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The function of intimate partner violence for female perpetrators: an examination using multiple sequential functional analysis

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Abstract

Background. Studies which have found high rates of intimate partner violence have identified that women use as much, if not more, partner violence than men. Research studies into the aetiology of female partner violence have identified a number of related risk factors but there is no single theory which adequately explains the processes by which partner violence develops and is maintained in the learning histories of females. Treatment and risk assessment options for this group are under developed and it is critical that research is undertaken to understand this phenomenon in order to provide effective interventions in the future.

Study aim. This study aims to use a multiple sequential functional analysis to explore whether behavioural principles, when applied to the developmental histories of females, can be used to understand the trajectory of partner violence across the lifespan.

Method. Three female participants were recruited from Probation and Forensic Psychology services in the East Midlands, UK. Clinical interviews were conducted with participants using a biographical format to collate detailed information around all aspects of female's histories, current functioning and index offending. For accuracy, interview data was triangulated with data from professional interviews and file review. The multiple sequential functional analysis was conducted according to the principles of radical behaviourism and applied functional analysis. Data was utilised in the analysis based on the pragmatic truth criterion of functional contextualism.

Results. The results are three detailed functional analytic case studies that show the development of partner violence for each participant from formative experiences to the current index offence. The results demonstrate that functional analytic principles can be used to understand the developmental pathway of partner violence in a small group of females. Synthesis of the three case studies identifies that violence and inciting violence in a male partner has functional value for these women and that issues such as power and control are important factors in female use of partner violence. Other factors of commonality are history of childhood and adulthood abuse, gendered belief systems, inferred insecure attachment style and borderline personality traits.

Discussion. Power and control were significant factors in these women's learning histories, both in terms of the victimisation and abuse they had suffered but also in their own use of violence and coercive behaviours. The findings that partner violence and inciting partner violence holds functional value for this group of women is controversial and directly contrasts with the feminist literature. This has important implications for future research and clinical implications. A strength of the current methodology is that it identifies subtle differences amongst learning histories, which has implications for development of individualised treatment planning and risk assessment for this under represented group.

Statement of Contribution

As the lead researcher I was responsible for the research design, the ethical applications, writing the literature review, and for the collection and analysis of data.

Dr Mark Gresswell (Research Tutor) contributed to the research design, gave support with ethical issues in data collection and gave many hours to the analysis.

Dr Dave Dawson (Research Tutor) also contributed to the research design, supported with the implementation of the study, contributed to the analysis and critically appraised a draft of the journal article.

Dr Kerry Beckley (Field Supervisor) oversaw the planning and implementation of the study and in particular assisted with ethical approval and recruitment.

SYSTEMATIC LITERATURE REVIEW

What are the Psycho-Social Characteristics of Female Perpetrators of Intimate Partner Violence? A Systematic Review of the Literature

This systematic review will be submitted to the Journal of Trauma, Violence and Abuse. Guidelines for authors are available at

www.uk.sagepub.com/journals/Journal200782/manuscriptSubmission?siteId=sageuk&prodTypes=any&q=trauma%2C+violence+and+abuse#tabview=manuscriptSubmission

Abstract

A large amount of research regarding male perpetrators of intimate partner violence (IPV) has been published however there is a paucity of research on female perpetrators. This systematic literature review brings together relevant literature to give a comprehensive overview of findings on the psychosocial characteristics associated with the development of partner violence in females. A systematic search of four electronic databases and a hand search of the reference lists of retrieved papers was conducted which identified 24 papers to be reviewed in answer of the research question. A number of relevant psychosocial factors were identified from the retrieved papers including those related to family background, individual psychology and relationship. The most significant psychosocial factors were drawn together to suggest a tentative profile of the development of female perpetrated intimate partner violence (FIPV). Implications for future research were identified as a need for qualitative and longitudinal studies into pathways to female perpetration of intimate partner violence and the need for development of treatment services that are appropriate to meet the needs of females who use partner violence.

Introduction

The aim of this systematic literature review is to consider current research, theory and empirical evidence regarding female perpetrators of intimate partner violence (FIPV). Perpetration of IPV can be defined in a number of ways for the purpose of this study it refers to those who physically attack someone they are currently or were formerly in an emotional and/or sexual, committed relationship with (Simpson, Yahner & Dugan, 2008).

There is a paucity of research into FIPV particularly when compared to the well researched area of male domestic violence. The research that does exist is varied in approach, focus and methodology, particularly due to the disparate epistemological positions of key researchers in the area and there remains contention around the existence and prevalence of female perpetrated partner violence. Consequently there is no agreed, coherent set of research findings in the area.

This review aims to provide a synthesis of the existing, relevant research into FIPV particularly focusing on identifying psychosocial risk and predictive factors in the developmental histories of women who use partner violence. Methodological

strengths/limitations and implications for future research/clinical practice will also be considered.

Prevalence and Cost.

Due to expectations that women experience more partner violence victimisation and are likely to receive greater injury many studies have focused on male perpetrators and female victims (Rennison & Welchans, 2000). However, empirical evidence from systematic reviews and meta-analysis suggests that women perpetrate as much if not more IPV than males (e.g. Archer, 2000; Carney, Buttell & Dutton, 2007; Melton & Belknap, 2003). A recent review of the literature found disparity in findings with prevalence rates of between 13-68% in the past year reported depending on the methodology, measures and analysis used (Roberts-Williams, Ghandour & Kub, 2008). The Home Office reports that 4.2% of females and 4.2% of males in the UK report having been assaulted by an intimate partner (Paradine & Wilkinson, 2004). Many studies have found that females who perpetrate IPV are often acting in self-defence in the face of significant physical abuse from a male intimate partner; however these studies are often associated with the feminist epistemological position which postulates that females are never primary aggressors. Furthermore there are some findings to the contrary showing significant rates of female primary aggression (Langhinrichsen-Rohling, 2010). A number of studies have also considered the directionality of violence, suggesting that there are a number of typologies of female perpetration of IPV dependant upon whether the male is the primary aggressor with the female acting in self-defence, the relational violence is bi-directional with neither partner the primary aggressor or the female is the primary aggressor using violence as a means of coercive control over her partner (Johnson, 2006).

Regardless of the directionality or motivation of IPV the costs are pervasive, particularly given that serious violent offending carries the risk of imprisonment, is likely to cause injury that requires medical treatment and has a social cost to families, children and services. Walby (2004) estimated that the cost of domestic violence in the UK is 23 billion per annum, based on cost to the state (criminal justice, health care, social and housing costs), cost to employers and the substantial cost in human suffering. It is difficult to extrapolate the cost of FIPV from this estimate however it is expected that in particular the cost of imprisonment will be greater for females than males due to the social and financial consequences of the 17,700 children separated from imprisoned mothers each year. Likewise there is an increased cost associated with elevated levels of recidivism, self harm and violence against others associated with females imprisoned for violent offending, of which one in five perpetrated their index offence against an intimate partner (Prison Reform Trust, 2010).

Cost and prevalence estimates indicate that FIPV has a high social and financial cost that is likely to rival that of male perpetrated IPV, prevalence rates suggest that it is a very real problem for the criminal justice and mental health fields.

Psychosocial Factors.

Due to the high social and financial costs of IPV the aim of researchers and practitioners in the field is to identify and intervene early with those at risk of perpetration or victimisation. Much of the research into IPV risk factors has focused on male perpetrators and female victims; this means that many intervention services and risk assessment tools are unsuitable for use with female perpetrators (e.g. Carney et al, 2007; McKeown, 2010). In order to extend the scope of services to provide targeted intervention for FIPV it is important to understand the developmental risk and predictive factors associated with the use of partner violence amongst this population.

Psychosocial is a term often used to describe the psychological and social risk factors associated with the development of problem behaviour. In the criminological literature psychosocial factors are often considered to be a range of psychological factors (e.g. attitude, personality, psychopathology) and a range of measures of social context (e.g. family, neighbourhood, socioeconomic etc.) that can predict the likelihood of an individual engaging in problem behaviour (Steinberg & Moris, 2001; Yan, Howard, Beck, Shattuck & Hallmark-Kerr, 2009).

A number of psychosocial factors have been identified as being associated with the development of IPV; however there is a lack of a comprehensive set of findings related to its development in female perpetrators.

Systematic Literature Review.

Systematic reviews of the literature are considered a comprehensive and methodical way of bringing together numerous research findings into a single exhaustive summary to answer a specific research question. Such reviews are considered to be a reliable form of synthesising evidence in the healthcare field.

There have been two systematic literature reviews in the area of FIPV which have focused on motivations (Bair-Merrit et al, 2010; Carney et al, 2007). There have also been a number of non-systematic literature reviews which have focused on methodological flaws in IPV research (Reed, Raj, Miller & Silverman, 2010), treatment issues (Dowd, 2001), context, motivation and psychopathology (Goldenson, Spidel, Greaves and Dutton, 2009) and gender differences, motivations, self-defence and psychopathology (Graham-Kevan, 2009). Reviews in the area tend to have a specific focus based on the epistemological position of the author and are limited in objective and systematic consideration of all psychosocial risk factors associated with development of FIPV.

The purpose of this review is to systematically review the existing literature in order to synthesise current knowledge, theory and research to answer the question:

- What are the psychosocial characteristics of female perpetrators of intimate partner violence?

Methods

Database Search Strategy.

A systematic search of the electronic databases MEDLINE, CINAHL, PsychINFO and Academic Search Elite was completed to identify published literature. The following search terms were used singularly or in combination:

female perp*, female offen*, women perp*, women offen*, intimate partner violence, domestic violence, partner aggression, spouse abuse, dating violence, attributions, characteristics, profile, personality, antecedents, pathways, psychosocial factors, factors, personal, psychological, social, environment*, attachment and trauma. Search limits applied to restrict the number of identified papers were 'male' and sex*.

(* indicates truncation).

The database strategy identified 599 potential papers for inclusion in the review. Electronic database searches were completed on 24th June, 2011.

Inclusion/ Exclusion Criteria

Papers were considered against pre-specified inclusion and exclusion criteria by title, abstract and full text. Inclusion and exclusion criteria are outlined below:

Inclusion criteria:

A mixed methods approach was taken and primary research studies using both quantitative and qualitative methodologies were included. Research into FIPV is a relatively recent area of interest with earlier studies concerned with identifying the existence of the phenomenon and later studies being concerned with establishing prevalence. For this reason and due to the limited scope of this study the inclusion criteria was limited to studies published between 2001 and 2011. Studies were included that were published in a peer-reviewed journal which implies a benchmark level of quality. Included studies involved adult female participants (aged 18 years and over), who were arrested, convicted or self reported perpetration of violence towards a current or previous intimate partner and looked at developmental pathways of female partner violence perpetration specifically psychosocial risk and predictive factors.

Exclusion criteria:

Studies were excluded against a number of criteria, studies focusing on only male offenders, female and male victims of partner violence, female perpetrators of general (not partner) violence and female perpetrators of sexual abuse were excluded. Studies with a research focus on factors not related to psychosocial risk or predictive factors were excluded. This included studies focusing on prevalence rates, treatment, motivations, severity and situational context. Studies using participants from a military sample were excluded due to the potential unique aetiology of factors amongst this particular population and the limited scope of this study. Non-primary research was excluded.

Selection Process.

Studies were considered against the inclusion/exclusion criteria in three stages the title, abstract and full text.

The initial stage involved a title search of the 599 potential studies identified by the electronic database search. Many of the study titles made particular reference to male perpetrators only, to female victims of IPV or to female perpetrators of sexual offending (n = 342), these studies were excluded. A number of studies (n = 61) were excluded as duplicates during the title search.

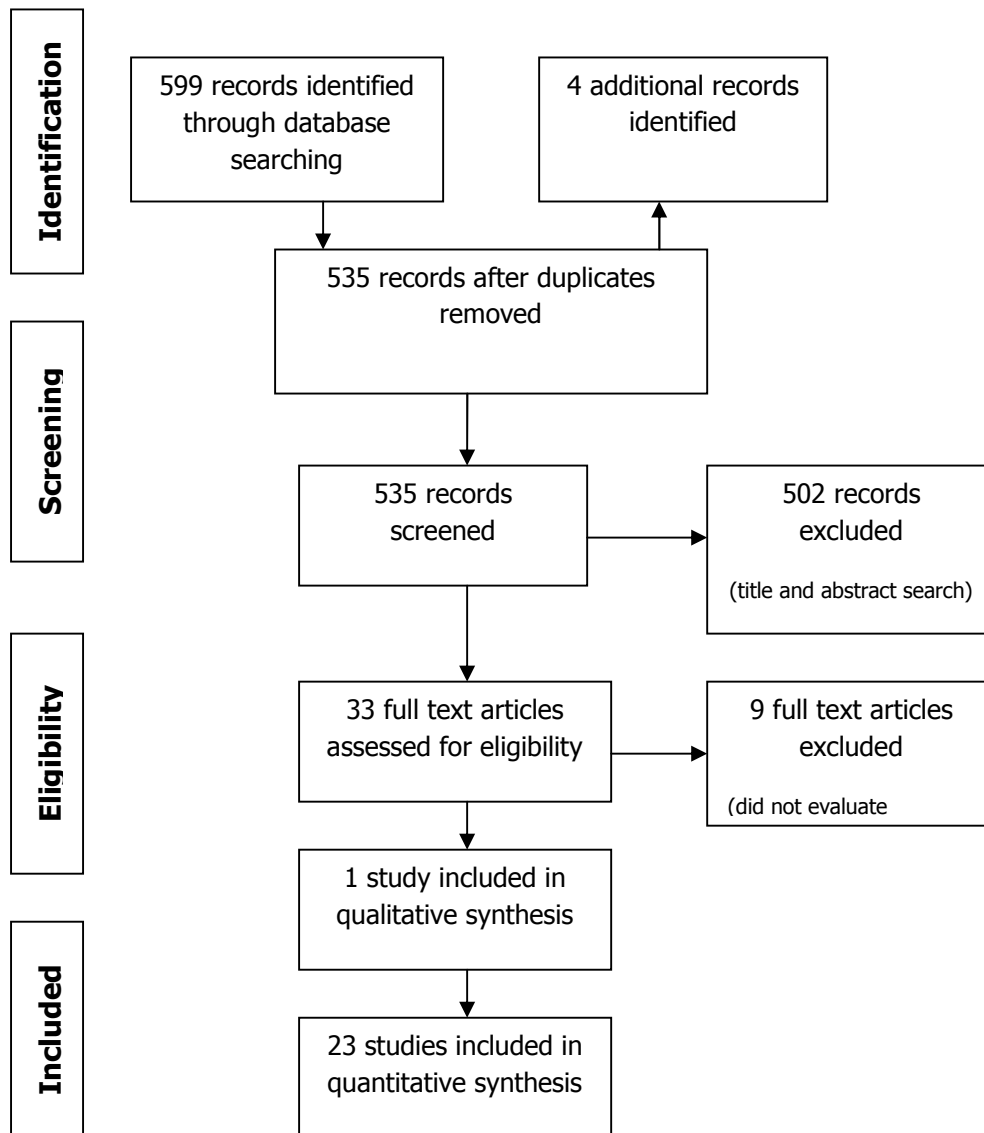
Abstracts of the remaining 257 studies were considered against the inclusion/exclusion criteria, a full breakdown of reasons for exclusion at this stage is included as Appendix A. The remaining papers were ordered in full text format via Athens and interlibrary loan, a reference search of these papers identified a number of papers that were considered by title and abstract against the review criteria, four additional papers were identified for full text search using this approach.

In the final stage 33 papers were considered in the full text format against the inclusion/exclusion criteria and a further 9 papers excluded, Appendix B shows the reasons for exclusion at this stage.

Using the selection process a total of 24 papers were identified for review.

At each stage articles that were ambiguously compared to the inclusion/exclusion criteria were included. The full selection process is presented in diagrammatic format as figure 1.

Figure 1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart



(The PRISMA Group: Moher, Liberti, Tetzlaff and Altman, 2009).

Data Extraction.

Data extracted from the studies included demographic information and key findings of the paper specifically the psychosocial factors found to be related to development of IPV behaviours. Many of the studies identified were comparison studies which compared FIPV perpetrators with male IPV perpetrators, with female general violence perpetrators or with female victims of IPV. Data pertaining to psychosocial characteristics of the comparison groups was also extracted for consideration in the synthesis of findings. A tabulated version of data extracted during this process is presented in table 1.

Assessment of Quality.

The majority of the studies included in this review use non-experimental observational, cohort and cross sectional methodologies. Such methodologies are notoriously difficult to methodically review for quality and none of the existing measures have been considered gold standard (Mallan, Peat & Croft, 2006). Additionally assessing the quality of a disparate mix of study designs is difficult using the available scales which have often been designed for use with a specific methodology (Von Elm, 2007). Although there are a number of different tools used to assess the quality of non-experimental research a review found some overlap in the domains considered with all tools covering to greater or lesser degree: selection of participants, exposure/outcome, bias in the study design, control of confounding variables and analysis of data (Sanderson, Tatt & Higgins, 2007). It has been recommended that due to the difficulties inherent in applying ready made check lists an alternative is to consider each study individually when assessing quality. The current study used the five domains identified by Sanderson and colleagues, along with guidelines from the Newcastle-Ottawa Scale (NOS) (see Appendix C) to individually review the strengths and limitations of each of the included studies. As Cochrane Guidelines advise against using empirically irrelevant scoring methods (Higgins & Green, 2009) the results are reported qualitatively and scores of quality have not been derived. The quality of the studies reviewed is presented in Table 2.

Results:

Table 1: Studies of Female Intimate Partner Violence Psychosocial Factors

Author, date, (Unless otherwise specified place of study is US)	Sample demographics	Sample size and recruitment	Method	Summary of findings
Feder and Henning (2005)	Mean age: Male 32.2yrs Female 30.2yrs 83% african- american, 72% dating, 61% parents.	Arrested and convicted 317 couples	Interviews (victim and perpetrator) Corroboration with criminal justice records Case control	Male had higher severity of violence more serious history of IPV, other violence, more indicators of antisocial lifestyle. Females had less criminality, less severe violence, No significant difference in levels of prior violence. Previous history of IPV in the relationship was common.
Thornton, Graham- Kevan and Archer (2010) UK	Students Mean age- 23.83 yrs	Students N = 297 116 male 181 female	Survey Validated questionnaires	Men more violent outside relationships and more non-violent offending, Women report perpetrating more IPV Cluster A Personality disorder significantly related to male IPV and general violence. Cluster B personality disorder related to all 3 types for men and women Cluster c not related for either gender Big 5= female IPV linked to neuroticism and general violence to agreeableness Predictors for IPV were different for men and women. Men cluster A, women cluster B.
Doumas, Pearson, Elgin and McKinley (2008)	Mean age- Female 27.03yrs Male 28.46yrs Been together= 4.08yrs 48.6% single	General population/students 70 couples	Survey- self administered	Avoidant male with an anxious female = IPV IPV highest where male high attachment avoidance and female high attachment anxiety- same for both male and female perpetration. Male violence may be a mediator between female attachment anxiety and female violence (when controlled for reciprocal violence) Female anxiety predicted male violence and male violence predicted female violence. Female anxiety was not significant after male violence controlled for. Using dichotomous measure- male avoidance/female anxiety predicted female violence (no effect for men), controlling for reciprocal violence=attachment still predicted violence only for females.
Caetano, Schafer and Cunradi (2001)	Mean age- Male 52yrs Female 50yrs	1440 couples	Re-analysis of survey data from 1995 national survey General household sample (not clinical)	Female IPV rates higher. Male alcohol use predicts more violence than female. FIPV twice as likely when partner has alcohol problems. FIPV also twice as likely for women with alcohol problems although not when controlled for other psychosocial factors.27-34% of female drinking at time of perpetration. Clustering of

			Telephone interview	problems- people with alcohol problems reported more IPV Social factors- couples in impoverished neighbourhoods four times more likely to have FIPV than other neighbourhoods. Individual characteristics are less predictive of FIPV than poverty
Fergusson, Boden and Horwood (2008) NZ	Birth cohort Age-25 yrs 12.3% married	Birth cohort N=1003 Female 437 Male 391 828 considered for IPV risk factors	Longitudinal Data collected across lifespan and correlated with IPV survey	Birth sample selected (1977) 90% = mutual violence Female higher level of reported perpetration No gender difference for victimisation. IPV correlates with low economic status, abuse (sexual, physical and witnessed IPV), parental substance use, family problems, early aggression, conduct disorder, substance use, depression and anxiety. No correlation with parental criminality, or prior violent offending. More diffuse relationship with parental DV than suggested in other studies. Gender risk factors similar but effect of risk varies by gender- conduct disorder stronger predictor for Female. Family adversity and abuse stronger for Male. Alcohol use strongly correlated for both genders. Risk factors similar for victims and perpetrators
Stuart, Meehan, Moore, Morean, Hellmuth and Follansbee (2006)	Male- 33.2yrs, 12 yrs education, salary \$34k, 2 kids, 74% white Female- 30.5, 12.2 yrs education, salary 19k, 2 kids, 79% white	Convicted and court ordered to treatment N = 409 Male 272 Female 137	Multiple-regression Examined interrelationship between variables for each gender.	Alcohol is direct contributor to physical abuse for both genders. Trait anger significant for men but not for female pathway. Distal factor anti-sociality effects alcohol use and trait anger- both of which are significant predictors of IPV. Alcohol use is key- conceptual model same for both genders. Only differences are stronger relationship between psychological and physical perpetration in females (caveat- reporting bias) and relation of trait anger and relationship discord stronger for men (female sample size- power) Male more anti-social, females reported more reciprocity, female reported more alcohol use, females less relationship satisfaction, no diff for trait anger. Demographics similar except men slightly older and higher income.
Goldenson, Geffner, Foster and Clipson (2007)	Female offender group (FOG)- 30.9yrs Semi-skilled workers, 42.4% white, 48.5% cohabit/married 8.9 sessions, 24% dominant	Convicted/court ordered and clinical comparison FOG 33 CCG 32	Case control Compare off/non-off Survey, telephone interview.	FOG- 51.5% witnessed violence, 48.5% experienced violence, 57.6% sexually abused. CCG- 18.8% witnessed violence, 15.6% experienced violence, 28% sexually abused. FOG- higher attachment anxiety and avoidance, higher trauma symptoms, higher for borderline, anti-social, dependant personality. Significant amount met clinical diagnosis for BPD. Therefore, Attachment= more relationship anxiety, fear of abandonment, poor emotional regulation, more jealousy and distress, poor communication. Trauma = more anger, intrusive experiences, poor emotional regulation.

	<p>aggressor, 55% bidirectional, 21% mostly victim</p> <p>Case control group (CCG)- recruited from therapy. 32yrs, Skilled labourers, 62.5% white, 62.5% cohabit/married 7.7 session, Depression 44%, Relationship issues 25%, Anxiety 9%,</p>			<p>Personality- BPD more unstable, perceived threat of abandonment, mood lability, anger, impulsive. Anti-social= disregard rights and safety of others, deceitful, manipulative- instrumental use of aggression. Dependant- excessive need to be nurtured. = all 3 personality types correlate with FIPV Not significant for narcissistic/histrionic. (control group scored highly on these traits)</p>
Orcutt, Garcia and Pickett (2005)	<p>98% >24yrs 61% white</p>	<p>Student N=457 328 studied for attachment</p>	<p>Self- report survey Group sessions</p>	<p>No effect of race or relationship length. Higher bidirectional violence in cohabiting couples(low n) Significant effect for anxious attachment but not for avoidance. High anxious female= more perpetration than high avoidant Bidirectional violence = more severe acts Bidirectional violent had higher anxious style in perpetrator and more avoidance in partner. Pattern of behaviour- Increased proximity seeking, overwhelming affect, violence, more avoidance, more violence. Implications- Couple is a system</p>
Henning, Martinsson and Holdford (2009)	<p>Mean 32.7yrs 84% African-american, 1/3 not graduated 44% fs unemployed 63.5% not married</p>	<p>Convicted 2854 m 353 f</p>	<p>Paper tests, interviews, Correlations Recidivism from arrest data</p>	<p>Tested for 17 psychosocial factors Female half as likely to recidivate, 5 x more likely to be involved as a victim in future arrests F younger, less likely to work and from family with greater discord, married. 15% reoffend 16% prior violent offending 44% prior offending 29% a/s peers Heterogeneous group Male increased assaults on previous partners, conduct problems, more prior violent and non-violent crime, deviant attitudes and a/s peers Different risk factors for each gender.</p>

				Substance misuse a risk factor for victimisation Tools not useful to predict for female
Kernsmith (2006)	46.6% hispanic 33% white 34 yrs Completed education 46% married 6yr relat 2/3 children 26 sessions (of 52) 94% court ordered	Convicted and court ordered to treatment N=114 52.6% M	Self report survey	97% prior exposure to violence 74% witnessed violence 68% victims of abuse NO gender differences in these. More female are prior IPV victims (24%) Over half had perpetrated no violence outside family (f = 52%)- suggests social rather than bio/psychological Female more fear of partner (related to prior victimisation)- Prior sex abuse= more experienced by females- predictor of self defence and fear & powerlessness linked to prior abuse by hyper-vigilance to threat 2 pathways modelling and hyper-vigilance
Caetano, Vaeth and Ramisetty-Mikler (2008)	General population Male 52yr Female 50yr Most completed education and employed 95% married	General population 1392 couples	Regression analysis Second wave study of data collected in longitudinal study	FIPV younger than non-violent. FIPV more mixed race, shorter relationships, more likely to be employed. Education has no effect. FIPV 12% depressed (10% in mutual) Increased impulsivity, increased powerlessness. Significant predictors for FIPV are young age, powerlessness, employment. Significant predictors for mutual violence are ethnicity, cohabiting, age, depression and powerlessness. Males and females do not share attributions that predict perpetration Age is only common factor across all groups and gender. All others are gender or status specific. Individual and socio-demographic factors contribute to IPV.
Buttall (2002)	Age etc not indicated	Convicted, court ordered to treatment N=91	Control group design, moral dilemma questionnaire	IPV perpetrators scored 19.3 Usual high school student score is 20. Adult average is 40 Lower level than other convicted criminals- score on a par with institutionalised juvenile delinquents. Similar levels to male batterers from other studies. Low positive correlation of moral reasoning and re-arrest (less than perfect association) Moral reasoning may be one part of a multi-level explanation
White and Chen (2002)	Non-clinical sample 90% white	1380 M 292	Prospective Longitudinal study	Sampled by phone Is alcohol still related when control for other factors Female report higher perpetration than males (18%- 12.6%)

	81.5% married 18.5% cohabit 28-31yrs	F 359		<p>Problem drinking is significant to perpetration and victimisation</p> <p>Married, longer relationship and positive affect = less alcohol use.</p> <p>Education, negative affect, and beaten as a child is significant to female perpetration and victimisation.</p> <p>Females with a less traditional role perpetrate more.</p> <p>Partner drinking predicts perpetration for both genders, stronger for victimisation.</p> <p>Alcohol/IPV is not a spurious relationship after controlled for other risk factors.</p> <p>Male risk factors are negative affect, traditional role ideology, witnessed parent violence, beaten as a child and low education.</p> <p>Partner drinking fully mediates the effects of problem drinking on female perpetration. Problem drinking has significant effect but not when partner drinking is controlled.</p> <p>Relationship dissatisfaction (RD) is a stronger predictor than alcohol but could be bi-directional.</p> <p>RD mediates effect of drinking on perpetration for both genders.</p> <p>Partner drinking predicts female perpetration (not male) and RD predicts for both genders.</p>
Goldstein, Chesir-Teran and McFaul (2008)	Mean age 19.74yrs 58.1% white	students n=479 female 366 male 113	<p>Profile based approach</p> <p>Self report questionnaire</p> <p>Multiple regression</p> <p>Grouped according to violence type</p>	<p>Only 8.2% never experienced violence</p> <p>Female report more perpetration</p> <p>High aggressive are more approving of retaliation and IPV, it is acceptable.</p> <p>High aggressors correlates with all variables except sadness. More social anxiety, more rumination, more self worth derived from relationship, more anger, more depression, more anxiety symptoms.</p> <p>Perpetration and victimisation associated with social cognitive traits, social anxiety, anger, rumination, insecure attachment, high levels of exclusivity, anxiety and depression. Risk patterns same for males and females.</p> <p>High perp/victim= most risk factors (multifaceted)</p> <p>Social cognitive risk and rumination and propensity for anger are highest in aggression (thought patterns and anger control issues).</p>
Weizmann_Henelius, Viemero and Eronen (2004) Norway	Inpatient for 4.3yr Jail- for 2.1yrs 23% IPV Mean age-34.9yrs	incarcerated N=61 49 jail 12 psychiatric inpatient 30 control (nonviolent)	<p>Comparison</p> <p>Non-violent and convicted</p> <p>Matched for age/education (not for marital status, intelligence, employability)</p> <p>Demographics, interview,</p>	<p>Of the 23% (14) IPV- 20% had been drinking at time of index offence.</p> <p>9 (64.3%) reported physical abuse, 8 (57.1%) psychological abuse, 10 (71.4%) report partner substance abuse.</p> <p>General violence and IPV- significant difference in psychological abuse but not physical</p>

			tests	
Walsh, O'Connor, Shea, Swogger, Schonbrun and Stuart (2010)	<p>Mean age 29.75 yrs</p> <p>72.3% completed education</p> <p>69.8% euro</p> <p>Diagnosis: 43.8% mood</p> <p>18.6% psychotic</p> <p>18% substance misuse</p> <p>10% adjustment</p> <p>4% anxiety</p> <p>5.6% other</p>	<p>Inpatient</p> <p>N=567</p> <p>female 138</p> <p>male 93</p> <p>non-violent comparison group</p> <p>female 111</p> <p>male 225</p>	<p>Self-report, records, tests, cluster analysis</p>	<p>Higher IPV among women. (more general violence and arrests among men)</p> <p>Higher BPD and anxiety in females. More psychopathy/ASPD/substance misuse among males.</p> <p>No difference in age, education, ethnicity,</p> <p>3 typology clusters:</p> <p>LP- low psychopathology.</p> <p>High agreeableness, contentiousness.</p> <p>54 Female (F)- 51 Male (M)</p> <p>BD- borderline/dysphoric</p> <p>High neuroticism, low extraversion, low contentiousness, high negative affect.</p> <p>59 F- 25M</p> <p>Female BD have high levels of victimisation, high substance misuse.</p> <p>Male BD have high anti-sociality</p> <p>AS- generally violent/anti-social</p> <p>Low agreeableness, high psychopathy</p> <p>25F- 17M (18% of each)</p> <p>Female AS have higher recidivism (4x more than non-violent, 2x more than LP)</p> <p>Male AS have high levels of victimisation</p> <p>IPV recidivism across males is constant across typology.</p> <p>The typologies fit for psychiatric patients</p>
Henning, Renauer and Holdford (2006)	<p>85% afro</p> <p>Mean 31.8yrs</p> <p>65% graduated</p> <p>58% employed</p> <p>64% dating</p> <p>36% Married</p> <p>Relat-6yrs</p>	<p>Convicted and court ordered</p> <p>N=485</p>	<p>Full assessment</p> <p>Questionnaire and interview</p> <p>4 groups-</p> <p>No prior violence, Primary victim, primary aggressor, primary aggressor unidentified.</p>	<p>46% younger than partner</p> <p>38% equal education to partner</p> <p>41% both worked</p> <p>64% previous IPV</p> <p>70% previous aggression from partner</p> <p>18% of police reports name female as primary aggressor (self report underestimates)</p> <p>Female primary aggressors increase in coercive control, more severe aggression and injury.</p> <p>Female Primary aggressor= 8-9%</p> <p>Increased physical abuse in childhood, witnessed interparental violence, child conduct problems, previous severe violence to partner, violence escalating over time, 3 x more suspects of prior IPV,</p> <p>No diff in arrest history, severity of index offence or recidivism. But more likely to be future victim.</p> <p>Comparing f with m coercive= more psychological distress, less satisfied with</p>

	46% parents			relationship, victim of more severe aggression, report escalation (supported by male records)
Simmons, Lehmann and Craun (2008)	No prior IPV arrests Police identified them as primary aggressor 52% white 28% afro 38% married 24% split 22% dating 11% cohabit 71% mothers 22% not graduated	Convicted, court ordered (prior to intervention) N= 82	Non empirical, exploratory design Secondary data Questionnaires/tests interviews	84% abused by partner No partner abuse- 15.8% Most report low level/occasional parental abuse 66% mother/46% father Often 8% mother/6% father Always 4% mother/14% father Correlations between physical abuse and mother abuse, emotional abuse and father abuse Trauma symptoms within normal (non-clinical range) Parental abuse linked to defensive avoidance, anxiety and depression. Abuse from mother linked to poorer outcomes than from father. Frequency of abuse and presence of trauma lower than expected- could indicate typology of FIPV Mother abuse most powerful predictor of relationship violence (Hendy et al 2003)
Simmons, Lehmann and Cobb (2008)	First IPV arrest Admitted guilt 50% white 25% afro Mean 30.44yrs Salary-20-30k Similar index offences	Convicted, Court ordered N= 156 78m 78f	Comparison, questionnaire, diagnostic tools	Female only aggressor- 83.3% Male only aggressor- 83.3% 12.8% police report that intoxicated at time of index offence 17% self-report alcohol 1.3% drugs (manly males) females 10.3% daily alcohol use 2.6& history of sm treatment 60 had personality style indicative of substance misuse 64% alcohol/28.2% drugs (males used more) 10.3% meet diagnosis threshold Female 1.61 times more likely to have elevated risk for alcohol disorder diagnosis based on personality Males 2x more likely for drugs Low level of substance related need among women- not equal to need documented for men
Seaman, Rubin and Stabb (2007)	Mean 28yrs	Convicted, court ordered	Qualitative interviews- thematic analysis	54% left home before 18 (1/2 to live with abusive men) 9 themes

	<p>All married or cohabit</p> <p>4 unemployed</p> <p>4 no children</p>	N= 13		<p>All experienced some child abuse</p> <p>7 physically (6 mother/5 father)</p> <p>4 sexual abuse by family member</p> <p>All psychological abuse/neglect</p> <p>6 chaotic household</p> <p>10 disconnected from mother</p> <p>4 estranged from father</p> <p>5 witnessed female IPV (4 in self defence)</p> <p>Normalised IPV/resolved not to be victims</p> <p>Most (54%) prior partner abuse.</p> <p>62% current offence in self-defence</p> <p>62% retaliating for emotional abuse</p> <p>38% became violent after birth- post-partum depression?</p> <p>15% to control</p> <p>8 to resist being controlled</p> <p>54% dissociated- hyper-vigilant to threat?</p> <p>69% to get attention- perceived abandonment.</p>
Stuart, Moore, Gordon, Ramsey and Kahler (2006)	<p>31.5yrs</p> <p>Income- \$19553</p> <p>1.7 kids</p> <p>78% white</p> <p>8% afro</p> <p>83% cohabit</p> <p>Av 5yr relationship</p> <p>8.4 sessions</p>	<p>Convicted</p> <p>Court ordered</p> <p>N =103</p>	<p>Diagnostic tools</p> <p>questionnaires</p>	<p>Very highly aggressive and were frequently victimised</p> <p>21 IPV acts in 12 months</p> <p>High axis I scores</p> <p>44% PTSD (10% gen pop)</p> <p>35% depression (7%)</p> <p>28% panic (3%)</p> <p>34% GAD (4%)</p> <p>43% alcohol (5%)</p> <p>24% drug (2%)</p> <p>76.7% met one or more axis I.</p> <p>Axis II also inflated-</p> <p>27% BPD (3%)</p> <p>7% ASPD (1%)</p> <p>Comparing scores on perpetration/victimisation scale= Not significant for highly aggressive but significant for highly victimised- PTSD, Dep, anx, panic.)</p> <p>Psychopathology related more to the victimisation than the perpetration</p>
Babcock, Miller and Siard (2003)	<p>Mean 31.54yrs</p> <p>17% afro</p> <p>24% Hispanic</p> <p>54% white</p> <p>Income</p>	<p>Convicted</p> <p>Court ordered</p> <p>N=52</p>	<p>Routine data collection</p> <p>Within group</p>	<p>50% violent to others as well as partner (general)</p> <p>50% partner only</p> <p>No demographic differences.</p> <p>GV= more psychological abuse, more physical abuse and more injury caused.</p> <p>Higher frequency and higher severity.</p>

	\$16590 31% unemployed	Generally violent (GV) Partner only (PO)		All report partner more violent than them No difference in self defence. Self-defence in index offence correlated with self-defence in index offence. 28.3% self defence 20% anger GV use IPV to control, jealousy and in response to verbal abuse GV have more trauma symptoms (desire to hurt self, others, memory problems, interpersonal problems) No difference in childhood abuse- both have high rates Abuse- GV 70% sexual, 47.4% physical. PO sexual 58%, physical 35.3%. GV more frequently witnessed mothers aggression to father GV more instrumental and deviant reasons for assault.
Abel (2001)	Mean 34.5yrs Income \$36065 65% white 21% afro 11% Hispanic 59% married 41% dating	Convicted Court ordered N=118 67 perpetrators 51 victims	Exploratory, questionnaire	Victims older and higher income, more married Perpetrators significantly more likely to have witnessed threats, been threatened, been forced to have sex More victims sought support (33% of perpetrators had sought support) Victims higher trauma than perpetrators Perpetrators higher than normal population for dissociation, anxiety, PSAT, sleep disorder. Data suggests perpetrators are victims Perpetrators experienced high levels of trauma symptoms (although victims higher)
Stuart, Moore, Ramsey and Kahler (2004)	Mean 31.5yrs Education 12 yrs Income \$19553 1.7 children 78% white 8% afro 8% Hispanic 83% cohabit 5yr relationship 8.4 sessions	Convicted Court ordered N= 103	questionnaire	High rates of aggression and victimisation 17% probable alcohol dependence 53% report partners hazardous drinking 2 groups-Hazardous drinking (HD)/non hazardous drinking (NHD) 46% 4 drinks per month 40% intoxicated monthly 37% hazardous/harmful Similar age HD_ more physical assaults, psychological abuse, sexual abuse, victimisation and more partner drug/alcohol us HD and general violence associated with physical IPV

Table 2: Methodological strengths and weaknesses of reviewed studies

Author and date	Strengths	Weaknesses
Feder and Henning (2005)	Self-report verified by records Matched to male partner (also arrested)	Excluded singly arrested women, may mean results are not representative. Police policy is such that the dually arrested women are as likely to be victims as offenders.
Thornton, Graham-Kevan and Archer (2010)	All scoring standardised from existing measures Good scale reliability (cronbach) Outliers adjusted- no violations of normality P 0.01 used (limit type 1 errors) Adjusted for age	Student sample- more educated, younger, not representative of general population Self-report...research shows reporting bias for IPV more pronounced in men
Doumas, Pearson, Elgin and McKinley (2008)	Reliable measures- triangulate from both victim & offender, continuous measure of violence. Controlled for partner violence, reciprocity, and length of relationship. Replicated using dichotomous scoring Representative	Small sample Reporting biases from self administered- not triangulated
Caetano, Schafer and Cunradi (2001)	Representative- cross-sectional. Clear inclusion criteria Considered survey scales	Black/Hispanic couples over-represented. Male reporting bias not considered Doesn't control for socioeconomic factors
Fergusson, Boden and Horwood (2008)	Reliable scales Longitudinal method Sample selection bias accounted for Missing data accounted for	Low level IPV only- unable to assess severe-different risk factors? Results apply to specific cohort- generalisability low. Age of subjects- IPV expected to peak in 20's- representative? (O'leary, 1999) Socially disadvantaged underrepresented (sample bias correction applied) Self-report bias- findings lower than other studies.
Stuart, Meehan, Moore, Morean, Hellmuth and Follansbee (2006)	Some measures standardised Given as part of treatment intervention- controlled for some bias Controlled for num of sessions attended Confounding variables tested separately- age, length of relat, and trait anger.	Some not standardised Court referred arrestees Self-report (bias) also measures partner's alcohol abuse indirectly. No corroboration. Still could have biased results (9 sessions) Bias in reporting due to environment of court mandated interview, severe violence may have different pathway to low level- Female sample size low (1/2) power?
Goldenson, Geffner, Foster and Clipson (2007)	Matched for length of relationship. Validated measures High internal consistency of measures	Personality measure known to over-predict personality disorder in offender populations Control group in therapy and scored highly on some pd. Not rep. Overlap between the 3 variables? Need longitudinal study Self-report- bias? (social desirability) Small sample Excluded lesbians Female offender group may not be fully representative of all perpetrators
Orcutt, Garcia and Pickett (2005)	High internal consistency of measures Classification of ipv weak Reliability of constructs Retrospective data can indicate direction of causal relationship	Not asked about specific relationship Small sample (unable to explore lesbian, race etc) Self- report (social desirability) College sample- dating- not representative of general population. Group design could bias results
Henning, Martinsson and Holdford (2009)	Many measures Validated tools	Personality couldn't be scored as invalidated Small sample of f= weak correlations Test used (fisher's z) can skew results for lower

		<p>scores with same diff as higher scores.</p> <p>Mixed use of dichotomous and scaled scores</p> <p>Follow biased by name changes for females</p> <p>Limited generalisability- black, convicted</p> <p>Use of official records only could underestimate prevalence</p> <p>No attempt to account for missing data or bias</p>
Kernsmith (2006)	<p>Confounding variables measured- no sessions, court ordered, social desirability and demographics</p>	<p>Small sample</p> <p>Convicted sample- clinical pop limits generalisability (more violent)</p> <p>Couldn't control for time in therapy- changed dynamics of relationship</p> <p>Cross sectional design</p> <p>Self report & retrospective data (social desirability, memory distortion, personal redefinition of events, biased recall)</p>
Caetano, Vaeth and Ramisetty-Mikler (2008)	<p>Reports from both partners</p> <p>High validity</p> <p>Random selection across group</p> <p>Face to face interviews</p> <p>Analysed couples lost at follow up</p>	<p>Moderate/transient violence only</p> <p>Cross sectional (can't draw causal inferences)</p> <p>Cannot test offensive/defensive nature of violence</p> <p>Low sample size of those involved in violence</p> <p>Uncorroborated</p> <p>High mean average age</p>
Buttell (2002)	<p>Age controlled for</p> <p>Includes internal consistency checks- cheat measure (omitted if fail this)</p> <p>Reliable and valid for use with male and female</p>	<p>No demographic collection</p> <p>Arrest is imperfect measure of recidivism</p> <p>Rural population may not represent</p> <p>Analysis used not recommended due to increased error rate.</p>
White and Chen (2002)	<p>Random sample</p> <p>Only used full data sets</p> <p>Controlled for other risk factors</p> <p>Longitudinal/prospective</p>	<p>Some couples had separated before measures taken</p> <p>Everything measured at same time so associations could be miss-specified</p> <p>Minor violence only</p> <p>Not representative of clinical population</p> <p>White working and middle class</p>
Goldstein, Chesir-Teran and McFaul (2008)	<p>Controlled for gender and relationship status</p> <p>Deleted cases with missing data</p>	<p>Young sample</p> <p>University students (psychology) effect on scores?</p> <p>Aggression measures may not be emotionally salient for this group</p> <p>Cross sectional- Causal relationship cannot be inferred</p> <p>Self-report= response bias. No partner reports.</p> <p>Some groups not represented and gender imbalance.</p>
Weizmann_Henelius, Viemero and Eronen (2004)	<p>Corroborated</p>	<p>Very small IPV sample</p> <p>Difficulties in selecting matched comparisons</p> <p>Time delay on interviews.</p> <p>No partner reports</p> <p>Self-report</p>
Walsh, O'Connor, Shea, Swogger, Schonbrun and Stuart (2010)	<p>Detailed assessment</p> <p>Large sample</p> <p>Objective clustering approach</p> <p>Validated/reliable</p> <p>Corroborated</p>	<p>Groups v's continuum- may miss dynamic complexity.</p> <p>Psychiatric sample</p> <p>Not strictly prospective</p> <p>Didn't account for contextual/distal factors</p> <p>May not generalise to women- particularly with no comparison study in the community</p> <p>Non-subtle measure of personality traits</p>
Henning, Renauer and Holdford (2006)	<p>Validated tools</p> <p>No score calculated for missing data</p> <p>Official corroboration</p> <p>Internally consistent measures</p> <p>Used a number of usual measures for this field to split sample into groups</p> <p>Adjusted for social desirability</p>	<p>Self-report</p> <p>Single data source</p> <p>Difficult to fully identify perpetrator</p> <p>Single county- diff policies for arrest/ police not trained to identify primary perpetrators</p> <p>Scales don't consider context</p> <p>Coercive control measures are designed for men.</p>

		Low generalisability- ethnic, racial, geographic Only looked at current relationship
Simmons, Lehmann and Craun (2008)	High reliability Validated for females High clinical stability Analysis has shown good predictive and confirmatory validity	Sample knew reports were to be shared with court (bias) Convenience sample- effects generalisability Only females with no prior arrests No comparison group Self-report
Simmons, Lehmann and Cobb (2008)	Combines methods Controlled for age, ethnicity and income Tools- good predictive and confirmatory validity	Self-report (minimise IPV) Low level violence Just a sub-set of population
Seaman, Rubin and Stabb (2007)	Service user views incorporated	Techniques not defined
Stuart, Moore, Gordon, Ramsey and Kahler (2006)	Valid measures Clinical diagnostics are validated Analysed impact of number of intervention sessions Controlled for demographics	Self-report Cross-sectional (can't determine direction) Measure may tend to over diagnose and inflate ratings Specific US state- different legal policies etc. Paper and pencil Measures can't confirm diagnosis, only suggest links No corroboration
Babcock, Miller and Siard (2003)	Independent coders Validate measures Internally consistent	Small sample from one community Most severely violent opted out Uses only perpetrators self report (for partner as well) Subjective nature of self-defence makes it difficult to measure Measures not sensitive to subtle differences
Abel (2001)	Good internal consistency Assumptions tested prior to analysis Procedures to reduce type 1 errors Medium effect size	Convenience sample No scale used to differentiate between perpetrator and victim (being in service was only criteria- subject to legal policy etc) Few controls Small sample Self report Impact of sheltered environment could have impacted trauma scores for victims
Stuart, Moore, Ramsey and Kahler (2004)	Reliable and valid measures Controlled for intervention sessions	Self-report Did not control for type 1 errors Single point of report- no corroboration Investigated IPV in past year- biased by treatment intervention Cross-sectional High number of statistical tests = more likelihood of type 1 errors (spurious relationships found)

Results

24 studies were reviewed and synthesised in order to answer the research question, what are the psychosocial risk factors of female perpetrators of intimate partner violence? For ease of reporting the reviewed studies have been numbered 1-24 and will be referred to by number throughout the results and discussion sections of this report. Appendix D presents the reference list of included studies and the corresponding assigned number.

Demographics.

Age: The majority of studies recorded the age of participants (n = 21), interestingly the studies using an arrested or convicted sample of females found a narrow age-range with women aged between 28 years and 34 years (1,6,7,9,10,15,16,17,18,19,20,21,22,23,24), studies of a student population naturally had a younger, non-convicted sample (2,3,8,14) whilst two studies using a

random general population sample had higher mean age (mean age 50 years) and found low levels of IPV perpetration in the past 12 months (4,11). This finding may suggest that females who perpetrate more serious violence are of a similar generation and may indicate that escalation of intimate partner violence peaks in mid-adulthood. It would also support research which has found a decrease in trends of IPV over the life course (Field & Caetano, 2003), and may suggest that psychosocial factors associated with mid-adulthood are important in the aetiology of FIPV.

Education and employment: A number of studies considered factors related to education and employment, studies found that most female perpetrators have completed education (6,10,11,16,17,18,24) although many were unemployed at the time of the study (9,20,22). Females in employment tended to be in unskilled jobs and were poorly paid (median \$19k per annum) compared to male counterparts (6,19,21,22,23,24). These findings do not fit with theories which have suggested that FIPV is related to a shifting power balance in heterosexual relationships as females adopt less traditional roles (13). Conversely this finding may suggest that it is female powerlessness in traditionally defined heterosexual relationship roles that is a more important factor in the development of FIPV. Alternatively unemployment and low salary could indicate a link between poverty and development of FIPV, there is much research evidence of this association in the male literature (Jewkes, 2002) and one reviewed study concluded that poverty could be more predictive of FIPV than any individual factor (4).

Relational factors.

Relationship status: A number of studies reported on relationship status and length. Reviewed studies show relatively high levels of cohabitation and marriage (50%-100%), particularly in convicted samples (3,10,17,21,24) which may be reflective of developmental stage. Cohabitation is considered to be a factor in IPV particularly in bi-directional couple violence (8). Relationship length was also recorded by several studies showing an average relationship length of 4-6 years. One study identified shorter relationship length as a factor distinguishing female perpetrators from female victims (11) however this was with a student sample and may be difficult to generalise to the wider population. Studies showed between 46% (17) and 71% (18) of perpetrators had children. Factors such as cohabitation, relationship length and parental responsibility are likely to be factors that are developmentally associated with the age of the sample (average 28-14 years), particularly as younger student samples report lower levels of cohabitation, children and shorter relationships (2,8,14). This indicates that more severe FIPV may be associated with the stress of life changes in early to mid-adulthood and the increases in societal expectations and responsibilities which may mediate between other individual and relational factors to increase likelihood of partner violence.

Relationship Satisfaction: Three studies looked particularly at relationship satisfaction (6,13,17) finding it to be a significant factor in FIPV and finding higher rates of dissatisfaction in female perpetrators compared to male (6). A link between relationship dissatisfaction and increased alcohol use was found with relationship dissatisfaction considered to mediate the affect of drinking on perpetration for both genders (13) and evidence to suggest that dissatisfied females use violence as a form of coercive control over a partner (17). In light of previous factors discussed in this review it is likely that females may be dissatisfied with their relationship for reasons related to the increased pressures associated with mid-adulthood, poverty and powerlessness, and that for those with certain individual traits this dissatisfaction expresses itself as IPV.

Quality of relationship: Previous studies have found high levels of IPV victimisation in FIPV (e.g. Dobash, Dobash,1992), the reviewed studies found that many females who use IPV are in

relationships with high levels of bi-directional violence (5,8) and high rates of previous victimisation of violence by current partner (17,22). Although females report more IPV perpetration (5) they also report that the violence perpetrated against them by male partners is more severe (1,22) supporting findings of other studies in the area (e.g. Rennison et al, 2000). Studies have indicated the existence of a bias in reporting with females tending to over report their own perpetration which may indicate that actual levels of FIPV are lower than found by self-report measures.

Interpersonal relationships factors: Interpersonal relationship factors that may impact on a female's use of violence in a conflicted relationship are powerlessness and fear of partner. Powerlessness was found to be a significant factor for both mutual couple and female only IPV but was not considered to be a factor in males (11), this may be related to findings of a further study that found that females with a less traditional role are at increased likelihood of IPV perpetration whilst males with a more traditional and hence powerful role are more likely to perpetrate IPV (13). A further study suggests that fear of partner due to previous IPV victimisation increases females hyper-vigilance to threat and the use of IPV as defence (10). Findings which support the idea of FIPV as self defence tend to have used convicted samples, whilst those which report higher rates of low level IPV tend to be student or general population samples, this suggests that the role of fear of partner may be a more significant factor in more severe, 'clinical' IPV. Findings related to powerlessness and traditional roles were from general population studies and may suggest these factors as more indicative of lower level IPV.

Attachment style: Four of the reviewed studies considered attachment as a psychosocial factor in FIPV and found a relationship between insecure attachment and increased partner violence (3,7,8,13). All studies agreed that it is the combination of a female anxious attachment and her partner's avoidant attachment style that predicts FIPV. However, this relationship is not directly causal and female anxious attachment is no longer a significant factor when controlling for male violence (3) suggesting that male violence mediates between female anxious attachment and FIPV. Female anxious attachment style is closely related to the development of difficulties classified as personality disorders by the DSM-IV, in particular Borderline Personality Disorder (BPD) (Dozier, Stovall-McClough and Albus, 2008).

Individual Factors.

Personality: Four studies considered personality as a psychosocial factor in female use of IPV. All the studies found elevated levels of BPD in FIPV compared to male perpetrators (2,16), clinical control group (7) and the general population (21). Use of diagnostic tools found 27% of FIPV above the clinical threshold for diagnosis of BPD compared to 3% prevalence in the general population (APA, 2000) and 7% above the clinical threshold for antisocial personality disorder compared to 1% of the general population (APA, 2000) (21). This converges with investigation into typologies among IPV perpetration which identified that females are over twice as likely to fit a BPD typology as males (16) with a small minority fitting an anti-social predominantly male typology. Traits associated with BPD are high levels of neuroticism, which has been found to have a significant association with FIPV (2). Female perpetrators high in BPD were found to have experienced high levels of victimisation, substance misuse (16) and score highly for dependant personality style (7). These studies suggest a clear link between certain personality traits and female use of IPV; however they do not control for confounding variables, particularly partner variables such as personality style, attachment or use of violence which have been found to mediate the effects of female anxious attachment, a factor strongly related to BPD (3). Furthermore in the studies reviewed there was no evidence to suggest that the existence of

particular personality traits is unique in the aetiology of FIPV or if they are also associated with general violent or offending behaviours.

Cognitive style/Trait disposition: A number of individual psychological factors were found to be significantly associated with female perpetration of IPV, including anti-social attitude (6), acceptability of IPV and violent retaliation (14) and social anxiety (14). A number of identified psychological factors are those that are evident in individuals diagnosed as BPD (APA, 2000) including, impulsivity (11), self-worth derived from relationship and more rumination on relationship (14) and increased neuroticism (16). Whilst a number of factors can also be associated with a diagnosis of anti-social personality disorder (APA, 2000), including anti-social attitude (6), propensity to anger (14) and low agreeableness (16). One study investigating moral reasoning found FIPV levels were lower than general female offender rates but similar to male domestic violence perpetrators. The study concludes that females convicted of violence victimisation of an intimate partner have moral reasoning levels comparable with institutionalised young offenders (12). This finding suggests a certain level of psychological immaturity among FIPV perpetrators that could explain the existence of some of the other identified psychological factors e.g. impulsivity. Emotional immaturity is a term often used to describe the cognitive affective style of those diagnosed with BPD (Clarkin & Mesner, 2005). Findings related to psychological factors in a convicted/inpatient sample (6,12,16,17) may have been biased by number and content of intervention sessions attended by participants.

Mental Health/Substance Use.

Psychopathology: Correlations were found to exist between a number of psychopathological factors and perpetration of IPV, with one study finding a 76.7% rate of diagnosis of one or more Axis I disorder in a convicted sample (21). Particular findings related perpetration to low affect/depression in females (5,13,14,16,18,21) with levels of clinical depression in 35% of convicted participants compared to 7% in the general population (APA, 2000) (21). Although levels of depression were more elevated in highly victimised females (13,14,21,23). Level of anxiety was also considered to be significant in female perpetration of IPV (5,14,16) and a more significant factor for perpetrators than victims (23) and for females than males (16). Levels of generalised anxiety disorder were 34% in a convicted sample compared to 4% in the general population (APA, 2000) (21). Reviewed studies indicate a link between certain psychopathological factors and female perpetration of IPV, however with the exception of one longitudinal study (5) the direction of the relationship between psychopathology and IPV is difficult to define due to limitations in study methodologies.

Trauma symptoms: Findings related to trauma symptoms diverged among four studies. Two studies (7,23) found high rates of trauma symptom in FIPV. However one study found trauma symptoms amongst a sample convicted of IPV to be within the normal non-clinical range (18) and a further study found higher rates of trauma symptom in general violent offenders than in partner only offenders (22) although in the latter study the index offence for all participants had been IPV. There are a number of flaws with study designs that may elicit caution when reviewing these studies, all data was self-reported with one study collating data that participants knew would be shared during court proceedings (18), furthermore there was a lack of internal consistency between the studies in the definition of trauma symptoms. When a definition of Post Traumatic Stress Disorder (PTSD) was used rates amongst a convicted sample were found to be 44% compared to 10% in the general population (APA, 2000) (21).

Substance use: A number of studies considered substance use as a psychosocial factor related to perpetration of IPV in females, with all finding a significant correlation particularly between female alcohol use and perpetration (5,6,13,15,16,19,21,24). High levels of alcohol use in convicted FIPV perpetrators was found in 64% (19) with one study finding clinically hazardous levels of alcohol use in 43% compared to general population levels of 5% (21). A further study found lower clinical levels of alcohol use, 10.3% but also found that 77% of the sample had personality styles predictive of future hazardous alcohol use (19). However, one study found that problem drinking was no longer significant when partner drinking is controlled for; suggesting that partner drinking mediates the effect of problem drinking in females who use IPV (13). Furthermore, females report significantly higher levels of partner drinking than self drinking (15,24), although using an indirect measure of partner drinking is methodologically problematic. The association between other drug use and FIPV is less significant (19,21) and appears to be predictive of male rather than FIPV. According to the studies reviewed alcohol is a proximal factor in perpetration of IPV in females that is mediated by other psychosocial factors including partner drinking (4,13), relationship dissatisfaction (13) and anti-sociality (6).

Childhood/Family History.

Family history and adversity: Only two studies reported on family history both finding a significant association between family adversity and IPV perpetration, although this may be a stronger relationship in males (5). Particular aspects of family history associated with IPV are parental substance misuse and family problems (5) and a chaotic household, disconnection from mother and estrangement from father (20).

Witnessing inter-parental violence: A number of studies investigated inter-generational transmission of violence finding that there is a significant correlation between witnessing parental domestic violence and perpetrating IPV (5) this is further evidenced in comparison to a clinical control group (7). Other findings suggest that witnessing IPV is a more significant factor in males (13) primary female aggressors (17) and IPV perpetrators who are also generally violent. Further findings indicate that witnessing mothers aggression towards father is a significant factor for some female samples (20,22). These findings may suggest a typology of FIPV with more innately aggressive females being more likely to model a parent's aggression than those who are involved in mutual couple violence or self-defensive violence. Findings may also indicate that IPV has become normalised in the developmental histories of some women, with qualitative reports suggesting that the conviction to never become a victim could be a factor for some women who go on to perpetrate IPV (20).

Exposure to abuse: A significant correlation was found between sexual and physical abuse in childhood and IPV perpetration, although this was a stronger predictor for males than females (5,13). High rates of physical and sexual abuse were identified, up to 68% physical abuse and 70% sexual abuse (7,10,15,18,20,22) depending on the measure used. FIPV perpetrators who were considered generally violent showed more elevated levels of childhood exposure to abuse than partner only perpetrators (22) and one study found that abuse by mother was a more frequent factor in IPV perpetration than abuse by father (18). Abuse victimisation continued to be a feature in the adult lives of many of the women studied with up to 84% reporting previous experience of domestic violence (10,17,18,20). There appears to be convergence around the experience of abuse in the lives of FIPV, within group heterogeneity could suggest a typology of female partner violence offender.

Offending History.

Offending history: Findings show that females have significantly less prior offending, both violent and non-violent, than males (1,5,9,10,17). Although findings also show that conduct disorder in females is a significant predictive factor for female as opposed to male IPV (5,17), suggesting issues of adjustment throughout adolescence. Over half of FIPV have never used violence outside of the family (10) although females classified as primary aggressors are three times more likely to have previously been suspected of violence towards an intimate partner (17). Findings showed low rate of recidivism in women convicted of partner violence although they were at elevated risk of future IPV victimisation (9,17). These findings may suggest that the psychosocial factors associated with FIPV are risk factors of entering an abusive relationship rather than risk factors of perpetration only.

Discussion

Overview of Findings.

This study reviewed 24 papers to identify the psychosocial characteristics of FIPV. Although a number of correlated psychosocial factors have been identified the relationships are not straightforward particularly due to the different typologies of FIPV perpetrators identified within the literature e.g. females engaging in bi-directional violence, highly victimised females acting in self-defence, primary aggressors, partner only perpetrators and generally violent perpetrators. The use of such typologies within the research supports previous findings (e.g. Johnson, 2006) and highlights the heterogeneity inherent within this particular population making a definitive statement of related psychosocial factors difficult to extract. Nevertheless a number of common themes were identified that can be drawn together to tentatively suggest a profile of FIPV.

Female's who go on to use IPV are born into families high in adversity (5,20), they often experience childhood abuse (7,10,15,18,20,22) and may witness parental IPV (5,17,20,22) which normalises the use of family violence (14). Their childhood environment develops their anxious attachment style (3,7,8,13) and borderline, dependant or anti-social personality style (2,7,16,21), they struggle with adjustment difficulties throughout adolescence and many experience issues of conduct (5,17).

Many women first experience bi-directional violence in early romantic relationships, the proximal antecedent here is likely to be the interplay between the female's anxious attachment style and the partner's avoidant attachment style which is mediated by male aggression (3). The violence at this stage is likely to be low level and females are unlikely to be arrested or convicted of IPV.

As early relationships develop in exclusivity many females leave home early to cohabit and to escape family adversity (20). By mid-adulthood (28-34 years) they are experiencing the stress of life events and poverty (4,6,19,21,22,23,24), both partners become dissatisfied with the relationship (6,13,17) and IPV reaches a peak. Proximal indicators of violence at this stage are problem alcohol use and relationship dissatisfaction fully mediated by partner alcohol use (5,6,13,15,16,17,19,21,24). There is also a relationship between emotional immaturity (11,14,16) powerlessness (11) and learned fear of partner (10) leading to hyper-vigilance to threat which may predict partner only perpetration at this stage. By later adulthood relationship violence begins to decrease in frequency and severity (3,11), this fits with expectations from previous research (e.g. Field et al, 2003).

Although a relationship was found to exist between psychopathology, particularly depression, anxiety and PTSD (13,14,16,18,21,23) it is difficult to identify the direction of the relationship as mental ill health could be a consequence of repeat victimisation and relationship conflict.

Factors which may influence typology of partner violence in this profile are personality type (BPD, dependant or anti-social), adolescent adjustment and conduct disorder (which is more prevalent in generally violent women), and childhood abuse (more prevalent in primary aggressors). There are also a number of differences in developmental pathways of males compared to females that indicate the need for research in the area.

High rates of victimisation and bi-directional violence suggest that psychosocial factors should be considered as risk factors for entering an abusive relationship as opposed to risk factors for perpetration of IPV.

The findings of this study suggest a multifaceted explanation for the development of FIPV that has been used to tentatively identify a pathway to IPV perpetration in females, this pathway is dependant on a number of contingent factors and may be quantitatively or qualitatively different depending on IPV typology.

Strengths and Weaknesses.

Samples: Samples in this study were mixed, with the majority of studies using a convicted, incarcerated or inpatient sample, a number of others using student samples and two studies using a general population sample. Consequently the findings represent either severe or particularly moderate perpetration which may be difficult to generalise. Samples in the majority of studies were court mandated to treatment which may bias results where number and content of intervention is not controlled for.

Because IPV has been researched largely with male populations many of the studies focused on factors that have been associated with male offenders and may not be generalisable to a female population furthermore indicators unique to females may not be considered in some studies.

Measures: All studies used self-report measures to a greater or lesser degree, findings suggest that females over-report perpetration whilst males tend to under-report, bias in self report data was particularly evident in one study in which participants knew that information would be shared with the court. Using self-report data on partner characteristics is particularly prone to bias.

Development and causality: The majority of studies used cross-sectional design and although associations were identified the directionality of association could not be determined. Further studies using longitudinal design in order to identify causality are recommended by the majority of authors.

Implications.

This review suggests important considerations for research, first there was a lack of qualitative research in the area, experiential studies are important in identifying the unique psychosocial characteristics related to female use of IPV and for identifying the subtleties of the developmental pathway that may not be clear from research that investigates variables derived from theory around male use of IPV or female general offending.

Second there is a clear need for longitudinal research to identify causality and direction of relationships between psychosocial factors.

Finally the lack of consensus and definition around typologies of FIPV perpetration suggests that further research in this area is required.

Implications for practice are a reiteration of previous calls for development of risk assessment tools (Mckeown, 2010) and treatment programmes (Carney et al, 2007) that are tailored to the needs of FIPV perpetrators and a move away from interventions that are validated for use only with males or with female general offending populations. This review also highlights the need for further understanding in the law of the different typologies of perpetrator, particularly to identify those females who use IPV only in self-defence towards a violent partner and for police and frontline professionals to be trained to recognise and deal appropriately with primary, mutual and highly victimised perpetrators.

Conclusion.

In conclusion this review gives an overview of the psychosocial factors associated with female perpetration of IPV and suggests a multifactor explanation for the development of partner violence in women that has some similarities but some notable differences to development in men. There are some difficulties inherent in reviewing studies in this area, not least the different typologies of female perpetrator, the use of violence in self-defence and methodological difficulties. However, a number of common psychosocial factors have been identified and drawn together to outline a tentative profile of FIPV that could be tested in future longitudinal or qualitative research studies and could impact on the development of treatment intervention tailored to the needs of FIPV.

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The Function of Intimate Partner Violence for Female Perpetrators: An Examination Using Multiple Sequential Functional Analysis

It has been suggested that many of the current theories of female intimate partner violence are correlational in nature and do not adequately explain the processes by which partner violence develops and is maintained in the developmental pathways of women. A method of multiple sequential functional analysis has been employed to explore the functional value of violence in the case histories of three women. Data collection consisted of biographical interviews with the participants, for the purpose of triangulation retrospective file reviews and professional interviews were conducted. The results show that violence and inciting violence from a male partner had functional value for these women, and that environmental reinforcement had shaped up violent behaviours in subtly different ways. The functional importance of power and control over the immediate environment was a factor discussed in relation to study findings. Clinical implications of the study are discussed.

Keywords: *intimate partner violence; domestic violence; female perpetrators; risk factors; functional analysis*

Since the 1970's, violence in the context of intimate relationships has been a subject of numerous studies and reviews (see Fiebert, 2010). UK lifetime prevalence estimates suggest that 15% of men and 23% of women have been assaulted by an intimate partner and of those 30-50% were assaulted more than three times (Mirrlees-Black, 1999). Due to the nature of national surveys, it is likely that these figures represent a floor rate of domestic violence prevalence.

Despite many studies, including meta-analytic review (Archer, 2000), showing that partner violence is equally perpetrated by males and females, a number of theorists continue to ascertain that female violence can only be considered in the context of violence victimisation by males (Dobash & Dobash, 1979, 1992). They suggest that studies identifying equality of intimate partner violence (IPV) by frequency estimate do not consider the context and severity which demonstrates self-defence in female IPV. They draw attention to evidence from clinical populations which show disproportionately high rates of male violence towards female victims (Dobash & Dobash, 2004). Supporting evidence shows that women who use IPV are at elevated risk of physical and

emotional harm compared to males (e.g. Tajeda & Thoennes, 2000; Coker et al., 2002). However, the negative impact of female to male violence should not be underestimated (Hines & Malley-Morrison, 2001) and it has been suggested that clinical population studies sample on the dependant variable negating subsequent analysis (Felson, 2005). Overall, the majority of studies, including those using a self-selecting design, find gender equality in IPV perpetration, and there is sufficient evidence of female perpetrated IPV and its consequences to warrant further investigation.

There is a paucity of research into female IPV when compared to the vast literature around male perpetrators and female victims (Dowd, 2001). However, that empirical studies have identified multiple psychosocial factors common to females who use IPV suggests that causality is multi-dimensional. The evidence base around correlates of female IPV identifies individual factors including: insecure attachment style (e.g. Dumas, Pearson, Elgin, & McKinley, 2008), borderline personality traits (e.g. Thornton, Graham-Kevan, & Archer, 2010), alcohol use (e.g. Weizmann-Henelius, Viemaro, & Eronen, 2004), witnessing or experiencing abuse in childhood (e.g. Babcock, Millar & Siard, 2003); and relational factors including, power imbalance and fear of partner (Kernsmith, 2006), as contributing to IPV. However there is no single model that is able to explain the processes by which factors of commonality and difference contribute to the development and maintenance of IPV in the lives of female IPV perpetrators. Examining the developmental trajectories of females by using psychological theory, to understand the processes that shape psychosocial factors into IPV, is crucial in understanding this phenomenon.

The heterogeneity of females who use partner violence makes it unlikely that a single causal model could adequately explain the phenomenon; nevertheless many of the explanations proposed are single-factor theories. Many models of IPV have developed from the feminist understanding of male perpetrated violence and explain IPV as related to the socialisation of gender roles which develop to support male dominance over females (Dobash et al., 1979; Campbell, 1993). There is some support for gender socialisation of aggression, with female affective versus male instrumental violence (Berkowitz, 1993). The processes of violence

socialisation can be adequately explained using the principles of radical behaviourism (Skinner, 1953, 1974) and other evidence based theories may be explained by the same processes. A direct example is Bandura's (1971, 1973) social learning theory which has influenced the intergenerational transmission of violence theory. A theory which suggests that individuals re-enact violent behaviour that they have witnessed or experienced as children, and that the reinforcement of violent relationship strategies in adolescence can predict violent relationships in adulthood (Riggs, Caulfield & Street, 2000; Milhalic & Elliott, 1997). It can be hypothesised that the psychological processes at work within violence transmission theories are operant and respondent conditioning.

One way of exploring this further would be to use the method of Multiple Sequential Functional Analysis (MSFA). MSFA is a method of developmental, functional analysis developed to understand complex forensic case material (Gresswell & Hollin, 1992). It is based on idiographic case formulation methods and as such is well suited to a study of heterogeneous, social phenomenon, such as female IPV perpetration. It is based on the principles of radical behaviourism and is an exploratory, qualitative methodology intended to identify the functional context of behaviour development over a participant's lifespan. Utilising this method allows hypotheses about the functional relationships between behaviour and consequence to be identified in single cases with some success (Gresswell & Dawson, 2010; Hart, Gresswell, & Braham, 2011). Functional analysis can also have nomothetic utility in investigating particular forensic or clinical presentations (Gresswell et al., 1992). Previous studies have identified functional relationships in the development of several phenomenon including aggression (Daffern & Howells, 2009) and stay or leave decisions in violent relationships (Bell & Naugle, 2005).

The current study aims to aggregate a series of three case studies, utilising MSFA, to explore how violence perpetration may develop as a functional behaviour for some women and to test which of the opposing theories of female IPV is most dominant. Although causality cannot be presumed using this methodology, it is expected that using MSFA in this way will offer insight into the

mechanisms by which partner violence is developed and maintained in the trajectories of female participants.

Method

Epistemological position

MSFA is grounded in Skinner's (1953, 1974) radical behaviourism and the philosophical paradigm of functional contextualism (Hayes, 1993). The truth criterion according to this philosophy is grounded in the principles of realism, pragmatism and parsimony. These principles guide the development and application of this study.

Multiple Sequential Functional Analysis

The application of functional analysis involves identifying A: B: C contingency sequences that outline the development and maintenance of a particular behaviour. In functional analysis the 'A' is the antecedent context which triggers the covert and overt behaviours 'B', whilst the 'C' is the environmental consequences of the behaviour (Sturmey, 1996). The consequences of interest in the analysis are those which serve to strengthen or reduce the preceding target behaviour by the process of reinforcement or punishment (Skinner, 1974). The schedules of reinforcement in terms of ratio and time interval are also of interest in understanding the functional relationship between behaviour and consequence. Gresswell and Hollin (1992) used the term MSFA to describe a series of functional analyses set across the developmental history of an individual. In this model the learning contingent on an A:B:C at one stage of development becomes the antecedent for the subsequent A:B:C. So that, for example, a child whose toileting behaviour at nursery is negatively reinforced by avoiding the unpleasant experience of wet pants, will enter the next stage of development with the implicit learning that toilet use is rewarded. The toilet use will be strengthened and is likely to increase in frequency and by a process of respondent conditioning is likely to be generalised to other contexts in the subsequent sequence, for example toilet use at home. In this way the toilet training behaviour can be tracked across the developmental history of an individual. The process of MSFA can be demonstrated diagrammatically, with an arrow to represent the key learning in one sequence that becomes the antecedent of the next (see Fig. 2).

Figure 2: Representation of the sequence of A:B:C analysis in an MSFA sequence

A: B: C:



A: B: C:



A: B: C:

Functional analyses are not intended to demonstrate causality; however the order of events is implied to demonstrate the existence of a functional relationship (Haynes & O'Brien, 1990).

Table 3: Glossary of behavioural terms

Covert behaviour	Internal events including affect, cognition and physiology
Overt behaviour	Observable behaviours
Discriminative stimulus	Specific antecedents that must be present for a behaviour to be emitted
Generalisation	The process by which reinforcement and punishment in multiple settings produces the same behaviours
Respondent conditioning (classical)	Automatic responses that occur in response to new stimulus and are followed by stimulus association
Once established conditioned responses are maintained by the process of operant conditioning	
Operant conditioning	The process by which behaviours are learnt
Positive reinforcement	Added stimulus consequence that increases probability that a behaviour will occur
Negative reinforcement	Removed stimulus consequence that increases probability that a behaviour will occur
Positive punishment	Added stimulus consequence that decreases probability that a behaviour will occur
Negative punishment	Removed stimulus consequence that decreases probability that a behaviour will occur
Punishment is not always effective in reducing behaviour; it would have to immediate, consistent, strong and given every time to have an impact.	
Extinction	Occurs when reinforcement or punishment no longer occur for a behaviour. <i>Spontaneous recovery and rapid reacquisition occur when reinforcement/punishment reintroduced.</i>

The use of MSFA as a method for understanding the functional value of behaviour in complicated cases is most evidenced in the field of forensic psychology. MSFA has been used successfully in clinical practice to understand and intervene with a wide range of forensic presentations. MSFA has also been found to hold value as a research methodology and has been used in the study of multiple murder (Gresswell et al., 1992) and violent behaviour (Hart., 2011). The benefit of using functional analysis, as compared to other qualitative methodologies, is the focus on pragmatism

and clinical utility in understanding the lived experience of women with complex presentations that is unique to this approach (Haynes et al., 1990).

A glossary of terms is provided to support the reader's understanding of the results and discussion sections of this paper; see table 3.

Participants

Participants were recruited opportunistically for this project from Probation and NHS forensic psychology services in the East Midlands, UK. Three women were interviewed twice; they are referred to as Carol, Kay and Claire, see figure 3.

Procedure

The procedure of the study is presented diagrammatically in figure 4.

Figure 3: Participant Demographic

	Carol	Kay	Claire
<i>Pseudonym:</i>	Carol	Kay	Claire
<i>Age:</i>	39	24	28
<i>Marital status:</i>	married	cohabiting	cohabiting
<i>Victim:</i>	Current partner	Current and previous partner	Previous partners
<i>Convictions:</i>	No convictions	IPV convictions only	IPV conviction only
<i>Work status:</i>	Unemployed	Unemployed	Unemployed
<i>Client status:</i>	Self-referral to psychology	Probation order	Psychology out-patient (voluntary)
<i>Violence Biography:</i>	Regular use of violence towards husband . Low level, no police involvement	Violence in the context of excessive alcohol use, towards current and previous partners. Severe, has caused injury,	Violence towards two previous partners, moderately severe. Manslaughter of previous partner and served a jail term

Data collection

Data collection for this project encompassed three procedures; primary data was collected from extended clinical interviews with each participant whilst data for triangulation was collected from professional interviews and file review.

Clinical Interview

Clinical interviews were ideographic in nature and aimed to obtain a detailed life history from each participant; interviews were informed by typical clinical interview schedules (e.g. Hare, 2003; Townend, Cockx, Mills, & Grant, 2008). Details of the client's development across all areas of functioning were captured, including offence history, school history, childhood history, friends and intimate relationships, family history etc. The interview style followed methods of functional

analysis assessment and aimed to collate sufficient data to generate a detailed behavioural formulation across the participant's lifespan (Haynes & O'Brien, 2000; Sturme, 2008). Interviews were completed over two sessions, lasted between five and seven hours and were audio-recorded.

Triangulation

Triangulation is used in this study to allow all available data sources to be synthesised into a single narrative of the client's life. Triangulation is generally used in forensic settings to mitigate against the possibility of offence minimisation and to improve the accuracy of the behavioural formulation (Feagin, Orum, & Sjoberg, 1991). Triangulation fits with the pragmatic truth criterion which influences this study.

Professional interviews: Professional interviews were structured around the on-going formulation and completed to triangulate information from primary data. The professional background of these participants reflected the recruitment process, two interviews were held with forensic and clinical psychologists and one interview was held with a probation service offender manager.

Professional interviews lasted 1-2 hours and were audio-recorded.

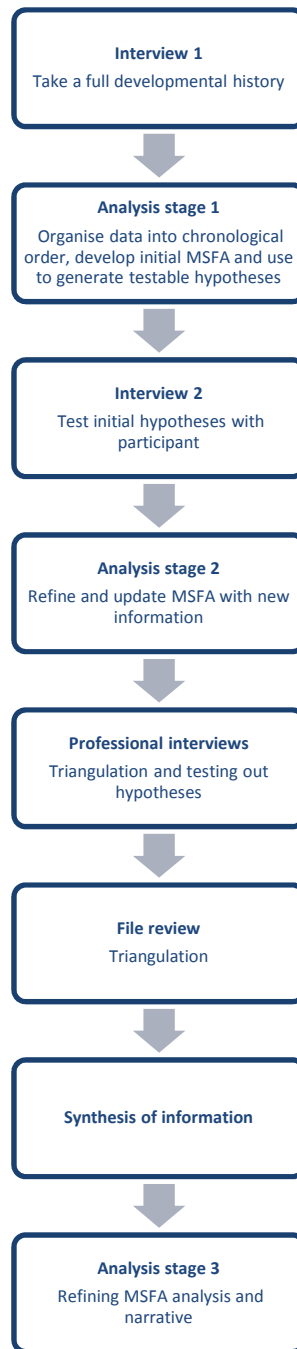
File review: File reviews were completed in conjunction with recruiting professionals who were familiar with the participant and who were aware of details of aggressive incidents. File notes related to offending sequences were noted and findings from psychological formulation and probation pre-sentence reports were amalgamated into the functional analysis. Initial MSFA formulations were shared with professionals in order to gain consensus and to minimise the potential effects of subjective analysis and experimenter bias.

Following all participant interviews, professional interviews and file review, the various accounts of historical circumstances and violent behaviour were synthesised and used to develop a detailed functional analysis.

Analysis

Analysis was completed in three stages in this study.

Figure 4 Diagram to show study procedure



Analysis stage 1, developing the initial hypotheses: Audio recordings of the initial interviews were organised chronologically to reflect key developmental life stages (e.g. Levinson, 1978). A functional analysis was completed for each life stage, following the agreed principles for conducting such analysis (e.g. Sturmey, 1996). This generated the initial MSFA for each participant and was used to guide stage two of the analysis. Analysis stage 2, testing the initial hypotheses: The initial hypotheses were tested with participants in second interviews which were

guided by the initial analysis. Additional detailed information was gathered to contribute to the MSFA and predictions about the reinforcing value of aspects of the analysis were clarified with participants. New knowledge was synthesised into the MSFA using a process of refinement. The refined version of the MSFA was used to guide professional interviews and file review. Analysis stage 3, refining the MSFA and narrative: Participant data was triangulated with data from professional interviews and file review. This generated a very detailed narrative and MSFA account of the developmental history of each participant. Each MSFA was worked through in detail to maintain the integrity of the narrative whilst paring back the scale of the data acquired. To ensure that analytic thinking accurately maintained the principles of radical behaviourism this process was completed with the research supervisor on three separate occasions.

Results

The three MSFA case formulations are presented below with discussion of women's functional development at each life stage.

Early experiences

All three women had difficult childhoods and appear to have developed gendered beliefs at this life stage. There are three interesting differentiations that may relate to the development of gendered belief systems in these women. 1. The gender of the abuser was different; Carol and Claire were physically abused by their mothers whilst Kay's experience of physical abuse was at the hands of her father. 2. Carol and Kay were both sexually abused by a male family member. 3. Both Claire and Kay witnessed domestic violence towards their mothers; Kay intervened whilst Claire did not. Interestingly all three women explicitly reported not wanting to be like their mother's in adulthood, this was regardless of if their mother had been a perpetrator or victim of abuse. Paradoxically, in terms of modeling behaviour this suggests that the mother was the primary role model despite experiences of maternal violence and abuse. It is notable that as the only participant to be physically abused by a male, her father, Kay developed clear gendered stereotypes about the power of males over females. Whilst the two women abused by their mothers appear to have developed beliefs that women are strong and powerful. Another difference between Kay and the other women is that she is the only participant to have actively

Table 4 Functional analysis sequence 1: early experiences.

CAROL	CLAIRE	KAY
Antecedent		
Distal antecedent: family history of gendered violence (female to female) Carol is singled out for violence from mother	Home environment chaotic and neglectful, overhears domestic violence towards mother Singled out for violence by mother and bullied at school	Sees father use violence to mother when he is drunk Singled out for physical punishment and sexual abuse by father
Behaviour		
Covert •Beliefs of self as worthless and home as unsafe •Anger at the unfairness of being singled out in this way Overt •Freeze response to violence •Withdrawn and socially isolated but some clinging and crying	Covert •Beliefs of self as worthless/different and home as unsafe •Anger and hatred of mother Overt •Asks mum for more appropriate care •Protects self and siblings by staying out of sight	Covert • Beliefs of self as different, home as unsafe and violence linked to alcohol •Approach/avoidance conflict with father Overt •Cowering when beaten but intervening when mother beaten • Violent behaviours towards property and siblings •Acting like a boy and identifying with father
Consequence		
Gets attention only when punished for clinging and crying Victimised and bullied at school	Passive and neglected Autonomy is punished by violence Moves in with Grandmother, siblings into foster care	Father's violence is reduced with Kay's overt behaviours Mother pacifies Kay Father cheats and abandons the family
Key learning		
1) Attention, even when unpleasant, is preferable to being ignored 2) To get attention you can use behaviours that are aversive to others <i>Gendered beliefs:</i> women are strong and abusive to those weaker than them	1) Attention is dangerous at school and at home 2) Develops strong rules that behaviours associated with mother are bad <i>Gendered beliefs:</i> women are strong and abusive to those weaker than them	1) It is powerful to change others responses 2) Intervening is more acceptable than weakly cowering <i>Gendered beliefs:</i> Men are strong and in control of weak women

identified with her perpetrator to the extent that she effectively switched gender for a time. This may demonstrate the extent to which she was prepared to disassociate herself from her mother as the primary role model and may also explain the different responses of Kay and Claire to witnessing their mother's violence victimisation. Although Kay and Carol were sexually abused Claire was not, suggesting that the form of abuse is not as significant as the power differentials in the development of gendered belief systems. Summarised as table 4.

Early adolescence

In early adolescence all three women tried out new behaviours, possibly unconditioned responses to environmental stimuli that appear to signal the start of the functional development of later IPV

perpetration. All three women experienced some form of power in this sequence, although Carol and Kay's behaviours appear to have had more reinforcement value. Carol learned that complaining of being hurt could get her the positive attention she craved whilst Kay found that the power of controlling a man's emotions overvalued the aversive experience of being hit. Although Claire's passive aggression was only partially successful in gaining the attention she required, she learned that it is a more useful strategy than leaving, which received no response from her family. Claire's failed attempt at punishing others by rejection was likely extinguished when it was not reinforced in this sequence. This appears to be demonstrated by Claire's reported 'hanging on to bad relationships' in future sequences. Overall, adolescence appears to be an important stage where all women exercised new unconditioned behaviours which were reinforced by the environment in varying degrees. The key learning at this life stage seems important in the context of the women's later partner violence perpetration.

Table 5 Functional analysis sequence 2: early adolescence

CAROL	CLAIRE	KAY
Antecedent – key learning from MSFA 1 plus...		
Raped by older brother Friends supportive and encourage her to disclose	Prioritised and settled with grandmother for 3 years Role loss when mother and siblings move in	First serious, romantic relationship Partner is domestically violent, misuses alcohol and cheats on Kay
Behaviour		
Covert •Beliefs of being worthless and unsafe are consolidated •Ruminates on the rape and feels shame and fear. Overt •Seeks help and reassurance from friends •Tells parents about the rape	Covert •Beliefs of being worthless and being emotionally unsafe are consolidated •Anger that the contact to be prioritised by grandmother is violated Overt •Sulking and withdrawn •Leaves home in defiance	Covert •Beliefs of gender and power are consolidated •Anger towards John but a satisfaction that his violence shows he cares •Powerful when John begs for reconciliation Overt •Possessive and verbally aggressive •Ends relationship
Consequences		
Friends response is caring and nurturing Mother disbelieves and labels Carol as a liar	Passive/aggression is labelled 'selfish and bad'. Grandmother does not stop Claire from leaving Moves in with boyfriend and his father	John begs for reconciliation and Kay returns several times but the violence cycle continues Kay leaves the relationship
Key learning		
1) Experiences the thrill of receiving positive attention for being hurt 2) Consolidated learning that mother gives unpleasant attention for behaviours she finds aversive	1) Passive-aggression is more useful than rejection to get attention 2) Others only prioritise my needs for a short time	1) Experiences the thrill of controlling a man's emotions 2) Being hit is functional in giving reason to leave and be begged to come back 3) Beliefs generalised to all men cheat/and abuse

This suggests that the reinforcement value of adolescent behaviours may predict behaviours which are shaped up by the environment to become the individual's adult behaviour repertoire.

Table 5 summarises this.

Late adolescence/early adulthood

Late adolescence appears to be a shaping up of a fully functional behavioural repertoire for both Carol and Claire who both learned different behaviours for getting similar needs met in their respective systems. The form of the behaviours is topographically different, Carol used demanding patient behaviours and Claire used passive-aggression and violence, but nevertheless appears to serve similar functional needs.

Table 6 functional analysis sequence 3: late adolescence/early adulthood

CAROL	CLAIRE	KAY
Antecedent- key learning from MSFA 2 plus...		
Carol breaks her arm at work and is diagnosed with epilepsy.	A verbal contract is established that partner, Lee, will prioritise Claire Lee violates this but Claire stays	Highly victimised in a relationship with a violent and controlling new partner, Ray.
Behaviour		
Covert •Thrill that parents give positive care and attention Overt • Increased 'demanding patient' behaviours e.g. complaining of feeling ill, asking for physical and emotional support with symptoms	Covert •Beliefs of being worthless are consolidated •Anger that Lee has violated the contract Overt •Hits boyfriend, mutual violence •Stays out all night •Uses cannabis	Covert •Beliefs of being weak and unsafe are consolidated from childhood •Sexual jealousy but afraid to express it Overt •Cowers from violence •Amphetamine dependence •Complete compliance with Ray's rules and routines
Consequences		
Cared for and validated by her family Labelled as sick and in need of care	The relationship becomes increasingly violent and destructive After 3 years Claire leaves with her mother	Flees the relationship but is found and attacked by Ray Police involved but prosecution of Ray badly handled Terminates the relationship
Key learning		
1) Learns that it is powerful and validating that others have to care for you as you are sick	1) Experiences the thrill of being noticed by other for using violence 2) Attention, even if it is aversive, is preferable to being ignored	1) Only being in control of a relationship can keep you safe 2) It is humiliating when others see that you are weak

Both sets of behaviours resulted in the women having their first experiences of being visible and noticed in the context of having been used to being invisible and ignored. Both behaviours may belong to the same functional class and are hypothesised to be strongly positively and negatively reinforced by the environment. The behaviours are likely to increase over time as the women receive attention and power (positively reinforcing) and experience a reduction in being ignored

and feeling worthless (negatively reinforced). Claire also experienced feelings of depression and low mood at this life stage, these feelings were reduced by the vigour of a physical fight with her partner and add further to the reinforcement of violence in her learning history. Kay diverged from the other women at this life stage as she found herself in a very abusive relationship with an older partner who was psychologically and physically bullying. The key learning for Kay at this life stage is quite different to the other two women, but nevertheless this appears to set her on a path towards using relationship violence herself as the only option she can conceive of to stay safe in an unsafe world. Table 6 summarises this.

Adulthood and development of offence sequence

Table 7 Functional analysis sequence 4: adulthood and development of offence sequence

CAROL	CLAIRE	KAY
Antecedent- key learning from MSFA 3 plus...		
Lives with parents in patient role for 8 years until husband takes over care role Marriage deteriorates as husband avoids Carol's demanding behaviours	Verbal contract established between Claire and new partner, Gary. Gary begins to violate this	Mutually violent relationship with Paul. Kay uses more violence and coercion than partner.
Behaviour		
Covert •Reverts to earlier beliefs of being worthless when ignored •Anger towards Bill for not meeting his care obligations Overt •Demanding patient behaviours increase •Physical violence towards partner, hitting, kicking •Takes several overdoses	Covert •Beliefs of being worthless and ignored when passive •Anger at Gary for violating contract •Associations with childhood when Gary has drug using friends over like mum did Overt •Sulking and withdrawing •Gets into physical and verbal fights with partner	Covert •Beliefs that holding power keeps you safe are consolidated •Anger when Paul hits back •Powerful when Paul is submissive and begs for reconciliation Overt •Jealous aggression and coercive controlling behaviours towards new partner •Leaves Paul or throws him out of the house when he hits back
Consequences		
Partner is bullied and chastened; he pays attention to Carol's needs in the short term but drifts back into avoiding Cycle of reciprocal reinforcement is established	After each violent a new verbal contract is established and then violated The relationship becomes increasingly violent and destructive	The relationship continues to be mutually violent with Kay as the dominant partner Kay gets bored and ends the relationship with Paul
Key learning		
1) Strengthened beliefs about needing to be a victim or sick to be cared for 2) Identifies violence and overdose as new ways to be powerful and get needs met in this system	1) Strengthens key learning from MSFA 3 2) Learns that violence is a more powerful strategy than passive aggression for getting attention	1) It is powerful to control the inevitable IPV by being the perpetrator 2) When you are strong others do not abuse or cheat on you

There is some convergence amongst the women at this stage as all are actively involved in using violence towards an intimate partner. The violence is reinforced by its functional value for all three

women but there are subtle differences. Both Kay and Claire are in mutually violent relationships, whilst Carol is the only aggressor in her relationship, however all three women acknowledge using more severe violence and initiating violent sequences more often than their partners. All three women appear to hold more power in these relationships than their male partners even where they are experiencing some physical abuse from that partner.

It seems that this life stage is crucial in the shaping up of the index offending behaviour as all women are reinforced by the environment for their use of partner violence. Evidence of this is that the violent behaviour begins to strengthen in terms of severity and frequency for all three women. Carol and Claire both appear to have developed a hierarchy of behaviours to get their functional needs met. Claire uses sulking and withdrawal to elicit attention from her partner but when this is not successful finds that physical aggression is reinforced as it is hard for her partner to ignore being hit. Carol uses physical aggression and typically finds this reinforcing when her husband responds with attention and care, on occasions where Carol's husband does not reinforce the violent behaviour she takes an overdose, a behaviour which ensures her functional needs are met in this environment.

Kay finds that using violence places her in a position of power on two levels: 1. the violence is strongly positively reinforced physiologically and cognitively in the moment. 2. When Kay hits her partner it typically incites his violence in return, Kay then has a legitimate reason to leave the relationship and be reinforced when her partner begs her for reconciliation. The power of having a man in such a submissive position is strongly reinforcing of Kay's feelings of power and negatively reinforcing as it reduces the fear that Kay is unsafe in this environment. This is summarised in table 7.

Index offence

In the sequence leading up to the index offending behaviours there has been a shift in the women's experiences of partner violence. Carol and Claire are both experiencing mutually violent relationships whilst Kay is the only perpetrator of violence in her new relationship. All women escalate their use of violence overtime which reflects the reinforcement value in their retrospective

environments. Both Claire and Kay appeared to experience extinction in this sequence and it appears that the escalation of violence in response to their partners changing contingencies may be related to post-extinction burst for both women. Both women are arrested in this sequence which may imply some relationship between extinction burst and escalation of violence to clinical levels of severity.

Table 8 Functional analysis sequence 5: index offence

CAROL	CLAIRE	KAY
Antecedent- key learning from MSFA 4 plus...		
Bill's pattern of avoidance increases and he hits Carol back	Gary promises to be home alone while Claire goes out drinking but violates this	New partner, Adam, is older and pro-social. The couple go drinking together and Adam talks to a female
Behaviour		
Covert- •Afraid of going back to being powerless and ignored •Anger at Bill for the injustice of his behaviour •Expectation that if others realise Bill has hit her they will be attentive Overt- •Escalation of patient/victim and violent demanding behaviours •Phones the police and her family to disclose Bill's abuse	Covert- •Afraid of going back to beliefs of being worthless •Anger that Gary has violated the contract •Beliefs that to be active is necessary to be noticed Overt- •Claire hits Gary and escalates the violence when she doesn't get the response she expects	Covert •Afraid that if she is seen as weak men will abuse and cheat •Anger that Adam is not being submissive •No skills to repair the relationship when Adam does not respond as expected by hitting back Overt •Possessive and attempts to control •Kay physically attacks Adam
Consequences		
Attains support and attention of family and police Bill resumes his care role	Gary does not ask his friend to leave or negotiate a new verbal contract as before Claire stabs Gary and he dies	Adam responds calmly and does not hit Kay back As Kay's violence escalates she is arrested but the relationship is maintained
Key learning		
1) Disclosing abuse to others is reinforced as a strategy to increase their overt care and attention	1) Reverts to the belief that passivity is the only safe response to distress 2) Having acted in ways associated with her mother Claire develops beliefs of being bad	1) Beliefs that holding power keeps you safe are consolidated

Carol is slightly different in her current offending as she has never been arrested and her use of violence appears relatively stable in the current context. When Carol's behaviour ceases to be reinforced by the environment she adopts a new, similar, behaviour rather than escalating the violence in its current form as Claire and Kay do. Carol's use of violence appears to be one of several behaviours she employs to elicit caregiving behaviours from those in the environment. When Carol's husband hits back by tapping her on the arm, Carol calls the police despite using quite severe levels of violence towards her husband for several years. It appears that this relates

to Carol's beliefs that others will be forced to care for you if you are ill or a victim of crime. Carol's use of demanding patient and victim behaviours may find as much fit with a functional analysis of Factitious disorder as with the current functional analysis of partner violence. This is summarised in table 8.

Discussion: synthesis of results

From the case studies described above it is clear that violence can be evidenced as functional for each of the women using this methodology. However, there appears to be subtle similarities and differences in the functional value of violence for these women. The function of Carol's violence appears to be a need to be noticed, attended to and not ignored in her environment. Carol learned in adolescence that it was possible to achieve this in an hostile environment by being portrayed as a victim or sick. Although there is no evidence that Carol's illnesses are Factitious, there are similarities in Carol's presentation and research of Factitious disorder (Meadows, 1984).

The function of Claire's violence closely resembles Carol's. Both women were abused by a female parent and ignored or side-lined by their families in childhood, and like Carol, it appears Claire's use of violence is intended to elicit being noticed and attended to in an environment which is predominantly hostile and unwelcoming. However, whilst Carol's partner violence appears to be one of several behaviours with the same reinforcement value, Claire typically uses the violence as her main behaviour to force her partner's attention. Claire escalates the use of violence where the environment does not reinforce her, whilst Carol escalates by switching to a new behavioural response. It is not possible to understand how this difference in escalation has developed and this is possibly a limitation of the current study.

Kay's use of violence appears to have a different functional value to Carol and Claire. Kay uses violence in order to feel safe in an unsafe world. Kay's learning history is unique in that she was highly victimised in an adolescent relationship which strengthened her resolve to be strong and therefore safe in future relationships. Kay's use of violence appears to continue even when it is not obviously adaptive due to previous and current reinforcement and because of a skills deficit in handling conflict effectively. All three women have had attempts at adaptive problem solving and

autonomy eradicated from the behavioural repertoire as a result of environmental conditioning which did not reinforce such positive skills based behaviours.

Achieving power over the immediate environment appears to be strongly reinforcing for each of these women and can be considered a functional similarity. This directly contrasts with the feminist understanding of partner violence and suggests that women are capable of using IPV for reasons other than self-defence (Carney, Buttell, & Dutton, 2007). Controversially, findings indicate that all three women incited violence in their partners for particular reinforcement from the environment, whether to feel safe or to elicit attention. Both Claire and Kay directly acknowledge feeling some satisfaction from inciting violence in their partners. Although the functional value is slightly different for each woman the fundamental similarity is that it gives a sense of power over the situation. Women using and inciting partner violence to achieve power over the environment could appear like victim blaming according to some researchers (Dobash & Dobash, 2004) but it is not intended in this way. Rather acknowledging the functional value of giving and receiving partner violence is intended to give clinical understanding to the development of effective treatment programmes for women.

The finding that power over the environment is the fundamental function of IPV for these women is congruent with literature on the aetiology of male partner violence, which consistently identifies the reinforcement value of power and control (Pence & Paymar, 1993). This may suggest that partner violence is instrumental aggression, rather than affective, contradicting findings that female's use of aggression is typically associated with affective aggression and loss of control (Berkowitz, 2003).

This methodology has clearly demonstrated a developmental trajectory in which violence is reinforced by serving a functional need across the women's life transitions. All the women had been victimised in childhood, although this took different forms and was not consistent between the women. This supports findings that women who use IPV are likely to have been victims of childhood and adulthood abuse (Babcock et al., 2003). That the gender of the abuser was different amongst the women may suggest a gendered element to intergenerational transmission theory

(Stith et al.,2000). It can be anticipated that all three women developed insecure attachment styles in childhood, a factor that has much evidence in the literature in relation to IPV development (e.g. Dumas et al.,2008). The findings of this study demonstrate operant learning processes as underpinning attachment styles. . Each of the women can be identified as being reinforced throughout their lives for behaviours which ensure proximity to a care giver, even where the proximity equates to violence. This pattern is further demonstrated to influence the way these women relate to romantic partners in later life and may provide support for studies which have found attachment 'chemistry' of couples to be important in predicting IPV (Orcutt, Garcia, & Pickett, 2005). Furthermore, this may be related to the personality development of women who use IPV, who are found to present symptoms of borderline personality disorder above levels in the general population (Walsh et al.,2010). A limitation of this study is that no empirical testing was used to identify the attachment styles or personality traits of the women involved, this would have added an interesting dimension to discussion of each case.

There are a number of situational factors that appear relevant to IPV in these women. Both Claire and Kay report being intoxicated during the index offence, for Kay this can be tracked back to associations she developed in childhood when her father only used partner violence when drinking alcohol. For Claire the relationship is more difficult to disentangle but alcohol appears to have acted as a disinhibitor in both women's index offending. This supports findings which have identified alcohol use as strongly related to the use of relationship violence (Weizmann- Henelius et al.,2003). The setting of the partner violence is also similar amongst the women who all report only using violence in private situations. The functional value of not using violence in public may be related to reducing likelihood of associated humiliation or may be related to societal views of partner violence by females.

Limitations: One limitation of this study was the exclusion of male partner interviews in triangulation. Involving male partners would add depth to the analysis particularly in relation to compiling a detailed account of the offending behaviour (Jupp, Davies, & Francis, 2000). A suggestion for future research may be to utilise MSFA methodology to track victimisation and

experiences of violence across the developmental trajectories of both partners in a couple. This would give a unique understanding and functional perspective of the nature of reciprocal roles in the development of IPV. Secondly, there appears to be a need for longitudinal studies to understand the long term development of female IPV. In this study a retrospective method has been used in an attempt to understand the longitudinal development of IPV. Limitations of using a retrospective methodology are widely known e.g. problems of memory recall and difficulties in triangulating historical data (van de Ven & Huber, 1990). To some extent this was minimised by the use of triangulation but the approach may have been strengthened by accessing wider sources of triangulation. For example accounts of family members, access to historical medical records, direct transcripts and reports related to court proceedings etc.

Clinical utility: This methodology has been particularly useful in identifying the subtle developmental similarities and differences amongst the life paths of this sample of women. Utilising this approach gives a full ideographic case formulation for each participant which may have significant clinical utility (Sturmey, 2008). Because there is limited treatment and risk assessment available for females who use IPV this method may be particularly important in providing the basis of individualised treatment planning and assessment of dangerousness. The identification of power and control as an important function of female violence across these case studies may suggest that treatments which address these issues are as salient for females as males, and is an avenue for further exploration.

Conclusion: Results of this study indicate that female perpetrated IPV is a multi-functional phenomenon, although it is largely related to achieving and maintaining relationship power. The subtle similarities and differences discussed throughout this paper indicate the heterogeneous nature of female IPV and highlight MSFA as a useful methodology in understanding and developing treatment for different presentations. This research hopefully increases understanding of the functional nature of IPV in females, and gives suggestions for how functional understanding can be used to develop individualised treatment in the future. The finding that power and control are as important for female IPV as for male highlights the needs for further study to explore if

treatment focusing on power dynamics and increasing assertiveness skills is effective in treatment of female IPV.

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EXTENDED PAPER

Extended Paper

Background

The aim of the background section of this report is to give an overview of classic and contemporary research regarding female perpetrated IPV and will consider prevalence, typology, cost, models of violence, models of IPV, and clinical utility. A discussion of the behavioural case formulation approach to research will also be included.

Definition of terms

Intimate Partner Violence (IPV). There are several terms used interchangeably to describe acts of violence within intimate relationships, including intimate partner violence, domestic violence, partner violence, family violence, spousal abuse and battering. Gendered terms are also used within the literature to describe acts perpetrated against women, for example, wife battering and violence against women. Early research often referred to violent acts between close partners as domestic violence, however this implies that violence takes place within the home and also that acts perpetrated are physical in nature. Official UK government definitions use the term domestic violence to describe:

“incidents of threatening behaviour, violence or abuse [psychological, physical, sexual, financial or emotional abuse] between adults who are or have been intimate partners or family members, regardless of gender or sexuality” (Home Office, 2011).

This definition disregards violence between those under 18 years of age, contravening research which highlights high levels of violence amongst adolescent dating couples (Lewis & Fremouw, 2001) and implying that violence occurs within domestic situations. A more accurate and inclusive term often used in the academic literature is intimate partner violence (IPV). The World Health Organisation uses this term to describe:

“...any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in that relationship. It includes acts of physical aggression (slapping, hitting, kicking or beating), psychological abuse (intimidation, constant belittling or humiliation), forced sexual intercourse or any other controlling behaviour (isolating a person from family and friends, monitoring their movements and restricting access to information or assistance).” (Krug, Mercy, Dahlberg, & Zwi, 2002).

This definition recognises that IPV occurs on a continuum of severity, other authors have similarly emphasised that IPV occurs on a continuum of frequency from single episodes to daily incidence (Coker, Smith, McKeown, & King, 2000). Most of the currently accepted definitions are similar in their expansion of the term violence to typically include, physical violence, sexual violence, threats of violence and emotional/psychological violence (Saltzman, Fanslow, McMahon, & Shelley, 2002). This recognises the potential difficulties experienced by those suffering non-physical abuse and highlights the necessity of prevention and intervention with a wide range of abusive behaviours. For the purpose of

this study the term intimate partner violence will be used interchangeably with other partner violence descriptors, regardless of the gender of the victim or perpetrator involved. Intimate partner in this context is considered to be those who are or have been in a close, committed and/or sexual relationship with each other and includes violence between adolescent and adult dating partners who do not cohabit. Whilst acknowledging the serious implications of other forms of violence, sexual, threatening and emotional, the term violence in this study is taken to refer to physical attacks or assaults of an individual and can include acts across the continuums of frequency and severity. Although there is evidence of high levels of IPV amongst same-sex couples (e.g. Renzetti, 1992) the focus of this study is on violence in heterosexual relationships.

Cost

There are well documented healthcare, social care and economic difficulties associated with the immediate and longer term outcomes for those who have experienced partner abuse (Campbell, 2002; Coker et al., 2004; Krug et al., 2002;). Victims of IPV are at increased risk of injury, medical health problems, problems with maintaining employment and contributing to the economy, developing associated social problems such as self-medication, self-harm and suicide, as well as psychological difficulties associated with onset of mental health problems (Kaysen et al., 2007; Pico-Alfonso et al., 2006; Swanberg & Logan, 2005;). Risk factors associated with the effects of partner victimisation are often considered to be related to female victims, but are just as concerning for males who experience IPV (Men: the forgotten victims of domestic violence: briefing, 2007). Male IPV victimisation is often unrecognised, and due to a lack of available support services, male victims may present an increased risk of negative psychological outcomes (Randle & Graham, 2011). Alongside the direct cost of criminal and civil law proceedings, the short and long term consequences of IPV are estimated to cost the UK economy £23 billion per year (Walby, 2004), with approximately 6% of this being direct cost to the state economy. The financial cost to the state is likely to be much higher should the consequence to children living in families with violence perpetration be considered.

Children of domestically violent families have increased risk of negative outcomes such as psychological distress and conduct problems (Holt, Buckley, & Whelan, 2008) and are likely to cost the state substantially over a life course (National Society for the Prevention of Cruelty to Children NSPCC, 2011; Walby, 2009). The risk of imprisonment increases the estimated cost when the perpetrator is female and a mother (Robertson, 2012). IPV has often been perceived as a male against female crime therefore academic and clinical interest necessary to generate pragmatic approaches to intervening with female perpetrators has not been in evidence (Carney, Buttell, & Dutton, 2007). This has resulted in a lack of appropriate treatment options for women offenders and means that when women are convicted of IPV, particularly recidivism, they are increasingly likely to be imprisoned due to a lack of appropriate treatment alternatives (Heru, 2007). The social, health and emotional costs in terms of the potential suffering of children whose mothers are jailed are substantial (Parke & Clarke-Stewart, 2003; Wildeman, 2009). Children are at increased risk of psychological and behavioural problems (Gabel, 1992) and have poor outcomes compared to other children (Johnson, 2006). Estimates suggest that the cost to

the UK economy in supporting the 17,700 children of imprisoned mothers is substantial (Prison Reform Trust, 2010).

Female prison placements are significantly more expensive than males and research has demonstrated the cost effectiveness of community treatment programmes compared with incarceration (Noblet, 2008). Women who are imprisoned are at increased risk of using self-harm, being involved in violence with other prisoners and have high rates of recidivism on release (Corston, 2007). The development of effective community treatments for female offenders could generate cost savings of £100 million over ten years for every 6% reduction in recidivism (Prison Reform Trust, 2010). The financial and social implications of female perpetrated IPV cannot be ignored and emphasises the necessity for research in this area. Research into female IPV is likely to generate debate, future research and have clinical utility in terms of developing treatment options as alternatives to custodial sentences.

Prevalence

Survey findings

The British Crime Survey (BCS) is a general population survey completed periodically, on behalf of the Home Office, to measure victims of crime in England and Wales. The survey aims to give a more accurate reflection of crime than police statistics by capturing offences, such as domestic violence, which may be underreported. The survey methods have been criticised in the past for capping crimes per person and for failing to capture the full extent of repeat offences such as domestic violence (Women's Aid, 2007). Particularly as self-completion surveys had identified five times more domestically violent crime (Walby & Allen, 2004). A sub-survey of the BCS completed in 1996 used self-report measures to generate a more accurate representation of the experience of domestic violence in the UK (Mirrlees-Black, 1999). The survey found that there were 6.6 million acts of physical domestic violence in 1995 almost half of these incidences involved injury but only 12 % were reported to the police. The survey found that 4.2% of females and 4.2% of males had been victims of domestic violence, usually at the hands of a heterosexual partner (99% women were victimised by a male current or previous partner and 95% of men were victimised by a female current or ex-partner). Women reported being more upset, injured and frightened by domestic violence than men, although this may be related to the gender differences in help seeking behaviour (for a meta-analytic review of gender and help seeking, see Galdas, Cheater, & Marshall, 2005). Interestingly, one quarter of those classified as chronically abused, receiving repeated high levels of violence, were male. Half of respondents were still living with their assailant (Mirrlees-Black, 1999). Findings of this survey are supported by findings from other UK sources (Feder et al., 2009; Walby et al., 2004; Williamson, 2006).

International studies estimate that partner violence exists in 17-39% of U.S. couples (Elliott Huizinga, & Morsel, 1985; Plichta, 1996; Straus & Gelles, 1992; Schafer, Caetano & Clark, 1998) with similar rates in European studies (Archer, 2006). Research into the prevalence of IPV perpetration by gender, the gender symmetry debate, is inconclusive

(e.g. Dowd, 2001; Dutton, Nicholls, & Spidel, 2005; Graham-Kevan, 2009). This is likely to be related largely to difficulties with tools of measurement and the use of polarised samples in many of the seminal studies, and also reflects the historical difficulties of how to conceptualise female violence (Dowd, 2001).

Gender symmetry

Early IPV research, influenced by social and political discourse, referred to females only as the victims of violence and research was exclusively with male perpetrators (Dowd, 2001). Research of female IPV perpetrators did not begin until the late 1970's when a U.S. national survey of family violence identified that women used as much relationship violence as men (Straus, Gelles, & Steinmetz 1980). This position was criticised by those who felt that it took the focus, and ultimately resources, away from female victims of domestic violence (Koonin, Carbarcas, & Geffner, 2002; Mills, 2003). Many of the large scale, population surveys have identified that both males and females perpetrate equal levels of relationship violence (e.g. Straus et al., 1980; Straus & Gelles, 1990) suggesting that there is gender symmetry in IPV (Currie, 1998). The 1975 survey, the first to investigate gender symmetry in IPV, showed that half of all couples experiencing IPV used bidirectional violence, and half were split equally between female and male primary aggression (Straus et al., 1980). These findings have been replicated by recent population studies which found gender similarities in levels of physical, verbal and property destruction amongst US couples (Straus & Gelles, 1990; Straus & Sweet, 1992). There are also a number of studies which have found that women may use slightly more partner violence than men, but that males use more severe violence and are more likely to inflict serious injury (Johnson & Hotton, 2001; Shafer et al., 1998; Straus & Kantor, 1994). Despite mounting evidence of gender symmetry in IPV there remains a body of research which consistently refutes findings of equal perpetration and shows that males use more relationship violence than women (Campbell, 1999; Dobash & Dobash, 1979; Nazroo, 1995; Pagelow, 1984; Schwartz, 1987). These studies tend to use clinical samples, suggesting that they are quantifying the use of more severe forms of IPV (Graham-Kevan, 2009; Nazroo, 1995). A meta-analysis of studies found that overall

females used equal, if not higher, levels of IPV but this was likely to be lower in frequency and severity than males (Archer, 2000). The polarised findings regarding gender symmetry and asymmetry in IPV perpetration have saturated the FIPV literature and in many ways taken emphasis away from studies into developing prevention and treatment for women who use relationship violence (Gabora, Stewart, Lilley, & Allegri, 2007). Many continue to suggest that although female perpetrated IPV exists it only accounts for 5% of total domestic violence (Dobash & Dobash, 2000; Pagelow, 1992) and that to focus on this minority minimises the role of female victimisation in intimate relationships.

Motivations and gender symmetry

The gender symmetry debate with regard to IPV relates to the discourse within the literature around gender differences in the use of violence and is often related to research into prevalence rates of IPV. The gender symmetry debate suggests that males and

females use similar amounts of violence but also raises questions around violence motivations and whether these are likely to be similar for females and males (Hoteling, Straus, & Lincoln, 1990; Shupe, Stacey, & Hazlewood, 1987). Early feminist literature suggests that women use violence only in self defence against violent males and that whilst there may be some gender symmetry in IPV prevalence there is no gender symmetry in motivation (Dobash & Dobash, 1990). Indeed, many studies support this position, showing that female, self-reported IPV motivations are typically self-defence and retaliation for earlier abuse, whilst males motivations are to control and show who is boss (Hamberger, Lohr, Bonge, & Tolin, 1997; Saunders, 1986). However, other studies have shown that although females do report higher levels of violence in self-protection, both genders report similar motivations overall such as letting out violence, getting attention, teaching the other partner a lesson or making them upset (Barnett, Lee, & Thelen, 1997; Hamburger et al., 1997). Findings of a study of dating couples found that females reported using violence towards males who did not prioritise their needs, to gain attention and in response to verbal abuse (Fiebert & Gonzalez, 1997).

The question of which partner initiates violence is also a consideration in understanding the gender symmetry of violence motivations. If women typically use violence in self-defence it would be expected that males would tend to initiate violent contacts (Dobash, Dobash, Wilson, & Daly, 1992). A review of the literature showed that women tend to hit first more regularly than males (Bland & Orn, 1986), suggesting that the idea of female retaliation is misplaced at least in some incidences of IPV.

A significant body of research has developed in looking at coercion and control as a motivation of IPV. The question of control is significant in understanding the role of gender symmetry in IPV motivation. Findings suggest that although there are accounts of females using violence to control this tends to be more evident in court mandated females and is not replicated in general population studies (Archer, 2000; Carney, Buttell, & Dutton, 2007). Accordingly, research into male IPV and control suggests that a key motivation for male violence is to control an intimate partner (Pence & Paymar, 1993). It is suggested that control is related to level of fear in partner violence and there are suggestions that as well as typically causing more severe injury to females, male IPV also causes more fear in females (Hamberger & Guse, 2002). Fear and its relation to control is often considered in the literature to support the feminist position with regard to IPV, which suggests that male violence towards females is a result of a patriarchal society which supports the subjugation of women (Dobash & Dobash, 1990). However, there are studies emerging which suggest that males may be likely to experience fear and control from violent female partners but that it is more difficult, politically and socially, for males to seek help and support (Coker et al., 2002). Similarly the feminist theory of violence does not easily explain high rates of violence in same sex couples (e.g. Island & Letellier, 1991; Renzetti, 1992).

The inconclusive findings of gender symmetry research in IPV prevalence and motivation appear to fit the general inconsistencies of the field, likely to be related to the polarised nature of debate in the area. Overall, studies appear to suggest that women do use as much partner violence as males but that this may be underreported due to gender role

expectations. In terms of motivations, it is argued that even if high percentage of females do use violence only to retaliate or protect themselves from males there is still a significant percentage (approximately 25%) who regularly use partner violence for other motivations usually associated with men (Straus, 1993). The inconsistency in findings of prevalence and motivation in gender usage of IPV may be a result of problems with tools of measurement and also inconsistencies with use of sample populations (Kwong, Bartholomew, & Dutton, 1999; Straus, 1999).

Problems of measurement

Inconsistencies in prevalence findings for female use of IPV may be a problem of measurement. IPV is typically measured by the Conflict Tactics Scale (CTS) a useful tool developed to measure the frequency couples use different violent acts within their relationships (Straus, 1980). The respondent is presented with a list of acts, ranging from “discussed an issue calmly” to “beat him/her/you up”, and is asked to indicate how frequently they have used or received each act, in conflict with a partner, over the year. The language of the CTS is normalising and non-judgemental, allowing participants to freely acknowledge relationship violence without fear of stigmatisation (Straus & Gelles, 1990). Studies which rely on the CTS typically find gender symmetry in partner violence (see Archer, 2000) and CTS findings have also indicated symmetry in the initiation and severity of violence (Stets & Straus, 1990). However, the CTS has been heavily criticised in that it does not take in to account context, motivation or intention of the violent acts, that it does not adequately operationalize the categorisation of minor and severe violence and that it fails to account for wider definitions of violence nor link acts with outcomes such as injury (Dobash et al., 1992). Nevertheless, the CTS is widely used and has high validity and reliability as a tool to measure incidence of partner violence (Straus, 1990). A revised version of the scale (CTS2, Straus, Hamby, Boney-McCoy, & Sugarman, 1996) accounted for many of the deficits with the initial scale and it continues to be a primary measure of family violence within the literature (Straus, 2012). Those who feel that the CT scales are biased in their findings of gender symmetry in partner violence have drawn attention to studies of extant public records, for example studying divorce records, emergency room patients, police records, court records and details of those seeking refuge and assistance with domestic violence services. Findings of such studies, unsurprisingly, are that males use more frequent and severe violence than females and that where women do use violence it is usually in self-defence against an abusive male (Straus, 1999; Tajeda & Thoennes, 2000). It can be argued that neither records analysis nor surveys using the CTS are without bias, this could be a problem related to respondent recruitment rather than a clear problem of measurement.

Problems of population sample

Prevalence rate of female to male partner violence may be difficult to quantify due to the different samples that data is usually taken from. IPV research typically recruits from either community samples using national survey data or from clinical samples including battered women shelters and/or court mandated perpetrator programmes (Dowd, 2001). The former sample, using community population samples who are unlikely to be at clinical

levels of IPV and are most likely to use low level, bidirectional violence, tend to find gender equality in IPV (Graham-Kevan, 2009). The latter categories, the clinical samples, are likely to show that women use violence as self-defence in the face of high levels of violence from male partners. These samples are likely to show that women use less violence than men and opens up debate about the motivations of women's violence. Some researchers have suggested that both these sampling methods are biased to some degree (Simmons, Lehmann, & Cobb, 2008) and that studies using clinical populations sample on the dependant variable negating subsequent analysis (Felson, 2005). It is hardly surprising that there is polarity of findings when there are such clear sampling biases, although it should be noted that self-sampling studies tend to support findings of gender symmetry (Fiebert, 2010). There is enough empirical support for gender symmetry to highlight the need for further investigation into the phenomena of female IPV.

Typology

In an attempt to reconcile conflicting evidence from IPV research Johnson (1995) suggested that gender symmetry studies were actually investigating different typologies of partner violence. Johnson initially suggested two main typologies of partner violence, intimate terrorism (IT) the type of violence almost exclusively perpetrated by men towards women and usually identified by the clinical population studies, and Common Couple Violence (CCV) the type of lower level, bidirectional violence identified by the general population studies. Johnson used the typologies to maintain the feminist view of patriarchal societies' causal influence in partner violence, his explanation of IT included a description of a further subtype of domestic violence perpetrator, the violent resistor (VR) usually perpetrated by women in self-defence against a male intimate terrorist (Johnson, 2000). Johnson maintained that women are not typically intimate terrorists and males very rarely violent resisters. There has been numerous studies in support of Johnson's typologies and this explanation does offer a successful attempt at explaining the conflicts within the field. However, the model is criticised for its assignation of gender to typology (Capaldi & Hyoun, 2007). Recent research has investigated female violence perpetrators in an attempt to explore whether women easily fit Johnson's typologies. A recent study of female typologies concluded that women fit Johnson's models with a proportion of women meeting the IT sub-type whilst their male partners fit the VR sub-type (Hines & Douglas, 2010). Other studies have built upon Johnson's initial model to identify new subtypes of violence to explain female IPV perpetration in the context of male violence towards them (e.g. Walsh et al., 2010). Swan and Snow (2002) found that women perpetrators fit Johnson's typologies and that the CCV type can be further sub-typed depending on which gender uses the most coercive control in mutually violent relationships. Such studies identify that females are capable of both violence and control in relationships and may be useful for developing future treatment interventions (Cavanaugh & Gelles, 2005). The typology studies offer a valuable contribution to research investigating female's use of IPV and the gender symmetry of partner violence.

Psychosocial factors

Much of the literature aimed at identifying causality of partner violence has focused on correlations of psychosocial factors across the lifespan of perpetrators and victims of IPV. Findings are interesting in giving a profile of factors that may be related to the development of IPV but it is difficult to infer causality from correlational data. The empirical evidence for risk factors related to female IPV perpetration are summarised below:

Early risk factors:

Many studies have related childhood factors to onset of aggression and violence in adulthood. Risk factors in early childhood include: mother's anti-social behaviour, young motherhood, low income, mother's coercive parenting style and family dysfunction (Moffitt, Caspi, Rutter, & Silva, 2001; Trembley et al., 2004). Risk factors present ante and post-natal are thought to predict stable anti-social traits across the lifespan (Broidy et al., 2003). Indeed, conduct disorder is a predictive factor in female IPV (Fergusson, Boden, & Horwood, 2008; Henning, Renauer, & Holdford, 2006), despite many studies showing that female perpetrators have significantly less prior offending than males (Feder & Henning, 2005; Fergusson et al., 2008, Henning, Matinsson, & Holdford, 2009; Henning et al., 2006, Kernsmith, 2006). Studies have associated family adversity, parental substance misuse, family problems, a chaotic household, disconnection from mother and estrangement from father with onset of female IPV in adulthood (Fergusson et al., 2008; Seaman, Rubin, & Stabb, 2007). In terms of developmental trajectory it is likely that such difficulties would preclude development of attachment difficulties and personality trait disorders. Witnessing parental domestic violence is considered to be a risk factor for adult IPV perpetration by a number of authors, and is considered to predict future violence in males, female primary aggressors and generally violent females (Fergusson et al., 2008; Goldenson, Geffner, Foster, & Clipson, 2007; Henning et al., 2006; White & Chen, 2002). There is particular evidence suggesting that girls who witness mother's partner violence are at increased risk of using partner violence (Babcock, Miller, & Siard, 2003; Seaman et al., 2007), suggesting a potential gender slant on social learning theory. Findings suggest that violence may have become normalised in the lives of children who witness domestic violence, and that where children have personality factors that predispose them to violence they may model violence in their adult relationships. Of note is a qualitative study which finds that the determination to never become a victim of partner violence like their mothers could be a motivating factor in the IPV perpetration of some females (Seaman et al., 2007). Similar findings are apparent from studies which look at exposure to abuse in the histories of violence perpetrators (Babcock et al., 2003; Goldenson et al., 2007; Seaman et al., 2007; Simmons, Lehmann, & Craun, 2008; Weizmann-Henelius, Viemero, & Eronen, 2004). These studies find an increased risk of using adult partner violence in those abused as children, but that this is a stronger predictor for males (Fergusson et al., 2008; White et al., 2002). Interestingly, generally violent females were identified as having experienced higher rates of childhood abuse than partner only perpetrators (Babcock et al., 2003) and physical abuse by a mother was found to be a stronger predictor of IPV than abuse by a father (Simmons et al., 2008). Many studies find that

adult victimisation is a factor in female IPV perpetration, with up to 84% of arrested females reporting being victims of domestic violence at the hands of a male partner (Babcock et al.,2003; Henning et al.,2006; Kernsmith, 2006; Seaman et al.,2007).

Individual factors:

Many studies have found elevated levels of diagnosable personality disorder (PD) in women arrested for partner violence (Thornton, Graham-Kevan, & Archer, 2010). With studies finding significantly higher rates of borderline and antisocial PD in IPV perpetrators than in the general population (Stuart, Moore, Gordan, Ramsey, & Kahler, 2006a). Typology type studies which have assigned types of perpetrator based on PD traits have found that female perpetrators are more likely to have high rates of borderline PD than males, although a small proportion of females have elevated antisocial PD traits (Walsh et al.,2010). Some have argued that the development of PD traits could be a reaction to rather than a cause of IPV, however longitudinal studies indicate that PD traits pre-exist use of partner violence (Ehrensaft, Cohen, & Johnson, 2006). Studies of personality and IPV usually conclude that PD is the norm in perpetrators (Simmons, Lehmann, Cobb & Fowler, 2005) however this is not unique to partner violence. Women convicted of other types of violent crime are often found to have diagnosable PD. Although there is evidence of a gender bias in PD diagnosis (Ford & Widiger, 1989), with women typically receiving a borderline and men an anti-social PD diagnosis, findings that female IPV is related to borderline PD finds fit with emerging attachment literature. Studies around attachment and IPV find a clear correlation between insecure attachment style and partner violence perpetration (Domas, Pearson, Elgin, & McKinley, 2008; Goldenson et al.,2007; Orcutt, Garcia, & Pickett, 2005; White et al.,2010). There is a well-established relationship between the fear of abandonment, a diagnostic element of borderline PD (APA, 2000), and the anxious attachment style often evidenced in female's who use IPV (Dozier, Stovall-McClough, & Albus, 2008). Couple studies have found that female anxious attachment combined with a partner's avoidant attachment may be a recipe for partner violence (Domas, Pearson, Elgin, & McKinley, 2008; Goldenson et al.,2007; Orcutt et al.,2005; White et al.,2002). Furthermore, when controlling for male violence, female anxious attachment is no longer significant in her use of partner violence (Domas et al.,2008). This may offer support for the argument that female IPV is motivated by self-defence, mediated by an anxious attachment style. The idea that females are victims of abuse that pre-dates their own IPV perpetration has been researched in terms of the relationship between IPV and trauma symptomology. Post-traumatic stress disorder (PTSD) is positively correlated with female use of IPV (Goldenson et al.,2007; Abel, 2001). With 44% of women arrested for partner violence meeting diagnostic criteria compared to 10% of the general population (Stuart et al.,2006). Studies which have found high rates of prior victimisation in women IPV perpetrators (e.g. Babcock et al.,2003) are supported by findings of high trauma symptoms amongst this population. Other studies have found higher rates of trauma symptoms amongst generally violent perpetrators as compared to partner only perpetrators, suggesting that trauma is not exclusive to partner violence (Babcock et al.,2003; Simmons et al.,2008). The relationship between other psychopathological disorders and partner violence find elevated rates of clinical

depression and anxiety in female perpetrators compared to male perpetrators (Fergusson et al.,2008; White et al.,2002; Goldstein, Chesir-Teran & McFaul, 2008; Walsh et al.,2010; Simmons et al.,2008) and compared to the general population (Stuart et al.,2006a). However, it is difficult to identify the direction of causality in this relationship as psychopathology may be a consequence of previous victimisation and relationship conflict. A number of individual traits associated have been associated with female IPV perpetrators, including: anti-social attitude (Stuart et al.,2006b), acceptability of IPV and violent retaliation Goldstein et al.,2008), social anxiety (Goldstein et al.,2008), and low levels of moral reasoning (Buttall, 2002). Other identified characteristics, such as impulsivity (Caetano, Vaeth, & Ramisetty-Mikler, 2008), self-worth derived from relationship, high rumination on relationship (Goldstein et al.,2008), and high neuroticism (Walsh et al.,2010), lend support to the studies which relate female IPV to borderline PD and anxious attachment style. Whilst correlational evidence of high anti-social attitude(Stuart et al.,2006b), propensity to anger (Goldstein et al.,2008) and low agreeableness (Walsh et al.,2010) may lend support to studies which have related pockets of female IPV perpetration to antisocial PD and avoidant attachment style. Much of the evidence in support of a PD cause of female IPV may relate to the typology literature and it can be hypothesised that female primary aggressors may have elevated antisocial PD traits, whilst female bi-directional and violent resistors have elevated borderline PD traits. Many studies have considered the relationship of drug and alcohol misuse and IPV. Alcohol is found to be a significant factor in many incidences of partner violence; this may be related to its inhibitory value (Fergusson et al.,2008; Simmons, 2008; Stuart, Moore, Ramsey, & Kahler, 2004; Stuart et al.,2006a; Stuart et al.,2006b; Walsh et al.,2010; White et al.,2002; Weizmann-Henelius et al.,2004). There are a number of studies which empirically support alcohol use as a factor in female perpetrated IPV. Although analysis of IPV incidence suggests that female perpetration is mediated by higher levels of alcohol use by the partner and alcohol appears to be more predictive of male than female aggression (Simmons et al.,2008; Stuart et al.,2006a; White et al., 2002; Weizmann-Henelius et al.,2004). Where evidence of the relationship between male aggression and alcohol is considered this may indicate that females in these situations are acting in self-defence. Alcohol may be a causal factor in female IPV in conjunction with other factors such as relationship dissatisfaction, antisocial attitudes and partner drinking (Caetano, Schafer, & Cunradi, 2001; Stuart et al.,2006b; White et al.,2002).

Relationship factors

Relationship satisfaction is considered to be a predictive factor in IPV, with studies finding high rates of dissatisfaction in female perpetrators (Henning et al.,2006; Stuart et al.,2006a; White et al.,2002). It has been suggested that relationship dissatisfaction mediates the effect of alcohol consumption in IPV incidence and that females may use violence as a form of coercive control over dissatisfying partners (Henning et al.,2006). Level of relationship dissatisfaction may be related to the high levels of IPV victimisation reported by females who use IPV. Gender roles and power imbalances have been considered in studies which have found that powerlessness in a relationship is a significant factor in female IPV (Caetano et al.,2008). This may be related to high

reported rates of abuse victimisation or a result of patriarchal structures within families (White et al., 2002). Fear of partner is also a correlational characteristic unique to females, studies show that both genders have equal levels of aggression but that fear of physical danger is more pronounced in women (Campbell, 2006). It has been hypothesised that previous victimisation and abuse increases females hyper vigilance to threat stimulus and may be a factor in female IPV (Kernsmith, 2006). However, evidence that male aggression is more strongly correlated with childhood abuse, suggests that adult victimisation may be more strongly correlated to hyper-vigilance in females (Fergusson, 2008).

The studies summarised in relation to the psychosocial correlates of female IPV represent the bulk of research into causality. It is interesting that so many studies identify predictive factors for female IPV but that there is no single coherent theory that is able to explain the mechanism with which these factors develop into partner violence. It is crucial that research into female IPV attempts to explain the mechanisms by which psychosocial factors impact on female use of partner violence.

Models of female violence

With evidence of heterogeneity among women who use IPV it is surprising that so many of the established models are one-dimensional. 'Single factor theories' are described across numerous disciplines and a selection of the most influential theories are overviewed here.

Affective and instrumental aggression

There is a vast body of literature analysing the cause, and development of aggression and violence. Those who study aggression tend to discuss it in terms of two categories: affective aggression, which is an emotional and angry reaction to provocation; and instrumental aggression, which is intended to enable some reward or benefit (Berkowitz, 1993). Affective aggression is considered to be mediated by anger and the physiological arousal which accompanies this emotion (Frijda, 1994). However, Frijda (1994) theorised that there can be a delayed response where affective anger is not immediately acted upon; here the affective anger is transformed by cognitive processes into the sentiment of hatred, which is enacted at a later stage. Instrumental aggression, on the other hand, is not necessarily accompanied by strong emotion. This form of aggression is simply a means to an end, and in terms of partner violence can be related to a means of establishing coercive control over an intimate (Tedeschi & Felson, 1994). The two categories are not mutually exclusive and in terms of partner violence it is interesting to consider which of the categories of aggression would be ascribed to a woman using violence in self-defence against an abusive partner. Within the literature these distinctions are often labelled reactive and proactive, reactive is an angry reaction whilst proactive is not related to emotion but is an intended act for reward or gain. Self-defence would be likely to be a complex expression of both reactive and proactive aggression. Campbell (1993) related the categories to gender and theorised that a process of gender-role socialisation means that females are reinforced to experience affective aggression, whilst males are socialised to experience instrumental aggression. Campbell related the

categories of aggression to control and concluded that females' violence is a result of loss of control (affective) whilst males anger is intended to control others (instrumental). In this theory females are taught to suppress aggression whilst males are taught to express aggression in a socially, acceptable way. Therefore when females are provoked and lose control displaying anger, they feel guilty and ashamed, if this occurs in public the affective conditioning is amplified. This theory is used to explain the traditional view that females tend to be the victims of male violence.

Feminist model

A key theory in the IPV literature, and a driver of the gender symmetry debates, is the feminist model. The feminist model aims to analyse partner violence within the wider socio-political context of a patriarchal society. Feminist theory suggests that gender role development is defined by society to explicitly encourage the dominance of men and the subjugation of women (Dobash & Dobash, 1977, 1992). In this context male violence against women is condoned and supported by societal institutions such as the criminal justice system (Edwards, 1986; Jewkes, 2002). The model places high value on dominance and control as the main motivation of male violence towards female partners and postulates that females use violence rarely, and only in self-defence against abusive men (Pence & Paymar, 2006). Support for the feminist model tends to be derived from research which examines the patriarchal attitudes and beliefs of families and correlates this with male use of violence. Evidence using such methods is inconclusive, although some research findings suggest that males with high patriarchal beliefs use more violence (Yllo, 1984; Smith, 1990; Sugarman & Frankel, 1996) and that this is exacerbated where males are low status (Babcock, Waltz, Jacobson, & Gottman, 1993). Others have contradicted this (Dutton, 1995; Hotaling & Sugarman, 1986) with some finding that males with high patriarchal beliefs use less violence (Campbell, 1992). In terms of female IPV the feminist position is clear that women are victims of male perpetrated violence and that female violence should only be considered in the context of their victimisation at the hands of men (Dobash et al., 1992, 2004). As previously outlined, support for this position is taken from clinical sample studies and refuted by studies of general population (e.g. Dowd, 2001; Dutton et al., 2005). This is likely to be a result of difficulties of measurement and sampling (Johnson & Ferraro, 2000). Typology studies may go some way to reconciling the competing findings by suggesting that they are both investigating different types of female IPV (Johnson, 1995). However, it should be noted that typology researchers, such as Johnson, support the feminist position and their work is intended to explain variations to the feminist paradigm (Johnson et al., 2000). Those currently in support tend to be less polarised in their view of female IPV, accepting that a small minority of women may use violence for reasons other than self-defence (Johnson, 2000). Recently there has been some support for a refinement to feminist theory which suggests that male domestic violence is related to control of female sexuality, including the prevention of infidelity (Buss & Malamuth, 1996; Peters, Shackelford, & Buss, 2002). This model cannot explain female perpetrated IPV in the same terms and ignores discussion of female violence. This ignoring of female perpetrated IPV, usually on the grounds of potential victim blaming, is a problem with the feminist model that has contributed to a lack

of prevention and treatment services for female perpetrators and male victims (Graham-Kevan, 2009). The model appears to treat females as a homogenous group, without agency over their own actions and potentially disempowers women. When attempting to analyse partner violence, particularly female perpetrated, it is important to consider the feminist paradigm, however as an explanation of the heterogeneity of female IPV this model does not stand.

Exchange/Social Control Theory

Gelles (1983) exchange theory of intimate violence suggests that it is power structures within the family system that predict and maintain violence. The theory suggests that IPV is a product of cost/benefit analysis and that where rewards of violence outweigh perceived punishments then violence will occur. This model is based on the presumption that the family is a private entity outside of the usual social controls and that as such the 'cost' of violence to intimates is less than the cost of violence to those outside of the family (Laslett, 1978). The theory considers potential costs of violence to be related to status outside of the family, being hit back or receiving economic or social sanctions. According to this theory women are more likely to be victims than men, as women are smaller and may have a lack of resources available to punish a violent partner (Gelles, 1983). The theory also refers to social acceptance of some forms of family violence, such as physical punishment of children, as a maintaining factor in partner abuse. Exchange theorists suggest that power imbalances, high conflict and stress are factors related to increased levels of partner violence. This aspect of the theory is supported by studies which identify correlations between poverty, low-social status and relationship dissatisfaction with increased IPV (Jewkes, 2002) and studies which find lower rates of IPV in couples with equality of power (Gray-Little, Baucom, & Hamby, 1996). The exchange theory of partner violence was developed as a theory of male to female violence and has not been adapted as an explanation of female perpetration. Although an interesting theory in terms of power and control and how this may interplay in the development of IPV it fails to adequately capture the complexity of current knowledge. However, this theory like social learning and feminist theories hints at behavioural conditioning principles as the mechanism of change.

Personality theories

There are several influential theories which have drawn together evidence from correlational studies of psychosocial risk to delineate IPV based on personality characteristics. One theory draws together literature on anxious attachment style in perpetrators of IPV to suggest that a fear of rejection, along with characteristics of anger propensity and impulsivity, increase risk for perpetration of IPV in response to real or imagined threat of rejection (Dutton, 1995). The Borderline Personality Organisation (BPO) and assaultiveness theory is supported by cross-sectional studies of attachment style and individual cognitive-affective traits (Maurico & Jen-Yun, 2007). Another theory, the developmental model of batterer sub-types, suggests that combinations of distal and proximal risk factors lead to one of three typologies of IPV perpetrator (Holtzworth-Munroe & Stuart, 1994). The family only, dysphoric/borderline and generally violent/antisocial perpetrators. This study been empirically supported in studies with female IPV

perpetrators (Babcock et al.,2003). Personality theories of female IPV are useful in making sense of disparities within the literature, however they do not explain the mechanisms by which psychosocial correlates develop and are maintained across the life span.

Social learning theory

Bandura's social learning theory postulates that IPV, like other behaviours, is learnt by the process of modelling (Bandura, 1971, 1973). The intergenerational transmission of violence theory suggests that children who witness or experience abuse develop a normalised, acceptance of violence and are likely to learn violence as ways of managing interpersonal difficulties in adulthood (Milhalic & Elliot, 1997). There is empirical support for this theory and the high incidence of witnessing or experiencing violence in the learning histories of adult victims and perpetrators is well documented (Delsol & Margolin, 2003; Ernst et al.,2008; Kernsmith, 2006). However, there are also a large number of child witnesses or victims of abuse who don't experience IPV, as perpetrator or victim, in adulthood (Ernst et al.,2007). This suggests that there is a mechanism by which violence is learned by some individuals and not by others (Alexander, Moore & Alexander, 1991). It has been suggested that this could be based on a process of conditioning in dating relationships, where adolescents are rewarded for modelling violence the behaviour will be reinforced, whereas it will be extinguished should reinforcement not occur (Milhalic et al.,1997; Riggs, Caulfield & Street, 2000). However, this relationship does not have to be direct, just witnessing rewards and consequences for others violence is enough to reinforce or extinguish, according to this theory (Riggs & O'Leary, 1989). Social learning theory further suggests that gender differences in use of IPV are related to differences in socialisation (Lutenbacher, Cohen, & Conner, 2004). A further refinement of social learning theory suggests combinations of distal and proximal factors that may influence the development of violence in dating couples (Riggs & O'Leary, 1996). Recently, a multi-dimensional model of male IPV has been suggested based upon these theories, but also drawing on empirical support for other models. Bell and Naugle's (2008) contextual model of partner violence attempts to offer a theoretical framework for future research in the area but at the current time there is no empirical support for this model.

Limitations of existing theories

Limitations of the existing models of partner violence is that they are usually intended as explanations of male IPV perpetration and do not always translate well to the unique intricacies of female IPV. Partner violence is a complex psychological and social phenomenon that is not sufficiently explained in terms of one-dimensional models. The models outlined above, have varying degrees of empirical support and cannot be discounted in the explanation of IPV, but it is likely that they explain only one dimension of a multi-dimensional problem. Models which have attempted to draw together what is known about partner violence into multi-dimensional models (e.g. Bell et al.,2008) are complicated and difficult to negotiate in terms of developing empirical studies. Many models of IPV appear descriptive in essence and there is little explanation proffered around the mechanisms by which the various risk factors contribute to the development of

IPV. It is important that future research attempts to explain the processes that contribute to the development of IPV to enable a more coherent understanding of why some women use violence in their relationships.

Clinical Implication

Because the focus of IPV research over the past 2 decades has been on male perpetrators and female victims of IPV it is hardly surprising that clinical tools and treatment options available to clinicians working with female perpetrators are at best based on male models of IPV and at worst do not exist. Pragmatically, areas where the growth of research is most necessary is the development of risk assessment and treatment interventions.

Risk assessment

Risk assessment tools are used by clinicians to predict the likelihood of criminal recidivism by offenders and are used to make decisions around parole, custodial options and in some cases give guidance for areas of psychological and social care treatment (Campbell, 1995). In the area of violent crime risk assessments are particularly important to prevent harm to the public from potential repeat offending (Nussbaum, 2010). Risk assessment tools are based on what is known about the etiological factors pertaining to offending in a particular domain and can be actuarial or clinical decision based (Monahan, 2003). Domestic violence is not a homogenous phenomenon and it can be difficult to effectively manage risk and develop appropriate treatment amongst a context of difficult family dynamics (Humphreys, 2006; Jaffe, 2005). Nevertheless, there is evidence to support the value of actuarial risk assessment tools and the frameworks for clinical risk management with domestically violent men (Carroll, 2007; Hilton, Harris & Rice, 2010). Unfortunately, risk assessment tools for female perpetrators are unavailable or have been based on risk factors associated with male offenders (McKeown, 2010). An empirical review which compared the predictive accuracy of risk assessment tools found they were unable to accurately predict recidivism in female violent offenders (Yang, Liu & Coid, 2010). Research which aims to understand the development of risk factors related to female IPV offending is crucial in developing methods of accurately predicting risk in this population.

Treatment

Treatment for male IPV perpetrators is available in the UK and tends to be group intervention based on the, feminist oriented, Duluth model of power and control (Pence et al., 1993) combined with anger management. There is no 'gold standard' of domestic violence treatment (Dutton & Sonkin, 2003) and extant treatment programmes are shown to have limited efficacy (Carney, Buttell, & Dutton, 2007). There is limited treatment available for female perpetrators and intervention programmes that are offered to women are all too often based on treatment protocols designed for men (Carney et al., 2007; Dowd, 2001). The gendered elements of IPV mean that treatment programmes developed for males are unlikely to be effective for females, particularly as it is recommended that female IPV intervention should recognise potential history of victimisation (Hamberger &

Potente, 1994). In recognition of the heterogeneity of female IPV perpetrators, multi-dimensional treatment packages have been recommended (Leisring, Dowd, & Rosenbaum, 2003). Holistic intervention for IPV offers integrated treatment for individually defined difficulties e.g. psychopathology, trauma symptoms and practical skills, alongside treatment to reduce use of violence (Leisring et al., 2003). There is early evidence that such treatment programmes are effective in reducing violent reoffending in women (Carney & Buttell, 2004). To be effective multi-dimensional treatments must be based on a sound understanding of the risk factors that contribute to offending for a particular individual. It is important that research into female IPV takes account of the developmental and current risk factor profiles of violent women in order to build a solid base for future treatment developments.

Case formulation

Case formulation is a key clinical skill within the field of psychology and is intended to organise complex case histories, facilitate understanding of how a client's behaviour has developed over time, generate hypotheses about individuals and guide the development of targeted intervention plans (Eells, 2001; Kennedy & Llewelyn, 2001). The number of approaches to case formulation is rapidly growing and there are examples from across the fields of psychology (see Eells, 2010). That the science of case formulation is considered fundamental to Psychology is evident in best practice guidelines recently produced by the British Psychological Society (Johnstone, Wholmsley, Cole, & Oliver, 2011). Studies which have analysed approaches to case formulation have found several core components in quality case formulation (Kendjelic & Eells, 2007). Suggesting that a good case formulation should summarise the core problem of an individual, use psychological theory and principles to show how difficulties relate to each other, how they developed over time and to develop a treatment plan; furthermore quality formulation should be open to amendment and reformulation (Johnstone & Dallos, 2006).

Many approaches to case conceptualisation are structuralist in orientation; they rely on introspection and infer the existence of unobservable structures making reliable measurement and scientific inquiry difficult to apply (Sturmey, 2007). Many of the most commonly applied forms of case formulation e.g. the cognitive-behavioural models, minimise individual differences and assume a one-size-fits all approach to understanding contemporary phenomena such as psychopathology (Dougher & Hayes, 1996). Pragmatically this impacts on the usefulness of treatment decisions taken from structural formulations that may not take full account of the idiosyncrasies of human development. One approach that does not rely on introspection and takes full account of individual differences is functional analysis (Sturmey, 1996).

Functional analysis is an approach to case formulation that allows contemporary phenomena to be analysed in the context of an individual's environmental and learning history (Sturmey, 1996). Functional analysis is based on the discipline of applied behavioural psychology and the principles of classical and operant conditioning¹ (Pavlov,

¹ A full description of classical and operant conditioning terminology is included in the methodology section of this report.

1941; Skinner, 1953, 1974). Early behaviourism was concerned with the analysis of observable behaviours only, a position which drew criticism from the mentalist researchers (see Richelle, 1976). However, Skinner's (1953) approach to human behaviour, termed 'radical behaviourism', encouraged the analysis of cognitive experiences in the context of observable behavioural contingencies. Cognitive and affective experiences (covert behaviours) are distinguished from observable behaviours (overt behaviours) in this model, and both are developed and maintained by an individual's interaction with the environment. Skinner proposed that over time a repertoire of learnt covert and overt behaviours are developed based on interaction with and reinforcement from the environment, this constitutes an individual's learning history (Skinner, 1974). An individual's learning history and behavioural repertoire can be understood by means of a functional analysis (Sturmey, 2006).

The aim of functional analysis is to understand the functional value a behavioural contingency holds for an individual by identifying its reinforcing properties in the environment (Haynes & O'Brien, 1990). This is typically achieved by analysing behavioural antecedents and consequences by means of an A:B:C analysis, where 'A' is the antecedent or triggering environmental event, 'B' is the covert and overt behavioural response and 'C' is the environmental consequence of the behaviour. A chain of A:B:C analysis can be used to give a dynamic understanding of an individual's learning history, where one analysis becomes the antecedents of the next sequence (Gresswell & Hollin, 1992). Identifying a functional relationship between variables in this way does not assume causality, but the order of events is both necessary and sufficient to assume that a functional relationship exists (Haynes et al., 1990). The main benefit of using functional analysis in this way is to develop an idiosyncratic understanding of how an individual's behaviours have developed over time. This is particularly useful in terms of developing treatment programmes and assessing risk of dangerousness in forensic settings. Functional analysis is often used ideographically in the development of individual treatment plans and published examples are available, particularly in the field of forensic psychology. Functional analysis can also be used nomothetically to generate hypotheses around the development and maintenance of particular clinical phenomenon (Gresswell et al., 1992).

A number of researchers have suggested that functional analytic case formulation could be utilised as a research tool (Sim, Gwee, & Bateman, 2005) and that in particular it may be useful as a method for experimental research and understanding the developmental aspects of behaviour (Tuomisto, Lappalainen, & Timonen, 2005). To utilise functional analysis as a research methodology may require a shift from the current inter-individual focus of traditional experimental psychology to an intra-individual or socio-ecological focus (Valsiner, 1986). This is not a new phenomenon in behavioural psychology where the tradition of single case design has supported the development of operant conditioning research (Morgan & Morgan, 2001). The aggregation of single participant research to generate hypotheses about causality is used in other disciplines such as medicine (Nuland, 1988) and could make a useful contribution to knowledge of within system variation in social and psychological issues. For example, helping to generate hypotheses

around the heterogeneity of female perpetrators of IPV. There is emerging evidence of the use of functional analysis as a research method in exploring psychological phenomenon (Vollmer & Smith, 1996). One particular study has used Haynes and O'Brien (2000) functional analytic clinical case model to explore the function of violence in a small group of domestically violent men (Aarnio & Laurto, 2008). Another type of functional analysis that has been used as a research methodology is Multiple Sequential Functional Analysis (MSFA). This approach was first developed as a method to study the function of violence in multiple murder (Gresswell et al., 1992) and has since been used to consider violent offending (Gresswell & Dawson, 2010; Hart, Gresswell & Braham, 2011) and prodromal episodes of psychosis (Bywood, Gresswell, Robertson & Elwood, 2006).

MSFA as a methodology provides a framework to understand the functional development of a particular behaviour across the lifespan of an individual. The framework tracks the developmental trajectory of a target behaviour by using the principles of applied behavioural analysis and radical behaviourism. Using available case material this methodology aims to develop a chain of functional analyses which aids the researcher in identifying key learning experiences that are hypothesised to have influenced and maintained the development of the current presenting behaviour. The method is particularly useful in forensic settings where the vast amounts of information and complex clinical presentations can be difficult to analyse. This thesis aims to utilise the MSFA framework to analyse the development of IPV in a small group of women.

Study rationale and aims

Although there is continued debate in the literature around the precise cost and prevalence of female IPV, it is clear that female partner violence presents a real problem for health and criminal justice services in the UK. The continuing focus on the gender symmetry of partner violence has taken the emphasis away from the development of clinical tools and treatment interventions for this group of women. Research evidence has identified a number of psychosocial factors considered to be important in the development of female perpetrated partner abuse but there has been no clear explanation of the mechanisms by which these factors combine and develop to produce and maintain IPV across the trajectory of women's lives. What is apparent from the literature is that women who use partner violence are a heterogeneous group and that more traditional, empirical research methods have struggled to navigate the complexity of this phenomenon. A better understanding of the mechanisms that facilitate the development of female IPV is crucial in producing clinical prevention and intervention options that will be effective in working with female perpetrators. This study aims to use the exploratory methodology of MSFA to understand the functional development of IPV in the individual trajectories of a small group of women who have used IPV. Furthermore, this study aims to aggregate these trajectories to compare and contrast the functional development of IPV and generate hypotheses about the function of partner violence in the lives of these women.

This study has been designed to develop a method for testing which of the alternative views of female IPV is the most dominant, the feminist view that female partner violence is in self-defence or the family violence perspective which suggests that female partner

violence is no different to male partner violence. The method developed to test the opposing theoretical views of female IPV is based on the principles of radical behaviourism and will be used to identify the functional value of partner violence in a small group of females.

Research questions

- How does violent behaviour appear to develop in the learning histories of female IPV offenders?
- What is the function of violent behaviour for these individuals?
- How does the developmental trajectory of females convicted of IPV fit with current theory?
- Is there similarity in the functional value of violence in the learning histories of different women imprisoned for IPV?

Methodology

Ethical approval

This study was granted ethical approval by the NRES Committee East of England- Essex (a specialist committee for research involving criminal justice research), the Lincolnshire NHS research and development department, the National Offender Management Service, the Ministry of Justice and the University of Lincoln Ethics Committee. (See documents attached as Appendix 2).

Epistemology

Epistemology is important to consider in research as the foundations of thinking shape the way studies are designed, conducted and interpreted (Potter, 1996) The philosophical underpinnings of research are considered to be of particular importance in qualitative studies.

This study is orientated towards the epistemological position of functional contextualism (Biglan & Hayes, 1996; Hayes, 1993; Hayes, Strosahl, & Wilson, 1999). From this philosophical paradigm the truth is determined pragmatically. If a behaviour is effective in producing an intended consequence then it is considered effective action and in this respect is true (Hayes, 1993). The varieties of contextualism are underpinned by the understanding that no event can be separated from the context in which it occurs (Morris, 1993). The contextualist view is that all analysis is valid where there is an end goal to give direction and to decree which aspects of the context are pragmatically most important (Gifford & Hayes, 1999). For this reason the approach does not attempt to diminish the beliefs of other epistemological positions. In terms of this research, developing the MSFA analyses was the intended consequence of conducting interviews and some data from the interviews was pragmatically more useful to the analysis than other. This mirrors the truth criterion of functional contextualism, which suggests that to be true analysis should always be directly or indirectly practical (Pepper, 1942). In the functional contextualist paradigm there is considered to be no absolute truth, rather the aim of analysis is to identify rules

and theories that are pragmatic to other researchers (Gifford et al.,1999). A possible criticism of this is that analysis based on a unique deviation would be considered true, however in the current study the use of triangulation minimises this potential.

The functional contextualist approach uses evidence based rules and theories to predict and manipulate events (Hayes, Hayes, Reese, & Sarbin, 1999). This is strongly related to the principles of Skinner's (1953, 1979) radical behaviourism on which this study is based. The scientific principles of radical behaviourism are considered to be applicable to a variety of situations and contexts regardless of spatial differences, this is in common with the functional contextualist perspective (Morris, 1993). Although quantitative studies are most suited to meeting these principles the current study methodology meets many of the principles of functional contextualism.

The pragmatic truth criterion of functional contextualism has guided the choice of research design and methodology in this study. The study has aimed to predict the influence of psychosocial factors on the development of IPV in females. Whilst analysing the developmental trajectories of individual women is a consideration of the different contexts in which partner violence can develop. That the study had a clear direction and a set of empirical rules, behavioural conditioning, with which to direct the analysis towards meeting the intended goal is further evidence of the functional contextualist orientation of the research study.

Apriori Assumptions

From my experience and background reading I began this study with expectations about what I would find. In particular using the method outlined below I expected to find that an investigation into female partner violence would highlight that this population were all highly victimised and acting in self-defence against violent male partners. My apriori assumptions matched the feminist conceptualisation of female violence and I believed that the findings of this study would demonstrate that females who use partner violence should be treated by psychologists as victims of male perpetrated violence.

Study design (rationale for this method)

Traditionally behavioural research has been based upon the single-case design methodology (Morgan et al.,2001). The benefits of using a single-case approach are that the focus on collecting very detailed, in depth data allows the unique character of real world causal processes to be captured. The use of a biographical approach to case study data collection is particular useful when studying social phenomena with documented heterogeneity of developmental pathway. The narrative style is essential to this and is often missed by the boundaries of more structured approaches. Case study designs are an important aspect of quality assurance within healthcare settings particularly in respect to justifying therapeutic action and proving effectiveness of treatment (Petermann & Muller, 2001). Of course it is difficult to generalise the results of single cases, therefore some recent behavioural research has used an aggregated series of single cases in order to generate hypotheses about a particular clinical presentation (e.g. Aarnio & Laurto, 2008). In the interests of pragmatism, the sample size for this study is necessarily small.

This allows a focus on quality and depth of information that is necessary for this method of analysis, and would be difficult to achieve using other qualitative methods (Gomm, Hammersley, & Foster, 2000; Lieberson, 2000). The published literature using case study design methodology has typically included a small number of cases due to the high time-energy cost of in-depth analysis or difficulties with identifying suitable cases (Lieberson, 2000). The sample size for this study is in line with previously published studies (e.g. Aarnio et al., 2008; Gresswell et al., 1992; Hart et al., 2011).

Much of the literature on female IPV is formed around quantitative, cross-sectional study designs. This tends to generate the identification of correlational factors that are related to female IPV but is limited in implying causality. There have been calls for research which is longitudinal to establish the causal factors related to female IPV, however such a study is outside the limits of this thesis. Retrospective biographical interviewing as a method of research is recommended by Anderson (1981). It is useful to gather in-depth and freely generated data that may give insight into the participant's own understanding of their learning history and development (Madill & Gough, 2008). Much of the research into female IPV tests for factors associated with research around male participants and may miss factors that are unique to the development of perpetration in women. Using a qualitative research method is useful in capturing a rich account of participant's lived experience and gives the opportunity to identify unique factors (Krauss, 2012). This is particularly true of using a biographical interview design which is not subject to questions that may be biased by the researcher's prior assumptions.

The analysis used in this study is innovative and has not been used in relation to female IPV. The gap in the literature identified in the background, is an understanding of the mechanisms by which partner violent behaviour develops across the life trajectory. Other qualitative methods, whilst useful in establishing themes etc., would not allow the identification of psychological mechanisms in the same way as MSFA. The epistemological position of the researcher is grounded in pragmatism and an intention towards research that informs clinical practice. As such the use of MSFA in identifying the psychological mechanisms of female IPV is particularly fitting. Other qualitative methods arguably do not have the same level of clinical utility and are not intended to identify underlying psychological mechanisms. Other qualitative methods are useful in identifying the 'what' e.g. what factors are related to IPV? but not the 'how' e.g. how do these factors develop for women across the life trajectory? This is why MSFA is the pragmatic choice of analysis method for this particular study. **Participants**

Privacy statement: All participants and their families were given pseudonyms for the purposes of this study, names of people and places have been changed to protect the identity of participants.

Kay and Claire both had convictions for violent offences towards an intimate partner; although Carol had no convictions she had been referred into services for support around habitual use of partner violence. All women were heterosexual and with the exception of Carol, who was married, had been in cohabiting or dating relationships with the victims of the violence perpetration. Both Kay and Claire had perpetrated violence in more than one

relationship; Carol had only used violence with her current partner. None of the women had convictions other than for IPV or had engaged in violence outside of an intimate relationship

Participant variables are summarised in the journal article.

Recruitment

Probation service offender managers and forensic psychologists were asked to identify female clients who had been convicted of or had disclosed two or more incidences of violence perpetrated towards an intimate partner. If clients met the criteria for the study they were asked if they would be interested in participating and given the participant information pack (see appendix 4). The study offered women financial reimbursement for taking part in the study; this was in acknowledgement of the length and multiple interviews necessary to conduct the analysis. A regular high street value with a maximum £40 in value was given for taking part. Although four participants reported being interested in taking part in the study, two identified via probation and two by forensic psychology service, one female dropped out of the study due to personal problems. Three participants met the study criteria and agreed to take part in the project. Females who use IPV are an elusive group in terms of recruitment due to the way that offences are categorised by services and due to a decreased likelihood of females being arrested and convicted of partner violence or coming to the attention of services in the current system. Therefore the participants recruited in this study were an opportunistic sample based on the cases available via the recruiting agencies and were not selected for any other reason.

Inclusion criteria.

- The study included female adults (18+) accessing LPFT mental health services or Lincolnshire community forensic teams and have been convicted of or self-reported one or more incidence of violence against an intimate partner.

Exclusion criteria.

- To ensure consistency within the interviews women who could not communicate clearly in English or have special communication needs including hearing impairments were excluded from the study. This avoided the enlisting of a translator for some interviews as in a small sample study having some dyadic and some triadic studies could bias the results.
- Women who did not give consent to access their files and paper documentation were excluded from the study due to the methodological reliance on triangulation.
- Women with a primary diagnosis of psychosis will be excluded from the study as current research suggests that this population follow a unique developmental trajectory to perpetration of violence that it is beyond the scope of this paper to investigate.

The participants were asked for informed consent to take part in individual, audio recorded interviews, to allow a file review of relevant records and documents and to allow the

professional who had referred them to the study to be interviewed with regard to the client's developmental history and current offending behaviour (see appendix 4). Initial appointments with the participants were arranged via the professional who had referred them to the study, and interviews were conducted in private interview rooms within services that the participants were used to visiting for probation or psychology appointments.

Interview procedure

The interview aim was to take a full developmental history from the client, in chronological order. The interview was biographical and loosely based upon the categories identified as being pertinent to taking a full client history in clinical psychology. Although there were no pre-formatted interview questions the interview was organised around broad themes such as those used in existing clinical interview schedules e.g. Hare (2003); interviews covered childhood, school, work history, relationship history etc. An overview of interview themes was necessary for ethical approval and this is included as appendix 5. Interviews were audio-recorded and all electronic data has been stored in accordance with university policy. Following initial interviews the researcher analysed the data thoroughly before re-interviewing participants based on questions that had evolved from the initial analysis.

Professional interview procedure

Professional interviews were conducted with the professional responsible for directing each participant to the study. It was assumed that each participant had a good working relationship with the referrer and arranging interviews with professionals was a transparent process for participants. Professional interviews were held in the place of work of the professional participant, there was no interview schedule as questions were developed based on each participants particular analysis. The aim of these interviews was to triangulate the information received from the primary participant, to understand the sense that others had made of the participant's offending behaviour and developmental trajectory. Professional interviews also gave the researcher the opportunity for consensus checking as elements of the formulation and particular hypotheses were tested out against the professional's knowledge of the client. Professional interviews were recorded and lasted between 1 and 2 hours in duration.

File review

Files reviews were completed for each participant, this allowed information gained from interviews to be triangulated and also allowed consensus checking where the MSFA could be checked against live psychological formulations. The documents reviewed for each participant are identified in table 9.

Table 9: file documents reviewed by participant

Carol	Claire	Kay
Clinical notes	Clinical notes	Clinical notes
Psychological formulation	Psychological formulation	Pre-sentence reports
Psychological summary letters	Psychological summary letters	

Process of analysis

Triangulation

Many qualitative methods rely solely on introspective interview data, this may be considered to limit the reliability and scientific validity of such studies (Silverman, 1989). Methods which are likely to increase the scientific reliability and validity of qualitative research find fit with the scientific basis of radical behaviourism (Chiesa, 1994). Triangulation is an approach which does this by using multiple methods or sources of data to investigate the same phenomenon (Sayer, 1992). It is often used to increase validity in social sciences research by allowing the comparison of multiple perspectives of the same subject (Feagin, Orum, & Sjoberg, 1991; Jupp, Davies, & Francis, 2000). The plurality of triangulation allows presentations to be studied from multiple perspectives allowing introspective data to be checked for accuracy with data from other sources (Webb, 1966; Jupp, 1989). This reduces the chance that study findings are the result of biases (Denzin, 1989). Triangulation of multiple data sources is an important element of the case study methodology employed in this study (Yin, 1984). Triangulation may be considered a method of identifying truth by consensus which orientates this method towards the functional contextualist epistemological position on which this study is based.

A limitation of inferring validity from data triangulation is that different methods may measure different aspects of a phenomenon and it may be difficult to accurately compare different forms of data (Jupp et al., 2000). Methods of corroborating data from multiple sources can never be completely systematic and some theorists' argue that triangulation should not be considered a test of validity (Bloor, 1997). However, it is clear that having more than one perspective can increase confidence in research findings and that in this way triangulation is relevant to the issue of validity. Furthermore, triangulation offers a novel perspective to research data which can add to the richness of qualitative study of complex human phenomenon (Emerson, 1981).

The aim of triangulation in this study is to reach a consensus narrative of each participant's developmental history, synthesised from multiple sources. The sources of data pertinent to this study are biographical interviews with participants, interviews with professional workers who are familiar with the participants and file review data.

Analysis

The analysis in this study was conducted using Multiple Sequential Functional Analysis (Gresswell & Hollin, 1990). The process of the study took five months from recruitment through to final analysis. Difficulties with arranging follow up appointments delayed the process somewhat. See journal article for more details.

A note about behavioural processes and language

Applied behavioural analysis is intended as a technological science of human behaviour (Skinner, 1953, 1974). As a method of analysis this approach is based upon rules about the development of behaviours learnt from the empirical study of animals and humans. Radical behaviourism uses a particular set of terminology to convey these rules and assumptions. For this reason it seemed necessary, for the journal article, to give an overview of behavioural terminology and a clear understanding of how behavioural rules and assumptions have been applied in the current study. An extended version of the journal article glossary of terms is included as table 10.

In this study attempts have been made to remain true to the behavioural paradigm where possible, however for ease of understanding it has been necessary to group and label events relayed in the analysis using terms that are pragmatic. The main bulk of the individual analysis are narrative descriptions of the life history of the participants to give context to a series of MSFA's set across the life of the women in the study (see tables 11 to 13). Efforts have been made to keep the narrative descriptions jargon free. Analysis of each participant's behavioural development including explanations from a behavioural perspective and hypothesis drawn from behaviour understandings and the literature around FIPV is included following each individual analysis. In the descriptive analysis references to operant conditioning principles have been kept to a minimum, the word 'reward' is used to denote a positive consequence of a behaviour.

One of the difficulties in using behavioural theory with complex presentation can be the understanding of the type of conditioning that is maintaining a behaviour, where there is potential for more than one explanation, for example, a behaviour could be explained as either a respondent or an operant, or a respondent that becomes an operant due to reinforcement, this is discussed in the analysis of each participant.

In keeping with the functional contextualist epistemological position this analysis is presented pragmatically in order to allow a narrative flow, this is a step away from the clinical use of functional analysis which may include operant terminology within the narrative. It should be noted that a consequence cannot be assumed to be a reinforcer unless there is evidence of an increase or decrease in probability of behaviour occurring. Where possible hypotheses related to the reinforcement value of consequences were tested with the participants for accuracy and consensus. However, testing hypotheses is not always possible with retrospective analysis, where testing or triangulation was unavailable this was discussed at length with supervisors and has been noted in the analysis.

Table 10: Extended Glossary of terms

Covert behaviour	Internal events including affect, cognition and physiology
Overt behaviour	Observable behaviours
Discriminative stimulus	Specific antecedents that must be present for a behaviour to be emitted
Generalisation	The process by which reinforcement and punishment in multiple settings produces the same behaviours
Establishing operation	A setting event that increases or decreases value of a reinforcer
Respondent conditioning (classical)	Automatic responses that occur in response to new stimulus and are followed by stimulus association Unconditioned stimulus (US) : automatically triggered response Unconditioned response (UR) : Unlearned response to US Conditioned stimulus (CS) : neutral stimulus that when associated with US triggers CR Conditioned response (CR) : learned response to previously neutral stimulus
Once established conditioned responses are maintained by the process of operant conditioning	
Operant conditioning	The process by which behaviours are learnt
Positive reinforcement	Added stimulus consequence that increases probability that a behaviour will occur
Negative reinforcement	Removed stimulus consequence that increases probability that a behaviour will occur
Positive punishment	Added stimulus consequence that decreases probability that a behaviour will occur
Negative punishment	Removed stimulus consequence that decreases probability that a behaviour will occur
Punishment is not always effective in reducing behaviour; it would have to immediate, consistent, strong and given every time to have an impact.	
Reinforcement schedules	A rule of time or frequency that governs when a behaviour will be reinforced Continuous reinforcement : reinforcement occurs following every behavioural occurrence. Overtime stimulus that was rewarding may become less effective at reinforcing behaviour as it becomes less appealing e.g. ice cream becomes less appealing after the tenth one. Intermittent reinforcement : reinforcement patterns vary on time interval or frequency and can be scheduled on fixed or variable ratio or interval. Variable schedules tend to be more resistant to extinction due to the unpredictable ratio or interval of reinforcement.
Extinction	Occurs when reinforcement or punishment no longer occur for a behaviour. <i>Spontaneous recovery and rapid reacquisition occur when reinforcement/punishment reintroduced.</i>
Post-extinction burst	Temporary increase in frequency, intensity or duration of a behaviour previous reinforced but targeted for extinction
Shaping	Reinforcement delivered in guided gradual stages to develop a specific behaviour response over time.

For pragmatic reasons certain elements of the case study formulations have been sanitised in order to allow a coherent understanding to be conveyed to the reader. For example, Skinner emphasised that covert and overt behaviours are a continual stream of parallel events, however in this study covert and overt have been separated out, with overt following covert. This does not imply causality or suggest that internal, cognitive events are separate to external, physical events but meets with the pragmatist, parsimonious principles upon which this study is based.

Similarly, from a behavioural perspective emotion is considered to be a complex blend of context, physiological arousal, behaviour and cognition (see Russell, 2003 for a discussion of theories of emotion) In the interests of parsimony and pragmatism feelings in this study have been referred to by descriptive labels, e.g. sadness. This fits with published studies of functional analysis and does not infer that emotions are causal in behavioural sequences.

It should be noted that functional analysis, as in any case formulation approach, is based on the analyst's understanding of the principles of the model, together with understanding of the literature around a particular presentation, and is open to subjective conjecture. Efforts have been made to minimise subjectivity by use of triangulation, testing out initial hypotheses with the participants and their professional workers and by consensus checking procedures with the supervisors of this study.

Results and analysis

The joint results and discussion section of this paper includes presentation of the MSFA sequence for each participant see tables 11,12, 13. This is followed by an analysis of each case formulation which is intended to demonstrate the influence of behavioural principles in developing the MSFA's for each participant. A combined discussion of the similarities and differences between the three cases as related to current knowledge and literature is also included. Finally, a comment around the clinical and future research implications of this study is introduced.

Carol

The analysis in table 11 is the completed MSFA for the case of Carol. Carol is a 39 year old, white woman with several physical health needs, she has been married to Bill for 13 years and has been using violence towards him for the past 11 ½ years. Carol has no previous convictions and was recruited via community forensic psychology services where her status is voluntary, outpatient.

Table 11: MSFA for Carol

Early experiences

Carol, a middle child, was brought up with two male siblings in an upper working class family. Carol's father worked long hours and her mother was a stay at home mum and housewife. Despite reportedly being a very well behaved child, Carol reports being physically beaten by her mother from a very early age, this would include her mother hitting, slapping, grabbing, punching, kicking and using household objects to hit Carol. Carol's brothers were not beaten by their mother and Carol

reports feeling worthless, victimised and singled out for punishment. Carol felt sad, afraid and angry about her violence experiences, she coped by suppressing her emotional experience and becoming withdrawn, avoidant and isolated within the family. Carol reports that her mother would often use violence in response to Carol's comfort seeking behaviours such as crying and clinging, Carol felt that she was ignored and overlooked at other times, an experience which she found particularly devastating. Carol's father and paternal grandparents are likely to have been aware of Carol's treatment by her mother but acted to contain and hide the knowledge, ignoring Carol and maintaining Carol's early beliefs that she is unlovable, worthless and unimportant. Carol's school experience reflected home and she reports being typically ignored, interspersed with periods of overt bullying. Summarised in MSFA 1

MSFA 1

Antecedent

Distal antecedent: family history of gendered violence (female to female)

Carol is singled out by her mother for violence, brothers are not physically abused

Behaviour

Covert-

- I am unlovable, worthless and not important (sadness/apathy)
- No one protects me; I am unsafe (fear/depression)
- This is unfair, others are treated well (anger)

Overt-

- Suppresses covert behaviours
- Quiet, stays out of sight, freeze response to violence, avoidance
- Some comfort seeking behaviours e.g. crying, clinging

Consequence

Minimised attention from family and other adults

Family contain and hide Mum's violent behaviour, any comfort/safety seeking behaviours are punished by violence from Mum or ignored by Dad. (Intermittent reinforcement schedule)

Carol is victimised and bullied at school

Key Learning

- I am treated badly, others are treated much better
- I am invisible, unless I do something to seek safety and comfort and then I am punished
- Attention, even when unpleasant, is preferable to being ignored
- Older females are violent/abusive to those weaker than them

Late adolescence/early adulthood

Carol did not make friends or socialise easily and on leaving school at aged 16 she had developed only two friendships with girls in her peer group. These relationships were limited to contact during the school day as Carol struggled to maintain friendships outside of the school environment. Carol did not make any relationships with males outside of the family during adolescence and did not experience any of the early intimate, dating behaviours typically associated with this age group.

At aged 16 years Carol was alone in her room when her 18 year old brother roughly pinned her down, blindfolded and raped her. This was a frightening and distressing initial experience of sexual contact and increased Carol's recognition of her low status within the family, being attended to only with negative attention and victimisation by others. Carol's previous strategy of acceptance and passivity were unsuccessful and her brother raped her for a second time. After a period of rumination on the rape and worries about potential pregnancy, Carol confided in her two friends who were genuinely sympathetic and offered Carol the comfort and support she had not experienced from relationships in the past. Without being aware of Carol's difficult family dynamics, the friends persuaded her to confide in her parents about the rape. On disclosing to her parents Carol was disbelieved by her mother and physically punished, blamed for disrupting the family dynamics and labelled as a liar and trouble causer. Her father did nothing to support her or punish her brother. Summarised in MSFA 2.

MSFA 2

Antecedent

Functional analysis sequence 1 plus...

Carol is raped twice by her older brother

Friends support and encourage her to disclose

Behaviour

Covert-

- I am worthless and singled out in this family (strengthened from MSFA 1, resigned)
- It is not fair, even my brother uses me (anger)
- Ruminates on the rape and worries about pregnancy (guilt, shame and fear)

Overt-

- Reverts to passive behaviours learnt in MSFA 1
- Seeks help and reassurance from friends
- Tells parents about the rape

Consequence

Carol's passive response does nothing to discourage her brother who rapes her a second time

Carol's friends respond to her confidence in a caring and nurturing way

Carol is disbelieved by Mum; she is punished, labelled and blamed

Carol's father is not overtly disbelieving of her disclosure but does nothing to protect Carol

Carol's brother does not rape her again

Key Learning

- Suppressing unpleasant experiences does not stop them
- When I complain about being hurt I am attended to
- When I ask for love and care from my family I am ignored and punished
- Consolidates learning that life is unfair and others are treated better
- Letting others know about abuse can stop it from happening again

Early adulthood

In early adulthood Carol started her first job in a dog's home, in contrast her brothers had left for university and had promising professional careers. In this context Carol was again singled out as less worthwhile than her siblings and began to feel low in mood. The family dynamics were changed due to the absence of Carol's brothers, and when Carol broke her arm and had to take time off work, her parents were able to prioritise offering her the care and support she required. For the first time Carol experienced the love and care she had sought before and found that others were prepared to notice and care for her when she was ill. During this stage of her life Carol was diagnosed with epilepsy, this diagnosis was significant in shifting the environmental contingencies further and Carol's parents and aunt, who had trained as a nurse, rallied around to support her. Carol had not had the opportunity or skills to develop and maintain close relationships in the past and her developing relationship with her aunt, alongside the care of her parents, may have been rewarding. Summarised in MSFA 3.

MSFA 3

Antecedent

Functional analysis sequence 2 plus...

Carol is seen as low status by her parents and compared with her brothers.

Carol has an accident at work and breaks her arm.

Carol is diagnosed with epilepsy.

Behaviour

Covert-

- Men are more valuable than me (injustice, anger)
- I am sick, other people care for me (self-labelling)
- I am validated and valued as people attend to me when I am sick or a victim (validated)

Overt-

- Overt signs of pain and disability with a physical cause
- Following accident Carol leaves job (and never works again)
- Increasing care seeking behaviours, complains of feeling ill, asks for support with medical appointments, stays physically close to parents ('demanding patient')

Consequence

Family behave more like the sympathetic friends

Labels change from low status, liar to sick and needing care

Carol is validated by her family

Key Learning

- When people can see that I am sick or a victim they care for and notice me
- Being sick gives me some power to influence people
- I am not invisible when I am ill
- Although being sick costs me independence and life experiences, I am validated in this role

Adulthood and development of offence sequence

Carol remained in a dependant role with her parents as carers for 3 years and was rehearsed in the patient/carer roles. She stopped working and had no real social contact outside of her immediate family; Carol relied heavily on her parents who obliged in meeting her needs. At this time Carol's aunt introduced her to Bill a man 16 years her senior who like Carol had no previous romantic relationships and was prepared to treat Carol as 'fragile' which was how she had been described by her aunt. The couple started dating and Bill was happy to meet with Carol's demands, seeing her at her parents' house when she was too sick to go out and taking over some of the caring duties from her parents, such as running Carol to medical appointments. After 5 years of dating Carol and Bill married and moved into their own home, this was Carol's first experience of living independently from her parents. Following the wedding Carol realised that Bill would be unable to fulfil her needs as attentively as her parents had, he worked full time and was unable or unwilling to attend to Carol in the way that she expected. Carol increased her demanding patient behaviours and developed physical complaints related to her bones and joints. As Carol's demands increased, Bill would become more attentive for a short while but over time would become less attentive whence Carol would increase her demands again. Carol reports feeling angry and frustrated with Bill, the environment was invalidating and she began to feel invisible as she had in the past. To feel noticed Carol began to verbally abuse Bill, after 18 months the abuse became physical and Carol slapped Bill for the first time. The abuse was rewarding for Carol in the short term when Bill became more attentive, but in the long term his attentiveness began to diminish. When the abuse did not have the desired affect Carol took an overdose. Summarised in MSFA 4.

MSFA 4

Antecedent

Functional analysis sequence 3 plus...

In the context of 8 years of rehearsal in being sick, demanding patient, being isolated and out of work, developing carer/patient relationship with parents and aunt.

Marriage with older partner who takes over primary carer role, he is attentive and caring initially but after 18 months becomes averse to Carol's increasingly demanding behaviours.

Behaviour

Covert-

- He knows I am fragile, how dare he not look after me (injustice, rage)
- He avoids me and allows me to bully him; I despise him (contempt, frustration)
- If I am not validated and important I am invisible (invalidated)

Overt-

- Demanding patient behaviours are strengthened
- Bully's partner verbally and cruelly taunts him
- Physical violent towards partner, hitting, kicking
- Takes several overdoses

Consequence

Partner is bullied and chastened; he pays attention to Carol's needs in the short term but drifts back into avoiding

Partner takes more care to meet Carol's physical health and emotional needs

Cycle of reciprocal reinforcement is established

Key Learning

- Beliefs about needing to be a victim or sick to be cared for are strengthened
- I am important and powerful in getting my needs met in this system

Current context

After seven years of the continuing patterns of Bill's avoidance and Carol's escalating demand behaviours, Bill retired from work and began to suffer ill health. Carol and Bill began to spend long periods of time together and both became frustrated with the situation. Carol had continued to use verbal and physical aggression towards Bill in order to be noticed and at this point Bill hit Carol back. Bill's violence towards Carol was very low level compared to the violence she had used towards him. Being hit by Bill reminded Carol of feelings of being ignored and invalidated in her childhood. Despite never involving those outside the system in her own violence, Carol called her family and the police to report that Bill had assaulted her. The police were attentive to Carol, as were her family; Bill felt guilty and ashamed of his behaviour and resumed high levels of care and attention for Carol. This pattern is currently on-going in the couple's relationship. Summarised in MSFA 5.

MSFA 5

Antecedent

Functional analysis sequence 4 plus...
Partner's pattern of avoidance increases
Partner retaliates against Carol's violence

Behaviour

Covert-

- I am not going to go back to being invisible (core thoughts reinforced from childhood)
- I have to be active to maintain care and importance (invalidated, frustrated)
- How dare he hit me, I am ill (injustice)
- I am a victim; if others know they will care for me (expectation learned in MSFA 2)

Overt-

- Escalation of patient/victim and violent demanding behaviours
- Phones the police and reports partner for assault
- Phones family to disclose that partner has physically abused her

Consequence

Receives physical and emotional care and support from parents, siblings, extended family and police, the drama and attention validates Carol

Partner repents his behaviour and resumes care and attention of Carol's physical and emotional needs

Disclosing abuse to others is reinforced as a strategy to increase their overt care and attention

Key Learning

- People care for me and notice me when I am a victim
 - Empowered by feelings of being important to others
 - I am not invisible when I am noticed and cared for
-

Discussion of multiple sequential functional analysis-Carol

It is clear that the hypothesised function of Carol's violent behaviours is related to a need to be noticed and cared for in her immediate environment. Hypotheses related to Carol have been developed from the following analysis.

Early experiences: The analysis of Carol's childhood behaviours, suggest that the function is related to reducing experiences of being ignored by increasing attention from others. In the case of Carol's mother it can be hypothesised that her violent behaviour, although unpleasant, may have been preferable to Carol than being ignored. In this context Carol's needy, comfort seeking behaviours appear to have elicited a violent response from her mother, positively reinforcing Carol's behaviours on an intermittent reinforcement schedule. It can be speculated that Carol increased her crying and clinging at times when she expected to be reinforced by violence. The reinforcement of behaviours that elicit unpleasant responses has been discussed in the literature in relation to children who exhibit naughty behaviour in a context of being ignored at other times (Stattin & Kerr, 2000) and similarly in some of the learning disability literature (Emerson, 2001). That needy behaviours may evoke aggression in others has also been discussed in relation to the frustration-aggression hypothesis of violence (Delisi & Hochstetlev, 2002). Carol making sense of her mother's violence in relation to her own mother's learning history supports the idea that Carol developed gendered rules about violence and power, in particular relating these behaviours to older women. This relates to the intergenerational

transmission of violence literature and may suggest that there are gendered elements to this theory (Stith et al.,2000). Overtime Carol adopted similar behaviours at school to those she has adopted at home; this can be explained by the generalisation of operant behaviours, a process highlighted as part of the transmission of behaviours to multiple contexts.

Late adolescence/early adulthood: Tracing Carol's behaviours into the next life stage shows that she remains low status within her family and the wider social context of school. Research suggests that low status individuals are often targeted for violence by others (Epstein, 1965). Carol's rape by her brother is an unconditioned stimulus, she responds in the short term with the acceptance behaviours she has used to deal with her mother's violence, but it is likely that the rape is such an aversive experience that she also discloses to her friends, an unconditioned response (rape as an unconditioned stimulus is discussed in several papers e.g. Kilpatrick, Veronen, & Resick, 1979). It is unknown whether Carol's disclosure is triggered by the abuse experience or by the physiological worries she has around pregnancy, but this may reflect on Carol's behaviours in future sequences. Carol's disclosure behaviour is maintained by complex multiple factors in this sequence, it is positively reinforced by her friends who are warm and supporting, perhaps inducing social modeling behaviour when she decided to confide in her parents. But the behaviour is positively punished by her parents, her mother attacks and labels Carol (a previously positively reinforcing consequence), whilst her father ignores the disclosure (an aversive consequence if Carol's function is agreed to be to reduce being ignored). The disclosure is also negatively reinforced because Carol's brother is not punished for the rape but he does not repeat the offence towards Carol. If the hypothesis, that Carol's disclosure behaviour is reinforced, is true then this can be assumed to be on an intermittent schedule as it is not reinforced every time, and it would be expected that Carol's disclosure behaviour would strengthen in the subsequent life stages.

Adulthood: In the third sequence Carol remains low status in the family. She has an accident at work that involves wearing a pot on her arm, it is hypothesised that the physical accretments of injury, alongside her parents increased availability of time, combined to mean that for the first time in her life Carol was prioritised and cared for. It can be hypothesised that Carol having her functional needs met in this way is positively reinforcing of her 'patient' behaviours. This is evidenced when Carol's 'demanding patient' behaviours increase over time for example behaviours such as complaining of feeling ill and tired, seeking support with medical appointments, and increased occasions where she depends on her parents for physical care needs. It is hypothesised that in this context Carol understood that her parents' and Aunt's caring behaviours were contingent on her being sick, she left her job due to ill health and compromised her opportunities to experience life as an independent adult to stay with her parents in this newly validating environment. This cost/benefit analysis appears to have been heavily weighted in favour of Carol being in a sick role. Speculation about the nature of Carol's epilepsy is interesting, epilepsy is an illness diagnosis that is often related to Factitious disorder (see Meadows, 1984; Scheepers, Clough, & Pickle, 1998) and in this case there was no way of triangulating Carol's use of epilepsy medication with healthcare records. Although it is

beyond the scope of this analysis it may be hypothesised that a functional relationship was developed between Carol's need to be attended to and her illness behaviours that could very well fit with what is known in the literature about Factitious disorder.

Adulthood and development of offence sequence: In the new context and due to her learning history, Carol is likely to have expected that Bill would replace her parents in meeting all of the demands of her fragile health condition. During the initial 18 months of marriage Bill did meet Carol's needs but after 18 months he became less attentive, it can be hypothesised that Carol's demands became an aversive stimulus for Bill. A cycle of reciprocal reinforcement is likely to have been established. As Bill began to avoid Carol's demands, she increased her demand behaviours in order to be reinforced. Bill provided intermittent reinforcement in the short term but over time became less attentive until Carol escalated her behaviours to a new level and the sequence began again. Bill's intermittent reinforcement of Carol's demanding behaviours violated Carol's learned expectations and her sense of injustice and anger evolved into contempt of Bill. Carol began to bully Bill verbally and physically, this gave her power over Bill's reactions and increased Bill's attentiveness to her needs. A new behavioural strategy was shaped as Carol found that when her demanding patient behaviours were not reinforced by Bill she could use verbal and physical violence to serve the same functional need. The power Carol felt by using violence in this relationship was positively reinforcing. On occasion's were the violence did not serve the function of getting Carol's demanding patient needs met, Carol found that taking an overdose was positively reinforced. Carol may have developed a hierarchical pattern of behaviours that served the same functions of being cared for, having her patient needs met and being prioritised in this microsystem.

Current context: In the current context it can be hypothesised that Carol has become rehearsed in escalating the behaviours, which serve her functional need of being cared for and attended to, in this microsystem. Seven years into the marriage the dynamics of the system changed when Bill retired from work and the couple were together for long periods of time; this situation was exacerbated when Bill began to suffer from physical health problems which inhibited the couple's lifestyle. Bill was no longer able to physically meet some of Carol's physical health needs and the couple both became increasingly frustrated. In this context Carol vented her frustration using the previously reinforced verbal and physical aggressive behaviours. With his own frustrations exacerbated by his inability to escape from Carol physically by going to work or leaving the situation due to his own health problems, Bill retaliated using physical violence towards Carol. Carol, driven by her earlier reinforced beliefs that she needs to be attended to by others to be worthwhile, is invalidated, angry and frustrated by the change in contingencies. Carol labels herself as a victim and reverts to the strategy which was reinforced following the victimisation by her brother. Carol calls her family and the police to report her experience of victimisation, this behaviour is positively reinforced by the drama and attention that is evoked. Bill's use of violence is chastised and punished by the wider systems and he is labelled as a domestic violence perpetrator. Bill positively reinforces Carol's disclosure strategy by resuming care and attention for Carol despite his health problems. Bill's use of violence in the short term was positively reinforced by the increase in power and is not

extinguished by Carol's disclosure as she does not call the police after every mutually violent encounter. This pattern of reciprocal violence and power continues until the current date.

Kay

The analysis in table 12 is the completed MSFA for the case of Kay. Kay is a 24 year old, white woman with a daughter aged seven years. Kay is currently in a relationship with Adam and has been arrested twice for offences related to using violence towards him. Kay has been in several relationships and has experienced partner violence perpetration or victimisation in all of them. Kay was recruited via probation services and is currently serving a community punishment order for partner violence offences.

Table 12: MSFA for Kay

Early experiences

Kay, a middle child with an older sister and younger brother was raised in a wealthy, high status family who moved overseas when Kay was a baby. Kay's father was a very well respected business man and the family had access to all the privileges of wealth and high social status including private schools etc. Kay's mother was a stay at home mother and housewife. Kay reports that her parent's relationship was physically and sexually violent, and that she often witnessed or heard her father beating her mother, particularly after he had been drinking alcohol. Kay reports that her father was very controlling over all aspects of the families' day to day lives, controlling the routine, activities and general mood of the household. Kay reports being singled out for physical punishments by her father who would hit, slap, punch and hit her with a belt. Kay felt angry at the physical abuse, particularly as it seemed unfair that her siblings were not punished in the same way. When Kay was physically punished by her father she would cower, this would often stop her father's aggression but made Kay feel weak and pathetic. Label's that Kay associated with her mother.

When Kay's father was out at work Kay would act out with temper tantrums and acts of violence towards the family's possessions and towards her siblings, for example burning the Christmas tree and stabbing her brother with a knife. Kay's mother tried to keep Kay's behaviour secret from her father to prevent Kay being punished. Kay also reports that she developed some obsessive-compulsive type behaviours, for example, she refused to eat food that had touched on the plate, she measured her toys to give equal space between them and refused to sleep in her bed to avoid creasing the sheets. When Kay's father realised the extent of Kay's difficulties he privately funded a six months in-patient psychiatric stay. The hospital was geographical close to Kay's father's office and he would visit her regularly, for the first time Kay enjoyed one to one contacts with her father. Kay's difficulties improved and she was discharged, on returning home she reports being still afraid of her father but began to seek out opportunities to be close to him, including acting as a boy in an attempt to be singled out for positive attention.

Kay began to enjoy quite times with her father at the weekends and in this context he began to sexually abuse her.

Summarised in MSFA 1.

MSFA 1

Antecedent

Singled out for physical punishment by father

Witnesses' parental domestic violence when father has used alcohol (father towards mother)

Behaviour

Covert

- Home is unsafe; no one protects me (fear)
- It is unfair that I am punished when my siblings are not (anger and injustice)
- In this system my mother and I are weak and my father is powerful (development of rule governed behaviour)
- Alcohol and violence are associated factors (development of rule governed behaviour)
- I am afraid of my father but when I get his approval he hurts me less (approach/avoidance conflict)

Overt

- Cowering when punished by father
- Protesting behaviours and acting out, displays of rage, violent behaviours towards family possessions and younger sibling
- Controlling immediate environmental stimulus (food and possessions)
- Acting like a boy and identifying with father (perpetrator)

Consequence

When Kay cowers from father he stops hitting her but sometimes turns his aggression onto Mother
Mother pacifies Kay and hides many of her behaviours from father
Kay's attempts at control of others and the environment are pathologised and she is hospitalised for emotional and behavioural problems. Kay's father visits her weekly
Sexually abused by father

Key Learning

- Cowering stops the violence but makes me feel weak and powerless
- I can change the behaviour of those weaker than me in the family by using aggression and displaying rage
- Males are strong and in control, the world is unsafe for women. I don't want to be weak and unsafe like my mother
- Even though being close to father is dangerous, it gets me status within the family and reduces father's physical punishments

Early adolescence

On two separate occasions Kay intervened in the violence she witnessed her father use towards her mother. This was rewarding in the short term as the beating stopped but ultimately Kay's father continued to perpetrate domestic violence towards his wife. When Kay was 13 years old her father abandoned the family for a new relationship and with her mother and siblings Kay returned to the UK. Kay was confused by her father's abandonment; she had understood herself to be high status in her relationship with her father and made sense of the situation by blaming her mother's weakness. Kay became overtly hostile towards her mother and felt empowered when she was able to control her mother's behaviours by acting out.

After a short stay in the UK Kay's father sent for her and later for her younger brother, the siblings went to live overseas with their father and his new partner. Kay's father soon began sexually abusing Kay again, Kay was powerless to stop the sexual abuse particularly as her family were in the UK and she had limited access to social supports outside of the family. This situation continued for two years until at a family dinner Kay's father verbally berated Kay for a minor misdemeanour and then flew into a rage when she answered back, knocking a plate of food over her and then threatening her with a knife. Kay felt humiliated to be treated like this in front of her step-mother, for the first time she raged at her father and threatened to expose his sexual abuse. Fearing exposure Kay's father apologised and pacified Kay that night but had her flown back to the UK and her mother the very next day, she was prevented from seeing any friends or family before she left and felt completely abandoned and rejected by her father.

On being united with her mother Kay confided the abuse she had suffered, and Kay's mother and sister admitted that they had also been sexually abused by the father.

Summarised in MSFA 2.

MSFA 2**Antecedent**

Functional analysis 1 plus...

Father's physical violence towards mother continues

Father cheats on mother and abandons the family for a new partner

The family relocate abroad without father, who returns for Kay and continues sexual abuse but stops physical abuse

Behaviour**Covert**

- Brief feeling of powerfulness when stops father beating mother (positively and negatively reinforced)
- Feels abandoned and rejected by father (angry, confused)
- Being 'daddy's girl' feels powerful but I am powerless to stop the sexual abuse (approach/avoidance conflict)

- How dare my father humiliate me with physical punishment after he has been sexually abusing me (rage, injustice)

Overt

- Intervenes in father's violence towards mother
- Blames and acts out at mother for father leaving
- Accepts sexual abuse by father
- Acts out and threatens father when he uses a physical punishment and humiliates Kay
- Confides sexual abuse to mother

Consequence

Father continues to physically and emotionally bully mother

Mother changes her behaviour to accommodate and pacify Kay's rage

Kay is sent to live with mother immediately after retaliating against the humiliation of father's physical abuse; in the UK the family lose the wealth and status of father's lifestyle

Mother and sister admit to being victims of father's sexual abuse too

Key Learning:

- Protecting myself and others is complex, I can stop abuse but there are longer term consequences.
- My father cannot be trusted; he has betrayed my mother, betrayed me and abandoned his family.
- I do have some power over my father but if I exercise it I am rejected.
- When you stand up to men or are no longer desirable to them they abandon you.
- Women are too weak to stand up to men or to protect others; I am not like other women

Late adolescence

At age 15 Kay began her first serious romantic relationship with a same age peer, John. John moved into Kay's family home and the couple were soon left living alone when Kay's mother took a job in another town. By the age of 16 Kay was pregnant and her relationship with John was very volatile. Kay reports that because her father had cheated on her mother she had little trust in men; she would easily become jealous and possessive in relationships due to a fear of being rejected. John used alcohol excessively; he would often go out with friends and cheat on Kay. John's behaviour infuriated Kay and she reports that she would be 'arrogant' towards John in front of his friends, verbally raging at him and humiliating him. John often responded to Kay with physical violence, he would push and grab her and Kay would cower at such behaviour but would attack others if they intervened in fights between her and John. Kay reports that she did not defend herself against John as she wanted to protect the baby. After each violent episode Kay left John and went to stay with his sister, John would typically beg Kay to come back and promise that he would change his behaviour. Kay would return to the relationship and in the short term John would keep his promise, but over time things would return to normal and the pattern would repeat.

Summarised in MSFA 3.

MSFA 3

Antecedent

Functional analysis 2 plus....

First serious, romantic relationship, Kay is pregnant

The relationship is characterised by her partner, John's, alcohol use, domestic violence and sexual infidelity

Behaviour

Covert

- I don't want John to leave me for another woman, but I despise him for making me feel so powerless (approach/avoidance conflict)
- Being hit by John is terrible but it shows me that he cares/being ignored is worse than being attended to even when attention is aversive (verbal rule development)
- I feel powerful when I re-bond with John against those who intervene in our relationship (close, powerful)
- I cannot trust him not to cheat, how dare he treat me like I am worthless when I am carrying his child (invalidated, rage, injustice)
- I feel so powerful when he grovels and begs me to come back (powerful, control, validated)

Overt

- Possessive of John and acts to isolate him from others, at times is verbally bullying
- Kay expresses jealous anger by raging at her partner, he responds aggressively. This cycle increases in frequency over time.
- Aggressive to others when they intervene in the relationship
- Accepts physical abuse to protect unborn baby (positively reinforced as feels powerful)
- Leaves the relationship several times, returning when John begs her

Consequences

The cycle of jealous possessiveness and violence continues to increase in frequency throughout the relationship

When others intervene to stop the violence the relationship is strengthened

John begs Kay to return when she attempts to leave the relationship

When the baby is born the relationship ends and Kay starts a new relationship

Key Learning:

- Women don't have to be weak they can control a man's emotions even if he is physically abusive
- When men are jealous, even if they show it with violence, it shows they care
- It is incredibly powerful and validating to have a man beg and grovel to you
- It can feel vulnerable when others become involved in relationships; however it makes relationships close and powerful if you unite with your partner against those who interfere
- Rule governed behaviour is generalised from Dad to all men, men cheat and abuse you when you are weak and dependant

Early adulthood

At age 17 years Kay begins a relation with Ray, a 33 year old male, well known in her neighbourhood as a physically imposing drug dealer. Ray quickly dominated Kay's life, he was extremely controlling of where Kay went, what she did, and who she saw. Ray was very violent towards Kay, his punishments were harsh and unpredictable and Kay lived in fear of the next beating. In response to Ray's violence Kay reverted to her earlier rehearsed passive behaviours. She cowered from Ray's violence and completely complied with his controlling demands. Ray introduced Kay to amphetamines which she began to abuse on a daily basis. Kay reports being too afraid of Ray to contemplate leaving him and although she was sexually jealous and suspected him of infidelity, she was too afraid of harsh punishments to confront Ray. Kay reverted to use of obsessive-compulsive type behaviours particularly related to cleanliness and germs.

When Ray used violence towards Kay's daughter she fled the relationship and hid at her sister's home 50 miles away. Ray soon found Kay, he kidnapped her and she was exposed to a terrible ordeal of physical and sexual assaults over several days. Ray allowed Kay to return to her family when she promised to continue with the relationship, Kay then found the courage to report Ray to the police.

The trial and prosecution of Ray appears to have been badly handled, he was found not guilty of rape and kidnapping, Kay was angry and humiliated at being disbelieved.

Summarised as MSFA 4.

MSFA 4

Antecedent

Functional analysis 3 plus...

New relationship with an older partner

The new partner, Ray, uses very extreme physical, sexual and emotional abuse to control Kay; he is driven by possessiveness and jealousy

Ray uses physical violence towards Kay's two year old daughter

Ray supplies Kay with amphetamines

Behaviour

Covert

- I am unsafe, Ray's punishments are harsh and unpredictable (fear, hyper-arousal)
- I am weak; I cannot protect myself or my child (powerless)
- There are no positive aspects of this relationship; it is all fear and aversive stimuli (fear and aversion)
- Sexual jealousy but unable to express this due to fear of punishment (fear and powerlessness)

Overt

- Cowers from violence
- Increase in OCD behaviours to control environment, excessive cleaning
- Amphetamine dependence
- Complete compliance with Ray's rules and routines

Consequence

Flees the relationship with Ray, who finds Kay and badly beats and rapes her

Reports Ray to the police

Police prosecution handled badly, perpetrator found not guilty and Kay feels humiliated and disbelieved

Continues to use amphetamines

Terminates the relationship

Key Learning:

- Escape and avoidance are not effective against violence and terrorism
- In this relationship I was completely helpless and powerless; I can never get into a relationship with anyone as violent and controlling as Ray again
- I hate feeling weak and powerless; In order to protect myself and my child I need to be the powerful one in future relationships
- Consolidates black and white beliefs about the world being either ignoring or abusing and about the roles of gender and power. Subtle nuances develop around older men being potentially more violent and controlling than younger men
- When others intervene in my relationships, even the authorities, I am humiliated and not protected

Adulthood and development of the offence pathway

During the trial Kay began a new relationship with Paul. Paul is known to have a history of arrests for football related violence but at aged 21 was only one year older than Kay. Paul and Kay soon moved in together and spent much of their time drinking alcohol and using recreational drugs (cannabis, amphetamine, ecstasy and cocaine). There was mutual sexual jealousy in the relationship but Kay reports using the most control as she tried to prevent Paul from cheating on her. Paul was relatively submissive in the relationship and would try to avoid triggering Kay's jealousy.

Violence between the couple was typically instigated by Kay who acknowledges using more severe violence than Paul. Triggers for Kay's violence would usually be Paul's accusations that she was cheating which really angered her. At times when Paul retaliated and hit Kay back she would throw him out of the house and he would beg to come back, consolidating the power Kay felt in this relationship. Kay ended the relationship after two years as she was bored with Paul.

MSFA 5**Antecedent**

Functional analysis 4 plus....

New relationship with Paul, who moves into Kay's house

A setting event for this relationship is drug and alcohol use

This relationship is mutually violent, Paul is the less controlling and violent partner in this relationship
Paul is jealous and often accuses Kay of cheating

Behaviour**Covert**

- I am in control in this relationship; I am not afraid to express how I feel (fear greatly reduced in this relationship)
- How dare Paul accuse me of cheating, it is men that cheat (rule violation, rage and injustice)
- It feels powerful to have a man grovel and be submissive to me again, but it is boring (power)

Overt

- Jealous aggression and coercive controlling behaviours towards new partner
- Hits Paul when he accuses Kay of cheating
- Leaves Paul or throws him out of the house when he hits back

Consequence

The relationship continues to be mutually violent but Kay is the dominant partner

Paul is increasingly submissive to Kay
Kay identifies with 'male role' of violence, control and power
Kay ends the relationship with Paul

Key learning:

- I can be the perpetrator and control the inevitable violence in a relationship to meet my own needs
 - When Paul is submissive I feel very powerful
 - I can use violence to change situations, environments, the behaviour of others and my own affective state
 - Using violence towards Paul consolidates Kay's belief that when you are vulnerable others abuse and reject you (consolidation of black and white thinking).
-

Index offence

Kay began a relationship with Adam, aged 33 and a recently divorced father of three adolescent boys. The couple worked together and Kay soon moved in to Adam's home. Although Adam had some propensity to jealousy he did not exhibit any of the same controlling or violent behaviours Kay has associated with older men in the past. Adam was calm, responsible and pro-social in his attitude and behaviours. In this relationship Kay was very jealous, she was afraid that Adam would reject her for another female and attempted to be very controlling over his lifestyle choices for example telling him to quit his job and forbidding him to have any contact with his ex-wife. Sometimes Adam would comply with Kay's demands but at other times he would be firm with Kay and refuse. On nights out when the couple are both drinking alcohol, Kay often becomes jealous of Adam's behaviour and thinks that he prefers other females to her. She typically waits until they get home and then attacks Adam verbally and physically, she accuses him of cheating on her and hits, kicks, punches, bites and scratches him. Adam does not hit Kay back; he is firm with her and tries to reason with her. This makes Kay furious and her aggressive behaviour escalates, she smashes up Adam's possessions and has smashed his head against the wall before. When the violence reaches this level Adam typically calls the police, he has called them to Kay on four separate occasions. When Kay realises Adam has called the police her rage increases and her behaviours escalate. When the police arrive Kay calms down she is arrested and held in the cells overnight. In the morning she finds that Adam has not pressed charges and that the relationship is not over. Each time this has happened the couple have quickly made up and the behaviours have become less frequent since the police pressed charges against Kay. Adam now tries to avoid behaviours that trigger Kay's jealousy and the frequency of the fights has reduced. Summarised in MSFA 6.

MSFA 6

Antecedent

Functional analysis 5 plus....

Current relationship with Adam

Adam is an older recently divorced father of three sons. He is pro-social and does not use violence

Violence is triggered in this relationship when Adam is associated with any female

Excessive alcohol use is a setting event for violence in this relationship

Behaviour

Covert

- If Adam is associated with any other female there is a chance that he will abandon and reject me (fear and anxiety)
- How dare Adam talk to other girl's and make me feel like this, I will show him (rage and injustice)
- When Adam does not hit me back I don't know how to repair my behaviour, I have to carry on with the violence as I don't know how to stop (invalidated, skills deficit)

Overt

- Kay is dominant in this relationship; she is very possessive of Adam and tries to stop him from having any contact with other females e.g. telling him to quit his job
- Alcohol acts as an inhibitor for Kay, when she is intoxicated she physically attacks Adam hitting, punching, kicking, biting him and smashing his possessions

Consequence

Adam responds calmly to Kay's violence, he gives a strong response but does not use violence (Kay's behaviour likely to be a post-extinction burst).

As Kay's behaviour escalates Adam calls the police and Kay is arrested. Kay has been arrested four times for similar offences and charged twice. Adam does not press charges and the couple typically have united against the police.

Kay and Adam maintain the relationship, Adam has modified his behaviour to create less triggers for Kay's jealousy.

Key learning:

- When I can control Adam's behaviour I am less frightened that I will be abandoned and rejected (Consolidation of Kay's lifelong learning around power and control)
 - Using violence continues to be strongly reinforced, positively by feelings of power and control, negatively by reduction in feelings of hyper arousal and fear.
 - Others should not be involved in my relationships; it is uniting and powerful when Adam and I join forces against the police
 - If Adam tries not to make me jealous and I try to drink less alcohol our relationship will be maintained
-

Discussion of multiple sequential functional analysis- Kay

Early experience: When Kay witnessed the domestic violence of her father towards her mother it can be hypothesised that she began to associate violence with alcohol and that she developed early beliefs about gender roles, generalised from her perception of her parents, that men are strong and in control whilst women are unsafe, weak and controlled.

Kay was singled out for punishment and despite feeling angry towards her father she responded by cringing. Cringing is likely to be an unconditioned response which over time became positively reinforced as it reduced the length and severity of physical violence. However, cringing behaviour was also punished as it made Kay feel weak and pathetic, descriptors which she had learned to associate with her mother. Kay recalls actively not wanting to be weak like her mother, a factor that has been found to be related to female use of violence in other qualitative studies (Seaman et al.,2007). It can be speculated that for Kay cringing was dependent upon discriminative stimuli, namely the verbal and physical cues that indicated her father's violence, and that the punishment value of cringing stopped it from being generalised to other situations. This is demonstrated by Kay's use of verbal and physical outbursts towards her mother, the opposite of the unconditioned fear response typical in interaction with her father.

It is likely that Kay's mother provided inadvertent negative reinforcement of Kay's 'acting out' behaviours by hiding the behaviours from Kay's father and reducing the risk that Kay would be physically harmed. Kay found that being able to control weaker members of the family gave her a sense of power and control, powerful positive reinforcement. She also found that she felt more in control of the environment when she was able to manipulate it using obsessive-compulsive type behaviours. These behaviours were reinforced by the feelings of power over inanimate objects and also because they allowed Kay to hold some power over her mother who tried to appease Kay e.g. putting food on to separate plates.

In the hospital environment Kay's behavioural outbursts and OCD behaviours were placed onto an extinction schedule and new behaviours reinforced, Kay returned to the family home with a new behavioural repertoire. After spending positive time with her father Kay sought out further opportunities for one to one contact with him, even though she was primed to be afraid of him in the home environment. It can be speculated that Kay's beliefs about gender roles, along with her desire to re-experience positive attention from her father and the safety associated with this, drove Kay to begin acting like a boy. Kay's behaviours in seeking out attention from her father were positively reinforced by her increased status within the family and negatively reinforced by a reduction in her father's use of physical punishment towards her. However, spending time alone with her father was also dangerous for Kay as her father began to sexually abuse her. It is interesting to note that discussion in the literature suggests increased gender-role conflict in girls who are sexually abused (Cosentino, Meyer, Alpert, & Gaines, 1993). As Kay does not recall being abused sexually before adopting a masculine identity, in this analysis Kay's masculine behaviours are suggested to be aspects of an approach/avoidance conflict regarding her father, with the function being to stay safe in an unsafe environment.

Early adolescence: Throughout early adolescence Kay had a number of fleeting experiences of feeling powerful. When she intervened in her father's abuse of her mother she was briefly empowered when her father stopped the beating, however this was short-lived as in the long term the abuse continued. Similarly when Kay threatened to expose her father's abuse she was briefly positively reinforced by the power she momentarily held over her father, but was ultimately rejected by him. The confusion Kay felt with regard to her father appears to be a continuation of approach/avoidance conflict. On the one hand she is afraid of him, cowering from his sexual abuse in the same way she cowered from his physical abuse. However, on the other hand Kay can be hypothesised to experience some positive reinforcement from her father's attention such as increasing status within the step-family and negative reinforcement as sexual abuse reduces her father's use of physical violence. Kay reports that her beliefs about gender roles were strengthened during this period, she continued to believe that men are strong and women unsafe and believed that she was unlike other women. The experience of Kay's father leaving his wife for another woman instilled in Kay beliefs about men being sexually untrustworthy, a belief which is related to her current offending behaviour.

Late adolescence: John's sexual infidelity in this relationship is likely to have generalised Kay's beliefs that her father was untrustworthy to include all men. In this relationship a cycle developed in which Kay would feel John was rejecting her, she would use strategies to control John including humiliating him in front of his friends and John would hit her. Although being hit is aversive to Kay it is also reinforcing as Kay acknowledges a belief that if others care about you they get jealous and rage, if they don't care they are indifferent to you. When John hit Kay she reverted to the cowering behaviours she had used with her father, justifying her use of this 'weak' response by making sense of it in the context of protecting her unborn child. As with her father cringing behaviour was positively reinforced in the short term as it minimised John's physical assault but in the long term was punished as it increased Kay's feelings of weakness. Kay leaving John

may have been an unconditioned act of defiance intended to punish John; this was then operantly conditioned due to the strong positive reinforcers of power and validation when John begged her to return. This can be hypothesised to be Kay's first real experience of the power of being able to control another person, for someone like Kay with a clear gendered belief system, the fact that she is able to emotionally control a man can be expected to be particularly powerful and reinforcing. Evidence of the reinforcement value of this reciprocal cycle is that it continued and increased in frequency over the two years the couple lived together.

It is interesting to note that although Kay did not respond physically to John's violence, she did act aggressively towards any third party who intervened in John's attacks. It can be hypothesised that having others intervene in the violence made Kay feel vulnerable, an emotional position that she found untenable. Kay's aggression towards third parties was positively reinforced as it re-bonded her relationship with John and increased the feeling of power as the two united against a common enemy.

Early adulthood: Kay's relationship with Ray was extremely violent and it can be hypothesised that Kay was so badly controlled, abused and beaten that in this relationship she was completely helpless. In a particular violent sequence Ray introduced an unconditioned stimulus when he hit her small daughter; Kay's unconditioned response was to flee the relationship. It appears that protecting her daughter was established as Kay's main function in this, overriding her learned helplessness in this relationship. Kay's fleeing behaviour was initially empowering and hence positively reinforcing but when Ray found her he subjected her to a terrible ordeal and the unconditioned response was positively punished and is likely to have been extinguished in Kay's behavioural repertoire.

In previous sequences Kay's behaviour in confiding her abuse to her mother and confronting her father had received some reinforcement, giving Kay a fleeting sense of power and increasing her bond with her mother and sister. Kay used this strategy again by reporting Ray to the authorities. The unfortunate way the criminal proceedings were handled appears to have consolidated Kay's previous learning that the involvement of others in private relationships is punishing.

In addition Kay had developed an addiction to amphetamines, supplied by Ray. Alongside the use of stimulant drugs Kay reverted to extreme obsessive-compulsive type behaviours particularly related to cleanliness rituals. Drug use is often considered to be strongly negatively reinforced as a distractor, however, there are also documented pharmacological effects of amphetamine use on the development of compulsive behaviours including cleaning (Klee & Morris, 1994). Therefore it is difficult to fully understand the function of drug use combined with obsessive-compulsive behaviours in this case. It can be speculated that amphetamine use was a good fit with Kay's existing behavioural repertoire giving her the energy and focus to keep up with excessive obsessive-compulsive type cleaning rituals which had resurged in this hopeless environment.

It can be hypothesised that being so weak and powerless in this relationship was a completely aversive stimulus for Kay, her beliefs about gender, power and abuse were consolidated and may have evolved as she specifically learns that although all men are abusive it is older men who are excessively violent and controlling (father and Ray). This experience may have reinforced the need for Kay to choose a younger and potentially more submissive partner in future relationships; she understands that as a female to be powerless is unsafe for herself and her daughter.

Adulthood and development of the offence pathway: After experiencing severe victimisation in her previous relationship, as hypothesised Kay chose a younger partner who was masculine but the same age as Kay and potentially easier to manipulate. Kay's relationship with Paul quickly became violent and the couple were mutually violent at least once per week. It is hypothesised that the association between alcohol and domestic violence was strengthened in this relationship as violence typically took place at the weekend when the couple had been binge drinking. Although the couple were frequently verbally aggressive to each other, violence only occurred when Paul accused Kay of cheating on him. This may be related to a violation of the rule Kay had developed that it is men that cheat not women.

This relationship proved to be a turning point for Kay and appears to be the point where she switched roles from victim to perpetrator. This relationship was very reinforcing for Kay; it increased her feelings of powerfulness and being in control and also reduced her feelings of fear and worries that she could not protect herself and her child. In this relationship Kay learnt that by being the perpetrator in inevitable partner violence, she was able to control the violence to meet her own needs. Kay's belief that 'when you are vulnerable others abuse and reject you' is strengthened because this is how she treated Paul. Kay ended the relationship with Paul after two years, it is hypothesised that she became bored of Paul who was not masculine enough to keep her attention.

Index offence: Adam's response to Kay's possessive behaviours is negatively reinforced on an intermittent schedule and can be expected to increase in strength and frequency as a result. Kay's violence in this relationship is associated with excessive alcohol and is an extension of the same associations she has held since childhood when her father's alcohol use appeared to be a factor in his use of domestic violence. Alcohol can be hypothesised to act as a disinhibitor for Kay and may be a discriminative antecedent as she does not use violence in other scenarios.

Kay's violence towards Adam is hypothesised to be learned from her previous relationships, she has found that violence is strongly reinforcing, her experience of violence is that it keeps others faithful as they avoid triggering jealousy and that when a partner retaliates with violence they then apologise and submit. Based on her learning history, it is likely that Kay expected Adam to act aggressively towards her when she accused him of cheating, as this is the way she had responded to Paul's accusations. However, in this relationship Adam changes the contingencies; he does not hit Kay and places her violent behaviours on to an extinction schedule. Kay's escalating aggression

and introduction of new behaviours e.g. smashing possessions, can be considered an example of post-extinction burst.

Interestingly, Kay uses violence towards Adam only in private, and becomes infuriated when Adam involves the police as a third party. This may be learnt behaviour due to Kay's previous experiences of feeling humiliated when others have intervened in her relationships. Although Kay is arrested Adam always refuses to press charges and the couple typically reunite the following morning, this may be negatively reinforcing for Kay as it reduces the fear that she will lose Adam and may explain why Kay's behaviour is repeated on at least four subsequent occasions. When the police press charges against Kay without Adam's testimony the couple unite against the authorities, positively reinforcing the re-bonding and powerfulness of uniting against a common enemy.

Claire

The analysis in table 13 is the completed MSFA for the case of Claire. Claire is a 28 year old white woman who has been involved in two violent relationships, experiencing mutual couple violence. Claire's index offence involved her stabbing and killing her previous partner, Gary. Claire was found guilty of manslaughter and received a five year jail sentence which was later commuted to four years. On her release from prison Claire was diagnosed with post-traumatic stress disorder and has been receiving support, on a voluntary basis, from forensic psychology services for the past 12 months.

Table 13: MSFA for Claire

Early experiences

Claire is the eldest of three siblings all born to a drug dependant mother and all experienced heroin withdrawal at birth. Claire's father left before Claire was born and the home environment her mother was chaotic and neglectful. Claire's mother was often intoxicated and did not prioritise the needs of her children. Claire recalls that the house was usually full of her mother's friends taking drugs and drinking alcohol, Claire learned from a young age to take care of herself and later to protect her siblings from aspects of the environment. The environment was characterised by fear, violence and neglect. Claire often heard her mother being beaten by male partners and would try to keep herself and her siblings safe by ensuring they went unnoticed. When Claire started school she was bullied due to her neglected appearance, asking her mother for basic necessities was met with violence and so Claire became passive and submissive both at home and at school. She did not react to being bullied and her attempts to ask her mother for items such as new school uniforms reduced. At age eleven Claire and her siblings were removed from their mother's care because of the neglect, Claire went to live with her maternal grandmother and her siblings were placed in care.

MSFA 1

Antecedent

Mother is a heroin abuser, father abandoned the family

Home environment is chaotic and neglectful

Physical punishments from mother

Mother had a series of violent partners, heard by Claire

Bullied at school

Behaviour

Covert-

- When I protest or ask for things I am punished so there is no point (dejection/sadness)
- No one cares for me, I am worthless, not important (apathy/sadness)
- The world is unsafe; I need to look after myself and my siblings and I can do this by staying

out of sight (fear)

- I hate my mother, when I grow up I don't want to be like her (antipathy/rule development)

Overt-

- Asks mum for more appropriate care (adaptive coping) and is punished
- Learned passivity at home, submissive, withdrawn, quiet
- Passivity towards bullies in the school environment

Consequence

Submissive responses mean Claire is easily overlooked and left out at home and school (Claire's avoidance behaviours are negatively reinforcing as reduces chance of abuse)

Attempts at autonomy are punished and suppressed, assertive behaviours are not shaped

At aged 11 Claire is removed into grandmother's care, her siblings go into foster care (negatively reinforcing as removes aversive stimulus)

Key Learning

- My needs are not as important as my mum's needs and my siblings safety, if I try to change things I am a bad person
- If I stay quiet and unnoticed I am safe, this is generalised across settings
- Development of very strong rules that any behaviours associated with mum are bad
- Begins feeling different and on the periphery of things

Early adolescence

When Claire moved in with grandmother her lifestyle improved rapidly, she was well fed and cared for and soon caught up academically with classmates and began to forge friendships with her peers. Claire understood that she was her grandmother's first priority and flourished in this role, although she missed her siblings. Claire also enjoyed spending time with her grandmother's long term boyfriend, Fred. Claire recalls a time when she was playing with Fred and accidentally kicked him in the genitals and he hit Claire in the face. Claire's grandmother immediately ended the relationship with Fred and Claire recalls realising that her grandmother would prioritise her over others and always take her side. When Claire was 14 years old her Nan won custody of Claire's younger siblings and soon after Claire's Mum, who was still a heavy drug user, also moved in with the family. Claire was upset that her grandmother appeared to prioritise the new arrivals expecting Claire to do the same; she was also upset that in the time apart her siblings had formed a close bond that excluded Claire. Claire was angry with her grandmother and mother; she did not assertively confront them but was passive/aggressive particularly towards her mother, refusing to be in the same room as her. The rest of the family labelled Claire's behaviours as selfish and bad, so to get back at them Claire left home to live with her boyfriend. No one tried to stop Claire from leaving.

MSFA 2

Antecedent

Functional analysis sequence 1 plus...

Grandmother offers a home life that is settled and Claire's needs are prioritised for three years.

Claire slapped by grandmother's boyfriend and grandmother leaves him

Siblings and mother move in with grandmother, sibling's relationship has consolidated and they no longer need Claire's protection

Behaviour

Covert-

- My grandmother has violated our contract (anger and rage towards grandmother and mother)
- I am no longer the priority, and I no longer have a role (violated, angry)
- I am not important enough in this family to assert myself (hurt)
- I'll show them, I'll leave home and then my grandmother will be sorry (defiant)

Overt-

- Avoids direct confrontation, but is sulky and withdrawn with mother and grandmother
- Rejects grandmother and in an act of defiance leaves home

Consequence

Protest behaviours are punished and labelled 'selfish and bad'.

No one tries to stop Claire from leaving; there are no consequences of her actions which gives a message about care and concern

Claire moves in with her boyfriend and his father who are pleased to have her

Key Learning:

- If people prioritise my needs it doesn't last and eventually I am rejected

- Rejecting others doesn't work to get attention (extinguished)
- Sulky withdrawal makes me feel better, assertive behaviours are punished, labelled and rejected

Late adolescence

Claire was aged 15 years when she left her home with Nan and moved in with her boyfriend Lee and his father. Claire and Lee were at school together and had been dating for around 18 months. When Claire moved in to Lee's home he had promised her that they would be happy together and that he would always prioritise her. At first the couple got along well, the novelty of the situation was enough that both adolescents were able to keep their promises to each other. However, as the pair left school and started jobs the relationship changed, Lee began going out more with friends, drinking and staying out all night. Claire was jealous of the attention Lee gave to other girls and was furious that he was no longer keeping his promises. The presence of Claire's mother stopped Claire from wanting to return to her grandmother's home, she felt trapped at Lee's despite feeling that he was bored of her. Claire's mood dropped and it is likely that she was clinically depressed; she began to smoke cannabis heavily and found that it helped to distract her from feeling unhappy with her situation. Claire felt neglected and suspected that she was becoming a burden to Lee; the couple began to argue often. The first time Claire hit Lee was during an argument about his cheating, Claire hit him in the face and in shock Lee hit her back. Violence became a regular feature of Claire and Lee's relationship and Claire acknowledges that she would instigate physical fights by throwing the first blow, or by staying out all night to intentionally make Lee jealous knowing that this would cause a fight. Claire recognises that her violence was more severe than Lee's. After two years, following a particularly vicious fight, Claire called her Nan and explained what had been happening in the relationship. Claire's mother immediately arrived to collect Claire and her belongings. The relationship was over and Claire never saw Lee again.

MSFA 3

Antecedent

Functional analysis sequence 2 plus...

In the new context a verbal contract is established between Claire and Lee that he will prioritise her. Lee abides by the contract initially but soon begins to revert to typical adolescent behaviours such as going out with friends, staying out and eventually cheating on Claire.

Her mother's presence at her grandmother's home prevents Claire from going home

Behaviour

Covert-

- How dare he violate our contract, he promised to prioritise me (rule violation, rage, frustration)
- I have given up trying to change my family but I can still change others, I will make Lee notice me (defiance)
- He is bored of me but I can't give up on this relationship; I have nowhere else to go (depressed)

Overt-

- Hits boyfriend, mutual violence
- Escalates behaviour by staying out all night to make boyfriend jealous
- Heavy cannabis use (avoidance behaviour)
- After three years calls grandmother to asks for help

Consequence

The relationship becomes increasingly violent and destructive

It is hard for Claire to be ignored when she is violent to her partner, she feels noticed and powerful

When Claire's partner hits her the content is aversive but the function of receiving attention is reinforcing

Mum comes to rescue Claire from the situation

Key Learning:

- Over time people get bored and neglect me
- Violence is powerful in changing the behaviour of others, when I am violent I get a response, I am noticed (powerful)
- When I am fighting with a partner it refocuses attention from how depressed and trapped I am
- The only time my Mum has met my needs is when there is domestic violence, violence is associated with people responding and power
- Behaviours that get attention and break the indifference are sulking and violence

Adulthood and development of offence sequence

Claire moved back in with her family for a short time and soon reverted to the passive behaviours she had learned as coping strategies in the context of living with her Mum. Claire started a new job and began dating a work colleague, Gary. At the start of the relationship Gary promised Claire that he would treat her well and she responded by being submissive and accommodating. When the couple moved in together Claire quickly began to feel neglected by Gary's lifestyle. Gary was very sociable and he began to invite friends around to the flat to drink alcohol most nights, despite the impact this had on Claire's job as a shift worker. Although Claire was angry and upset with Gary she did not actively confront him initially, she began to sulk and withdraw from Gary and he responded by saying that she was selfish. Claire was still using cannabis and says that this helped her to suppress some of her anger and resentment. However, one year into the relationship Claire began to start physical fights with Gary. This behaviour was rewarding for Claire as she felt noticed during the fights and Gary usually amended his behaviours in line with Claire's needs for short periods afterwards, promising her that he would stop having friends around and would prioritise Claire. Ultimately Gary would revert to having friends over and neglecting Claire and the violence in the relationship continued for five years.

MSFA 4

Antecedent

Functional analysis sequence 3 plus...

Whilst living with her family for six months, Claire meets a new partner Gary.

A verbal agreement is established that Gary will prioritise Claire's needs.

When the couple move in together Gary, like Lee, begins to neglect Claire. Gary does not prioritise Claire and brings other people in to her territory.

Behaviour

Covert-

- I am trying to be a good girlfriend, but when I am passive I am ignored (avoidance)
- How he dare violate our contract, he promised to prioritise me (rage, rule violation)
- People always change and get bored of me, it is happening again (associations to past neglect and chaos)
- This is becoming more aversive, I cannot bear to stay but have nowhere to go (resentful, frustrated)

Overt-

- Continues using cannabis
- Reverts to previous strategy of passivity (generalised from time at home)
- Gets into physical and verbal fights with partner

Consequence

Taking a passive role is not effective in this environment and does not suppress partners aversive behaviours

The violence elicits a response, it suppresses partners behaviour and a further verbal contract is established between the couple

In the long term violence as a punisher does not work and her partner reverts to his neglectful behaviour

The relationship becomes increasingly violent and destructive

Key Learning:

- Strengthens key learning from MSFA 3
- In this relationship violence works to get my needs met and to elicit promises that my needs will be met in the future
- Expressing rage is reinforcing and makes me feel better than indifference

Index offence

The setting event for the index offence is Claire's first ever bank holiday off work, Claire did not usually drink alcohol but had agreed to go out with friends to celebrate not having to get up for work the next morning. Before going out that day Gary had arranged with Claire that he would meet her at home that night and they would do something nice together the next day. When Claire arrived home that night she was furious to find that Gary had broken his agreement and was in the flat, drinking alcohol with a friend. Disinhibited by the alcohol Claire raged at Gary, she wanted him to ask his friend to leave to show her that he prioritised the relationship over his friends. Gary did not ask his friend to leave, he told Claire she was selfish and a bad person. The couple fought and Gary still refused to ask his friend to leave, instead Gary went out of the flat and knocked on the neighbour's

door to tell them what a bad person Claire was. Claire was infuriated, she escalated her violence towards Gary, hitting him with household objects until she picked up a knife and stabbed him in the chest. Claire was shocked and ran out of the apartment black towards the police station, when she got to the end of the road she turned back and returned to help Gary's friend stem the blood flow with a tea towel. When the police arrived Claire was arrested, the following morning she was told that Gary had died. Claire says that she was devastated, she now feels she cannot trust herself to control angry feelings and suppresses strong emotions.

MSFA 5

Antecedent

Functional analysis sequence 4 plus...

In the context of a bank holiday weekend, Claire has been out drinking with work colleagues and is intoxicated.

Gary has promised to be home alone but is actually in the flat drinking with his friend when Claire gets in

Behaviour

Covert-

- How dare he break our contract and make me feel like this, he promised he would be home alone- this is just like Mother, grandmother and Lee (despair)
- All I want his for him to ask his friend to leave so that it is just the two of us, how dare he start involving even more people in our relationship (rage, rule violation, changing contingencies)
- He thinks that I am worthless/pathetic and he can get away with treating me like this, I will s how him (defiance)

Overt-

- Claire hits Gary and he does not respond as she expects
- Claire escalates her violence Claire hits Gary with a household object and in the altercation stabs him in the chest with a kitchen knife

Consequences

Gary does not respond in the usual way to Claire's violence, instead he does not ask his friend to leave and involves the neighbours in the argument

Gary's friend calls the police when he sees Claire stab Gary

Claire is arrested and Gary dies

Key Learning:

- I cannot guarantee that I control my anger, violence has been punished and is now extinct as a response to distress
- Avoidance is re-established as the only safe response to emotional distress
- Claire's beliefs that she is a bad person are confirmed

Discussion of multiple sequential functional analysis- Claire

Early experience: Claire's experiences of childhood neglect are the start of Claire's lifelong feelings of being unimportant and over looked. The times when Claire protested or asked her mother for basic necessities she was punished with physical violence, when behaviour is punished it can be expected to reduce. In Claire's case her attempts at assertion and autonomy rapidly reduced and by the time she started school she was a very passive and submissive child. It appears that Claire's passive behaviours may have been functional in keeping herself and her siblings safe in an unsafe environment, Claire quickly learned that staying out of sight meant that the men who abused her mother left the children alone. Claire remembers feeling incredibly powerless in her childhood, she developed early beliefs that her own needs were not as important as her mothers and she prioritised taking on the role of protector for her younger siblings. At school Claire's neglected appearance made her a target for bullies, her submissive behaviours which had been reinforced at home due to reducing chances of being abused, generalised to school. This is likely to have taken place by a process of operant generalisation. The children being removed

from home was beneficial to Claire but was also punishing as she was separated from her younger siblings.

Early adolescence: Claire appears to have understood her grandmother's actions in offering her an home to be an implicit contract between them that Claire would be her grandmother's first priority. This implicit 'contract' was consolidated when Claire's grandmother ended her relationship with Fred after he had hit Claire, Claire learned that her grandmother would prioritise her and take her side if there was violence with a man. It can be hypothesised that Claire's initial act of violence towards Fred was an unconditioned response that became operantly conditioned when it was positively reinforced as Claire's first opportunity of learning the power of violence in changing people and situations.

When Claire's family moved in with grandmother, her mother was still using heroin and her siblings had been in foster care. It is hypothesised that Claire's grandmother would place the newcomers on different reinforcement schedules because of the time the sibling's had been away and because of Claire's mother's drug addiction. Claire interpreted this as a violation of the implicit contract between her and her grandmother, she accordingly felt rejected and angry. In Claire's learning history assertiveness had not been shaped and her passivity had been reinforced, therefore she did not confront her family but instead acted sulky and withdrawn. Claire's family punished these behaviours by labelling them, this is likely to have consolidated Claire's belief that if she highlights her own needs she will be punished, rejected and labelled.

The changing contingencies and the increased bond between her siblings had left Claire without a clear role in the family. She was increasingly angry at her grandmother for a perceived breach of contract and in an act of defiance punished her grandmother by leaving home and rejecting the family. It can be hypothesised that when none of the family tried to prevent Claire from leaving it gave her a message about being unloved and uncared for, and the strategy of rejecting others by leaving was extinguished from her behavioural repertoire.

Late adolescence: Similar to her relationship with her grandmother Claire understood Lee's early promises and behaviours to represent a contract between the two that he would prioritise her. When Lee began to neglect Claire she felt trapped as the situation at home seemed too aversive for her to return to. Claire's cannabis use can be understood as negatively reinforcing as it distracted her from depressive feelings about her situation, however Claire's beliefs that behaviours associated with her mother are bad may have increased Claire's beliefs that she is a bad person. The feminist view is that female IPV is used in response to male violence; however Claire describes her use of violence as being operantly conditioned. Based on this it is hypothesised that aggression and violence were reinforced for Claire in several ways. The reduction of depressive feelings by the engagement and invigoration of a fight was negatively reinforced, whilst the short term power of violence as a positive reinforcement is documented (e.g. Wood, Gove & Cochran, 1994). Particularly reinforcing for Claire is the attention she gets from Lee when he notices and completely engages with her for the duration of the fight, it is hypothesised

that although being hit is unpleasant it is reinforced by the attention and power which shows that Lee cares. Claire learned that violence is empowering and much better than indifference. Claire's behaviours in staying out all night may have increased the likelihood that fighting would occur and be reinforced, but may also have been an extension of the passive/aggressive behaviours shaped up when she lived with her grandmother. That Claire did not reject Lee completely by leaving the relationship in order to get attention emphasises the idea that this behaviour had been extinguished when Claire was not reinforced for leaving her own family. It appears that Claire developed a polarised approach to relationship conflict, indifference or violence with no assertiveness behaviours to balance this.

When the relationship deteriorated to the point where Claire called her grandmother for help, she felt that her mother rescued her. This was the first time that Claire had experienced having her needs met by her mother and an association between domestic violence and receiving care from her family may have been established.

Adulthood and development of offence sequence: It is hypothesised that the move back in with her family provided the discriminative stimulus that reverted Claire to her passive and submissive behaviours. This behaviour generalised into the early stages of her relationship with Gary and she used cannabis to suppress her early feelings of discontent with the relationship. As in previous relationships Claire understood Gary's romantic promises to be a contract between them that Gary would always prioritise Claire. When the couple lived together and Gary invited other people into the couple's territory, Claire is likely to have felt threatened as this had indicated in the past that people were losing interest in Claire. For Claire Gary's behaviour and cues in the new environment were associated with childhood and her relationship with Lee, she felt increasingly neglected and ignored and became angry when Gary labelled her as selfish when she used the passive/aggressive behaviours she had learnt in the past. Claire's cannabis use had continued across into this context and she found that it was negatively reinforcing in helping her to remain calm and ignore the anger and resentment she was beginning to feel.

As Claire began to feel more powerless in the situation she reverted to behaviours that had been previously reinforced and began to start physical fights with Gary. Violence in this relationship was reinforced in a similar way to in the previous relationship with Lee, in addition Gary would also sometimes suppress his behaviours, asking his friends to leave and establishing a new verbal contract with Claire. Claire's violence was reinforced on an intermittent schedule. In the longer term the punishment value of Claire's violence would diminish and Gary would revert to his aversive behaviours. This pattern of violence continued for five years.

Index offence: Claire's expectations of a pleasant bank holiday with Gary along with her use of alcohol were important setting events in the index offence. That Gary was suppressing Claire's position as his main priority and using alcohol with his friends held strong associations for Claire with her mother's drug use and neglectful behaviours. Claire's expectations, along with the couple's verbal contract, had been violated and

Claire was infuriated. It can be hypothesised that Claire began the fight in the expectation of receiving reinforcement by Gary asking his friend to leave and showing that he prioritised Claire. When Gary refused to cooperate with Claire and actively involved even more people in the argument he changed the contingencies. Based on Claire's belief system she felt wronged by Gary's actions, particularly when called her selfish and showed that he did not understand how she felt. Claire's behaviours fit with research evidence related to extinction schedules and the post-extinction burst. Gary's actions are hypothesised to have placed Claire's violence on an extinction schedule; in a post-extinction burst Claire escalated her violence and introduced new behaviours, in order to get her functional need met, and stabbed Gary with a knife.

It is unclear about why Claire ran from the scene of the offence, but on returning she tried to help Gary until she was arrested. The consequences of Claire's actions are that she has reverted to 'safer' passive behaviours as she does not trust that she can control anger, Claire's beliefs about being a bad person have been consolidated.

Discussion of results

This section of the thesis is intended to be a discussion of the similarities and differences between the three analyses produced using MSFA.

Research into intimate partner violence has identified a number of psycho-social factors common to females who go on to perpetrate violence to a male heterosexual partner. From correlational studies it is difficult to demonstrate causality and no study has adequately identified the process by which partner violence perpetration develops and is maintained in the lives of female perpetrators.

Utilising MSFA methodology to consider the functional development of violence across the life spans of a small sample of women has been useful in identifying a potential operantly conditioned mechanism. The results of this study show that for this group of women partner violence can be tracked across the developmental trajectory and that, furthermore, violence appears to have a functional value for this particular group of women.

Review of the Aims

The design of this study has involved developing a method to test which of the opposing views, feminist or family violence, would be most dominant in explaining female partner violence. The findings of the study show that using a behavioural methodology has taken the gender out of gendered violence adding a new theoretical insight into understanding partner violence as a function of classical and operant conditioning. The use of a case study methodology in this thesis has highlighted that in the cases described IPV was not merely a function of self-defence towards an aggressive partner but was a function of a complex learning trajectory reinforced across the life trajectory of each participant. Therefore the findings of the study dispute the feminist paradigm and can be used to demonstrate the need for idiographic and tailored approaches to the assessment, formulation and treatment of partner violence using the principles of radical behaviourism.

It should be noted that this finding is in contrast to the researchers apriori assumptions stated in the methodology section of this paper.

Function

Findings from the MSFA analysis suggest that violence is functional in the developmental trajectory of each of the women in this study. A functional approach accounts for heterogeneity within the women's accounts but also identifies some similarities of function between these women. Carol and Claire both strongly identified with using violence as a way to get attention or to be heard in lives in which they had become accustomed to being ignored. Meanwhile the function of Kay's violence appears to be related to a need to hold power and control in order to be safe in a dangerous world. In their own ways each of the women understood the functional value of violence as a source of power over others and the environment. This supports previous findings that female respondents in clinical samples have used violence for power and control (Archer, 2000; Carney et al.,2007).

The power theory of IPV has two elements, the feminist argument that violence is related to women's subjugation in a male dominated society (Dobash et al.,1977) and the exchange theory idea that power hierarchies within family systems may have a part to play in the development of partner abuse (Gelles, 1983). To some extent the findings of this study support power as a factor in the development of IPV but not strictly in the gendered fashion suggested by the feminist writers. Controversially all of the participants acknowledged both instigating violence and using more severe violence than their partners in current relationships. This suggests that the use of violence for these three women has not been in response to violence victimisation by men and cannot be described as self-defence. This finding is at odds with the feminist perspective of female IPV and adds support to research which has identified gender symmetry in domestic violence.

Partner violence for Carol and Claire is similar in that its functional value is related to being noticed and attended to in a world in which they were accustomed to being ignored. The fact that both women express a similar function in very different ways highlights the advantages of using the MSFA methodology to analyse individual differences. Both Carol and Claire have used violence in the context of mutually violent relationships and in terms of the typology literature it is not easy to categorise either of them. Johnson's (1996) typologies would be likely to understand Carol and Claire's violence in the context of Common Couple Violence. This is violence which is situational and bi-directional. However, this category does not do justice to the differences between the women's violence perpetration. Studies which have sub-categorised common couple violence based on levels of coercive control may be more accurate in describing Carol and Claire's use of IPV (Swan et al.,2002).

Respondent's views of function

The analysis of the case studies in this study were tested for accuracy with participants, respondents were asked if the researcher's hypotheses gave an accurate representation of their lived experience. In terms of findings around the function of violence all the

respondents acknowledged that despite having experienced victimisation they were able to use violence in the current context to exercise some power over the environment. Only Carol stated that she did not use coercive control, and triangulation with alternative sources and information from the functional analysis showed an element of planning to some of Carol's violent actions that suggests a level of instrumental and coercive aggression. Claire and Kay both acknowledge using coercive control within their relationships and arguably all three women could be described as powerful within their own systems. This finding appears to be directly at odds with the feminist perspective as it suggests that females do hold power in relationships, even where there is some violence victimisation from a male partner. The difficulty with being able to define or measure power and coercion makes such concepts difficult to validate and quantify.

Typology

Female intimate partner violence perpetrators are recognised to be a heterogeneous group (Goldenson et al.,2007). A functional analysis based on the principles of operant and respondent conditioning may help to explain both the similarities and differences amongst the females who took part in this study. In terms of the typology debates it is also interesting to note that all three women in this study acknowledged both instigating violence and using more severe violence than their partners in some relationships. This does not provide any support for the idea that females only act in self-defence (e.g. Dobash et al.,1977) and indeed may provide support for studies which have found that male violence may be the result of self-defence on at least some occasions (Hines et al.,2010).

The typology literature intimates that partner violence may develop based on relational factors and that psycho-social factors of both victim and offender must interact in a particular way to fit with the roles assigned by the categories (Johnson, 1996). The relational factor data suggests that couples who are dissatisfied with a relationship are more prone to violence (Henning et al.,2006); this is true of all the women in this study but seems like a moot point in terms of analysis. A more interesting factor for these women may be related to attachment styles. All three women, by the commonly held attachment assumptions, have insecure attachment styles (Bowlby, 1978). Based on their combined trauma histories this can be hypothesised to be an anxious/avoidant style (Ainsworth, 1979). This adds support to findings that there is attachment chemistry between couples who engage in partner violence and that this is typically an anxious attachment in the female partner combined with an avoidant style in the male (Doumas et al.,2008; Goldenson et al.,2007; Orcutt et al.,2005; White et al.,2002). This makes sense for all three women, all are afraid of rejection and manifest this in particular forms. Indeed, all women are likely to meet diagnostic criteria for borderline personality disorder (APA, 2000) an attachment based disorder which is also strongly associated with female IPV (Dozier et al.,2008).

All women in this study had hit and been hit, although this does not mean that they are topographically similar, rather the results of this study show that they have unique learning histories. Heterogeneity in such a small sample of females suggests that the traditional

typology categories may be too broad. Although these women's relationships were mutually violent Johnson's CCV does not capture the subtle nuances between them. This suggests that the category of CCV as applied to these females is too broad. Swan and Snow suggested separating the CCV category based on use of coercive control, this appears a more useful classification for the findings of this study. However, coercion is difficult to measure using the current methodology and would involve interviewing respondent's partners which was not possible due to ethical considerations of this research. Some studies have suggested that some females fit the typology of IT (Hines et al.,2010), however this would not take into account the full historical and situational context of violence in the experiences of current respondents. A criticism of the typology literature that has been identified in this study via the case study of Kay is that it does not offer an explanation of the process by which individuals shift between the different typology categories in different relationships. According to the criteria developed by Johnson (1996) and Swan et al (2006) Kay has switched typologies several times throughout her life time, having taken the role of VR, CCV and arguably IT. For typology studies to be useful to clinical practice there needs to be further research around typology-switching processes. Such research would be useful to identify if evolving typologies are a function of individual or couple characteristics and may help to direct future intervention planning.

Historical factors

In terms of distant factors, all the women had experienced physical abuse and two of the women had witnessed parental domestic abuse. This fits with findings that these factors are predictably higher in females who use IPV (Fergusson et al.,2008). Previous studies have identified that females abused by their mothers are at higher risk of perpetrating their own violence than those abused by fathers (Babcock et al.,2003; Seaman et al.,2007). An interesting difference is that Carol and Claire's abuse had been at the hands of their mother's, whilst Kay's had been at the hands of her father and yet Kay's violence according to criminal reports was higher in severity than the other women's routine violence use. This may suggest subtle differences in the operant conditioning of stereotyped gender role behaviours that would be interesting for future study.

All three women had similar learning experiences in childhood; all had experienced fear, sadness and anger. All had experienced feelings of being powerless in an unsafe environment and all were shaped by the environment in terms of the strategies for conflict and control that they took into the next life stage. However, the methodology of MSFA has been useful in explaining why the use and development of violence has been unique to each of these women.

An adjunct to the intergenerational transmission of violence theory suggests that adolescent conditioning experiences are the mechanism responsible for the development of early experiences and witnessing of abuse into adult IPV perpetration (Milhalic et al.,1997; Riggs et al.,2000). In particular it is hypothesised that children who see or experience violence often model such behaviours in adolescent relationships, if this is reinforced by the environment they continue to use relationship violence, if not the

behaviour is extinguished. The study of the women in this study does support adolescence as a period where behaviours related to adult violence are shaped, however it does not necessarily hold that these are modeled behaviours. Instead these behaviours may be unconditioned responses that happen to be operantly reinforced in a particular way. Carol for example used disclosure and complaining behaviours as an unconditioned response to an aversive adolescent experience. These behaviours were then reinforced and shaped by behavioural reinforcement in to her current violent behaviours. Kay and Claire had different unconditioned responses in adolescence which have nevertheless been operantly conditioned across the developmental trajectory to be the manifestation of partner violence that they use in current relationships.

Situational factors

Another similarity that provides support for the background literature concerns Claire and Kay who have both related excessive alcohol use to their use of violence. Both have early childhood experiences of parental substance misuse and it appears this has manifested in the developmental trajectory as rule governed behaviour and associations that relate alcohol and violence for both women. Although this is a similarity, the process by which this has developed is quite different for both women when considered from a behavioural perspective. Kay has developed a strong association between excessive alcohol use and violence; this began in childhood and has been reinforced as a valid belief across her adult relationships. Claire on the other hand associated drug use directly with her mother and developed rules that everything related to her mother was bad. This has influenced Claire's beliefs about herself when she has used substances and has also impacted on Claire's ability to tolerate others who use substances being around her which was related to her index offence. This is an example of the usefulness of MSFA as a research methodology in identifying the individual developmental trajectories of psychosocial factors on the lives of different women. Taking a behavioural approach to research allows the researcher to go beyond the data to make sense of the heterogeneity of a group of women who may share similar psychosocial factors but who have developed differently by the process of behavioural reinforcement.

Index Offending

Another difference between the three women relates to the final MSFA sequences which represent their index offences. Claire and Kay are similar in that their use of violence has been shaped up over two or more subsequent relationships. Both these women have been hypothesised to be using a high frequency of violent behaviours at the time of the current offence which is related to being placed on an extinction schedule and demonstrating extinction burst. Both these women have been convicted of offences related to partner violence in this schedule. Carol however, has only had one partner and has not used violence towards anyone else. If Carol has demonstrated any extinction burst behaviours these have been contained within the couple and she has never been investigated by the police for her violence. This may suggest that behaviours shaped in one relationship when used with a different partner are likely to escalate due to extinction burst and that this may be related to using clinical levels of violence which call for the

police to be involved. However, another explanation may simply be related to new partner variables and suggest that certain partners are more likely to call the police than others.

Study limitations

Limitations of this study have been related to problems of recruitment and subsequent small sample size. In the UK offending is classified in police and probation databases according to offence type. Acts of violence are currently recorded according to this system and do not specify the nature of the act nor characteristics of the victim. This means that there is no system to easily identify offending which has involved violent acts towards an intimate partner. In terms of the current study, recruitment has relied on offender manager's knowledge of the offending history of clients who may fit the study criteria, a process which has been difficult to implement. The nature of female IPV and the reluctance of males to report partner violence victimisation mean that many women do not come into contact with services such as probation. In retrospect methods of recruitment may have benefited from involving wider agencies such as prisons, or by developing a more detailed understanding of the systems in place within criminal justice services.

Further limitations involve the ethical problems with being able to involve partners in the study. This is mentioned in the journal article and would be recommended for future studies of IPV. Similarly, there was limited access available to the wide range of health, social and criminal justice documentation related to these females and it would have added further richness to the data should these have been available. In order to maximise the usefulness of triangulation it would be recommended that future studies be framed over an extended time span to allow for access to further documentation.

Additional implications for the future

This study explores the developmental trajectory of female IPV and finds that violence is functional for this small group of women and may be related to dynamics around power, attention and safety. It also indicates potential relationships with attachment, childhood and adulthood abuse, substance misuse and personality trait development, in the learning histories of this group of females. A number of studies interested in gender symmetry of partner abuse have evolved to research the differences between female and male use of partner violence. To increase understanding of these differences it is important that future research is grounded in established theoretical principles such as the MSFA framework discussed in this paper. Using the MSFA method to explore the functional differences in the learning histories of females compared with males who use IPV would give useful insight into the gendered nature of IPV. A particularly useful future use of the methodology (as discussed briefly in the journal article) would be in applying it to both partners in a violent couple. There is a lack of evidence in IPV studies related to the interpersonal dynamics of couples and how this may be influenced by historical developmental experiences. It would be particularly interesting to use functional analytic methodologies to explore the situational operants of couple violent interactions, as well as to understand the individual learning histories of each partner and how couple 'chemistry'

contributes to IPV from a behavioural perspective. That such studies can have interesting results can be identified from those which have found particular patterns of attachment behaviour in heterosexual violent couples (Domas, et al; 2008; Goldenson et al.,2007; Orcutt, et al.,2005; White et al.,2002). The findings of such a study may have direct implications for treatment practice in terms of the potential development of a couples approach to domestic violence intervention. Couple therapy for domestic violence is not a typical treatment option due to fears that such an approach would endorse 'victim blaming' in IPV (Jacobson, 1993) or place victims at risk (Lipchick, Sirles, & Kubicki, 1997). However, further research utilising clinically relevant research methodologies, such as MSFA, may add a new dimension to existing approaches.

Further analysis of functional differences and similarities between genders would give additional insight into findings that females are reinforced by power and control in using partner violence. This finding contravenes some of the existing literature which ascribes coercive control as an IPV motivation for males only (Pence & Paymer, 2006). Although this study has identified that power and control over the immediate environment was a factor in the use of violence for this group of females. It does not follow that power in the context of female violence holds the same meaning or function as that of male violence. The function of power and control for the respondents in this study was related to feeling safe or being noticed within the current context, following a lifetime of being abused and ignored. It is likely that this element of power is significantly different for females than for males whose use of coercive control can be expected to have a more dominant function than safety (Pence & Paymer, 1993; Stark, 1996). A strength of the MSFA methodology has been its utility in identifying the subtle functional differences inherent in broader descriptive understandings of terms such as power and control that may not be generated by more traditional research approaches. Applying the MSFA methodology in gender comparison studies may be useful in understanding gender differences in power and control, with implications for clinical practice.

The detailed nature and theoretical underpinnings of MSFA suggest that it may be a valuable method of conducting in depth research in the future. MSFA also has clear implications for clinical practice and the model has been applied with success for purposes of treatment and risk assessment. Previous published utilisation of MSFA has been directed towards male offending behaviours. The current study is the first study to consider a female population and appears to suggest that the method is equally gender applicable. Due to the current lack of dedicated treatment interventions for women who use IPV in the UK, methods which can demonstrate clinical utility may be particularly valuable. MSFA is a method that could be used effectively to guide individualised treatment planning and to understand risk for female perpetrators of IPV. That the method is based on principles of case formulation mean it can effectively be adapted for use in intervention planning in community based services.

Conclusion

IPV is a multifactorial presentation and would be difficult to explain using a single factor model. However, understanding of the mechanisms by which different factors assimilate

and contribute in the development of female IPV is likely to have clinical utility and identify areas of future study. Using MSFA methodology to understand the functional development of IPV in a small sample of females has tested out behavioural conditioning as a potential mechanism. This study has shown that IPV is potentially an operant conditioned behaviour that develops from experiences in childhood and is reinforced across the developmental trajectory. MSFA is a useful way of analysing material related to complex cases in a comprehensive and coherent way, this has implications for the effective assessment and treatment of women who have used IPV. Future research to consider the differences between male and female offending and to identify similarities and differences between different 'typologies' of IPV would further add to this. Using this particular model both clinically and in future research studies would add to the understanding of the heterogeneity of female IPV and the mechanisms by which it develops.

Critical reflections

Research around female use of violence has traditionally been the focus of debate between feminist and non-feminist epistemologies, to the extent that it can appear that researchers are suggesting a completely polarised argument for the existence and development of female partner violence. According to historical and contemporary literature, either women are more, or at least equally, violent than men and use violence for the same reasons and with the same motivations. Or else women are always the victims of males either at the societal or interpersonal level and use violence only in self defence against the violence of men and the subjugation of a male-dominated society. Although, I would describe myself as a post-modern feminist, I find it difficult to conceptualise this debate in such black and white terms as has previously been postulated by a variety of authors. As stated in the apriori assumptions I identify strongly with the pro-feminist sentiments and I have evidence from my own clinical practice that many women are indeed victims of violence and oppression at the hands of male partners and a male dominated society. However, I also strongly believe that to conceptualise females as the eternal victims in all conflict is unhelpful towards the empowerment of individual women and does not address the danger towards society that ignoring perpetration by females may engender.

In order to empower women by acknowledging their capacity for agency over their own actions and to ensure that those who present particular safety issues receive the most effective treatment, it is important that studies do not shy away from tackling issues that may be controversial and highlight issues that would otherwise be ignored. This study has aimed to adopt a pragmatic approach to feminism by ensuring that subjugation and abuse suffered by women is acknowledged and explored in the study. Whilst at the same time it is acknowledged that women, as human beings, are as capable of using violence towards their partners as are men. This study is intended to be empowering for women but is also pragmatic in its acknowledgement that females do have the propensity for violent acts. The purpose of the study is to explore the functional development of female IPV with the intention of impacting the effectiveness of treatment options available. Existing treatment is available for males but rarely for females and addressing this to ensure that females

have equal access to services may reflect the feminist agenda. Without this rationale the findings of this study, in particular those related to function of violence and power for females, may be more difficult to reconcile with my feminist beliefs. Such findings are controversial and I believe could be dangerous if they were interpreted to mean that women are somehow responsible for their abuse at the hands of men. For myself it would seem abhorrent to suggest such a thing, but these findings have been understood, and tested, with each participant to ensure that the results presented in this study are an accurate representation of the life narratives of these participants.

Ethical issues and clinical utility

Although in retrospect, it seems inevitable that issues around abuse and violence would be raised by this study, I was not fully prepared for the number of current and historical safeguarding concerns that were raised. As a clinician it was important for me that women who took part in this study were able to access further support as necessary following the study. However, in reflecting on the research process I recognise an inherent tension between being an objective researcher and the compassion that comes from being a clinician. A difficulty in completing this study was in fighting the urge to work therapeutically with these women. I managed this by ensuring that strong links were in place with recruiting professionals and local services and I was able to make onward referrals for the women with their permission and as appropriate. Gratifyingly, all of the women who took part in the study reported that just having someone to be non-judgemental and understanding in listening to their life stories was cathartic in some way. A particular strength of using MSFA as a research model is that it has high clinical utility and with the participants consent I was able to share back the case formulations with professional workers to be used to guide formulation and treatment planning. In this way using a model such as MSFA, with clear individualised clinical utility, helped to mediate the tension between clinical work and research.

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APPENDICES

Appendix 1

Journal submission guidelines

About the Title

2011 Impact Factor: 1.639

2011 Ranking: 24/72 in Psychology, Applied | 10/38 in Family Studies | 10/50 in Criminology & Penology

Source: 2011 Journal Citation Reports[®] (Thomson Reuters, 2012)

The Journal of Interpersonal Violence offers the most up-to-date information on domestic violence, rape, child sexual abuse and other violent crimes.

Unique Focus

Focusing on both victims and perpetrators, the journal examines theoretical links between all types of interpersonal violence, exploring the similarities and differences between these types of crimes.

Informative Features

The following features regularly appear:

- Practice Update summarizes major areas of research and discusses their applications to practice
- Commentary exchanges ideas on topics of current concern in the field, such as videotaping investigative interviews with children, acquaintance rape and reporting child abuse
- Issues in Methodology stimulates and informs research by identifying critical issues, offering potential solutions for common methodological problems in modern violence research
- Book Reviews discuss publications that are of key importance to researchers and practitioners in the field
- Annual Index provides quick and easy access to material by author and article
- Scholarly Articles address the causes, effects, treatments and prevention of all types of interpersonal violence
- Brief Notes presents short reports of ongoing research into such areas as child hostages, the child sexual abuse accommodation syndrome, violence in teen dating relationships, sexually abused adolescent females living in a group home setting, and childhood sexual abuse among clinicians working with sex offenders
- Notes from Practice reports innovations from experiences in practice
- Articles address such topics as assessing sexual aggressors through clinical interviews and the group treatment of sexually abused children
- Special Issues and Sections examine specific themes deserving detailed analysis

Aims and Scope

The Journal of Interpersonal Violence is devoted to the study and treatment of victims and perpetrators of interpersonal violence. It provides a forum of discussion of the concerns and activities of professionals and researchers working in domestic violence, child sexual abuse, rape and sexual assault, physical child abuse, and violent crime. With its dual focus on victims and victimizers, the journal will publish material that addresses the causes, effects, treatment, and prevention of all types of violence.

Manuscript Submission

Manuscripts should be submitted electronically to <http://mc.manuscriptcentral.com/jiv> where authors will be required to set up an online account on the SageTrack system powered by ScholarOne. Manuscripts should not exceed 22 typed double-spaced pages, including references, tables, and figures. References must conform to the Publication Manual of the American Psychological Association (Sixth Edition). All artwork must be camera-ready. Authors should include their name, affiliation, mailing address, email address, telephone number, and a brief biographical statement on a separate title page. Each manuscript should include an abstract and 3-5 keywords. Submission of a manuscript implies commitment to publish in the journal. Authors submitting manuscripts to the journal should not simultaneously submit them to another journal, nor should manuscripts have been published elsewhere in substantially similar form or with substantially similar content. Authors in doubt about what constitutes prior publication should consult the editor.

Authors who want to refine the use of English in their manuscripts might consider utilizing the services of SPi, a non-affiliated company that offers Professional Editing Services to authors of journal articles in the areas of science, technology, medicine or the social sciences. SPi specializes in editing and correcting English-language manuscripts written by authors with a primary language other than English. Visit <http://www.prof-editing.com> for more information about SPi's Professional Editing Services, pricing, and turn-around times, or to obtain a free quote or submit a manuscript for language polishing.

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Any further questions can be directed to jiv@u.washington.edu.

Appendix 2

Ethical Approval Documents



Lincoln, 29-9-2011

Dear Lyndsay Mappin,

The Ethics Committee of the School of Psychology would like to inform you that your project on "Using a Multiple Sequential Functional Analysis (MSFA) to Identify the Developmental Pathways of Women Who Have Perpetrated Intimate Partner Violence" is:

approved

approved subject to the following conditions:

- that you change the following formulation in your EA2 form: "interviews will aim to gather exhaustive information in a number of areas including XXX and the interview questions, focus and style will be tailored to each particular client." Please remove XXX from this sentence.
- that you change the following formulation in your participant information sheet: "As a token of appreciation you will be given a £10 voucher for the store of your choice for each interview, up to a maximum of £40." As agreed with the Ethics Committee participants will not be given a completely free choice, even though a preference may be expressed. In all cases a voucher for a regular high street store will be given. The impression that a completely free choice is available should be removed/modified.
- that you change the following formulation in your consent form: "Please note that you have the right to stop the interviews or withdraw data from the study at any time before the data is analysed ...". Since the participants may not know when the data is analysed a clear cut-off point should be mentioned (e.g., three weeks after the last interview).

invited for resubmission, taking into account the following issues:

is rejected. An appeal can be made to the Faculty Ethics Committee against this decision (cawalker@lincoln.ac.uk).

is referred to the Faculty Ethics Committee. You will automatically be contacted by the chair of the Faculty Ethics Committee about further procedures.

If the above conditions are met there is no need for further correspondence about your application. Good luck with your study.

Yours sincerely,

Emile van der Zee, PhD

Chair of the Ethics Committee of the School of Psychology
University of Lincoln, Department of Psychology
Brayford Pool
Lincoln LN6 7TS
United Kingdom
telephone: +44 (0)1522 886140
fax: +44 (0)1522 886026
e-mail: evanderzee@lincoln.ac.uk
<http://www.lincoln.ac.uk/psychology/staff/683.asp>

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

Where a NHS organisation's role in the study is limited to identifying and referring potential participants to research sites ("participant identification centre"), guidance should be sought from the R&D office on the information it requires to give permission for this activity.

For non-NHS sites, site management permission should be obtained in accordance with the procedures of the relevant host organisation.

Sponsors are not required to notify the Committee of approvals from host organisations

Additional Conditions

1. The sponsor should ensure they are content that the final protocol remains compliant with any conditions arising from independent review.
2. Points 1 and 2 from the Committee's letter dated 25 January are still unresolved. The resubmitted documents are still non-compliant. The PIS for staff still has the consent embedded within it and the footer is not dated correctly (PIS for Staff Version 3 31/01/31).
3. As an advisory point, the PIS for Women tear-off strip runs on to the next page, so will not work as formatted. It might be better as a separate page.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

You should notify the REC in writing once all conditions have been met (except for site approvals from host organisations) and provide copies of any revised documentation with updated version numbers. Confirmation should also be provided to host organisations together with relevant documentation.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter		04 November 2011
Evidence of insurance or indemnity		22 July 2011
Investigator CV		04 November 2011
Other: Supervisor CV Dr D L Dawson		04 November 2011
Other: University of Lincoln letter of approval		29 September 2011
Other: EA2 Ethical Approval Form from University of Lincoln		
Participant Consent Form	3.0	31 January 2012
Participant Information Sheet: Women Participants	3.0	31 January 2012
Participant Information Sheet: Information Sheet for Staff	3.0	31 January 2012
Participant Information Sheet: PIS for Staff	3.0	31 January 2012
Protocol	1.0	11 November 2011
REC application	3.2	04 November 2011
Response to Request for Further Information		13 January 2012

Response to Request for Further Information		31 January 2012
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Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Reporting requirements

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Notification of serious breaches of the protocol
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

Feedback

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

Further information is available at National Research Ethics Service website > After Review

11/EE/0507

Please quote this number on all correspondence

With the Committee's best wishes for the success of this project

Yours sincerely

Dr Alan Lamont
Chair

[Email: suzanne.emerton@eoe.nhs.uk](mailto:suzanne.emerton@eoe.nhs.uk)

Enclosures: “After ethical review – guidance for researchers”

Copy to:

Sara Owen,
University of Lincoln
Brayford Pool
Lincoln
LN6 7TS

Mrs Dianne Tetley,
Lincolnshire Partnership Foundation Trust
Unit 9
The Point
Lions Way
Sleaford
Lincolnshire
NG34 8GG

Ethical approval emails from Probation (National Offender Management Service)

Thank you for the details of your proposed research.

After careful consideration I am pleased to agree to Nottinghamshire Probation Trust being involved in this research.

The contact initially should be Sheila Wright, Deputy Chief Executive and LDU Director whose email address is listed above, and who can be contacted directly by telephone on 0115 804 6461.

Regards

Jane Geraghty
Chief Executive

Nottinghamshire Probation Trust
Castle Marina, Nottingham. NG7 1TP
Tel. 0115 840 6462

This document, unless otherwise stated, is Restricted

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The National Probation Service may monitor the content of the e-mails sent & received via its network for the purposes of ensuring compliance with its policies & procedures.

Any views or opinions presented are only those of the author & not those of the National Probation Service

From: Nicole.Hilton@lincolnshire.probation.gsi.gov.uk
[<mailto:Nicole.Hilton@lincolnshire.probation.gsi.gov.uk>]
Sent: 23 January 2012 13:49
To: Beckley Kerry Dr (LPT)
Subject: Re: FW: ethics

UNCLASSIFIED

Hi Kerry,

Apologies for the delay in getting back to you.

I have spoken again to Jo Oliver (Director of Offender Management) who assures me that she emailed Lyndsay confirming approval etc. approximately 2 weeks ago.

Additionally, she confirms that she has instructed Simon Pollard (Business & Information Manager) to draw up the Information Sharing Agreement and get it sent to Lyndsay asap.

I've spoken to Jo Oliver 2 minutes ago, who is going to forward the confirmation email to me, as she fears now that Lyndsay may not have been copied in, which I will then forward to you.

However, I have agreed with Simon for either you or Lyndsay to contact him directly to expedite the matter and he is awaiting your call.

His contact details are: simon.pollard@lincolnshire.probation.gsi.gov.uk
01205 316300

If you continue to have problems, please contact me and I will personally drive over and get it sorted!

Nicole

UNCLASSIFIED

Nicole Hilton
MAPPA Coordinator
Lincolnshire Police HQ
PO Box 999
Nettleham
Lincoln LN5 7PH

Tel. 01522 558255 Mobile: 07979 700327
nicole.hilton@lincolnshire.probation.gsi.gov.uk
nicole.hilton@lincs.pnn.police.uk

www.lincolnshireprobationtrust.org.uk

Reducing crime by changing lives

Think before you write - Is it justifiable? Probation information may be disclosable in accordance with data legislation including the Data Protection Act 1998 and the Freedom of Information Act 2000.

Help us save paper - DO YOU NEED TO PRINT THIS EMAIL?

Ethical approval email Ministry of Justice

Hi Lyndsay

Thank you for your email.

If you send your report output I,e, publication/report etc to the Probation Areas for comments and also the NRC that would be fine.

Thanks

Kelly

Kelly Golden
National Research Co-ordinator
Planning and Analysis Group
Directorate of Finance
Tel: 01759 475099
Fax: 01759 475073
VPN :7241 5099

Please note I work on Tuesdays, Wednesdays and Thursdays.

Research:

<http://www.justice.gov.uk/publications/research-and-analysis/prisons/index.htm>

Current PSI -

http://www.justice.gov.uk/downloads/guidance/prison-probation-and-rehabilitation/psipso/psi_2010_41_research_applications.doc

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-----Original Message-----

From: Lyndsay Mappin (10197339) [<mailto:10197339@students.lincoln.ac.uk>]

Sent: 09 January 2012 10:14

To: Golden, Kelly [NOMS]

Subject: FW: Ethical Approval

Hi Kelly

I spoke to you about my submission for MoJ ethical approval before Christmas. My study has been approved by Nottinghamshire and Lincolnshire Probation services but according to IRAS guidelines I also require MoJ approval in order to publish my findings. I have had no response from either MoJ e-mail contact and as this is an academic project time is of the essence.

I hope you can help or at least point me in the right direction

Many Thanks

Lyndsay

Lyndsay Mappin
Clinical Psychology Trainee
Trent Doctorate in Clinical Psychology

From: Lyndsay Mappin (10197339)
Sent: Fri 18/11/2011 10:08
To: David.brown@cjs.gsi.gov.uk
Subject: FW: Ethical Approval

From: Lyndsay Mappin (10197339)
Sent: Fri 04/11/2011 14:56
To: David.brown@cjs.si.gov.uk; research@justice.gsi.gov.uk
Subject: Ethical Approval

Hi

I hope you will consider my attached application for ethical approval.

My research study will be undertaken as part fulfillment of my doctoral training in clinical psychology for the Trent (the Universities of Lincoln and Nottingham) DClInPsy programme.

My research study has been granted ethical approval by the University of Lincoln and I have requested ethical approval from NOMS and the NHS REC committee.

I look forward to your response

Kind regards

Lyndsay Mappin
Trainee Clinical Psychologist
Trent Doctorate in Clinical Psychology

The original of this email was scanned for viruses by the Government Secure Intranet virus scanning service supplied by Cable&Wireless Worldwide in partnership with MessageLabs. (CCTM Certificate Number 2009/09/0052.) On leaving the GSi this email was certified virus free. Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.



Ethical approval NHS research and development department

Ref: 11/EE/0507
Date: 19th March 2012

Miss Lyndsay Mappin
18 Taverner Way
High Green
Sheffield
S25 4HJ

Tel:
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Research and Effectiveness Team
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Dear Lyndsay Mappin

Study title: Using a Multiple Sequential Functional Analysis (MSFA) to identify the developmental pathways of women who have perpetrated intimate partner violence

Chief investigator name: Mr David Dawson

Sponsor name: University of Lincoln

REC number: 11EE10507

Date of permission: 19th March 2012

List of all site(s) for which NHS permission for research is given: Lincolnshire Partnership NHS Foundation Trust

NHS permission for the above research has been granted by Lincolnshire Partnership NHS Foundation Trust on the basis described in the application form, protocol and supporting documentation,

Permission is granted on the understanding that the study is conducted in accordance with the Research Governance Framework, ICH GCP and NHS Trust policies and procedures (available at <http://www.lpt.nhs.uk/>).

Permission is only granted for the activities for which a favourable opinion has been given by the REC [and which have been authorised by the MHRA]

The research sponsor or the Chief Investigator, or the local Principal Investigator at a research site, may take appropriate urgent safety measures in order to protect research participants against any immediate hazard to their health or safety.

The Research and Effectiveness office should be notified, at the address above, that such measures have been taken. The notification should also include the reasons why the measures were taken and the plan for further action. The Research and Effectiveness Office should be notified within the same time frame of notifying the REC and any other regulatory bodies.

Whilst this research proposal has been approved by the Information Governance Department it has been done so on the basis that all personal identifiable data (PID) is kept securely and transported in line with recently published NHS guidelines;

<http://www.connectingforhealth.nhs.uk/systemsandservices/infogovicaldicott/caldresources/updates>

Electronic transfers of PID must be transported using AES 256 bit encryption to encrypt the data whilst it is in transit and in the case of manual PID transfers, that traceable delivery systems are utilised.

If this research requires you to obtain PID from other 3rd party or in-direct sources, it is a requirement that you similarly ensure adherence to these standards which you are personally responsible for informing or reminding them of.

Failure to comply with these requirements and to adequately protect the PID in your possession throughout the duration of your research may lead to disciplinary/legal action being taken against you.

Rachel Markham
Head of Information Governance
July 2008

INFORMATION SHARING AGREEMENT

1. Purpose

This agreement is between **Lincolnshire Probation Trust (LPT) and the Faculty of Health, Life and Social Sciences (HLSS), University of Lincoln** hereafter referred to as the parties.

The purpose of the agreement is to allow the sharing between the parties of personal data that is subject to the provisions of the Data Protection Act 1998.

The parties agree to share the personal data specified below for the purposes of:

Participating in the research study 'to identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence'.

The parties to this agreement confirm that their processing of the personal data to be shared complies with the requirements of Schedules 2 and 3 of the Data Protection Act 1998

2. Authorised users

The persons authorised by this agreement to send and receive the relevant personal data are:

Authorised staff (or staff groups)	Classes of data (as specified in the data protection notification) to be shared	Method of transmission of data (specify: electronic, or hardcopy; or "All")	Authorised to "Send", or Receive", or "Both"
LPT: All staff associated with the offender sample	All data relevant to the sample	Hardcopy only	Both
Lyndsay Mappin (Chief Investigator) Kerry Beckley (Field Supervisor) Dave Dawson (Academic Supervisor) Mark Gresswell (Academic)	All data relevant to the sample	Hardcopy only	Both

Supervisor)			
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3. Electronically data sharing

Where data is to be sent electronically between the parties, this agreement must specify:

The interface boundary between the parties' respective networks, if applicable;	Not applicable. Hardcopy only.
The method of connection between the respective networks;	Not applicable. Hardcopy only
Clear delineation of responsibilities at the interface boundary or point of data exchange	It is the responsibility of the 'creator' of any document sent to LPT to ensure that it is correctly classified using the NPS protective marking scheme.

4. Requirements

The parties to this agreement are required to:

- **Append to this agreement a copy of their respective current notifications** to the Information Commissioner, to confirm that they are permitted to process personal data as required by this agreement;
- Inform data subjects that their personal data is shared within the terms of this agreement;
- Ensure that all staff who implement the terms of this agreement are aware of the requirements of the agreement;
- Ensure that all data received as a function of this agreement is stored securely, is not accessible to unauthorised persons, is not altered, lost or destroyed, and is retrieved only by properly authorised persons;
- Jointly review the operation of this agreement at **least annually**.

5. Breach (LPT Code of Practice – Data Loss – Reference: 6.16)

If any party to this agreement becomes aware of a security breach, or breach of confidence in relation to the data covered by this agreement, or breach of the terms of this agreement, the party with responsibility for the area of activity in which the breach occurred, shall:

- **Immediately (within one hour)** inform other parties to this agreement that a breach has occurred;

Lincolnshire Probation Trust contacts	University of Lincoln contact
Nigel Smith 01522 580445 (direct) Tony Burke 01552 580457 (direct) Mel Gregory 01522 580456 (direct)	Mark Gresswell 01522 886820

- Immediately investigate the cause, effect and extent of the breach;
- Report the results of the investigation to the other party, without delay;
- Use all reasonable efforts to rectify the cause of such breach.

6. Staff liability

Each party will ensure that all staff implementing this agreement are made aware that the disclosure of personal information without consent of the data subject must only occur where allowed under the Data Protection Act 1998, and as specified in this agreement. Without such justification, the parties to this agreement, and their staff, expose themselves to the risk of prosecution and liability to damages order under the Data Protection Act 1998 or the Human Rights Act 2000.

7. Data controllers

The data controllers for the parties to this agreement are:

Lincolnshire Probation Trust 7 Lindum Terrace Lincoln LN2 5RP	Lincolnshire Probation Trust Mel Gregory Corporate Services Director
Faculty of HLSS University of Lincoln Brayford Pool Lincoln LN6 7TS	Faculty of HLSS Mark Gresswell Academic Supervisor

8. Representatives

The representatives of the parties to this agreement are:

Organisation	Signatory	Signature
Lincolnshire Probation Trust	Nigel Smith Performance & Excellence Manager	
HLSS, University of Lincoln	Please enter the name and appointment of the person who is signing this document	

Date agreement signed	
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Date of next review - annually	
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PROTECTIVE MARKINGS and DESCRIPTORS

What is a 'Protective Marking Scheme'?

A 'Protective Marking Scheme' is a system of labelling which states how a particular piece of information should be processed at any stage of the information lifecycle. The purpose of Protective Marking Schemes is to protect information from unnecessary disclosure or other risk.

Further information about the National Probation Service (NPS) Protective Marking Scheme is contained in the latest version of the NPS 'Protective Marking Policy'.

Protective Marking and the GSI

The National Probation Service is a member of the Government Secure Intranet (GSI) community, which means that electronic information with the Protective Markings 'UNCLASSIFIED', 'PROTECT' or 'RESTRICTED' or can be exchanged securely with other organisations who are also accredited to the GSI standards or equivalent (e.g. the Police, the Crown Prosecution Service, the Prison Service, the Home Office).

Criminal Justice Secure E-Mail - Where 'RESTRICTED' information needs to be exchanged with organisations that are not on the GSI or equivalent, these organisations may be eligible to have a Secure e-Mail account set up by Criminal Justice IT (CJIT). However, when sending to a CJ Secure email account you need to assure yourself that the recipient will treat the information appropriately – just having an account does not provide this level of assurance.

For further information, see the Secure e-Mail section of CJIT's website and check with your IT department:

<http://www.cjit.gov.uk/how-it-all-works/joining-up/secure-email/>

www.cjism.net

Protective Marking Classification

To assess which Protective Marking category applies to any particular information, use the 'Consequences of Compromise' Tables (appendix 3) at the back of the NPS 'Protective Marking Policy'.

What is a 'Descriptor'?

A 'Descriptor' is an *optional* marking (except in the case of PROTECT, for which it is mandatory) which can be used alongside a Protective Marking to further reinforce how a piece of information should be distributed or otherwise processed. 'Descriptors' help protect information from unnecessary or unauthorised disclosure.

On occasion, it may be necessary to use more than one Descriptor. In these instances, staff should decide which Descriptors are the most appropriate on a case-by-case basis.

All staff and third parties in any Area should understand and be confident in the use of Descriptors and Protective Markings, within the context of their own role. If staff have any queries or comments about the Protective Marking Scheme which cannot be answered by referring to the 'Protective Marking Policy', local Information Security contact person.

To avoid confusion, staff should avoid using **more than 3** Descriptors at any one time.

DESCRIPTOR LIST

Below is a list of descriptors to be used throughout the NPS. There is a requirement that they are used with PROTECT. In other circumstances, Descriptors should only be used if they add value to the protective marking or the overall security of the asset so marked.

Descriptors reinforce the "need to know" principle where it is applicable and may be useful in securing information assets internally within the NPS.

To avoid confusion, no more than **three descriptors** should be used at any one time.

Descriptors to be used with information marked **RESTRICTED** or **PROTECT**

DESCRIPTOR	To accompany:	DEFINITION
ADDRESSEE ONLY	PROTECT or RESTRICTED	This is material to be seen only by the addressee (i.e., the person to whom the information is addressed).
AUTHORISED STAFF	PROTECT or RESTRICTED	This is material to be seen only by the addressee/s and by any other specifically authorised personnel (eg by the other members of an investigating team). This descriptor is for use in circumstances where there is a RESTRICTED or PROTECT distribution

DESCRIPTOR	To accompany:	DEFINITION
		list. It is unnecessary for UNCLASSIFIED information.
SENSITIVE (DPA)	PROTECT or RESTRICTED	<p>Personal information which is defined as 'sensitive' under the Data Protection Act 1998, excepting any 'sensitive' information which has its own Descriptor (i.e. - 'Staff Details' and 'Medical').</p> <p>'Sensitive' information under DPA includes:</p> <p>" 'racial or ethnic origin, political opinions, religious or other beliefs, trade union membership, physical or mental health condition, sex life, criminal proceedings or convictions.'</p> <p>Therefore, by law, much of the personal information which the NPS processes (e.g. about offenders) is classed as 'sensitive' personal information and the additional protective requirements will apply.</p>
MEDICAL	PROTECT or RESTRICTED	Medical reports.
CONTRACTS	PROTECT or RESTRICTED	<p>Material relating to tenders under consideration, or contracts entered into, including contract documentation.</p> <p>(Where applicable, contract information may be down-graded from RESTRICTED to UNCLASSIFIED after a sufficient period of time from the commencement of the contract has elapsed.)</p>
COMMERCIAL	PROTECT or RESTRICTED	Any material relating to a commercial organisation's activities or affairs. Particular care will need to be taken where information from a particular organisation is classed as 'Commercial – In Confidence'. *
DRAFT (In Progress)	PROTECT or RESTRICTED	<p>For use with a draft document that is 'in progress' or which has not yet been approved for wider circulation.</p> <p>Draft documents and accompanying correspondence that are intended 'for</p>

DESCRIPTOR	To accompany:	DEFINITION
		future publication' should be additionally marked as necessary. (This distinction is important for Freedom of Information disclosure purposes).
When Complete	PROTECT or RESTRICTED	<p>E.g. 'RESTRICTED – When Complete'.</p> <p>'Complete' in this context includes partially-completed.</p> <p>This Descriptor can apply to new blank template documents and forms (e.g. in 'Excel', 'Word', etc).</p> <p>Once a version of the template has been saved as an (e.g.) actual document (*.doc), the equivalent descriptor would be RESTRICTED or PROTECT.</p>

* See Paragraphs 8.2 and 8.3 of the NPS 'Protective Marking Policy' for security guidance about exchanging commercial information with non-GSI organisations.

Protective Markings and Freedom of Information:

Non-NPS commercial information originating from a private sector company is not subject to the requirements of the Freedom of Information Act 2000 (at time of writing – January 2007). Where a Freedom of Information Act request cites private sector information, the Probation Area should consult with the private sector organisation/s concerned before deciding whether or not to disclose.

The exemption under Section 43 of the Freedom of Information Act 2000 (Commercial Interests) applies to both the private and the public sectors.

A document marked RESTRICTED or above by an organisation demonstrates the handling and other processing requirements which that organisation deems appropriate. However, Protective Markings are irrelevant to the FOI Act.

How to handle different levels of Protective Marking

Unclassified: No specific requirements regarding the storage or transfer of this category of information.

Protect: All protected information MUST be held in lockable storage in an area only accessible by authorised staff.

Restricted: All restricted information MUST be held in lockable storage in an area only accessible by authorised staff.

Appendix 3: Project proposal

Using a Multiple Sequential Functional Analysis (MSFA) to Identify the Developmental Pathways of Women Who Have Perpetrated Intimate Partner Violence

Background

Throughout the twentieth century the changing role of women in society and the idea that women are becoming more masculine has attracted interest in the question 'are women becoming more violent?' (Mutz, 2008). Steadily rising female violent crime figures have fuelled the debate as to whether this is a true phenomenon or a moral panic (Kruttschnitt, Gartner and Husseman, 2008). The latest government statistics would suggest the former, showing that the number of women charged with violence against the person has increased year on year for the past decade (Ministry of Justice, 2010).

One explanation put forward for the sharp increase in female perpetrated violence is that it is a consequence of the harsher treatment of women by the courts and justice system (Chesney-Lind and Pasko, 2004). A recent study highlighted stricter court policies to explain the increase in females imprisoned for other types of offending (Hedderman, Gunby and Shelton, 2011). However there has been no study that has sufficiently explained why female violent crime is the only offence typology, for either gender, to have increased incrementally in this pattern over the past 10 years. Research investigating the development and function of violence in the offending pathway of female offenders is therefore of critical value.

Whilst female offending makes up only a small proportion of overall offending (approximately 5.5%), the cost of female offending is proportionally greater than male offending due to the massive social and financial ramifications of the 17,700 children who are separated from their mothers by imprisonment each year (Prison Reform Trust, 2010). The high rates of recidivism for women released from prison (64.3% in 2004) and the high rates of self harm and violence against others by female prisoners add to the cost of female offending and it is estimated that by reducing reoffending rates by 6% and investing in community treatment alternatives to prison the cost saving would be in excess of £100 million over a ten-year period (Prison Reform Trust, 2010). Serious violent offending carries the risk of imprisonment; research that aims to identify female pathways to violence is likely to increase understanding of issues such as early risk factors and effective treatment options that have critical implications for reducing rates of recidivism.

In terms of assessing dangerousness of violent females there is a clear gap in understanding. Several studies have acknowledged that current risk assessment tools are based on factors associated with male violence and cannot effectively be applied to females (McKeown, 2010). Furthermore a recent empirical study that compared the predictive accuracy of existing risk assessment tools found that they were unable to accurately predict

reoffending in females (Yang, Liu and Coid, 2010). For this reason research which applies the use of more complex, individualised approaches to assessing risk of dangerousness in females is of high importance.

The reasons why women are increasingly using violence has received much interest in the literature with many studies classifying women who use violence using three separate but interrelated social constructs that label violent women as victim, mad or bad (Comack and Brickley, 2007).

The mad and bad labels are historical attempts at making sense of female actions that do not fit the idealised gender stereotype. Female violent behaviour appears so at odds with what is expected by society that women are labelled mad much more frequently than males displaying the same behaviours (Myers and Wright, 1996). Where female violent behaviour can not be explained psychologically the woman is considered the opposite of the good mother gender stereotype and is often labelled unnatural and bad (Edwards, 1986).

More recently the feminist literature has argued that female violence should be seen in the context of the restricted female role in a patriarchal society that has bred a culture of male violence against women (Dobash, Dobash, Wilson and Daly, 1992). From this position women who use violence are identified as victims of abuse who use violence only as a means of self-defence against an abusive partner. This idea does not fully explain female violence; it does not account for all instances of female violence and undermines women's capacity for agency over their own actions.

The victim, mad or bad debate seems to consider women as a basically homogenous group whose behaviour can be explained using three constructs. The continued disagreement in the literature and the lack of a single coherent theory suggests that the triadic classification may not be sufficient to offer a full explanation of female violence. One study used a qualitative methodology to investigate how the three constructs fit with female violent offender's perspective of their own identities and found that there was some resonance but that the ideas still fail to take into account the complexity of women's lives (Cormack & Brickley, 2007). To offer a full explanation of female violence due consideration must be given to the individual circumstances of women's lives or the context within which they live and commit their crimes. Further study into individual female pathways to violence is necessary to increase understanding of this population beyond the labels of victim, mad or bad.

One category of female violent offending where these labels are highly debated is women perpetrators of intimate partner violence (IPV), that is women who physically attack someone they were currently or formerly in an emotional and/or sexual, committed relationship with (Simpson, Yahner & Dugan, 2008).

Traditionally IPV is considered to be a predominantly male offence and research into female perpetrators has often been ignored by the literature

(Goldenson, Geffner, Foster & Clipson, 2007). Where studies are published there is clear polarisation on the debate of whether female IPV actually exists. At one end are the researchers who extend the victim construct by arguing that female initiated IPV is a misleading concept for what is essentially women acting in self-defence against abusive partners (Henning, Renauer and Holdford, 2006; Dobash et al., 1992). At the other end are studies which support the mad/bad constructs, for example Carney, Buttell and Dutton (2006) reviewed the literature to conclude that females initiate as many, if not more, incidents of IPV as men. Despite this ongoing debate the facts are that for approximately 1 in 5 cases where women are jailed for violence the victim is an intimate partner (Ministry of Justice, 2010) and there is scope for more research to identify the motivations and functions of female initiated IPV.

A number of studies have attempted to extrapolate women's motivations for IPV (Cormack and Brickley, 2007). The motivations most apparent in varying degrees from the literature are self-defence, expression of anger or jealousy, coercive control or retaliation (e.g. Bair-Merritt et al., 2010; Caldwell, Swan, Allen, Sullivan & Snow, 2009). Studies also find similarity in the backgrounds of female perpetrators of IPV including history of victimisation in childhood and adulthood, witnessed domestic violence between parents, insecure attachment styles and have displayed symptoms of trauma (e.g. Ryder, 2006; Goldenson et al., 2007).

Many studies conclude that women who commit IPV are a heterogeneous group who have different complex reasons for their violence. One study found that the average female reported 14 reasons or motivations that applied to them at least some of the times when they had used violence towards an intimate partner (Caldwell et al., 2009). A criticism of these studies is that they go no further than merely listing the proximal and distal factors correlated with women's use of IPV. They do not attempt to explain what is different about the experiences of some females that influence them to use violence against partners whilst others with similar histories do not. The gap in the literature is around why certain factors in the lives of some women lead them to use IPV.

Research that aims to develop a clear understanding of how factors associated with IPV have impacted on the developmental pathway of women convicted of violence against an intimate partner is critical to understanding this population of women and has clinical implications for the development of treatment programmes and the accurate measurement of risk.

The proposed study aims to address this issue by investigating the developmental pathways of women convicted of IPV by employing the qualitative, exploratory methodology of MSFA.

Qualitative approaches are concerned with deriving meaning from first hand accounts of participants' lived experiences. Many criminological approaches neglect to consider offenders own insights and may miss valuable elements of how individuals perceive their own pathway to offending (Hedderman, Gunby and Shelton, 2011). The proposed study aims to address this by using MSFA

to make sense of the lived experiences of female offenders in terms of the functional development of violence in their learning histories.

A limitation of qualitative methodologies is that they rely on the subjective introspection of participants and therefore could be considered scientifically unreliable (Sturmey, 2007). The proposed methodology is behavioural in tradition and therefore despite the key interest in individual experiences it retains a focus on functional analysis and emphasises the use of triangulation to promote reliability of the analysis.

The behaviourist school of psychology believes that behaviours are situationally determined and that behavioural consistency in individuals is due to the functional value of that behaviour in the individuals learning history (Lee-Evans, 1994). In the field of forensic psychology the behavioural approach of functional analysis is used to explain the development of offending behaviour by identifying relevant factors that serve a particular function for an individual. Functional analysis is a method of developing an idiosyncratic understanding or formulation of how an individual's problematic behaviour has developed over time (Jones, 2010). Functional analysis investigates target behaviours through the use of A:B:C analysis (Sturmey, 2007). In A:B:C analysis the 'A' is the antecedent (usually an environmental event/stimuli) that triggers 'B' the behaviour (observable behaviours or covert, internal behaviours e.g. thoughts, feelings, emotions) which leads to 'C' the consequence of the behaviour (usually environmental). A:B:C analyses are not necessarily able to identify causal relationships between the antecedents, behaviours and consequences however a functional relationship can be implied by the order that the events occur.

MSFA is a form of functional analysis developed by Gresswell and Hollin (1992). It is a useful methodology for making sense of complex case material, particularly in the field of forensic psychology, and has been used to understand the development of problematic behaviours over time. In order to explain a specific behaviour MSFA uses a linear chain of A:B:C analysis set over the participant's life, the chain is linked by the identification of key learning from each analysis which is used, along with the A:B:C sequence, to form the antecedent of the next (Gresswell & Dawson, 2010). Using functional analysis in a sequential way can generate explicit hypotheses about functional relationships between events and offending. This approach has clinical utility and can inform the development of idiosyncratic treatment interventions and for effective assessment of risk in a forensic setting. The MSFA methodology has been successfully used to facilitate understanding of the development of male offending behaviour in a number of complex cases involving violent offence typologies (Gresswell & Hollin, 1992; Gresswell & Dawson, 2010). However, to date there have been no published studies that have applied this methodology to female violent offenders, specifically those whose violence was directed against an intimate partner.

In the proposed study MSFA will be used to understand the functional development of violence in the learning histories of females imprisoned or in

the community who have perpetrated violence against an intimate partner. The qualitative nature of the methodology will generate a more in-depth understanding of the development of violence in women than the more traditional criminological approaches whilst maintaining a scientific reliability through the use of triangulation.

Aims

The aim of this study is to use a Multiple Sequential Functional Analysis (MSFA) methodology to investigate the developmental pathways of violence in a small sample of female who have perpetrated violence against an intimate partner, in an effort to generate further knowledge of the functional significance of IPV behaviour in this population.

Research Questions

- How does violent behaviour appear to develop in the learning histories of female IPV offenders?
- What is the function of violent behaviour for these individuals?
- How does the developmental trajectory of females convicted of IPV fit with current theory?
- Is there similarity in the functional value of violence in the learning histories of different women imprisoned for IPV?

Study Design

Method.

In order to address the research questions the proposed study will use a MSFA methodology as developed by Gresswell and Hollin (1992). Published studies have demonstrated the utility of MSFA for developing a coherent understanding of pathways to violent offending in males (e.g. Gresswell and Dawson, 2010). The proposed study will apply this methodology to understand the functional development of IPV in a small sample of female offenders jailed for violence against an intimate partner. The qualitative nature of the methodology will generate a more in-depth understanding of the development of IPV in women whilst maintaining a scientific reliability through the use of triangulation.

Epistemology.

My approach to this study is from the epistemological position of functional contextualist. One aspect of functional contextualism is the idea of pragmatic/contextual truth or truth by consensus. If something can be predicted with some accuracy then from this perspective it is a truism (Biglan and Hayes, 1994).

The functional contextualist position is strongly associated with radical behaviourism (see Skinner, 1953) and takes the view that human behaviour can be explained or understood by viewing phenomena in terms of the environmental context.

This epistemological position is a good fit with the methodology of MSFA, which is focused on understanding an individual's actions in the context of their learning history (Gresswell and Hollins, 1998)

Taking forward the contextualist perspective it seems necessary to consider this study in the context of myself as a female researcher conducting a study of female participants. Making a conscious choice to study a gender biased research question using a qualitative methodology orientates my epistemological position towards feminism and in particular feminist criminology (Davies, 2000). The radical feminist perspective on female offenders is that no women should ever be imprisoned and that to imprison women is to emphasise the oppression of a patriarchal society (Edwards, 1986). Whilst I cannot agree with this position, particularly where there are issues of public protection, I do support the new paradigm of feminist criminology that reminds us that women are not a homogenous group and promotes the idea of developing research that seeks to identify the individual women's pathways to offending (Naffine, 1997). I also endorse the ideas set out in the *Corston Report: Review of Women with Particular Vulnerabilities in the Criminal Justice System* (Corston, 2007) that many female offenders have indeed been the victims of violence and abuse at the hands of others. The author suggests that endeavours to understand the impact of abuse in women offender's histories is an urgent area for study in terms of offering effective support and treatment to abused/damaged women and to identify early intervention services for young women at risk of developing an offending profile.

The position of feminist and functional contextualist could, on first view, appear to be a mismatched philosophical position. However, in terms of understanding the contextual influences and the developmental learning histories of women on an individual/idiosyncratic basis, I believe the positions can find some overlap in this study.

The methodology chosen recognises the individuality of women and moves away from the nomothetic, one-size-fits-all perspective of the more patriarchal approaches to the care and treatment of female offenders.

Participant Selection/recruitment

Sample.

There is no recommended sample size for the use of MSFA methodology however the majority of published studies have used a small number of participants. For the purpose of this study a consecutive recruitment process will be used that will continue until a minimum of three and a maximum of six participants are recruited, this sample size fits with published literature which has used the qualitative methodology of MSFA (e.g. Gresswell & Hollin, 1992). Due to the large amounts of data to be analysed in qualitative studies sample sizes tend to be smaller than in quantitative studies, a small sample size is an appropriate fit to the time scale of the proposed study

Recruitment.

Due to the poor conviction rates among women perpetrators of IPV participants will be recruited from the study from across Lincolnshire Partnership Foundation Trust (LPFT) Mental Health Services and Lincolnshire Community Forensic teams including Probation. In order to widen the pool of potential participants, recruitment will include women convicted of intimate partner violence or those with one or more self-reported incidence of violence perpetrated towards an intimate partner.

In order to identify and recruit eligible participants the researcher will approach lead professionals and clinicians in LPFT and community forensic services asking them to help identify potential participants who meet the study criteria and pass on information about the study. Professionals will be given the information sheet for staff (Appendix A) and copies of the participant information sheet (Appendix B). To ensure the recruitment process is inclusive the researcher will work with professionals to ensure that as many as possible of the potential eligible participants are given information about the study.

The participant information sheet has a tear off slip on the bottom that can be completed and returned to the researcher for individuals to express an interest in taking part in the study. Women interested in taking part will be contacted by the researcher to discuss the study and to gain informed consent. Consent in this case would include consent to take part in the study as well as consent for the researcher to access files and to contact current and past case workers (Appendix C).

Should the number of participants eligible for the study exceed the number able to be involved within the time limitations, the first participants to give consent will be recruited.

Inclusion criteria.

- The study will include female adult (18+) who are accessing LPFT mental health services or Lincolnshire community forensic teams and have been convicted of or self-reported one or more incidence of violence against an intimate partner.

Exclusion criteria.

- To ensure consistency within the interviews women who can not communicate clearly in English or have special communication needs including hearing impairments will be excluded from the study. This avoids the enlisting of a translator for some interviews as in a small sample study having some dyadic and some triadic studies could bias the results.
- Women who do not give consent to access their files and paper documentation will be excluded from the study due to the methodological reliance on triangulation.
- Women with a primary diagnosis of psychosis will be excluded from the study as current research suggests that this population follow a unique developmental trajectory to perpetration of violence that it is beyond the scope of this paper to investigate.

Expected duration of participation.

It is estimated that each participant will be involved in face to face contact with the researcher for approximately 4-6 hours. The duration of individual interviews will be completed once the researcher determines that no new information is emergent.

Where participants have given consent for current and prior care professionals to be approached, interviews will be conducted that will be approximately 1-2 hours in duration.

Approximately 4 hours of contingency interview time will be allowed for each participant.

Study Procedure

Demographics.

Demographics will be collected for each participant via interviews and from case files, information collected will include background characteristics (including age, ethnicity, marital status, dependants), details of current and previous convictions and recorded reports of violence in relationship.

Interviews.

Following the allocation of participants to the study a schedule for the interviews will be agreed with participants and the responsible staff. Suitable rooms to conduct the interviews will be identified and booked. Interview rooms should be private and allow for the sessions to be confidential between researcher and participant, efforts will be taken to minimise potential for distraction during the course of the interviews.

The researcher will approach each interview from a relatively naïve perspective, knowing only the basic details of the participant and the offence. This limits the influence of preconceived ideas that may affect the flow of the interview and the direction the interview takes.

The interview format will be idiographic and will loosely follow a semi-structured clinical interview schedule with the aim of taking a detailed case history of each participant in a chronological order. In order to ensure that detail pertaining to the index offence is fully covered by the interview schedule the index offence analysis tool developed by West and Greenhall (2011) will be loosely incorporated into the questioning. Another technique that can be used when adopting a semi-structured interview is the adapted '5WH' technique for use with violent offenders (Gresswell and Hollins, 1991 as cited in Gresswell & Kruppa, 1994), this method uses the key questions of who, what, where, when and how to hypothesise the Why. Including elements of these forensic assessment methods into the interview schedule will increase reliability between interviews and will aid analysis by ensuring that interview data is appropriate for the identification of functional connections.

The length of each interview will be determined by the researcher identifying that a point has been reached where no new themes in the information are

emergent and enough information has been gathered to develop a clear and complete formulation of the participant.

The interview style will be informal and therapeutic skills will be utilised to ensure that a rapport between researcher and participant is established as early as possible in the process.

At the start of the interview process with each participant, the aims of the study will be revisited and there will be the opportunity to ask questions about the research. Participants will be reminded of confidentiality arrangements in relation to the study. As the interviews are related to personal history and events participants will be advised that some issues discussed have the potential to be distressing and a plan will be agreed with each participant in terms of liaising with key support staff should a distressing issue have been raised. At the end of each interview session participants will be asked if they have any concerns, issues or questions and if there is the need for the researcher to make the responsible professionals aware of any potential residual distress.

Interviews will be recorded using a dictaphone and the researcher may also take some notes during the interview as a reminder of issues to be covered in more detail within the interview. Any paper notes will be anonymous.

Supporting interviews.

A similar procedure will be followed when conducting interviews with key workers. Contact details for key professionals will be established from public records or service records for current workers. Professionals will be contacted by telephone and information from the staff information sheet will be explained, following this a mutually agreeable time and venue will be arranged to conduct interviews with those willing to participate.

On first contact written consent will be sought before the interview proceeds. The aims of the study will be repeated and issues relating to confidentiality will be discussed. The interview format will be unstructured and idiographic with the aim of obtaining the participants' perspective on the developmental and offending history of the primary participant.

Interviews will be recorded onto a dictaphone and follow the procedure set out for the primary interviews.

Reflective journal.

A reflective journal will be completed at the end of each day of interviews; this will be informal in style and will be used to remember what was happening in the room during each interview, to reflect on the interview process and how the researcher may have affected the outcome. The journal will be private and no identifying details will be recorded.

File review.

The files that are available will be different for each participant dependant on their current and previous contact with services and on the physical availability of these files to the researcher. Core files that are likely to be available are files including psychology and other professional reports, police

files including witness statements, transcripts of offender interviews, offender statements. In addition to these it may be possible to access probation reports, trial transcripts, and other court reports/statements, other professional reports held on prison or community provider's files. The process for accessing files will be developed on a case by case basis in conjunction with the field supervisor and other staff.

Analysis

When all the available, relevant, information has been collated for each participant including interview transcripts, supporting interview transcripts and case files, the process of triangulation will begin. Triangulation is using several methods to look at the same phenomena and is particularly valuable method for forensic research (Carol, 2000). The aim of the triangulation process is to bring all data sources together to make one narrative of the participant's developmental history and events leading to the index offence. This process also allows discrepancies between narratives to be identified and considered. Where discrepancies are identified the researcher will check back with written reports but where objective checking is not possible the option of best fit will be taken. The data will be ordered chronologically with references to the page number in transcripts/reports noted. This process is useful for organising complex case data from multiple sources (Gresswell & Kruppa, 1994).

The organised data will be analysed using Multiple Sequential Functional Analysis. The MSFA will allow the organised qualitative data to be used to identify the functional aspects in the developmental learning histories of women imprisoned for intimate partner violence. The process of MSFA will follow the procedure developed by Gresswell and Hollins (1992).

The end product will be a detailed, idiosyncratic formulation of the functional development of each participant which culminated in incidents of intimate partner violence perpetration.

This study will be supported by two research tutors and a clinical field supervisor; they will be the first point of contact for any concerns related to the researcher, the study or the participants.

The following table sets out a provisional timeline for conducting the study:

ACTION	Start Date	Completion Date
Develop research proposal (including research proposal workshop)	Nov 2010	18 th March 2011
Identify field supervisor	Feb 2011	April 2011
Systematic Literature Review	March 2011	August 2011
Feedback from proposal		End April 2011
Ethical Approval	April 2011	Sept 2011
Work on developing methodology	April 2011	Sept 2011

Recruiting organisations/participants	Sept 2011	Dec 2011
Interviews/file reviews	Jan 2012	June 2012
Analysis of data	Jan 2012	July 2012
Writing up thesis	July 2012	Oct 2012
Oral presentation		Feb 2013
Viva		March 2013
Submission of journal paper	March 2013	June 2013

Ethical Approval

Approval for this study will be sought from the University of Lincoln ethics committee and from the Ministry of Justice/ National Offender Management Service ethics committees.

Ethical issues.

The interview subject matter has the potential to cause participants distress. The researcher will discuss this openly with participants before and immediately after each interview, where residual distress is likely to be an issue consent to inform a key worker will be sought. The researcher will also seek to develop a thorough knowledge of additional support services so that referrals can be made where appropriate.

Feeding back the end product of the MSFA is an issue for consideration; the researcher will share back an executive summary of the formulation with participants and due to the potential clinical utility consent will be sought to share the full formulation with key staff (e.g. Psychology).

Data Management

Interviews will follow a clinical interview format and will be tape recorded with all audio data saved onto an encrypted memory stick at the first opportunity. In keeping with the nature of the clinical interviews the audio tapes will not be transcribed in full detail but will be used to extrapolate information to be used in the MSFA. All paper records and any interview excerpts used in the final thesis will be anonymous.

The research tutor will be the custodian of data relating to the study and will store all paper and audio data securely for 7 years after which time it will be destroyed securely and according to the University of Lincoln policies.

Study Finances

The University of Lincoln provides a budget of £500 to cover additional costs associated with conducting the research. A projected budget is outlined below:

Incentive payments	£240
Printing/copying costs	£25
Envelopes and stamps	£10
Dictaphone	£30

Encrypted Memory Stick	£15
Access to court documents	£30
Total	£350

Dissemination

A written version of the completed study will be submitted for publication to peer reviewed journals, specifically those with a special interest in forensic psychology, behavioural analysis and women's issues. An extended version of the thesis will be archived at the University of Lincoln and on the EThOS database, the British Libraries online theses library.

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APPENDIX 4 Recruitment Materials



Trent Doctorate
in
Clinical Psychology



The University of
Nottingham

Participant Information Sheet

Title: Using a Multiple Sequential Functional Analysis to Identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence

Researcher: Lyndsay Mappin

Please take time to read the following information carefully.

This is an invitation to take part in a research study. The information below explains what the study is about and what taking part will mean for you. Take a look through the information and think about if you are interested in taking part, it is ok to discuss this with other people and to ask if you would like more information. Take time to decide if you are interested in taking part.

The study will involve taking part in an interview and may take more than one session. To say thank you for taking part you will be given a £10 regular high street store/company voucher for each interview session you attend. The minimum number of interview sessions is 1 and the maximum number of interview sessions is 4; vouchers will be given after the final interview.

This study has been reviewed by the NRES Committee, East of England, Essex.

What is the study about?

The number of women put in prison for physical violence against partners, husbands, boyfriends, same sex partners is increasing. Up until now most of the research has looked at men and there has been a gap in studies that look at women. This means that programmes (for example those that teach techniques for managing aggression) may be designed for men and may not be as helpful for women.

This study is to look at the life experiences of women who have used violence towards a partner to try and identify the reasons that conflict with partners escalated to this level. We would like to hear your views about what you feel may have led to your current situation and the impact that life events have had on you.

We are interested in hearing your views and experiences to help get a clear understanding of what might lead women to be involved in violence against a partner, this will help us improve the quality of treatment and help us find out if there is anything that can be done to help women in similar situations earlier.

Why have I been chosen?

Psychologists and probation workers have been asked to pass on information about the study to women who are aged 18+ and have been convicted of or self-reported one or more incidences of violence against an intimate partner.

A maximum of 6 women will take part in the study.

What happens next?

If you think you may want to take part, fill in the slip on the next page and return it to the researcher, Lyndsay Mappin (contact details at the end of the information sheet).

The researcher will then get in contact with you to talk through the study and any queries you may have. If you agree to take part in the study you will be asked to sign a consent form and can then agree a time and place to be interviewed. The interviews may take several hours but we can spread them over more than one meeting. The interview(s) will be in a private room within a service you are familiar with. The interviews will be tape-recorded and the researcher is also likely to take notes.

The researcher will meet up with you for 1 session after the interviews to feedback the findings and to get your views on them. At the final interview meeting you will be asked if you consent to the findings being shared with your care workers (e.g. Psychologist, probation worker). If you do not agree then the findings will remain confidential and will only be used anonymously in the write up of the study.

As part of the research you will be asked to give written consent for the researcher to look at your case files such as psychology and probation files, court transcripts, police reports where applicable. You will also be asked for permission for the researcher to contact professionals (e.g. Psychologists, probation workers, other support workers) who are working with you currently and/or have worked with you in the past. This is to build up a picture of your experiences and will increase the researcher's understanding of the factors that have impacted on you throughout your life.

Will I have to take part?

No. Nobody has to take part but it would be very useful to hear your views and experiences. As a token of appreciation you will be given a £10 regular high street store voucher for each interview, up to a maximum of £40. The vouchers will be given to you on completion of all the interviews and will be forfeit if you do not attend all scheduled interviews. The vouchers will be given as a thank you for taking part and will not affect any benefits that you receive.

How much time will being in the study take?

Your participation in the study is expected to take between 4 and 6 hours altogether, this is likely to be split over between 1 and 4 sessions depending on what is agreed between you and the researcher. Interviews will be arranged, as much as possible, to be convenient for you and will take place in a service that you are used to attending such as psychology or probation bases.

Are there any risks involved?

When talking about issues that have affected you in the past it can be distressing, the researcher will discuss this with you. If you do become distressed the interview can be stopped and with your permission someone from your care team can be informed. Similarly, at the end of the interview you will be asked how you are feeling, if you are experiencing any distress the researcher may ask for your permission to inform someone from your care team or refer you to another local support service.

Are there any advantages to taking part?

Hopefully by taking the time to share your views and experiences the researcher will get a better understanding of what events/experiences in your life have influenced your current position. These findings can be used to improve treatment and support for women who are currently experiencing similar events.

Using this particular research method will result in a full psychological explanation of how partner violence has developed across your life span; there is potential benefit to your care from sharing this with professionals who work to support you. You will be asked for written consent to share this information with your care team although findings will remain confidential should you prefer.

What if I have a complaint about how I have been treated as part of the study?

If you wish to complain about any aspect of the study in the first instance you can discuss your concerns with the researcher (Lyndsay), if you are not satisfied with this complaints can be directed to the research supervisor:

Dr. David Dawson
University of Lincoln,
Health, Life and Social Sciences,
Brayford Pool,
Lincoln,
LN6 7TS
01522 886029

or to the chair of the School of Psychology Ethics Committee,

Emile van der Zee PhD
Principal Lecturer in Psychology
Programme Coordinator MSc in Child Studies
School of Psychology
Brayford Campus
University of Lincoln
Lincoln LN6 7TS

evanderzee@lincoln.ac.uk

If you are still not satisfied complaints can be registered following the NHS complaints procedure.

What about confidentiality?

All information will be confidential between you and the researcher, unless something you disclose suggests that you or someone else is or has been at risk of harm (as is standard procedure). Should issues arise that the researcher has to share with others this will be discussed openly and honestly with you.

Consent will be sought to share the end product of the research with professionals who work with you. If you do not consent then findings will remain confidential and will only be reported anonymously in the completed study.

Any documents related to the research will have your identifying personal details removed and the completed study will be written up anonymously.

What will happen after the study?

The completed study will be written up and submitted as a thesis for a doctorate in clinical psychology (no individuals will be named in it). The findings may also be published in a scientific journal or discussed at conferences. Data will be stored securely for 7 years according to the University of Lincoln procedures; access to the data will be restricted to the researcher and the data custodians Dr Dave Dawson and Dr Mark Gresswell at the University of Lincoln.

What if I change my mind?

You can change your mind about taking part in the study at any time before the data has been analysed. You have the right to withdraw data or end the interviews at any time, before the data is analysed, without giving reasons and without any negative consequences. You should let the researcher know as soon as possible should you change your mind about being involved in the study. Should you drop out of the study before it is completed your voucher payment will be forfeit.

What do I do now?

If you are interested in taking part in the study please complete the 'expression of interest' slip at the bottom of this page and return to Lyndsay Mappin (contact details below).

If you can be involved the researcher will contact you to talk through the process and answer any questions. You will be asked to provide written consent and an interview time will be agreed.

Thank you for your time

Researcher:

Lyndsay Mappin, University of Lincoln, Health, Life and Social Sciences, Brayford Pool, Lincoln, LN6 7TS 01522 886029

EXPRESSION OF INTEREST TO TAKE PART IN THE STUDY-

Using a Multiple Sequential Functional Analysis to Identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence

I am interested in taking part in this research study and would like to meet with the researcher to discuss the study in more detail

Name of interested person: _____

Contact details: _____

Community team I am involved with: _____

Store preference for voucher: _____

**Name of staff member who
Told me about the study:** _____

**Please detach this slip and return to Lyndsay Mappin (University of Lincoln, Health, Life and
Social Sciences, Brayford Pool, Lincoln, LN6 7TS 01522 886029)**

Thank you for your time



Participant Consent Form

Title: Using a Multiple Sequential Functional Analysis to Identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence

Researcher: Lyndsay Mappin

You are being asked to take part in a study looking at the life experiences of women who have used violence against an intimate partner and what factors may have influenced their current situations. The researcher would like to hear of your views and experiences of what factors may have led to your current imprisonment.

Please read the participant information sheet carefully with the researcher obtaining consent and decide if you want to take part in the study. To take part you must give consent to be interviewed and also for the researcher to view your case files and contact current/past professionals who have worked with you. Please feel free to contact the researcher at any time should you wish to discuss anything further.

Data collected as part of the study will be stored securely according to Lincoln university policy and access to the data will be restricted to the researcher and the data custodian.

If you would like to take part in this study please initial each box, then sign and date two copies of this form (one for yourself and one to be returned to the researcher)

Please initial each box and sign the form at the bottom

- I have read and understood the participant information sheet and have discussed any concerns with the researcher, and I am willing to take part in the interviews (which will be tape-recorded).
- I agree to the researcher viewing my case files as part of the study
- I agree to the researcher contacting and interviewing professionals I am receiving support from currently and those I have received support from in the past. I understand that the purpose of these interviews will be to gain other perspectives that can build up a picture of factors that may have led to my current situation.

Please note that you have the right to stop the interviews or withdraw data from the study at any time before the data is analysed (three weeks from the date of the final interview), without giving reasons or experiencing negative consequences.

Name of participant

Signature

Date

Name of person taking consent

Signature

Date

Name of witness

Signature

Date

Contact Details:

Lyndsay Mappin, University of Lincoln, Faculty of Health, Life and Social Sciences, Brayford Pool, Lincoln, LN6 7TS, 01522 886029



Participant Information Sheet for Staff

Title: Using a Multiple Sequential Functional Analysis to Identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence

Researcher: Lyndsay Mappin

I am currently undertaking a study looking at the development of partner violence in the life histories of women who have been convicted of using or have disclosed using partner violence on more than one occasion.

A participant in the study who is currently or was formerly receiving professional support from you, has consented to your being contacted in relation to being involved in the study. In particular you are being asked to be interviewed giving your views on the developmental history of your former/current client. In particular the interview will focus on the development of violence, specifically intimate partner violence, in the life span of that client and what you think are factors that have contributed to use of partner violence in the clients life.

Interviews will last approximately one hour or less and will be tape recorded, the researcher will also take notes throughout the interview session. Interviews can take place in your work place or another public building of your convenience.

You do not have to take part in the study but the method of analysis relies on the researchers ability to triangulate information received from the client with information from case workers and case files.

Interviews will be confidential and anonymised and the study will be written up as part of a doctorate in clinical psychology thesis, it is likely that the study will be published in a peer review journal and that the findings may be discussed at conferences etc. All participants will be anonymous and no personally identifiable information will be used in the dissemination of the study findings. Research data will be kept securely at the University of Lincoln for seven years and will be kept in accordance with data protection regulations.

The Data will be seen during the analysis by the researcher and the research supervisors Dr Dave Dawson and Dr Mark Gresswell at the University of Lincoln.

If you wish to complain about any aspect of the study in the first instance you can discuss your concerns with the researcher (Lyndsay Mappin), if you are not satisfied with this complaints can be directed to the research supervisor:

Dr. David Dawson
University of Lincoln,
Health, Life and Social Sciences,
Brayford Pool,
Lincoln,

LN6 7TS

01522 886029

or to the chair of the School of Psychology Ethics Committee,

Emile van der Zee PhD

Principal Lecturer in Psychology

Programme Coordinator MSc in Child Studies

School of Psychology

Brayford Campus

University of Lincoln

Lincoln LN6 7TS

evanderzee@lincoln.ac.uk

If you are still not satisfied complaints can be registered following the NHS complaints procedure.



Trent Doctorate
in
Clinical Psychology



Consent Form for Staff

Title: Using a Multiple Sequential Functional Analysis to Identify the Developmental Pathways of Women Who Have Used Intimate Partner Violence

Researcher: Lyndsay Mappin

I have attached a staff information sheet for your information, this gives some background to the study and explains more about the analysis to be used. Should you have any further queries or want to discuss any aspect of the study in more detail please do not hesitate to contact me using the contact information below.

Please sign and date here to indicate your consent to taking part in the study

Name of participant

Signature

Date

You will be contacted as soon as possible to arrange a date and time to be interviewed.

Your participation in the study is much appreciated

This study has been reviewed by the NRES Committee, East of England, Essex.

**Please return your signed consent form to: Lyndsay Mappin (University of Lincoln, Health, Life and Social Sciences, Brayford Pool, Lincoln, LN6 7TS 01522 886029)
Thank you for your time**



Information Sheet for Staff

Title: Using a Multiple Sequential Functional Analysis (MSFA) to Identify the Developmental Pathways of Women Who have Used Intimate Partner Violence

Investigator: Lyndsay Mappin

Aims and Background to the Study

The aim of this study is to use Multiple Sequential Functional Analysis (MSFA) methodology to investigate the developmental pathway to the use of violence in a small sample of females who have used violence against an intimate partner, in an effort to generate further knowledge of the functional significance of intimate partner violence (IPV) in this population.

Traditionally violence against intimate partners is considered to be an exclusively male offence and research into female perpetrators has often been ignored by the literature. However, British crime figures suggest that female violence is increasing and that a proportion (approximately 1 in 5 cases) of this violence may be directed towards intimate partners (Ministry of Justice, 2010).

A number of studies have looked at women's motivations for IPV and have found self-defence, expression of anger/jealousy, coercive control and retaliation to be the most reported motives (Bair-Merritt et al., 2010; Caldwell, Swan, Allen, Sullivan and Snow, 2010). And there are further studies that have identified similarities in the backgrounds of women perpetrators of IPV e.g. history of victimisation in childhood and adulthood, witnessed domestic violence between parents, insecure attachment styles (Ryder, 2006; Goldenson, Geffner, Foster and Clipson, 2007). No study, as yet, has looked at why or how these factors and motivations influence some women to use violence against their intimate partners and what the functional significance of partner violence may be for women who use it.

Research focussed on the development and function of IPV in this population is critical and is likely to have clinical implications for developing treatment, effectively assessing risk of dangerousness and for identifying factors that could influence the development of early intervention programmes.

The end product of MSFA is an idiosyncratic formulation that with participants' consent can be shared with care teams to inform treatment planning and risk assessment.

This study has been reviewed by the NRES Committee, East of England, Essex.

Recruitment to the study:

Community mental health and forensic professionals will be kindly asked to help identify potential participants within their respective services who are aged 18+ and have been convicted of or self-reported one or more incidences of violence against an intimate partner.

The participant information sheet can be passed on to identified clients and those clients interested in participating can then complete the tear off slip on the information sheet and return to Lyndsay Mappin (contact details at the end of this information sheet).

The researcher will then contact potential participants to talk through the study and to seek informed consent. The consent form asks for specific consent to access files and to contact current and previous workers. Where consent is granted interview sessions will be arranged.

There will be a maximum of 6 participants involved in the study.

What does the Study Involve?

Participants will be interviewed individually by the researcher; the interviews will take place in a private interview room within a familiar service and will be audio-recorded. Interviews may take several hours and this time is likely to be split between a number of separate sessions. The interviews will focus on taking a detailed developmental history of participants with a focus on events that may have led to the current index offence or current use of partner violence.

Participants will be offered a financial incentive of £10 voucher per interview with a maximum of £40; the voucher will be given on completion of the full interview procedure.

The researcher will meet with participants after the study is written up to feedback a summary of the findings and to help the participant begin to see the links between early experiences and current behaviours. Consent to share the formulation with care staff will be sought but where consent is refused the findings will remain confidential.

The researcher will use a process of triangulation to corroborate the participant interviews and to add further to the richness of data that can be analysed for the formulation. This process will involve a thorough review of case files and, with consent, interviews with current and former professionals who have worked with the participant. Professional interviews will focus on obtaining staff perspectives on the developmental and offending history of the participant. Professional interviews will take approximately 1-2 hours and will take place at a location convenient for each individual.

Handling Client Questions about the Interviews

As the likely first port of call for participant questions we would appreciate your support.

Many participant questions can be answered using information about the process using the participant information sheet (attached). If the information sheet does not help answer any questions please contact the researcher using the contact details below.

Confidentiality

It is important that participants are reassured that unless there is risk of significant harm to themselves or others anything they say will remain confidential. Interviews will be conducted in private and members of staff will not see interview notes nor hear audio tapes of interviews. No participant will be named in the write up of the study.

Because the end product of MSFA has clinical utility consent will be sought to share this with appropriate members of the care team, however where consent is not given this information will remain confidential.

Impact on care received

Participants should be reassured that whether or not they decide to take part in the study will have no affect on their treatment, care or legal rights.

Right to withdraw

Participants have the right to withdraw from the study up until their data has started to be analysed.

If a client would like to take part

Those who want to take part in the study should complete the tear off slip on the participant information sheet and return to Lyndsay Mappin (contact details below).

Expressions of interest will be followed up by the researcher who will make contact with potential participants to discuss the study, answer any questions and gain written consent to take part.

Thank you for your support

Researcher contact details

Lyndsay Mappin, University of Lincoln, Faculty of Health, Life and Social Sciences, Brayford Pool, Lincoln, LN6 7TS, 01522 886029

References

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Appendix 5 Broad Interview Themes

Distal/static antecedents

- Birth
 - Difficulties
 - Family scripts

Anything that may suggest postpartum problems and potential bonding difficulties

- *Attachment style
 - Descriptions of parental interactions

Anything that may suggest a particular attachment style to mother/father

- *Trauma
 - Childhood physical, sexual emotional abuse
 - Adult abuse history
 - neglect

- Parenting
 - Domestic violence
 - Mental Health
 - Parenting style
 - Criminal history

Asking about behavioural patterns a,b,c

- *Demographic Features
 - Wealth
 - Ethnicity
 - Finances/debts
- School History
 - Peer relationships
 - Bullying
 - Academic
- *Relationship Characteristics
 - Relationship with parents
 - Relationship with siblings (history/problems)
 - Relationship with significant others
 - Relationships with peers
 - Partner history abuse, relationship patterns, conflict
 - Own children

Establish a relationship timeline through adolescence to current

- *Genetic Background?

Static antecedent cannot be measured via interview

- Physical/mental health
 - *Psychopathy
 - Psychiatric diagnosis e.g. borderline personality disorder
 - Physical health issues
 - Emotional problems
 - Impulsive behaviours/substance use

- Offending history
 - Timeline
 - Violent and non violent offending
 - Antisocial behaviours
- Occupational history
 - Timeline
- Personality
 - Static factor consider evidence given in terms of personality styles.
 - Anger control/emotional control e.g. bad temper, fights in general

Behavioural Repertoire

- Coping skills
- Problem solving skills
- Emotional regulation skills
- Communication/conflict resolution skills
- Anger management skills

Verbal Rules

- Beliefs about violence
- Beliefs about relationships
- Beliefs about gender roles men/women
- Beliefs about nonviolent conflict resolution strategies
- Alcohol/drug expectancy beliefs

Index offence analysis

Proximal antecedents

- Partner request/demands
- Interpersonal conflict
- Current/recent stressors

Motivating Factors

- Drug/alcohol use
- Emotional distress
- Physical distress
- Relationship satisfaction

Discriminative stimuli:

- Presence of partner
- Presence/absence of others
- Presence/absence of children
- Location
 - Where was the participant prior to use of IPV e.g. in a public place or at home/work
- **Situational context**
- **Triggers**

- **Planning**
- Availability of weapons

Target behaviour

- **Narrative account of the incident**
- Physical violence perpetration
- Actions and behaviours
- Level of violence
- Sexual elements
- Victimology
 - Victim characteristics age, gender, stature etc.
 - What was the relationship and what can be inferred about it
 - What role did the victim play in the life of the participant
 - Had victim been threatened before
 - Was the victim targeted
 - Why?
 - In what ways did the victims lifestyle, psychological characteristics or activities attract the participant
- Offence behaviours
 - In what location and why? What decisions were made in choosing the location
 - What factors encouraged participant to enter particular premises
 - What was the form of initial contact and what might this indicate
 - Was the violence instrumental (purposeful) or expressive (over and above what was necessary)
 - What was the pattern and distribution of injuries (to both parties)
 - Was a weapon brandished or used. If so what type, was it already in possession or acquired.
 - What was the force and focus of injuries? E.g. defensive wounds, located in a particular body region?
 - Was any restraints used
- Other behaviours
 - Anything taken/stolen
 - Did participant apologise, request further meeting
 - Was the victim or participant intoxicated

Afterwards

- How did the episode end did someone leave, call for help, etc.
- Did participant spend time with victim after the episode
- Did participant do anything to avoid detection
- How was the episode resolved
- What did you think, feel, do after the episode

Consequences

- Reduce distress
- Escape/avoid argument
- Partner compliance
- Praise from others
- Partner leaves relationship
- Police involvement

Typology

- **Do any of the known typologies explain the offence?**
- **If so give full details**
- **What relationship does this episode have with previous episodes?**
- **Or there similar precursors**

Formulation

- **Give a psychological formulation based on the findings of the analysis. Account for any discrepancies between participants account and those from other sources.**

Appendix 6 Example of analysis stage 1.

This is an example of how interview information was sorted chronologically and in themes for each participant before the initial analysis was completed.

Childhood/family.-

- Born in UK and moved abroad aged 9 mths. Lived in P.
- Wealthy, private school. Privileged financially. Lived with both parents and sister 3 ½ yrs older and brother 14mths younger. Middle child.
- Memories of hearing parents arguing. Mum acting as if nothing had happened. Mum afraid of Dad. Domestic violence and sexual abuse of Mum.
- Father very controlling and strict. Clear rules and boundaries for his family. Children kept out of his way and adults having their own space.
- Confusion around Mum's behaviour towards the children- warm and no boundaries when Dad working away, distant and strict following dad's rules when he was home.
- Only warmth with Dad was when K would stroke his back on a weekend morning.
- K had eating, sleeping and behavioural problems and OCD. K slept on the floor and had a phobia about things touching each other including food, toys, furniture. She would measure gaps with a ruler and keep everything symmetrical, becoming distressed when things were not perfect. She would iron her bed and was afraid of ruffling her bed sheets which is why she slept on the floor. She would eat very small portions e.g. ¼ hamburger. K's behavioural problems included setting fire to a Christmas tree when she didn't get the present she wanted and stabbing her brother in the hand. Mum had no rules and consequences 'weak person' Dad would punish physically but usually weeks later when the original behaviour had been forgotten.
- Dad's physical punishment was usually hitting with a belt or wooden spoon, K felt she was hit more as she was the naughtiest.
- K was sexually aware from a young age and looked at porn video's aged 8 yrs. She was a 'young explorer' and felt that she was knowledgeable for her age. She was confused about whether porn was real or acting as parents had said that films were not real. Parents were swingers and had sexual relationships with others. K started puberty aged 9/10.
- Parents had active social life- parties and BBQ's and drank a lot of alcohol. Dad would have Mum waiting with a glass of whiskey when he returned from work.
- Violence between mum and dad was usually heard rather than seen. On two occasions K remembers significant violence- she intervened both times and alcohol as involved both times. Mum would just go to her room after and would not mention the abuse. There were no consequences for Dad- Mum was 'weak'.
- K was in hospital for tonsils removed so separated from mum for 1 week, mum was then hospitalised for 2 weeks for bowel surgery due to being forcibly sodomised by Dad. Nan came to look after the children but no one explained where mum was. There may have been impact on attachment particularly as the children didn't know if/when mum would be back.

Appendix 7 Example of analysis stage 2

Excerpt

Early childhood

Kay was the second child of three siblings. She was born in the UK but the family moved abroad when Kay was a baby. Kay's family were extremely wealthy but she describes her parent's relationship as physically and sexually abusive. As a child Kay describes herself as a 'Daddy's girl,' at the time she did not understand the dynamics of her parent's relationship and viewed her mother as 'mardi' and 'weak'. Kay may have developed rules about 'males and females' and 'victims and perpetrators' in this period of early development.

Kay's father used physical punishment with the children and Kay recalls feelings of fear when this happened, Kay felt singled out for this treatment and recalls that she was usually the one being punished. Kay also describes her father as very controlling over the families routine, activities and mood. Kay is likely to have felt powerless and out of control due to her fathers parenting style and may have felt some resentment and anger towards her mother for not being 'stronger'. Kay's method of achieving control in this environment was to manipulate her immediate environmental stimuli. Kay would structure her possessions obsessively and would refuse to sleep in her bed to avoid the anxiety of things not being in order. Similarly Kay would strictly control her eating often refusing food and not allowing different foods to touch on her plate. At the same time Kay protested to the injustices of being singled out for punishment by her father and not protected by her 'weak' mother by displaying frequent outbursts of rage and acting out her protests in serious ways such as burning down the Christmas tree and stabbing her brother in the hand.

Punishment for these behaviours was physical and came after a time lapse; therefore Kay did not functionally connect her behaviours with the punishment contingency. Kay was eventually assessed for mental health difficulties with regards to OCD, sleep disruption, food refusal and behavioural difficulties and was hospitalised for 6 months.

Things to add from interview 2=

Didn't feel like had to protect mum- older sister. Against male violence to women. Strong beliefs about this. Understands how DV can happen though- victim asking for it. Repeats mum very weak- cowers. **Fantasies and acting out being a boy. Out of control/control, power.** Hospital- being sent back early from home visits as punishment (being alone, abandoned). Fear in the hospital. Home behavioural support. Nightmares- fear of being unable to protect others. Daren't have rage towards Dad- afraid. Men strong. Blames self for parents DV- because I was naughty. Mum didn't protect as it made things worse for me if she intervened.

A: Parental domestic violence

Physical punishments from father

Not protected by mother

B: Overt

Cowering when punished by father

Controlling immediate environmental stimulus (food and possessions)

Protesting behaviours and acting out, displays of rage.

Covert

Anger and resentment towards mother (victim)

Mixed feelings about father, seeking approval v's fear (abuser)

Internalised rage towards father for the injustice of being physically punished

C: Attempts at protest and control are punished when Kay is sent away.

Kay preferred the positive punishment of being physically hit to the negative punishment of being hospitalised (establishing operation for physical punishment established???)

Key learning:

Strong people are in control- weak people are controlled.

Kay's efforts at control did not work- she is weak? Like mum?

Kay did not develop adequate skills for managing intense emotions and rage. (these skills were not shaped by the contingents of her environment?)

Developed understanding of 'weak/strong' 'victim/perpetrator' 'man/woman'

Kay developed fantasies about being a boy.

Mid-childhood

In mid-childhood Kay is becoming more aware of her surroundings and begins to understand more of the complexities of her parent's relationship. On two occasions she witnesses severe violence perpetrated by her father towards her mother. On both occasions Kay is moved to intervene and try to stop her father and protect her mother. This behaviour works on both occasions and Kay is likely to have experienced feelings of control and powerfulness. Kay was the powerful protector of her family. However, Kay soon found

that her triumph was short lived; her mother was emotionally unstable and unable to reinforce Kay's behaviours immediately following an episode of violence. A short time later Kay's father began sexually abusing her whilst her mother was in the same suite of rooms (ensuite), Kay was confused about the abuse. She was unsure of whether what had happened was normal especially as her father acted as if nothing happened and her mother was so close by, she also felt guilty and to blame for the abuse. It is likely that Kay felt abandoned and angry with her mother for not protecting her, she may also have experienced a quick shift back to feelings of powerlessness after a short experience of powerfulness on protecting her mother from violence.

Was Kay dressing as a boy to avoid/ advance towards her father??