2005)*

			and adulthood) -Psychological Maltreatment of Women Scale (adapted) -CTS for victimisation (emotional, sexual and physical abuse) -Likert scale to measure own and their partner's fear -Likert scale to measure emotional context of violence -Self-defence (one question) Confounding variables measured: -amount counselling, whether participation voluntary or court ordered, social desirability IPV: Defined by offence they have been arrested for	self-defence (explains 6% of variance).
McKeown (2014) UK **	92 In prison	No control group	Questionnaires: -Demographic -Experiences in Close Relationships Revised -Personal and Relationships Profile – Borderline Personality and Anti-Social Personality subscales IPV: Physical abuse and psychological aggression as defined by CTS2	Borderline personality traits positively correlated with perpetrating psychological aggression (.35) and with perpetrating physical aggression (.54) in most recent relationship Anti-social personality traits positively correlated with perpetrating psychological aggression (.39) and with perpetrating physical aggression (.33) in most recent relationship <i>Regression analysis:</i> Borderline personality traits positively associated with perpetrating psychological aggression in most recent relationship ($\beta=.36$); Attachment anxiety negatively related to perpetrating physical assaults in most recent relationship ($\beta=-.36$) Child maltreatment did not directly or indirectly predict adult IPV perpetration in women
Millett, Kohl, Jonson-Reid, Drake & Petra	31 Arrested or received	Longitudinal study. Full cohort	Longitudinal, cohort study; Official and Professional records followed/reviewed.	

(2013) US ***	restraining order for IPV	sample size 5,377	Data sources: -Maltreatment reports from Child Protection Services for child welfare -Aid to Families with Dependent Children [AFDC] and Temporary Assistance to Needy Families [TANF] for income maintenance -Department of Mental Health -Medicaid -Emergency Room records -Special Education eligibility records -Highway Patrol -Juvenile Court -Department of Youth Services -Adult court data Confounding variables: Race, gender, age at end of study, disability, parent education, parent mental health/substance use, mother's age at birth, parental arrest history, number of children, children in poverty in neighbourhood IPV: Defined by having been arrested or received a restraining order	
Robertson & Murachver (2007) NZ **	15 In prison	36 female students 36 female community sample	Questionnaires: -Personal and Relationships Profile -Pacific Attitudes Toward Gender Scale -Revised Attitudes Toward Wife	Four factors associated with physical and psychological IPV perpetration: Communication problems (.334; .390, respectively); Dominance (.416; .404); Hostility to women (.493; .447); Lacking an alternative to violence (.398; .399)

		24 male offenders 31 male students 30 male community sample	Abuse Scale -Implicit Association Test IPV: Physical and psychological aggression as defined by CTS	One factor associated with physical IPV perpetration only: Negative attribution (.359) Most significant predictor of perpetrating psychological aggression was hostility to women Most significant predictor of perpetrating physical aggression was hostility to women Incarcerated sample reported more negative attitudes, communication problems and fewer anger management skills than the community/student sample
Rode, Rode & Januszek (2015) Poland ***	105 In prison	122 male offenders	Questionnaires: -The Revised NEO Personality Inventory -Attachment Styles Questionnaire -The Formal Characteristics of Behaviour - Temperament Inventory -Emotional Intelligence Questionnaire (Polish adaptation) -Authors own questionnaire - demographic data; information concerning past diseases and traumas/injuries, as well as dependencies and their treatment; social conditions IPV: Defined by offence they have been arrested for	Women more likely to have personality trait of Openness for Experience ($r=.251$); more likely to score higher on Emotional Intelligence ($r=.185$); Men more likely to have anxious/ambivalent attachment style ($r=.209$) – But these do not differ from the general population Women more likely to come from single parent family ($\phi=.251$); to state conflict in family of origin occurs ‘often/very often’ ($\phi=.168$); to have experienced psychological violence ($\phi=.148$) and sexual abuse ($\phi=.194$) in family of origin Men more likely to endorse motivations of relieving negative emotions ($\phi=.273$), revenge/jealousy ($\phi=.245$), subordination of victim ($\phi=.190$)
Ross (2011) US ***	30 Court ordered to BIP	56 male perpetrators	Computerised survey and individual interview: -Reasons for Violence Scale -Personality Diagnostic Questionnaire-4th Edition -Controlling Behaviours Scale	Women more likely than men to report motivation of defence and to report higher rates of controlling behaviours Borderline traits related to motives of emotion dysregulation (0.44) and defence (0.43)

Sebire (2013) UK ****	34 IPH perpetrators in London between 1998-2009	173 male perpetrators	<p>IPV: Physical aggression as defined by CTS2</p> <p>Data mined from Police systems:</p> <p>Suspect variables:</p> <ul style="list-style-type: none"> -Presence of alcohol/drugs (where toxicology report available) -previous conviction <p>Relationship variables:</p> <ul style="list-style-type: none"> -relationship category -relationship status -cohabitation -relationship length -comparison to partner on age, ethnic origin, employment and socio-economic status -parental status -domestic abuse history <p>Offence variables:</p> <ul style="list-style-type: none"> -Motivation for offence assessed through all evidence and paperwork. <p>Categories – intoxication, argument, self-defence/provocation, infidelity, separation, finance, mercy killings, mental health, sexual motivations, other</p>	<p>Women more likely to be unemployed/housewife/retired</p> <p>Women more likely than men to be motivated by self-defence (V=0.2), to be motivated by intoxication; Men more likely than women to be motivated by reasons related to infidelity (V=0.21)</p>
Simmons, Lehman & Cobb (2008a) US ** <i>Sample overlaps</i>	78 Court ordered to IPV diversion programme	78 male perpetrators	<p>IPV: Intimate Partner Homicide</p> <p>Interviews and case file reviews:</p> <ul style="list-style-type: none"> -Spousal Assault Risk Assessment -Propensity for Abusiveness Scale -Abusive Attitudes Toward Marriage -University of Rhode Island Change 	<p>Women more likely than men to have prior arrests; to be unemployed; to have presence of abusive personality characteristics; to score higher on the attachment subscale, the trauma symptom subscale and the maternal warmth and rejection subscale; to endorse a higher level of acceptable violence usage than men</p>

<i>with Simmons et al. (2008b) & Simmons et al. (2005)</i>			Assessment–Domestic Violence IPV: Defined by offence they have been arrested for	
Simmons, Lehman & Cobb (2008b) US ****	78 Court ordered to IPV diversion programme	78 male perpetrators	Interviews and case file reviews: -Substance use at time of arrest - Millon Clinical Multiaxial Inventory-III alcohol and drug subscales -Substance Abuse Subtle Screening Inventory-III -Self-report questions IPV: Defined by offence they have been arrested for	Men more likely than women to be using alcohol at time of arrest (OR=4.485, 95% CI=2.007, 10.021); to have history of alcohol/drug treatment (OR=4.50, 95% CI=1.005, 20.153); to be using alcohol daily (OR=2.28, 95% CI=2.007, 10.021); to be at risk for addiction-related problems according to SASSI-III (OR=2.25, 95% CI=1.042, 4.858)
<i>Sample overlaps with Simmons et al. (2008a) & Simmons et al. (2005)</i>				Women more likely than men to have personality styles indicative of problematic alcohol use on MCMI-III alcohol subscale (OR=1.607, 95% CI=1.130, 2.286)
Simmons, Lehman, Cobb & Fowler (2005) US ***	78 Court ordered to IPV diversion programme	78 male perpetrators	Intake assessment consisting of questionnaires: - Millon Clinical Multiaxial Inventory-III (Personality Disorder scales; Severe Personality Disorder scales; Clinical Syndrome scales; Severe Syndrome scales; Validity scales) IPV: Defined by offence they have been arrested for	Women demonstrate compulsive, histrionic and narcissistic personality traits more than men; Men demonstrate dependent personality traits more than women
<i>Sample overlaps with Simmons et al. (2008a) & Simmons et al. (2008b)</i>				
Stuart, Meehan, Moore, Morean, Hellmuth & Follansbee (2006a) US ***	137 Court referred to intervention	272 male perpetrators	Questionnaires (during intervention sessions): -Demographics questionnaire -General Violence of CTS -Perpetrator criminality -Antisocial Personality subscale of the Personality Diagnostic	Men more likely than women to score higher on PDQ antisociality; more likely to have history of arrests; more likely to demonstrate more relationship discord SEM results: For women, reported alcohol problems of both perpetrator and partner relate to physical abuse directly and indirectly via psychological aggression

*Sample overlaps
with Stuart et al.
(2008)*

Stuart, Moore,
Gordon,
Ramsey &
Kahler (2006b)
US

103
Court
referred to
violence
intervention
programme

No control
group

Questionnaire-4
-The Alcohol Use Disorders
Identification Test
-Alcohol subscale of the Psychiatric
Diagnostic Screening Questionnaire
-Short Marital Adjustment Test
IPV: Psychological Aggression,
Physical Abuse, Sexual Coercion –
as defined by CTS2

Questionnaires (during intervention
sessions):

-Demographics questionnaire
-Psychiatric Diagnostic Screening
Questionnaire subscales (PTSD;
Depression; General Anxiety
Disorder; Panic Disorder; Alcohol
and drug use;
-Borderline Personality Disorder
and Antisocial Personality Disorder
subscales of the Personality
Diagnostic Questionnaire-4
IPV: Physical, psychological and
sexual as defined by CTS2

No correlations between IPV perpetration and PDSQ
scores met significance

Stuart, Moore,
Elkins,
O'Farrell,
Temple,
Ramsey &
Shorey (2013)
US
**

Court
referred to
BIP

No control
group

Questionnaires and structured
interviews:
-Structured Clinical Interview for
DSM-IV
-Timeline Followback Interview
(for 6 months prior alcohol and drug
use)
-Timeline Followback Spousal
Violence Interview

Drinking days were associated with greater odds of
perpetrating any physical violence (OR=10.58, 95%
CI=5.38, 20.79), minor violence (OR=14.03, 95%
CI=6.98, 28.22), and severe violence (OR=8.48, 95%
CI=4.07, 17.66) than non-drinking days
Heavy drinking days were associated with greater odds
of perpetrating any physical violence (OR=12.81, 95%
CI=6.45, 25.44), minor violence (OR=16.49, 95%
CI=8.10, 33.57), and severe violence (OR=9.32, 95%

<p>Stuart, Temple, Follansbee, Bucossi, Hellmuth & Moore (2008) US *** <i>Sample overlaps with Stuart et al. (2006a)</i></p>	<p>135 Court referred to BIP</p>	<p>271 male perpetrators</p>	<p>IPV: Physical violence and sexual abuse as defined by CTS2</p> <p>Questionnaires (during intervention sessions):</p> <ul style="list-style-type: none"> -General Violence Conflict Tactics Scale -Arrest/charge history -Antisocial Personality subscale of the Personality Diagnostic Questionnaire–4 -Alcohol Use Disorders Identification Test (for partner also) -Frequency of alcohol intoxication in the past year -Alcohol subscale of the Psychiatric Diagnostic Screening Questionnaire -Drug use - Drug Use Disorders Identification Test -Trait Anger sub-scale of the State–Trait Anger Expression Inventory -Short Marital Adjustment Test <p>IPV: Physical and psychological as</p>	<p>CI=4.50, 19.32) than non-drinking days</p> <p>Number of drinks consumed on a given day associated with greater odds of perpetrating any physical violence (OR=1.20, 95% CI=1.14, 1.27), minor violence (OR=1.17, 95% CI=1.11, 1.23), and severe violence (OR=1.19, 95% CI=1.12, 1.27)</p> <p>-Marijuana use days associated with lower odds of perpetrating any physical violence (OR=-2.80, 95% CI=-6.80, -1.15) relative to non-marijuana use days</p> <p>Opiate use days were associated with lower odds of perpetrating severe violence (OR=-2.26, 95% CI=-4.15, -1.23)</p> <p>Men more likely than women to score higher on PDQ antisociality; to have mean history of arrests; to demonstrate relationship discord; to report usage of general violence</p> <p>SEM results:</p> <p>Perpetrator drug use was a predictor of physical abuse but not psychological abuse for both men and women. Perpetrator alcohol problems did not predict physical abuse for both men and women, but did weakly predict psychological aggression.</p>
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Tolleson & Gross (2009) US ***	32 Attending IPV intervention	165 male perpetrators	<p>defined by CTS</p> <p>Interviews and data mined from other agencies:</p> <ul style="list-style-type: none"> -Demographics <p>Self-reports of:</p> <ul style="list-style-type: none"> -Substance abuse problems at intake -IPV in family of origin -Child abuse in family of origin -psychiatric history -current clinical disorder (DSM-IV Axis I) -current personality disorder (DSM-IV Axis II) -Relationship specific factors -Under influence of substances at time of incident <p>IPV: Defined by offence they have been arrested for</p>	<p>Women more likely than men to be unemployed; to have less monthly income; to be in mutually combative relationships; to have experienced abusive behaviour in past relationships; to have experienced IPV in current relationship; to have had psychiatric problems in the past</p>
Trabold, Swogger, Walsh & Cerulli (2014) US ***	72 Charged with IPV offence and attending pre-trial supervision programme	202 male perpetrators	<p>Questionnaires and review of pre-trial services files</p> <ul style="list-style-type: none"> -Lifetime History of Aggression Questions (Aggression subscale) -Childhood Trauma Questionnaire (child sexual violence subscale) -Psychiatric Diagnostic Screening Questionnaire subscales – major depressive disorder and PTSD -Lifetime violent charges <p>IPV: Physical abuse as defined by CTS</p>	<p>Women more likely than men to have experienced child sexual abuse; to score more on PDSQ depression and PTSD subscales</p> <p>Men more likely than women to have non-violent charges on record</p> <p>No interaction between gender and childhood sexual abuse for perpetration of moderate IPV</p> <p>Childhood sexual abuse related to severe IPV perpetration for women and not for men</p>
Weizmann-Henelius,	39 Convicted	52 women convicted of	<p>Forensic psychiatric reports analysed retrospectively:</p>	<p>Risk increased when victim was intoxicated at time of offence</p>

Grönroos, Putkonen, Eronen, Lindberg and Häkkänen-Nyholm (2012) Finland	of IPH	homicide 106 men convicted of IPH 445 men convicted of homicide	<p>-Demographics</p> <p>-Psychosocial history: childhood physical and sexual abuse, witnessing violence in the family, and adulthood victimization.</p> <p>-Criminal history</p> <p>Mental health history: psychiatric diagnoses (DSM-III-R/ICD-10/DSM-IV), psychopathy (PCL-R) use of mental health services, suicidal behaviour, and substance abuse treatment</p> <p>-Offence-related factors</p> <p>IPV: Intimate Partner Homicide</p>	<p>Quarrelling at time of offence, mostly related to drinking increased the odds for IPH, significantly more among women (OR=8.2, 95% CI=2.5, 26.9) than among men (OR=2.4, 95% CI=1.4, 4.0)</p> <p>Self-defence: increased the likelihood for IPH among females (OR=2.1, 95% CI=0.5, 8.0) but decreased the likelihood among males (OR=0.07, 95% CI=0.01, 0.48)</p> <p>Lower PCL-R score among female IPH offenders than female non-IPH offenders on Affective factor scores</p> <p>Lower PCL-R score among female IPH offenders than female non-IPH offenders on Antisocial factor scores</p>
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Notes: BIP=Batterer intervention programme; IPV=Intimate partner violence; IPH=Intimate partner homicide

Highlights

- We explored risk indicators of female IPV offenders within criminal justice system
- No causal risk factors have been identified for women who perpetrate IPV
- Some factors may be correlated with IPV perpetration e.g. experiencing child abuse
- Protective factors did not feature in the studies we reviewed
- The difference between the needs of women and men who perpetrate IPV is unclear