

INVESTIGATING THE ROLE OF CHILDHOOD MALTREATMENT AND
WITNESSING INTIMATE PARTNER VIOLENCE ON CHILDHOOD
BEHAVIOUR AND MENTAL HEALTH

by

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ABSTRACT

The aim of this thesis was to investigate the role of childhood maltreatment (CM) and witnessing intimate partner violence (W.IPV) on childhood behaviour and mental health (MH). The complex interaction of risk, protection and mediating factors are considered in the ecological model (Bronfenbrenner, 1979).

Part I of the thesis provides a systematic examination of the literature. Chapter 1 considered the strengths and weaknesses of existing meta-analytical reviews on the association between childhood sexual abuse and adult psychopathology. This highlighted the need to address issues of study validity. Chapter 2 reviews the link between CM and childhood behavioural and emotional difficulties, concluding that the same vulnerability to these difficulties exists in childhood as in adulthood. The ecological model provides a structure for understanding how a combination of contextual levels influences a child's vulnerability.

Part II investigates the relationship between CM and MH outcomes. Chapter 3 examines the effect of CM and/or W.IPV in a community sample, highlighting the mediating properties of emotion regulation and pro-social behaviour. In a clinical sample, concurrent W.IPV/CM was associated with more adverse outcomes at pre-treatment (Chapters 4,5,7) and post-treatment (Chapter 5), as well as recurrent re-referrals to MH services (Chapter 6). Parental nationality (Chapter 4, 5), maternal economic/housing difficulties (Chapters 5, 6), and peer friendship difficulties (Chapters 4, 5, 6) were consistently found to have a short-term, rather than a long-term effect, on a child's well-being. The results of the thesis are discussed in terms of policies and practical implications for future research.

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INTRODUCTION

The aim of this thesis is to investigate the role of childhood maltreatment (CM) and witnessing intimate partner violence (W IPV) on childhood behaviour and mental health difficulties. The complex interaction of risk, protective factors and mediating factors in this relationship are recognised and considered throughout. While it is clear that childhood victimisation history can have a profoundly negative effect on childhood mental health, the form and severity of symptomatology appears to vary greatly (Evans, Davies & DiLillo, 2008; Fincham, Korthals Altes, Stein & Seedat, 2009; Holt, Buckley & Whelan, 2008; Kendall-Tackett, Williams & Finkelhor, 1993; Kitzmann, Gaylord, Holt & Kenny, 2003; McCrae, Chapman & Christ, 2006; Putnam, 2003; Sternberg, Bardaran, Abbott, Lamb & Guterman, 2006; Zielinski & Bradshaw, 2006). For some children witnessing IPV and/or experiences of CM may lead to significant prolonged psychopathology, whereas others seem to emerge with apparently good long-term functioning.

Therefore, recent research has suggested that other factors need to be considered in the relationship between CM and mental health difficulties other than maltreatment alone. Factors such as cognitive appraisal, emotion regulation coping resources, family dysfunction, and social support need to be considered in this complex relationship (Alik, Cicchetti, Kim & Rogosch, 2009; Bolger & Patterson, 2001; Buckner, Beardslee & Bassuk, 2004; Cicchetti & Rogosch, 1997, 2001; Flores, Cicchetti & Rogosch, 2005; Gewirtz & Edleson, 2007; Hildyard & Wolfe, 2002; Macfie, Cicchetti & Toth, 2001; Martinez-Torteya, Bogat, von Eye & Levendosky, 2009; Maughan & Cicchetti, 2002; McDonald, Jouriles, Tart & Minze, 2009; Shields & Cicchetti, 1995; Spaccarelli, 1994,

1995). However, the scope of existing empirical evidence that examine this relationship is still sparse, leaving the question of which factors promote adaptive functioning largely unanswered. Understanding the ways in which children cope and conceptualising such pathways could aid in prevention and intervention efforts to reduce the risk of long-term emotional and behavioural problems.

Theories explaining the effects of CM and/or W.IPV

Various theoretical models have been proposed to provide an explanation for the sequelae of W.IPV and/or CM on the developing child emerging from social cognitive (Crick & Dodge, 1994), social learning (Bandura, 1977, 1989), developmental theory (Cole & Putnam, 1992; Kendall-Tackett et al., 1993), attachment theory (Bowlby, 1980) and ecological theories (Bronfenbrenner, 1979; Bronfenbrenner & Ceci, 1994). The utility of each in understanding the behaviour and mental health sequelae following CM and W.IPV is discussed below.

Individually based models

Social or observational learning models (Bandura, 1977, 1989) and social cognitive models (Crick & Dodge, 1994) highlight the importance of imitation as a primary form of learning, it is emphasised that children model their parents' behaviour in their own interaction with other people, which thereby account for their increased risk for behavioural difficulties. Operant conditioning models, linking physiological responses and anxiety to environmental events, also provides a possible explanation for strengthening avoidant behaviour in W.IPV and/or CM children which consequently leads to the development of behavioural and mental health difficulties (Patterson, 1982).

Developmental theories (Cole & Putnam, 1992; Kendall-Tackett et al., 1993) focus on the child's developmental level and cognitive abilities at the time in which the exposure to W.IPV and/or CM occurs. It is posited that the child may experience different internal attributions depending upon the developmental level and coping resources of the child at the time of the abuse which affects their behaviour or mental health difficulties (Cole & Putnam, 1992). Other developmental theorists (Cunningham & Baker, 2004; Kendall-Tackett et al., 1993) suggest that the child's age at the time of assessment determines the sequelae of W.IPV and/or CM, rather than the child's age at the time of abuse, as children's cognitive development may account for the differences in symptoms seen at different age levels.

Attachment theory has emphasised the role of affectional bond between child and (non-) abusive caregiver, particularly Bowlby's (1980) notion of insecure working models, on later relationships which has been found to precipitate behaviour and mental health difficulties (Alexander, 1992; Shields, Ryan & Cicchetti, 2001; Van der Kolk, 2003). Bowlby (1980) suggested that it is through early experiences with caregivers that children develop mental models of themselves and others. Unlike children who develop secure models based on parental sensitivity and responsiveness, children who experience abusive or insensitive parenting are likely to develop negative models of their attachment figures and corresponding negative model of themselves (Toth, Maughan, Manly, Spagnola & Cicchetti, 2002). From the attachment perspective, it is posited that early failed attempts at relationships increase an individual's risk for a range of psychosocial difficulties as well as behaviour (e.g., aggression) and emotional difficulties (e.g.,

depression, withdrawn, low self-esteem; Herrenkohl et al., 2008; Toth, Cicchetti & Kim, 2002).

In summary, these various approaches differentially emphasises on behavioural, cognitive, and or emotional facets of children's responses. However, what these theories have in common is that research utilising these individual based theories converges to suggest that children exposed to IPV and/or experienced CM may develop harmful paradigms and expectations for themselves and others. This in turn may affect their interaction with other people, and thereby accounting for their increased risk for developing behaviour and mental health difficulties (e.g., Dodge, Laird, Lochman & Zelli, 2002; Grych, Harold & Miles, 2003). Although each of these theoretical frameworks have made significant clinical contribution in treatment of W.IPV and/or CM children, they have been criticised for being too simplistic and insufficient in explaining individual differences in mental health outcomes following W.IPV and/or CM. For example, these theories cannot explain the range of problems that W.IPV and CM children have been found to manifest, such as posttraumatic stress, depression, low self-esteem (Carlson, 2000).

Child and/or partner maltreatment is generally accompanied by many negative situations (e.g., poverty, family dysfunction), as such it is difficult to make specific predictions about behaviour and mental health difficulties. Therefore, researchers have highlighted the need for a more ecological approach to consider acts of W.IPV and/or CM not as isolated events, but as experiences that must be considered within a broader context of familial and environmental risk and protective factors (Carlson, 2000; Herrenkohl & Herrenkohl, 2007; Zielinski & Bradshaw, 2006).

Ecological model

The ecological model provides a framework to understand the way in which a combination of individual, parental, familial, neighbourhood and wider societal factors influence a child's vulnerability to develop mental health difficulties following W.IPV and/or CM (Belsky, 1980; 1993; Bronfenbrenner, 1979; Bronfenbrenner & Ceci, 1994; Cicchetti & Lynch, 1993). The ecological model proposes four contextual levels that interact and transact with one another to shape a child's development:

- i. the ontogenic system (i.e., child's own characteristics and developmental stage);
- ii. the microsystem (i.e., family environment);
- iii. the exosystem (i.e., peer friends, neighbourhood and community settings);
- iv. the macrosystem (i.e., cultural beliefs and values; Lynch & Cicchetti, 1998).

From the ecological perspective, the child's development is viewed as a dynamic process in which biological and psychological characteristics interact reciprocally with the environment over different developmental stages (i.e., children affect their environment as well as being influenced by them). While parents and family remain significant influences throughout childhood, other sources of environmental influences, such as peer friendships and the school environment, become more prominent in the child's life as the child grows older (Lynch & Cicchetti, 1998).

At each contextual level of the model, including the series of stressors surrounding the W.IPV and/or CM incident itself, different risk and protective factors associated with a child's outcome can be identified. However, when the presence of risk factors outweigh the benefits of protective factors, children's behaviour and/or mental health will deteriorate despite the presence of some positive influences (Sameroff, Seifer, Baldwin & Baldwin, 1993; Sameroff, Seifer, Zax & Barocas, 1987). According to ecological theory, negative outcomes occur as a result from the accumulation of contextual risk factors that interact within and across the various levels (Bronfenbrenner, 1979; Cicchetti & Lynch, 1993). For example, outcomes will be more negative given more severe maltreatment, family dysfunction, and lack of social support by following the W.IPV and/or CM.

One of the challenges for researchers (as well as clinicians) is the considerable overlap between W.IPV and CM. Yet, until recently, many researchers have investigated W.IPV and CM as separate risk factors on childhood behavioural and mental health difficulties despite the co-occurrence being well established in the literature (Herrekohl, Sousa, Taijma et al., 2008). However, the overlap between types of maltreatment is so great (Dixon, Hamilton-Giachritsis, Browne & Ostapuk, 2007; Edleson, 1999; Hamilton & Browne, 1999) that prior research findings about the consequences of W.IPV or CM may be distorted. Saunders (2003, p.362) highlighted that "outcomes apparently associated with one type of violence might be the result of another, perhaps unmeasured, type of violence; the cumulative results of exposure to multiple types of violence; and a complex interaction of violence types and episodes". Still to date, little is known about the unique effects of W.IPV and CM in addition to the consequence of the co-occurrence (Herrenkohl & Herrenkohl, 2007; Herrenkohl et al., 2008; McCabe, Lucchini, Hough, Yeh & Hazen,

2005). However, there is evidence that suggests children who are exposed to concurrent IPV and CM exhibit more severe forms of emotional and behavioural symptoms (Maughan & Cicchetti, 2002; Wolfe, Crooks, Lee, McIntyre-Smith & Jaffe, 2003). Nevertheless, as Herrenkohl et al. (2008, p.94) recently highlighted “research is still less clear as to how much greater or for which outcomes a combination of risk is most detrimental”.

However, children who are living in a violent family are often faced with a wide-range of multiple stressors, such as socioeconomic impoverishment, social isolation, criminality, parental substance abuse and parental psychopathology (Dixon et al., 2007; Rossman, 2000; Dodd, 2004). Therefore, researchers in the field of W.IPV and/or CM are also faced with the challenge of establishing which form of stressors (i.e., W.IPV, CM, individual, familial and/or environmental) elevate the risk of later problems in victims (Edleson, 1999; Herrenkohl & Herrenkohl, 2007).

Studies have shown that the accumulation of risk factors and subsequent few (or no) protective factors in the environment exacerbates the risk for these children developing emotional and behavioural problems (Cicchetti & Lynch, 1993). To date, however, there is little knowledge about the extent to which environmental stressors (e.g., other forms of family dysfunction and environmental constraints outside the family) explain all or part of the negative consequences that follow exposure to IPV and CM (Herrenkohl & Herrenkohl, 2007; Herrenkohl et al., 2008). For this reason, it is important to consider the effects of maltreatment within the context of other commonly correlated risk factors. It is proposed, in accordance to ecological theory, that influence located more proximally to

children and the immediate parenting process would be expected to have greater impact on their development, whilst more distal influences would have less pronounced, possibly indirect effect (Bronfenbrenner, 1979; Bronfenbrenner & Ceci, 1994).

Aims

The overall aim of this thesis is to investigate the role of childhood maltreatment and witnessing IPV on childhood behaviour and mental health difficulties. The complex interaction of risk, protective and mediating factors in this relationship are recognised and considered throughout in the context of an ecological approach (Bronfenbrenner, 1979) to understanding the consequences of CM. This thesis is structured into two parts, each of which contributes to this aim.

Part I of this thesis aims to assess the quality of existing research on the association between CM and behavioural and mental health difficulties during childhood and adulthood and whether the association can be explained by other factors (i.e., individual, family, environmental and study characteristic). Specifically,

- a: To examine the relationship between child maltreatment and behaviour and mental health difficulties;
- b: To explore whether this relationship can be explained by other factors.

Part II of this thesis aims to empirically investigate the links between CM and/or witnessing IPV and to establish patterns of behaviour and mental health difficulties in childhood from an ecological focused perspective. Specifically,

- a: To explore the extent to which CM and/or witnessing IPV can predict the development of behaviour and emotional difficulties in childhood, independent from child, family and environmental characteristics;
- b) To explore the role of CM and/or witnessing IPV on (mal)adaptive recovery process over time, independent from child, family and environmental characteristics.

Samples

There is limited Swedish research on the extent and consequences of W.IPV and/or CM (Almqvist & Jansson, 2004; Ekblom & Landberg, 2001; Eriksson, Biller & Balkmar, 2006; Lindell & Svedin, 2001, 2004, 2006; Lundgren, Heimer, Westerstand & Kalliokoski, 2001). Because little is known about the risk factors of behavioural and mental health outcomes in general and of resilient outcomes, particular in Swedish children, the empirical studies for this thesis were conducted amongst Swedish population of children and adolescents who had witnessed and/or experienced CM.

In order to obtain an overall view of the effects of W.IPV and/or CM on childhood mental health difficulties, it is important to use both community and clinical samples. Including community samples give a more accurate picture of the extent of the issue, whilst clinical samples allow comparison to previous research. Therefore, two Swedish samples (i.e., community and clinical) were investigated, providing cross-sectional and retrospective data for the thesis.

1. Child School Sample (Chapter 3)

This was a cross-sectional study of 116 schoolchildren (including siblings) in a small town in Sweden. This type of sample was used to allow comparison of children who had experienced CM and/or witnessed IPV with non-maltreated children in terms of their symptom level of emotional and behavioural problems, as well as child, family and environmental characteristics.

2. Child Clinical Sample (Chapters 4, 5, 6 and 7)

This was a retrospective, file-based study of 347 children and adolescents (including siblings) who had been referred to a Swedish Child and Adolescent Psychiatry Service (CAPS) between the years 1998-2006. The clinic is a special outpatient unit in Stockholm County which offers treatment to children and adolescents who have witnessed intimate partner violence between their caregivers or for mental health symptoms related to violence exposure. The four main referral criteria to the clinic are:

- 1) the child and/or adolescent has witnessed family violence and/or
- 2) the child and/or adolescent exhibit mental health symptoms related to violence exposure;
- 3) the child and/or adolescent is under the age of 18;
- 4) the child and/or adolescent live in Stockholm County.

This clinic is government owned and thus the government covers the full cost of treatment. Staff at the clinic includes licensed psychologists, licensed social workers, licensed psychiatrists, welfare officers and senior physicians. In terms of the referral practices of the clinic, children and adolescents under the age of 18 are referred to

CAPS from a variety of sources in Stockholm County, such as social services, the court, lawyer/s, the general psychiatry and other mental health services, schools, parents or other relatives, and/or the child themselves. This sample was used because of the high number of children who had experienced overlapping incidents of W.IPV and CM and exhibited different forms and severity of emotional and behavioural problems.

Referred children are assessed in accordance to the Diagnostic and Statistical Manual of Mental Disorders [DSM-IV] (American Psychiatric Association, [APA], 2000) and somatoform disorders of the International Statistical Classification of Diseases and Related Health Problems [ICD-10] (World Health Organisation, [WHO], 2004). Those children who are rated by the clinician to not reach the clinical cut-off for any given psychopathology, are noted in the files as exhibiting sub-clinical symptoms (e.g., meeting only two out five of the diagnostic criteria) or were asymptomatic.

For preventative purposes, the clinic has as a policy that a child with asymptomatic behaviour may still receive an intervention if it is the clinicians' judgement that the child is in need of getting help from professionals in order to deal with their traumatic experiences. This preventative work aims to give children the interventions and support necessary before signs of developmentally salient concerns and symptoms of mental ill-health arise (i.e., so-called sleeper effect with symptoms deteriorating with time) and chronic psychopathology begins to manifest. When the clinic does not have the resources to accept new clients, they refer them to other appropriate mental health services.

Based on clinical interviews with the caregiver/s and child and assessment (according to the DSM-IV and ICD-10 criteria) and mental health screening, the clinician determines appropriate points of intervention with the family. The clinic offers a variety of interventions in order to meet the treatment needs of the child/-ren and that of the caregiver/s (both victim and abuser). Thus, there is a range of intervention programmes from counselling sessions, to individual and group psychotherapy, through to family psychotherapy. The clinic also tailors the interventions to the child's developmental stage. For example, intervention programmes with younger children often incorporates one-to-one work as they have limited cognitive understanding of aggression and violence, minimal verbal skills and few resources to cope with the traumatic experience. In contrast, older children may benefit more from group work where they can seek support from peers. The caregiver/s are offered individual or parent group intervention as well as couple therapy. In many cases, the child/-ren and the caregiver/s are receiving more than one form of the interventions offered at the clinic.

The British Psychology Society code of ethical practice and the equivalent Swedish ethical practice was adhered to in the design of the research projects. Ethical approval was gained from the Regional Board for the Ethical Committee in Uppsala (Dnr: 2006/135, Appendix A) and Stockholm (Dnr: 2006/581-31, 2007/234-32, Appendix B) in Sweden respectively.

Structure of the thesis

Overview

Part I sets the scene for the rest of the thesis. It begins with two reviews of the literature on the association between CM and behaviour and mental health during childhood and adulthood, highlighting factors which contribute to (mal)adaptive pathways to behavioural and mental health as well as outlining strengths and weaknesses in existing research (Chapters 1 and 2).

Part II draws on Bronfenbrenner's (1979) ecological theoretical framework outlined in the Introduction by empirically exploring the role of CM in addition to W.IPV on children's current emotional and behavioural problems from an ecological focused perspective. Part II begins with Chapter 3 which presents results from a study conducted among school children to give a more accurate picture of the extent of the effects of witnessing IPV and/or CM in a community sample, as well as the pathways in which risk and protective factors interact to promote a more adaptive level of functioning. Chapter 4 shifts the attention to examine the extent of the pathways to behaviour and mental health difficulties in a clinical sample of children and adolescents. In order to obtain a perspective of the effect of witnessing IPV and/or CM on childhood behaviour and mental health, the following three chapters (Chapters 5, 6 and 7) add another dimension to the model by exploring factors associated with different aspects of the (mal)adaptive recovery process, such as children's improvement in level of psychosocial functioning over time in treatment

(Chapter 5), re-referral to Child and Adolescent Psychiatry (Chapter 6) and whether symptom patterns change across time (Chapter 7).

Finally, the general discussion (Chapter 8) collectively summarises and discusses the results of the reviews and empirical research. Suggestions for future research are proposed, including a risk and protective model of adaptive functioning, and intervention strategies.

Chapter summaries

Part I: Reviews of existing research

Chapter 1: Critical review of meta-analyses on the association between child sexual abuse and adult psychopathology: a systematic approach

This chapter is a journal article currently under review by the Journal of Trauma, Violence and Abuse. In view of the fact that the empirical knowledge about the association between CM and psychopathology relies heavily on retrospective reports from adults, chapter 1 is a review of the existing research concerning adult psychopathology. Notably, only meta-analytic reviews on childhood sexual abuse (i.e., not on emotional abuse, physical abuse and/or neglect) fulfilled the inclusion criteria. In this chapter, the levels of evidence in existing meta-analytic reviews on adult psychopathology following sexual abuse in childhood are outlined. Existing evidence on mediating and/or moderating factors are discussed in the light of the methodological weaknesses and deficiencies identified, highlighting the importance of addressing validity issues in primary studies and the need to

conduct systematic reviews and/or meta-analyses on other types of child maltreatment (i.e., child physical abuse, child emotional abuse, child neglect, mixed maltreatment).

Chapter 2: Resilience and vulnerability following early maltreatment: a systematic review

Following the review on adult psychopathology, chapter 2 considers pathways to behavioural and emotional difficulties in childhood as a sequelae of early maltreatment. The aim of this review is to assess the quality of existing studies in order to: (1) to establish the link between CM and emotional and behavioural difficulties in childhood; (2) to identify whether there are other factors that can explain the relationship between CM and behavioural and emotional difficulties. The results are discussed in the light of individual, family and environmental characteristics (i.e., an ecological approach; Bronfenbrenner, 1979), suggesting that children with more contextual risk factors are at greatest risk for severe outcomes. In addition, the gaps in the literature are highlighted and the findings are drawn together to add another dimension to the ecological approach of (mal-)adaptive functioning.

Part II: Empirical research

Chapter 3: Pathways from victimisation history to emotional and behavioural problems in childhood.

This chapter considers the effect of experiencing CM in addition to witnessing IPV in a general population of 97 school children in a small town in Sweden. The extent of the effect of witnessing IPV and CM as well as resilient features among maltreated children are explored. In addition, this study postulates that three types of children's cognitions or

cognitive processes (e.g., negative automatic thoughts, perceived control and emotion regulation) independently or in co-existence influence the level of symptomatology following W.IPV and/or CM. The analysis highlights factors that may potentially affect the children's symptom level and the findings are discussed from an ecological perspective (Bronfenbrenner, 1979).

Chapter 4: Investigating the effect of intimate partner violence and child maltreatment on mental disorder in childhood.

Chapter 4 shifts attention to a clinical population of 195 children and adolescents who have witnessed IPV and/or experienced CM (56.2% of the 347 cases reviewed) and had received a complete mental health evaluation in accordance to the Diagnostic and Statistical manual of Mental Disorders (DSM-IV; APA, 2000) and the International Statistical Classification of Diseases and Related Health Problems (ICD-10; WHO, 2004) at a Child and Adolescent Psychiatric Service (CAPS) in a large city in Sweden. This chapter extends the concept of exploring the impact of W.IPV and/or CM in the context of maltreatment, child and/or family characteristics and social support in a clinical population. The findings are discussed in terms child protection issues and provides practice implications for professionals working with children.

Chapter 5: Associations between victimisation history and child recovery

This Chapter is based on the same sample as Chapter 4, but different subset of the data. The CAPS has used the Global Assessment of Functioning (GAF) Scale to assess the referred children's overall social, occupational and psychological functioning (Axis V of the DSM-IV; APA, 2000). One hundred and forty-seven W.IPV and/or CM children and

adolescents (42.4% of the 347 cases reviewed) were rated with this scale, both in the initial and in the completing phase of treatment. This chapter adds a dimension to the ecological model (Bronfenbrenner, 1979) by exploring the psychosocial functioning of children at follow-up assessment and any links with victimisation history, child and/or family characteristics over time in treatment.

Chapter 6: Associations between victimisation history and re-referral

This chapter considers the recovery process by exploring the extent of re-referrals to CAPS during the time period 1998 through 2007 and factors associated with higher rates of re-referral and stability in children's symptom level over time. Chi-square statistics and logistic regression techniques were used on 329 children and adolescents with complete data concerning their exposure of IPV at index referral (n=329, 94.8% out of 347 cases reviewed). The findings provide a preliminary overview of the long-term and complex need of children who witness IPV and/or CM, highlighting child protection and legislation issues, and the need for close monitoring as well as access to specialist therapeutic services.

Chapter 7: Association between victimisation history and asymptomatic children

This chapter explores differences in a matched sample of asymptomatic and symptomatic children (n=129, 37.2% out of 347 reviewed) in a clinical population in terms of abuse and familial characteristics and symptom change/stability over time. The results are discussed in terms of characteristic differences between asymptomatic and symptomatic children. In particular, the focus is on the conceptualisation of a child exhibiting asymptomatic

behaviours as being resilient in relation to W.IPV and CM-related characteristics and level of psychosocial functioning.

Chapter 8: General discussion

The findings of these studies are drawn together and discussed in light of the ecological perspective and implications for research and prevention are provided.

PART 1: REVIEWS OF EXISTING RESEARCH

CHAPTER 1: CRITICAL REVIEW OF META-ANALYSES ON THE ASSOCIATION BETWEEN CHILD SEXUAL ABUSE AND ADULT PSYCHOPATHOLOGY: A SYSTEMATIC APPROACH

Chapter rationale

This Chapter aims to investigate the quality of evidence in existing meta-analytic reviews that have examined adult psychopathology as sequelae of childhood maltreatment (i.e. child sexual abuse, child physical abuse, child emotional abuse, child neglect). However, the search only revealed meta-analytic reviews of childhood sexual abuse that met the inclusion criteria. The strengths and weaknesses of research are explained and implications are drawn about the methodological issues raised in an attempt to offer suggestions for sound empirical investigation in future research. The main findings of this review are discussed in relation to the methodological quality of research, highlighting the importance of addressing validity issues in primary studies and the need to conduct systematic reviews and/or meta-analyses on other types of child maltreatment (i.e., child physical abuse, child emotional abuse, child neglect, mixed maltreatment).

The following article has been submitted to the Journal of Trauma, Violence and Abuse for review and is authored by Tanja Hillberg, Catherine Hamilton-Giachritsis and Louise Dixon, the Centre for Criminological and Forensic Psychology at the University of Birmingham. The format of the paper has been altered to achieve consistency with other chapters in this thesis. The references are listed in the main reference list.

Critical review of meta-analyses on the association between child sexual abuse and adult psychopathology: a systematic approach

Abstract

Objective: The aim of this chapter is to evaluate the quality of recent meta-analyses on childhood sexual abuse and adult psychopathology and whether the evidence is credible.

Method: Systematic review methods were used to identify recent published, English language publications. A search of three sources (online databases, reference lists, government sites) revealed seven meta-analyses that met the inclusion criteria. Their methodological quality was assessed using a pre-defined protocol. All of the seven meta-analyses used appropriate methods to synthesize their data quantitatively.

Results: In all the meta-analyses, the experience of child sexual abuse was found to be a non-specific risk factor in the development of adult mental health difficulties. In addition, a gender difference was found on self-reported of perceived psychological impairment following abuse, but not on assessed level of adult mental health. This review highlighted different methodological weaknesses and deficiencies in the meta-analyses, such as issues concerning homogeneity and precision of results. Particular attention was given to the lack of any assessment of the validity of the primary studies included in the meta-analyses. It is concluded that future meta-analyses need to address this issue to allow for evidence-based model of adult psychopathology.

Introduction

Extensive literature has established that childhood experiences of sexual abuse increase an individual's vulnerability to a range of physical, psychological and behavioural impairments as a sequelae of the abuse, rather than having a limited negative effect on health (Beitchman, Zucker, Hood, Akman & Cassavia, 1992; Gladstone, Parker, Mitchell, Malhi, Wilhelm & Austin, 2004; Kendall-Tackett et al., 1993; Lang, Stein, Kennedy & Foy, 2004; Nickel, Tritt, Mitttlehner, Leiberich, Nickel & Lahman et al., 2004; Putnam, 2003; Spataro, Mullen, Burgess, Wells & Moss, 2004). Indeed, a high prevalence of adults who have experienced child sexual abuse in clinical samples has been documented (Putnam, 2003). Not surprisingly, a review of 15 empirical studies found that 50% of 817 adult female psychiatric inpatients had a history of child sexual abuse (Read, 1997). Similarly, Wurr and Partridge (1996) found that 46% of the inpatients reported they had been sexually abused in their childhood when asked directly (compared to the prevalence of 14% that was reported in the inpatients' files). Of this group of psychiatric inpatients, 26% men and 54% women disclosed a history of childhood sexual abuse. These, and similar findings (MacMillian et al., 2001; Spataro et al., 2004), have demonstrated that childhood sexual abuse is a key risk factor in the development of psychiatric disorders in adulthood.

However, the same type of violence may have different consequences for different people. Therefore, several conceptual frameworks have been proposed which attempt to explain the mechanisms through which child sexual abuse exerts a cumulative effect on adult psychopathology, such as the child sexual abuse accommodation syndrome (Summit,

1983), the traumagenetic model (Finkelhor & Browne, 1985) and developmental victimology (Finkelhor, 1995; 1997). In terms of identifying abuse characteristics associated with long-term outcome, research has shown that child sexual abuse is likely to be perpetrated by people known to the child, but not necessarily a relative (Cawson, Wattam, Brooker & Kelly, 2005). However, the abusive experience may be particularly traumatic when it is perpetrated by the very people whom children expect to help and protect them against frightening and damaging situations (Trickett, Noll, Reiffman & Putnam, 2001). Other patterns of abuse that have been suggested to increase the risk for severe forms of adult psychopathology are the child's age, severity of the abuse (i.e. penetration), type of force or violence, relationship of perpetrator(s), number of perpetrator(s), frequency and duration of sexual abuse (Beitchman et al., 1992; Browne & Finkelhor, 1986; Hamilton & Brown, 1998; Higgins & McCabe, 2001; Trickett et al., 2001; Putnam, 2003). However, existing reviews sometimes differ in their conclusions and way of treating moderating and mediating variables. Therefore, evidence suggesting that abuse characteristics increase a child vulnerability to develop more deleterious mental health difficulties in adulthood is still inconclusive (Trickett et al., 2001). However, there is consensus among previous narrative reviews that sexually abused children who suffer more adverse adult outcomes commonly had a closer relationship to the perpetrator(s), were abused for a longer period, and experienced abusive acts that had a presence of force or violence (Putnam, 2003; Trickett et al., 2001; Tyler, 2002).

The role of gender in determining adult psychopathology needs to be clarified. Despite gender difference in the dynamics of exposure to sexual abuse, many narrative reviews have concluded that a similar number of adult male victims of childhood sexual abuse in

comparison to adult female victims were at increased risk of developing adult psychopathology and the way in which they respond to traumatic experience have been shown to be relatively similar (Kendall-Tackett et al., 1993; Romano & De Luca, 2001). In contrast, other narrative reviews have proposed that male victims suffer more severe outcomes compared to female victims (Putnam, 2003; Ullman, 2003). Thus, the empirical evidence of whether or not there is a gender difference in vulnerability to specific types of psychopathology has been less than conclusive (Dhaliwal, Gauzas, Antonwicz & Ross, 1996; Romano & De Luca, 2001; Spataro et al., 2004; Ullman & Fillipas, 2005).

Previous research has found that incestuous families are characterized by dysfunctional family relations (Mullen, Martin, Anderson, Romans & Herbison, 1994; Putnam, 2003). In addition, research has found that the emotional support of the non-abusive caregiver in response to the child's disclosure of incest has an ameliorating effect on mental health outcome (Hazzard, Celano, Gould, Lawry & Webb, 1995; Hecht & Hansen, 2001; Putnam, 2003; Ullman, 2003). The presence of family dysfunction and/or lack of emotional support may put a child at risk of experiencing extrafamilial abuse or revictimization (Messman-Moore & Brown, 2004). The role of family functioning where the child has been abused by non-family members is under-researched and still remains open to question (Hecht & Hansen, 2001).

In recent years there has been an increasing demand for evidence based research, which has resulted in a larger number of systematic reviews and meta-analyses being carried out. It has been suggested that systematic reviews and meta-analyses may be the evidence-based practice necessary to draw these inferences (DeCoster, 2004; Lam & Kennedy,

2005). However, they may vary greatly in quality. For example, meta-analysis depends considerably on the nature and the quality of the included studies. Therefore, a common criticism of meta-analyses among researchers' has been that they combine results from a variety of primary studies, in particular if the primary studies are clinically diverse (Deeks, Higgins & Altman, 2005; Cortina, 2003). If primary studies differ substantially from each other it may obscure the result. In addition, if the meta-analysis only considers published papers (i.e. publication bias) or assigns poor quality studies the same weight as good quality studies (i.e., the 'garbage in, garbage out' problem), then this may also flaw the findings and subsequently the conclusions from the meta-analysis may be seriously misleading (Cziesniowski, 2003; DeCoster, 2004; Lam & Kennedy, 2005; Sauerbrei & Blettner, 2003). Recent research has therefore focused on determining the causes of heterogeneity among result of studies through sub-group analyses or meta-regressions. However, this process may be problematic given that there are often many characteristics that vary across primary studies (Deeks, Higgins & Altman, 2005; Higgins & Green, 2005). As poor evidence-based meta-analyses may be interpreted as having credibility, a critical review on meta-analyses on the links between child maltreatment and adult pathology is warranted to appraise the quality of existing meta-analyses and to ensure evidence-based research.

Aims

This critical review aims to outline methodological strengths and weaknesses in existing research and subsequently draw recommendations for future research. Specifically, this review addresses the following questions:

- Is child sexual abuse linked to increased risk for adult mental health difficulties?

- Whether the association between childhood sexual abuse and adult mental health difficulties can be explained by other factors?
- How reliable is the evidence base of existing meta-analyses?

Method

Search Strategy

Three sources (online databases, reference lists and government sites) were systematically searched using the following terms: terms related to child sexual abuse (“child maltreatment”, “child abuse”, “incest”, etc), terms relating to adult psychopathology (“disorder”, “mental health difficulties”, “pathology”, etc), and terms associated to study type (“systematic reviews”, “meta-analysis”). The search terms associating child sexual abuse and adult pathology were used in different combinations and truncated where appropriate. The following electronic sources and databases were searched: The Campbell Collaboration (no parameter for time period); The Centre for Reviews and Dissemination (no parameter for time period); The Cochrane Library (no parameter for time period); Cinhl (1985 – 2009); Cambridge Scientific Abstracts (1985 – 2009); Applied Social Science Index and Abstracts ((1985 – 2009); ERIC (1985 – 2009); Social Services Abstracts (1985 – 2009); Sociological Abstracts (1985 – 2009); Embase (1985 – 2009); Medline Index (1985 – 2009); Medline Non-Index (1985 – 2009); Science Direct (1985 – 2009); Social Service Information Gateway (1985 – 2009); Swetswise (1985 – 2009); PsycINFO (1985 – 2009); Zetoc (no parameter for time period) and Web of Science (1985 – 2009). These search engines overlapped occasionally. In order to evaluate recent reviews of the effects of child sexual abuse exclusively, only reviews conducted from 1985 to 2009 were retrieved. In addition, the search was restricted to English-language publications.

The start date of 1985 was chosen because the systematic reviews and/or meta-analytic techniques have become more sophisticated and popular as methods to synthesize data in recent years (Rosenthal & Matteo, 2001). Foreign language material was excluded for the reason of the cost and time involved translating material. Consequently, potentially relevant papers may have been missed. The full search strategy may be obtained from the authors.

Inclusion/exclusion criteria

Two reviewers independently applied the following criteria in an attempt to identify appropriate references. Only reviews meeting those criteria were included in the review:

Population: Adults (≥ 18 years) with a history of child sexual abuse and those without such a history. Child sexual abuse was defined as an act in which the child/ren are used to provide sexual gratification for the perpetrator/s including inappropriate sexual touching, invitations and/or exhibitionism, inappropriate non-penetrative sexual interaction (digital penetration, fondling, and/or masturbation), attempted or actual anal and/or vaginal penetration, incest, coerced or forced penetration. This violence may have been perpetrated by family as well as non-family member(s). In addition, child sexual abuse was considered to be maltreatment of children and adolescents up to the age of 17 years.

Outcome: Adult pathology was defined in accordance to the diagnostic and statistical manual of mental disorders [DSM-IV] (American Psychiatric Association, 2000) or the international classification of diseases and

health related problems [ICD-10] (World Health Organization, [WHO], 2004).

Study type: Systematic reviews and meta-analyses

Quality Assessment

Two reviewers independently assessed each paper by applying internal validity criteria (89.8% agreement). Three of the seven meta-analyses were also assessed by a third reviewer (90.5% agreement). Any differences in rating were discussed and disagreements in rating were resolved by the third reviewer. A checklist addressing the 14 key elements of meta-analysis that are most important for internal validity was established prior to the review by adapting other assessments and/or guidelines for meta-analyses (Oxman, Cook & Guyatt, 1994; Clark & Oxman, 2003; Delgado-Rodriguez, 2006; Higgins & Green, 2005; Stroup et al., 2008; West et al., 2002; Appendix C). Internal validity criteria addressed three categories of systematic error: selection, performance and detection bias. For meta-analyses of observational studies, the key validity variables assessed were: clarity of aim, search strategy, selection of primary studies, study quality assessment, blinded reviewers, clarity of definition of child sexual abuse, clarity of outcome measure, clarity and precision of result, investigation of heterogeneity and appraisal of limitations. A three-point scoring system was applied to each of the 14 variables as follows:

- condition fully met = 2
- condition partially met = 1
- condition not met (including unclear / insufficient information) = 0

Overall scores for methodological quality of the meta-analyses were established by adding the scores for each item (2, 1 or 0) on the each of the 14 variables, giving a total score ranging from 0 to 28. A high-quality study was defined as scoring positive on at least 50% (greater than or equal to 50%) of the items, which is in concordance with previously published systematic reviews (Bisset, Paungmali, Vicenzino & Beller, 2004). In cases where the information sought was not stated or where the selected meta-analysis did not provide sufficient information to rate the item, the item was rated as a condition not met. A high score indicated a higher methodological quality of the study, whereas low scores indicated lower methodological quality.

Data extraction

Data was extracted using a form established prior to the review where information was recorded as follows: author/-s, year of publication, study location, study population, type of child sexual abuse, type of comparison group, number of primary studies included, aims of the meta-analysis, outcome measures, electronic data bases searched, years searched, main findings of the meta-analysis, investigation of moderators/mediators and heterogeneity.

Results

Description of meta-analyses selected

The initial electronic search showed 54 published systematic reviews and/or meta-analytical publications between the years 1985 to 2009. Two reviewers independently assessed each identified publication by applying the inclusion/exclusion criteria. Of these 54 publications, the reviewers agreed that 48 did not meet the criteria to be included since they focused on

treatment outcome, processes surrounding early maltreatment or child populations instead of the long-term mental health outcomes of child sexual abuse and were subsequently excluded. Appropriate sources from the reference lists of these articles were also considered to locate additional studies. One meta-analysis evaluating 38 primary studies was found to meet the inclusion/exclusion criteria and subsequently added to the sample (Neumann, Housekamp, Polluck & Briere, 1996). Thus, there were seven meta-analytical publications (Fossati, Madeddu & Maffei, 1999; Jumper, 1995; Neumann et al., 1996; Paolucci, Genuis & Violato, 2001; Rind & Tromovitch, 1997; Rind, Tromovitch & Bauserman, 1998; Smolak & Murnen, 2002). Of these meta-analyses, four included both short- and long-term mental health outcomes as sequelae of child sexual abuse (Fossati et al., 1999; Paolucci et al., 2001; Rind & Tromovitch, 1997; Smolak & Murnen, 2002), but only one separated the effect sizes on mental health outcomes in childhood from adulthood (Smolak & Murnen, 2002). Nonetheless, these three meta-analyses were included in the present review because the majority of studies cited used adult samples. Figure 1 shows the inclusion/exclusion steps of search results.

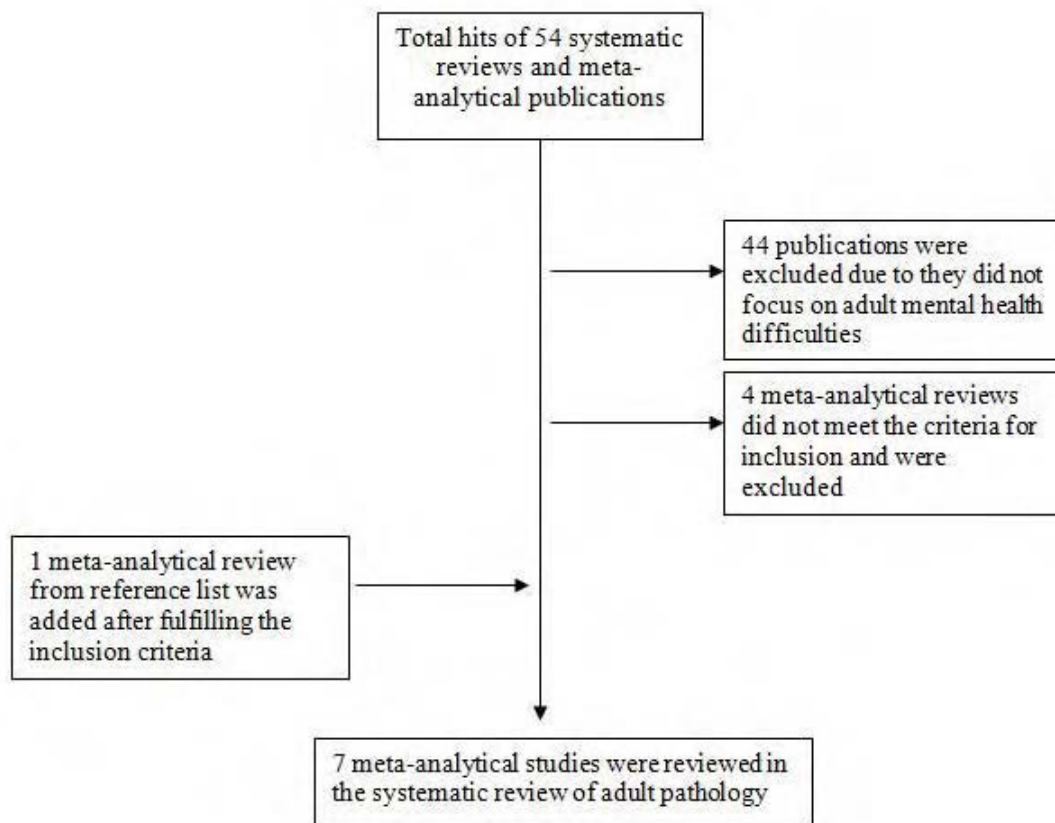


Figure 1. Evaluation of search results

Within the seven identified meta-analyses (Fossati et al., 1999; Jumper, 1995; Neumann et al., 1996; Paolucci et al., 2001; Rind & Tromovitch, 1997; Rind et al., 1998; Smolak & Murnen, 2002), 248 published and unpublished papers were included. Of the total number publications included in the seven meta-analyses, 34 papers (13.7%, out of the total number of 248 publications) were used more than once and overlapped 72 times with each other. For example, one paper out of 21 included papers in Fossati et al. (1999) meta-analysis was also used in Jumper (1995) meta-analysis, while two papers included in Fossati et al. (1999) were also reviewed by Neumann et al. (1996). Table 1 provides an overview of how many included paper(s) overlapped between the seven meta-analyses.

All seven meta-analyses focused on examining the negative effects of child sexual abuse in adulthood. Additionally, these seven meta-analyses looked at a total of 41 adult mental health difficulties (e.g., dissociation, borderline personality disorder, depression, etc), which were categorized into 25 different symptoms or disorders in accordance to DSM-IV (APA, 2000) or ICD-10 (WHO, 2004) criteria. Across the seven meta-analyses, 40% (n=10) of these symptoms or disorders were examined in more than one review (Jumper, 1995; Neumann et al., 1996; Paolucci et al., 2001; Rind & Tromovitch, 1997; Rind et al., 1998; Smolak & Murnen, 2002). The remaining 15 symptoms or disorders were evaluated separately in one of the seven meta-analyses (Fossati et al., 1999; Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998).

Table 1.1: Overlap between reviewed papers included in the seven selected meta-analyses

Author(s) of meta-analyses	1	2	3	4	5	6	7
1. Fossati et al. (1999)	—	1	2	—	—	—	—
2. Jumper (1995)		—	17	3	4	—	—
3. Neumann et al. (1996)			—	2	3	1	1
4. Paolucci et al. (2001)				—	3	—	—
5. Rind et al. (1998)					—	—	6
6. Rind & Tromovitch (1997)						—	—
7. Smolak & Murnen (2002)							—
Total of included papers in each meta-analyses	21	25	43	37	62	7	53

Methodological quality

The total methodological quality scores across the seven meta-analyses ranged between 11 and 19 (out of maximum possible score of 28; i.e., 39.3-67.9%). The mean methodological quality score was 15.28 (SD=2.87; 54.8%). Detailed information concerning the findings and the methodological quality of each meta-analysis are collated in tables. Tables 1.2 and 1.3 provides a summary of the overall findings in relation to methodological quality score, and Table 1.4 presents a summary of the key methodological variables. The following paragraphs provide an overview of main findings in relation to methodological considerations.

Table 1.2: Findings from the meta-analyses that scored above 50% on methodological quality

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Paolucci et al. (2001) Canada	Mixed sample of children, adolescents and adults with a history of childhood sexual abuse	<p>Number of studies: 37 published studies including 88 samples</p> <p>Type of sample: Clinical and/or non-clinical samples</p> <p>Comparison: Adults without such a history</p> <p>Outcome: Short and long-term effects of child sexual abuse in terms of: Post traumatic stress disorder; Depression; Suicide; Sexual promiscuity; Victim-perpetrator cycle; Poor academic performance</p>	<p>ERIC (1976-1996)</p> <p>PsycLIT (1976-1996)</p> <p>Sociofile (1976-1996)</p>	<p>Child sexual abuse was found to have a small to moderate effect size on all six dependent measurements, ranging from .16 (CI=.11-.21) for victim-perpetrator cycle to .44 for both depression (CI=.41-.47) and suicide (CI=.40-48). No analysis was conducted to test heterogeneity in these effect sizes.</p> <p>Investigation of heterogeneity. Sub-group analyses showed no significant effect for any of the following mediators: gender, socioeconomic status (SES), type of abuse, age of onset of abuse, frequency of abuse and relationship to perpetrator.</p>	19 (67.9%)

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Rind et al. (1998) USA	College students with a history of child sexual abuse	<p>Number of studies: 23 unpublished and 36 published papers.</p> <p>Type of sample: Student samples</p> <p>Comparison: College students without a history of childhood sexual abuse</p> <p>Outcome: Psychological adjustment in terms of: alcohol problems; anxiety; depression; dissociation; eating disorders; hostility; interpersonal sensitivity; locus of control; obsessive-compulsive symptoms; paranoia; phobia; psychotic symptoms; self-esteem; sexual adjustment; social adjustment; somatisation; suicidal ideation and behaviour and wide adjustment</p>	<p>Dissertation Abstract International (1967-1995)</p> <p>ERIC (1966-1995)</p> <p>PsycLIT (1974-1995)</p> <p>PsycINFO (1967-1995)</p> <p>Sociofile (1976-1995)</p> <p>Reference lists</p>	<p>Child sexual abuse showed a small effect size on adult psychological adjustment ($r = .09$; $CI = .08$). The effect sizes ranged from $.04$ ($CI = .10-.07$) for self-esteem to $.13$ ($CI = .10-.15$) for anxiety. The effect sizes were heterogeneous and therefore outliers were removed to gain homogeneity.</p> <p>Investigation of heterogeneity. Sub-group analyses showed no significant effect for any of the following moderators: method of assessment, type of institution, sampling strategy, age of students at the time of assessment, definition of child sexual abuse, whether the study was published or not.</p> <p>Analyses of abuse characteristics (e.g., type of sexual abuse, frequency and duration of sexual abuse, level of force and relationship to perpetrator) were separated into two negative outcomes; self-reported effects and symptoms. Only level of force and relationship to perpetrator showed significant results. The result showed that students who had been sexually abused by family member(s) reported to experience more negative effects of the abuse and demonstrate more adjustment problems compared to those who had been abused by non-family member(s). Notably, the level of use of force involved in the abuse showed a significant negative effect on victims' self-reported response, but not on assessed level of symptoms. Thus, this association was characterized by within-group heterogeneity and therefore must be taken with caution.</p> <p>Family dysfunction was found to predict adjustment problems better than child sexual abuse by a factor of nine. However, this finding must be taken with caution due to the reported significant within-group</p>	18 (64.3%)

heterogeneity on family environment.

Additional analyses on the moderating properties of gender and level of consent were conducted. Level of consent was categorised into two groups, one group included unwanted sexual abuse whereas the other group included unwanted sexual abuse and willing sexual experiences. The finding indicated that student victims who experienced unwanted sexual abuse in their childhood demonstrated similar level of adjustment problems in college, whereas victims who experienced different levels of consent did not. It appeared that female victims of child sexual abuse regardless of level of consent showed more adjustment problems, compared to non-abused female students. For male victims and non-abused male students, however, the difference was significant in relation to unwanted child sexual abuse, but non-significant in level of consent.

In addition, analyses found that female victims reported more negative retrospectively recalled immediate reactions, current reflections, and self-reported long-term effects of CSA than male victims. Thus, the effect sizes for negative immediate reactions showed significant within-group heterogeneity.

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Jumper (1995) USA	Adults with a history of child sexual abuse	<p>Number of studies: 26 published studies including 30 samples</p> <p>Type of samples: Mixed samples (e.g., clinical, non-clinical and/or student samples)</p> <p>Comparison: Adults without a history of childhood sexual abuse</p> <p>Outcome: Psychological adjustment in terms of psychological symptoms, depression and self-esteem</p>	<p>Psychological Abstracts*</p> <p>Sociofile*</p> <p>ERIC*</p> <p>Dissertation Abstracts*</p> <p>Reference lists</p>	<p>Child sexual abuse demonstrated a small to moderate effect on adult psychological impairment in terms of psychological symptoms ($r = .27$; $z = 43.44$; $p < .001$), depression ($r = .22$; $z = 27.61$; $p < .001$) and self-esteem ($r = .17$; $z = 20.02$; $p < .001$). The analysis showed significant heterogeneity in these effect sizes.</p> <p>Investigation of heterogeneity. Variability across the three meta-analyses was most adequately explained by the nature of the sample source. Student samples reported considerably less psychological impairment and depression than community, clinical and other sample populations. Notably, community, clinical and other sample populations were found to experience similar levels of psychological impairment, depression, and self-esteem. However, the association between child sexual abuse and later self-esteem impairment remained non-significant in student population. Furthermore, definition of child sexual abuse and year of publication also demonstrated a significant moderating effect. However, the analyses of within-group variability showed significant heterogeneity for all of the sub-group analyses. Therefore these findings may not be seen as reliable.</p> <p>No gender difference was found for level of psychological symptomatology. Both men and women who were sexually abused as children experienced similar levels of psychological symptomatology (e.g., anxiety-related problems, suicidal behaviour, personality disorders) and psychiatric illnesses (e.g., dissociative disorders, psychotic disorder and somatoform). In terms of self-esteem, the analyses indicated a significant gender difference. Thus, the result of within-group heterogeneity was significant and therefore this result must be interpreted with caution.</p>	17 (60.7%)

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Neumann et al. (1996) USA	Adult women with a history of contact childhood sexual abuse	<p>Number of studies: 43 published papers included in domain meta-analyses and 38 papers included in the meta-analyses of psychological symptomatology.</p> <p>Type of sample: Mixed samples (clinical- and/or non-clinical)</p> <p>Comparison: Adults with a history of non-contact childhood sexual abuse, childhood physical abuse and those without such a history</p> <p>Outcome: Mental health difficulties were categorized into different domains: the affective domain (anger, anxiety and depression); the behavioural domain (re-victimization, self-mutilation, sexual problems, substance use and suicide); the identity/relational domain (interpersonal problems and self-concept impairment); the psychiatric domain (dissociation, obsession and compulsions, somatisation and traumatic stress responses) and General symptom domain</p>	PsycLIT (1974-1992) Reference lists	<p>Child sexual abuse showed small to medium effect size on a range of mental health difficulties in adulthood ($d=.36$; $r=.18$; $CI=.31-.40$). The analysis showed significant heterogeneity in the effect size. In order to gain homogeneity, one study was removed from the original sample of primary studies.</p> <p>Investigation of heterogeneity. Sub-group analyses showed no significant effect for any of the following moderators: year of publication, sample size, publication form, type of statistic used, method of assessment and sample source, age of onset of abuse and relation to perpetrator.</p> <p>Only source of sample showed significant results. It was proposed that adult women who have a history of contact childhood sexual abuse in clinical populations experience more psychological distress than adult women with a history of contact childhood sexual abuse in non-clinical populations. However, the result of within-group variability was not stated and therefore the result must be interpreted with caution.</p>	15 (53.6%)

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Smolak & Murnen (2002) USA	Adolescents and adults with a history of childhood sexual abuse	<p>Number of studies: 53 studies</p> <p>Type of samples: Mixed samples (clinical and/or non-clinical samples)</p> <p>Comparison: Adolescents and adults without a history of childhood sexual abuse</p> <p>Outcome: Eating Disorders in terms of bulimia and general eating disorders</p>	<p>Dissertation Abstracts*</p> <p>ERIC*</p> <p>Medline*</p> <p>PsycINFO*</p> <p>Reference lists</p>	<p>The overall finding implied a small association between child sexual abuse and eating disorders ($r=.10$, $p<.01$). The effect sizes were heterogeneous.</p> <p>Investigation of heterogeneity. Sub-group analyses on the current age of the victim showed no moderating effect on the association between child sexual abuse and eating disorder. Additional analyses demonstrated that sample source had a significant effect on the association between child sexual abuse and the development of eating disorder. Clinical and non-clinical samples demonstrated a small effect size, whereas the mixed sample showed small to moderate effect. Furthermore, different types of operationalisation of eating disorders showed significant variability.. It was suggested that the more narrowly eating disorder is defined (e.g., bulimia nervosa), the smaller the association that will emerge. However, the moderating effect of both sample source and definition was characterized by within-group heterogeneity and therefore must be taken with caution.</p>	14(50%)

Note. The column of raw scores demonstrates the score of methodological quality for each meta-analysis in relation to the total score of methodological quality. A high score indicate on a higher methodological quality, whereas a low score indicate lower methodological quality. Furthermore, the asterisk demonstrates where the year(s) searched was not stated.

Table 1.3: Findings from the meta-analyses that scored below 50% on methodological quality

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Rind & Tromovitch (1997) USA	Mixed sample of children, adolescents and adults, predominately adults, with a history of child sexual abuse	<p>Number of studies: 7 unpublished and published studies</p> <p>Type of samples: National samples of the general population</p> <p>Comparison: Mixed sample of children, adolescents and adults, predominately adults, without a history of childhood sexual abuse</p> <p>Outcome: Adjustment in terms of self-reported effects and psychological or sexual adjustment</p>	Dissertation Abstracts International ERIC* PsycLIT* Sociofile* Reference lists	<p>Child sexual abuse showed a small to medium effect size on gender and perception of consequences ($r=.23$, $z=7.13$, $p=.001$). Female victims perceived themselves to suffer significantly more negative psychological outcomes as a sequelae of the sexual abuse than male victims. The analysis demonstrated that the effect size was homogeneous.</p> <p>Additional analysis on adult adjustment problems, child sexual abuse demonstrated a small effect size (male, $r=.07$; $z=4.56$; $p<.001$; female, $r=.10$; $z=6.51$; $p<.001$. For males, the effect sizes were homogeneous. In contrast, the effect sizes were heterogeneous for females.</p> <p>Investigation of heterogeneity. Weighted contrast analysis showed no significant difference in gender on adult adjustment problems. Additional sub-group analyses suggested that the relationship between the experience of child sexual abuse and later adjustment problems are influenced by the level of consent for both male and female victims compared to those who have not experienced child sexual abuse. However, no clear definition of what constituted unwanted and/or willing child sexual abuse was present. Caution needs to be taken when considering these findings.</p>	13 (46.4%)

Author(s)	Focus	Details	Search	Main Findings	Quality Score (max. 28)
Fossati et al. (1999) Italy	Mixed sample of children, adolescents and adults, predominately adult women, with a history of childhood sexual abuse	<p>Number of studies: 21 published studies</p> <p>Type of sample: Mixed samples (clinical and/or non-clinical samples) but majority of clinical samples</p> <p>Comparison: Mixed sample of children, adolescents and adults, predominately adult females, without a history of childhood sexual abuse</p> <p>Outcome: Borderline Personality Disorder (BPD).</p>	Medline (1980-1995) Psychological Abstracts (1980-1995) Reference lists	<p>Child sexual abuse had a moderate effect on Borderline Personality Disorder (BPD; $r=.279$; $CI=.242-.325$). The analysis showed significant heterogeneity in the effect size.</p> <p>Investigation of heterogeneity. Regression analyses showed first no significant effect for any of the following moderators: gender, age, main focus, child sexual abuse assessment, patient characteristics, sample source, site of the study. In addition, fail-safe number showed that the relation between child sexual abuse and BPD was not affected by publication bias.</p> <p>Further analyses on abuse-characteristics revealed that a small sample of the included studies demonstrated a moderating effect. In terms of the moderating impact of age at onset of abuse, the effect sizes for the experience of being sexually abused in latency (7-12 years) showed the largest effect, followed by adolescents (13-18 years old) and finally early childhood abuse (0-6 years). In addition, genital fondling, penetration, duration and severity showed significant results while frequency, force, fondling, oral sex, disclosure and help did not. The result also demonstrated that father, other relatives, other non-relatives and number of perpetrators moderated the association between child sexual abuse and the development of BPD. No significant moderating effect was found in cases where the perpetrator was a mother or sibling(s). However, the fail-safe number was not greater than the tolerance level. Therefore these findings must be interpreted with caution.</p>	11 (39.3)

Note. The column of raw scores demonstrates the score of methodological quality for each meta-analysis in relation to the total score of methodological quality. A high score indicate on a higher methodological quality, whereas a low score indicate lower methodological quality. Furthermore, the asterisk demonstrates where the year(s) searched was not stated.

Table 1.4: Key methodological quality factors identified

Quality factors	Fossati et al. (1999)	Jumper (1995)	Neumann et al. (1996)	Paolucci et al. (2001)	Rind & Tromovitch (1997)	Rind et al. (1998)	Smolak & Murnen (2002)
Clear aim	0	+	+	0	+	+	0
Extensive and sufficient search	-	0	-	0	0	+	0
Relevant studies included	+	+	+	+	+	+	+
Quality assessed	-	-	-	-	-	-	-
Blinded reviewers	-	-	-	-	-	-	-
Evaluated the validity of definition of child sexual abuse	0	+	0	+	+	+	0
Comparable definition of child sexual abuse	-	-	-	+	-	0	-
42 Evaluated the validity of definition of outcome measures	0	0	0	+	-	0	0
Comparable outcome measures	-	-	0	0	0	0	0
Heterogeneity investigated	0	+	+	0	-	+	+
Clear results	0	+	0	+	0	0	0
Precise result	0	0	+	0	0	0	-
Important results discussed	+	+	+	+	+	+	+
Recommendation firmly based on quality	0	+	0	+	0	0	+
Quality score	11	17	15	19	13	18	14

Note:

+ = condition fully met,

0 = condition partially met

- = condition not met (unclear/insufficient information)

Adult mental health difficulties

The comparison of type of symptom/disorders and effect size estimates for the seven meta-analyses are shown in Table 4. Please note the effect sizes reported by the meta-analyses scored above the mean quality ($\geq 50\%$) are in bold. In addition, separate effect sizes for men and women are reported for Rind and Tromovitch's (1997) meta-analysis.

Findings in all of the seven meta-analyses suggested that individuals who have been sexually abused as a child are at an increased risk of developing a variety of mental health difficulties in adult life compared to non-abused individuals, but the effect sizes were mixed (see Table 4)^{1 2}. Overall, Rind et al. (1998) reported the smallest magnitude of effect for self-esteem impairments ($r=.04$; $CI=.01-.07$) whereas Fossati et al. (1999) demonstrated the largest for borderline personality disorder ($r=.27$; $CI=.20-.32$). The discrepancies found in level of effect size were not related to study quality. However, there appeared to be a trend for meta-analyses including clinical samples (e.g., Fossati et al., 1999; Jumper, 1995; Neumann et al., 1996) to demonstrate slightly higher effect sizes compared to those with community populations, such as national (Rind & Tromovitch, 1997) or student samples (Rind et al., 1998).

¹ Persons's (1977) rule of thumb: $r= 0.10$ small effect, 0.30 medium effect, 0.50 large effect.

² The estimations are calculated in accordance to Rosenthal, Rosnow and Rubins (1999) application of effect size, where the average weight effect size d is converted into r effect size.

Table 1.5: Meta-analyses of 25 symptoms or disorders associated with child sexual abuse

Symptom	<i>K</i>	<i>R</i>
Alcohol problems ⁷	8	.07
Anger ³	8	.18
Anxiety ^{3 7}	11; 16	.20; .13
Borderline Personality Disorder ¹	21	.28
Depression ^{2 3 4 7}	20; 24; 25; 22	.22 ; .20; .22 ; .12
Dissociation ^{3 7}	5; 8	.19; .09
Eating Disorders ^{7 8}	10; 53	.06 ; .10
Hostility ⁷	5	.11
Interpersonal sensitivity ⁷	7	.10
Interpersonal problems ³	10	.19
Obsessive-compulsive symptomatology ^{3 7}	7; 7	.17; .10
Paranoia ⁷	9	.11
Phobia ⁷	5	.12
Post-traumatic stress disorder ⁴	26	.20
Psychological adjustment problems ^{2 3 5 6 7}	23; 11; 5; 5; 14	.27 ; .22; .07; .10; .12
Psychotic symptoms ⁷	10	.11
Self-esteem impairments ^{2 3 7}	12; 10; 16	.17 ; .16; .04
Self-mutilation ³	3	.20
Sexual adjustment ^{3 7}	16; 20	.18 ; .09
Sexual promiscuity ⁴	14	.14
Social adjustment ⁷	15	.07
Somatisation ^{3 7}	9; 18	.17; .09
Substance use ³	14	.20
Suicidal ideation and behaviour ^{3 4 7}	8; 10; 9	.17; .22 ; .09
Traumatic stress symptoms ³	4	.25

Note. *k* demonstrates the number of samples in each meta-analysis and *r* represents Pearson's correlations coefficient for effect sizes. The effect sizes reported by the meta-analyses scored above the mean quality are in bold. The number of samples and effect sizes in Rind et al. (1998) shown are after the removal of outliers.

The following meta-analyses are presented in the table:

¹ Fossati et al., 1999

² Jumper, 1995

³ Neumann et al., 1996

⁴ Paolucci et al., 2001

⁵ Rind & Tromovitch, 1997 (males)

⁶ Rind & Tromovitch, 1997 (females)

⁷ Rind et al., 1998

⁸ Smolak & Murnen, 2002

In addition, the meta-analyses demonstrated different results in terms of the role of effect size variability on the association between child sexual abuse and adult mental health difficulties. Six meta-analyses reported significant heterogeneity (Fosatti et al., 1999; Jumper, 1995; Neumann et al., 1996; Rind & Tromovitch, 1997; Rind et al., 1998; Smolak

& Murnen, 2002) whereby three of them through sensitivity analysis removed outliers to gain homogeneity (Neumann et al., 1996; Rind & Tromovitch, 1997; Rind et al., 1998). In contrast, one meta-analysis looking at gender differences reported homogenous sample for women but not for men (Rind & Tromovitch, 1997). Additionally, the remaining meta-analysis did not conduct test for homogeneity in terms of study characteristics (Paolucci et al., 2001).

Factors associated with adult mental health difficulties

All of the seven meta-analyses focused on examining various negative outcomes of child sexual abuse with the attention directed to factors³ that may moderate the relationship (Fossati et al., 1999; Jumper, 1995; Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998; Rind & Tromovitch, 1997; Smolak & Murnen, 2002). Therefore, in order to compare the differential effects, the correlates of child sexual abuse have been integrated here into a framework based on four categories: a) study characteristics b) characteristics of child sexual abuse c) family functioning and d) gender.

Study Characteristics

Five of the meta-analyses examined whether effect sizes varied significantly with a variety of different study characteristics (Fossati et al., 1999; Jumper, 1995; Neumann et al., 1996; Rind et al., 1998; Smolak & Murnen, 2002). The most commonly examined characteristics were sample source (i.e. clinical, community or student samples), year of primary study

³ A significant heterogeneity statistics (Q_T) proposes that variability in effect sizes is the result of other factors than sampling error alone. In cases where the variability in effect size estimates between classes (Q_B) was significant, but the within class variability in effect sizes (Q_W) was not, then that characteristic was considered to be a moderator of the association between child sexual abuse and adult psychopathology. Note, however, if the within class variability was also significant, the characteristic cannot be considered as an adequate moderator to fully explain the effect size variance (Lipsey & Wilson, 2001).

publication, type of publication (i.e. published or unpublished), method of assessment (i.e. face-to-face interviews or questionnaires) and sample size. Other characteristics investigated were definition of child sexual abuse, classification of outcome, diagnostic criteria, main focus, patients' characteristics, site of the study, type of statistics used and sampling strategy. Thus, none of the meta-analyses showed consistent evidence that study characteristics have an impact on the association between child sexual abuse and adult mental health. In fact, those that demonstrated significant between-group heterogeneity on sample size and sample source also demonstrated considerable within-group variability (Jumper, 1995; Smolak & Murnen, 2002), did not report within-group statistics (Neumann et al., 1996) or scored at the lower end of the quality scores (Fossati et al., 1999). Consequently, these findings must be taken with caution.

Characteristics of child sexual abuse

Four of the seven meta-analyses considered patterns of child sexual abuse, such as age of the victim at onset of the abuse, type of sexual abuse, use of force, frequency, severity, length of abuse and number to perpetrators etc (Fossati et al., 1999; Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998). However, few meta-analyses investigated the moderating properties of the same abuse characteristics. Only the relationship to perpetrator(s) was consistently examined across the four meta-analyses (Fossati et al., 1999; Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998). The results showed mixed results without any relation to quality (Fossati et al., 1999; Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998). Thus, two of the non-supporting meta-analyses scored at the higher end of the quality scores, whereas one meta-analysis of higher quality level demonstrated a significant moderating effect (Rind et al., 1998).

Family functioning

Only one meta-analysis (of higher quality) evaluated the role of family functioning (Rind et al., 1998). Examining the mean correlation of a subset of included studies, Rind et al. (1998) found that family environment was confounded with child sexual abuse ($r=.13$). Rind et al. (1998) further reported that family environment ($r=.29$), compared to child sexual abuse ($r=.09$), better predicted adult mental health difficulties. Given the reported significant within-group heterogeneity reported on the link between family dysfunction and various adult mental health difficulties, however, this finding must be taken with caution.

Gender

Four of the meta-analyses compared gender in relation to child sexual abuse and mental health difficulties, with mixed findings not related to level of methodological quality (Fosatti et al., 1999; Jumper, 1995; Rind et al., 1998; Rind & Tromovitch, 1997). All of these meta-analyses found that men and women who were sexually abused as a child experienced similar level of mental health difficulties in adulthood (Fossati et al., 1999; Jumper, 1995; Rind & Tromovitch, 1997; Rind et al., 1998). Two of these meta-analyses showed homogenous within-group heterogeneity (Rind & Tromovitch, 1997; Rind et al., 1998), whereas the remaining two meta-analyses demonstrated heterogeneity (Jumper, 1995) or lack of within-group statistics (Fossati et al., 1999). Contrary to these findings, however, a gender difference existed on how victims' perceived themselves to have been affected (Rind & Tromovitch, 1997; Rind et al., 1998) and level of consent (Rind & Tromovitch, 1997; Rind et al., 1998). Thus, the latter findings must be taken with extreme

caution as the conceptualisation of all-level-of-consent group⁴ was found to lack internal validity and empirical support in the primary studies included.

Discussion

This critical review aimed to answer three questions.

1. Is child sexual abuse linked to increased risk for adult mental health difficulties?

This review found a consistent pattern of adult psychopathology as a sequelae of childhood sexual abuse emerging across all seven meta-analyses. It was evident that child sexual abuse is a non-specific risk factor that puts a child at greater vulnerability for the development of various types of psychopathology in adulthood. This finding is consistent with findings of previous narrative reviews (Beitchman et al., 1992; Gladstone et al., 2004; Lang et al., 2004; Nickel et al., 2004; Putnam, 2003; Read, 1997; Romano & De Luca, 2001). The strength of this relationship across all seven meta-analyses ranged from small to moderate. However, as the majority of meta-analyses found evidence to suggest heterogeneity (Fossati et al., 2001; Jumper, 1995; Neumann et al., 1996; Rind & Tromovitch, 1997; Rind et al., 1998; Smolak & Murnen, 2002), this finding indicates that there are other factors influencing the relationship between child sexual abuse and adult mental health difficulties. Therefore, perhaps not surprisingly, all of the meta-analyses examined different types of study and abuse characteristics in an attempt to explain the variability in effect sizes (Fossati et al., 2001; Jumper, 1995; Neumann et al., 1996; Rind

⁴ Rind and Tromovitch (1997) and Rind et al. (1998) defined the all-level-of-consent group to include unwanted sexual abuse and willing sexual experiences.

& Tromovitch, 1997; Rind et al., 1998; Smolak & Murnen, 2002), however, few characteristics were consistently used across the meta-analyses.

2. Can the association between childhood sexual abuse and adult mental health difficulties be explained by other factors?

Contrary to previous literature, there was no credible and consistent evidence that study and/or abuse characteristics influence the association (Fossati et al., 1999; Jumper, 1995; Neumann et al., 1996; Rind et al., 1998; Smolak & Murnen, 2002). However, the analysis of potential moderators across meta-analyses was limited in several ways. Firstly, the threshold criteria of included studies and categorisation of moderating variables need to be more clear and concise. For example, the non-significant impact by relationship to perpetrator found in Neumann et al.'s (1996) meta-analysis may have been due to categorisation of intrafamilial perpetrator in one group and mixed intra and extrafamilial perpetrators in the other group. Secondly, the meta-analyses might have failed to reject homogeneity in particular for abuse characteristics because the analysis consisted of a small number of effect sizes (Neumann et al., 1996; Paolucci et al., 2001; Rind et al., 1998), even when there was considerable variance among the effect sizes (Lipsey & Wilson, 2001; Song, Sheldon, Sutton, Abrams & Jones, 2001). On the other hand, the reported significant heterogeneity may have been due to publication bias and type I error. For example, Fossati et al. (1999) evaluated the fail-safe number in their meta-analysis that estimates the number of studies reporting non-significant result that would be needed to overturn the significant effect of abuse moderators obtained in their meta-analysis. The authors' concluded that there was a risk of type I error and subsequently recommended their results only be considered as provisional. In addition, Rind et al. (1998) found a

tendency towards publication bias. Therefore, due to methodological limitations found across reviewed meta-analyses, this review concluded that the impact of study and abuse characteristics still remains an open question.

In terms of the role of family functioning, only one meta-analysis looked at the moderating impact (Rind et al., 1998). This meta-analysis suggested that family environment predicted adult mental health difficulties better than child sexual abuse. Given the significant within-group heterogeneity for family dysfunction, however, the result must be taken with caution. Thus, it is important that future meta-analyses include family functioning in their statistical analysis to further evaluate the role on the relationship between child sexual abuse and adult psychopathology.

This review concluded that there was no gender difference between the adult victims' assessed level of adult mental health difficulties (Fossati et al., 1999; Jumper, 1995; Rind et al., 1998). Conversely, a significant gender difference existed on self-reports of perceived psychological impairment as a sequelae of child sexual abuse (Rind & Tromovitch, 1997; Rind et al., 1998). Therefore, this systematic review recommends that future research should differentiate between assessed reports of mental ill-health and retrospective self-reports in order to further examine potential gender differences.

In terms of moderator properties of assumed level of consent, Rind et al.'s (1998) meta-analysis is highly controversial and has received major criticism (Dallam, Gleaves, Cepeda-Benito, Silberg, Kraemer & Spiegel, 2001; Ondersma, Chaffin, Berliner, Cordon, Goodman & Barnett, 2001). In an earlier meta-analysis, Rind and Tromovitch (1997)

performed a similar moderator model analysis on level consent in which they compared child sexual abuse events of which they claimed could have been unwanted or consensual. However, it was not clearly reported in both reviews (Rind & Tromovitch, 1997; Rind et al., 1998) whether the ‘all-level-of-consent’ group of unwanted and willing sexual experiences included the presence or absence of coercion. Moreover, the authors’ labelling of the groups as levels of consent implies that the victims gave their consent for sexual abuse. Because the analyses in the two meta-analytical reviews included primary studies that never measured the victims’ level of consent of child sexual abuse, there is no empirical support for this conclusion to be drawn by the authors (Rind & Tromovitch, 1997; Rind et al., 1998).

3. How reliable is the evidence base of existing meta-analyses

Each of the seven meta-analyses reviewed was characterized by different methodological issues. First, a methodological concern was that none of the seven meta-analyses described any form of quality assessment of the primary studies, thereby making it difficult to assess the reliability of the findings. If bias was present in all or some of the included primary studies, per se, meta-analysis would aggregate the inaccuracies and produce an erroneous result (Higgins & Green, 2005). Second, the result in the some of the meta-analyses might have been affected by the combined result for short- and long-term outcome (e.g., Paolucci et al., 2002; Rind & Tromovitch, 1997), although the one meta-analysis that did report separate results demonstrated no such difference (i.e., Smolak & Murnen, 2002). Third, the inclusion of inappropriate control groups must be taken into consideration as it might affect the results (Fossati et al., 1999; Neumann et al., 1995). For example, Neumann et al.’s (1995) meta-analysis included adults who had experienced physical abuse or non-

contact sexual abuse in their childhood with the non-victimised control group. Fourth, other methodological weaknesses and deficiencies related to the validity of definition of child sexual abuse and outcome measures. While all of the meta-analyses described and discussed different definitions of child sexual abuse and adult mental health difficulties, they failed to address the issue of performing meta-analyses on primary studies that differ substantially from each other in terms of definitions (Fossati et al., 1999; Rind & Tromovitch, 1997; Rind et al., 1998; Smolak & Murnen, 2002) and/or outcome measures (Fossati et al., 1999; Jumper, 1995; Neumann et al., 1995; Paolucci et al., 2001; Rind & Tromovitch, 1997; Rind et al., 1998). This might have subsequently obscured the validity of the results. Finally, the methodological issue of lack of reported within-class variability (Neumann et al., 1996; Paolucci et al., 2001) or significant within-group variability (Jumper, 1995; Rind et al., 1998; Smolak & Murnen, 2002) needs to be addressed. A proposed solution would be to explore which of the effect sizes are outliers and whether the removal of those outliers would lead to within-class homogeneity and if statistics could still be computed.

Methodological limitations of the critical review

It is important to keep in mind the limitations of this review of meta-analyses when drawing conclusions. Although a number of systematic reviews and/or meta-analyses were retrieved according to the search criteria outlined in the method- and result section, the majority of reviews did not meet the inclusion criteria. Therefore, a decision was made to include meta-analyses in order to establish the evidence base of existing literature. In addition, a potential limitation of this critical review is that the literature search conducted for the purpose of this review restricted from 1985 to 2009. However, the lack of meta-

analyses published before 1995 that met the inclusion criteria implies that this confinement in publication dates did not affect the results of this review.

The quality assessment was developed on the basis of other assessments and/or guidelines for meta-analyses and subsequently the validation may be criticised. However, the inter-rater reliability was acceptably high between the three independent reviewers. Thus, it is a possible that the reviewers rated the methodological quality with slightly different meanings from those intended by the authors of the meta-analyses. Another possible limitation is that insufficient reporting might have influenced the methodological quality assessment. However, as the checklist was designed to assess key variables concerning internal validity of meta-analyses and subsequently likely to be reported in the reviews, the likelihood of poor reporting significantly influencing the overall quality score is considered low.

Finally, a limitation of this critical review was that all of the meta-analyses overlapped to different degree in terms of reviewed studies as described in the method section. However, although the meta-analyses were not completely independent of each other, there were only two of them with such an overlap to create concerns (see table 1), namely Jumper (1995) and Neumann et al. (1996) which had an overlap of 17 papers out of 25⁵ and out of 43 respectively. This considerably large overlap may adequately explain the different patterns found in the impact of study populations. Neumann et al. (1996) found that the effect size differed in magnitude for non-clinical compared to clinical samples, whereas the result of Jumper's meta-analysis (1995) demonstrated a similar effect size. While the

⁵ It was stated in Jumper (1995) that 26 papers were included in the meta-analyses, however, only 25 papers were referenced. Therefore the comparison of overlapping paper was estimated on the basis of 25 papers

former only separated the sample into clinical- and non-clinical, Jumper (1995) divided the sample as clinical, non-clinical and student. Nonetheless, the combination of student with non-clinical samples may explain the larger distinction of effect sizes between these populations (Neumann et al., 1996).

Implications for future research

The present findings have implications for the direction of future meta-analyses on the link between child sexual abuse and adult mental health difficulties, but also for meta-analyses conducted on child maltreatment in general. The literature search for this review sought to include systematic reviews and/or meta-analyses on the effect of all types of child maltreatment (i.e. child sexual abuse, child physical abuse, child emotional abuse, child neglect) on adult mental health difficulties. Notably, the search did not reveal any systematic reviews and/or meta-analyses that met the inclusion criteria. Given that recent research has suggested that the experience of multi-type maltreatment in childhood appears to increase the risk for severe forms of pathology in adulthood (Higgins & McCabe, 2000a, 2000b, 2001) and that victims of early maltreatment are likely to be subjected to more than one type of maltreatment (Higgins & McCabe, 1998, 2000a, 2000b; Mancini, van Amerigen & MacMillian, 1995; Mullen et al., 1994), systematic reviews and/or meta-analyses on the effects of various forms of child maltreatment on mental health outcomes in adulthood are warranted. Additionally, it is important for future meta-analyses to assess the accuracy of the reported effect sizes of underlying studies through a quality assessment as data from poorly conducted primary studies may contaminate and skew the findings of the meta-analysis (Field, 2001). Assessment about internal validity would decrease the risk of so-called ‘garbage in, garbage out’ (Czienskowski, 2003).

Conclusion

Theoretical models of the effect of child sexual abuse and the contribution of moderating and mediating factors to long-term outcomes have become more sophisticated and multifaceted over the last decade. However, there is a need to ensure that methodological quality of meta-analyses increases and reaches the similar evidence-based standard. Therefore, perhaps most importantly, future meta-analyses need to address the issue of primary study quality. As such, this would allow a comprehensive evidence-based model of adult psychopathology as an outcome of early maltreatment which in turn may be beneficial for intervention.

CHAPTER 2: INVESTIGATING THE ASSOCIATION BETWEEN CHILD MALTREATMENT AND CHILDHOOD MENTAL HEALTH DIFFICULTIES: A SYSTEMATIC REVIEW

Chapter rationale

The purpose of this Chapter is to review primary studies that examine the relationship between child maltreatment and childhood behavioural and emotional difficulties and investigate the role of potential mediating/moderating factors in this relationship. Following the shortcomings discussed in Chapter 1, this Chapter sought to overcome several of them, such as ensuring that all primary studies included clear definitions of child maltreatment, age range of study participants and outcome measures. Additionally, all of the primary studies reviewed included non-maltreated children as non-victimised counterparts. Furthermore, the quality of primary studies that examined the effect of different types of child maltreatment (i.e., child sexual abuse, child physical abuse, child emotional abuse and child neglect) was appraised to ensure that any conclusions and recommendations were based on credible evidence. The findings are discussed in relation to the ecological perspective (Bronfenbrenner, 1979).

Introduction

As highlighted in chapter 1, child maltreatment (CM) is a universal public health problem which exists in various settings, across a continuum of severity, and has profound negative effects on the developing child, with mental health consequences often lasting into adulthood (Ackerman, Newton, McPherson, Jones & Dykman, 1998; Bank & Burraston, 2001; Fergusson, Horwood & Lynskey, 1996; Kisiel & Lyons, 2001; Kitzmann et al., 2003; Jumper, 1996; MacMillian et al., 2001, Nickel et al., 2004; Paolucci et al., 2001; Pelcovitz, Kaplan, DeRosa, Mandel & Salzinger, 2000; Putnam, 2003). Posttraumatic stress disorder, depression, aggression, anxiety and fear are perhaps the most recognised mental health outcomes among maltreated children and adolescence (Banyard, 1993; Evans et al., 2008; Hecht & Hanson, 2001; Kendall-Tackett et al., 1993; Kitzmann et al., 2003; Malinosky-Rummell & Hansen, 1993; Pelcovitz, Kaplan, Goldenberg, Mandel, Lehane, Guarrera, 1994; Putnam, 2003; Wolf et al., 2003). Other symptoms of psychopathology have, more often than not, been linked to specific types of child maltreatment. For example, Prino and Peyrot (1994) found associations between physical abuse (CPA) and aggression and between neglect (CN) and withdrawn behaviour. Similarly, Kolko, Moser and Wendy (1988) found in their study that sexual abuse (CSA) is more likely compared to other types of CM to be related with sexual dysfunction.

The majority of previous research has focused on what factors put a maltreated child at risk of developing mental health difficulties, detailing maltreatment characteristics as moderating factors, and highlighting that the same violence as well as different types of violence may have different mental health consequences (Daignault & Herb  rt, 2009;

McDonald et al., 2009; Shaffer, Yates & Egeland, 2009). Overall, there is a congruence in research that greater symptomatology is associated with more severe CM, longer duration of CM, use of threats and a closer relationship to the perpetrator. In addition, the presence of multiple forms of abuse has also been associated with more severe outcomes (Kendall-Tackett et al., 1993; Malinosky-Rummell & Hansen, 1993).

However, not all children who have experienced CM develop deleterious mental health difficulties. Children who manifest positive adaptation despite their early experience of maltreatment are referred to in the literature as resilient (Luthar, Cicchetti, & Becker, 2000; Masten & Obradovic, 2006). This research has proposed that there are certain inherent psychological and cognitive attributes of the child that appear to mediate the psychological sequelae following CM. For example, Heller, Larrieu, D'Imperio and Boris (1999) reviewed ten studies with sexually abused children, and identified seven variables that buffered the impact of sexual abuse on a child: high intellectual ability, high self-esteem, internal locus of control, external attributions of blame, ability to modify reactions in response to the environment, ability to insulate self from environmental stressors, and spirituality. Others have shown that support by the non-abusive caregiver with respect to the traumatic experience can buffer the effect of family maltreatment on children's recovery (Dodd, 2004; Egeland, Carlsson & Sroufe, 1993; Higgins & McCabe, 2003; Pelcovitz et al., 2000).

Investigating the extent and consequences of CM on the developing child is complex as there are multiple factors involved when a child is abused or neglected. Such factors are related to the individual, the family structure and other environmental stressors (such as

poverty). Most studies on the effect of CM involve children from families characterised by multiple stressors, such as poverty, single parenting, marital problems, histories of substance abuse and parental psychopathology (Gjelsvik, Verhoek-Offendahl & Pearlman, 2003; Rossman, 2000; Bolger & Patterson, 2001). Thus, the same stressors related to the occurrence of CM have also been shown to be associated to the child's symptom level (Hecht & Hanson, 2001). Therefore, it has been difficult to disentangle the effect that may be accounted for by CM alone on the development of childhood mental health difficulties.

Whilst it is clear that CM may have profoundly negative effect, precisely who these problems occur for remains unclear. At issue is the long history of lack of agreement regarding the conceptual and the operational definition of different types of CM, especially in research on child neglect and emotional abuse, and researchers' failure to report sufficient information concerning definition employed (Beitchman, Zucker, Hood, DaCosta, & Achman, 1991; Herrenkohl, 2005; Kendall-Tackett et al., 1993; Moran & Eckenrode, 1992; Portwood, 1998; Trickett et al., 2001). Other issues suggested to relate to previous conflicting results are sample source or different reporters' perceptions of problems (Herrenkohl, 2005; Portwood, 1998; Trickett et al., 2001). For example, findings from studies have suggested that mothers endorse a greater number of externalising symptoms (i.e., aggression, conduct problems) more often than their children whilst children may report a greater number of internalising symptoms (i.e., anxiety, depression) than their mothers (Kenny & Faust, 1997; Kinard, 1998). However, some researchers have argued that the mother's rating about their children's symptoms may be linked to their own level of distress (Kendall-Tackett et al., 1993) and subsequently is invalid as an assessment technique, whilst others have proposed that parent report is reasonably accurate with

mother's ratings being similar to therapists' and teachers' ratings as opposed to those of their children (Kendall-Tackett et al., 1993).

Study rationale

Over the past two decades, there has been a proliferation of research dealing with all forms and aspects of CM. In light of the increased recognition that mental health consequences following CM may already be apparent in childhood, it is important to evaluate the extent to which CM has an impact during childhood and identify factors that may mitigate the association. Thus, a critical review of this research which considers children is necessary to outline current strengths and weaknesses and draw implications about methodological issues for future research.

Aims

The purpose of this review is therefore to systematically evaluate the credibility of research addressing the association between different types of CM and mental health difficulties in childhood and to identify those studies of high scientific quality. Specifically, the aim is to address the following questions:

1. Is child maltreatment associated with increased risk for childhood behavioural and emotional difficulties?
2. Whether the association between CM and childhood behavioural and emotional difficulties is explained by other factors:
 - i) Maltreatment characteristics (i.e., child's age at onset of maltreatment, severity, duration, frequency and relationship to perpetrator/s)

- ii) Child characteristics (i.e., child's current age, gender, cognitive appraisals)
- iii) Environmental characteristics (i.e., family functioning, social support)

Method

Search strategy

Published and unpublished primary outcome studies included in the present meta-analysis were identified using a variety of strategies. First, online databases and government sites were systematically searched. The search was restricted to primary publications in English language between the years 1985 and 2006. These search engines overlapped occasionally. The following electronic databases and dates were searched: The Campbell Collaboration (C2-SPECTR); The Centre for Reviews and Dissemination (CDR); The Cochrane Library; CINHL; Cambridge Scientific Abstracts (CSA); Applied Social Science Index and Abstracts (ASSIA); CSA: ERIC; CSA: Social Services Abstracts; CSA: Sociological Abstracts; EMBASE; MEDLINE Index; MEDLINE Non-Index; Science Direct; Social Service Information Gateway (SOSIG); Swetswise; PsycINFO; Zetoc and Web of Science. Second, appropriate sources from the reference lists of these articles were also considered to locate additional studies.

Attempts were made to collect all the publications from the libraries of the University of Birmingham, interlibrary loans or directly from the authors of the articles. The majority of publications were obtained, but authors of 14 unpublished dissertations could not be contacted and these dissertations were subsequently not included. All primary studies that were successfully obtained before January 2008 were reviewed.

Search terms

Several search terms were defined for purposes of this review. Terms ‘CM’, ‘child abuse’, child ‘physical abuse’, ‘child sexual abuse’, ‘child emotional abuse’ and ‘child neglect’ were used to refer to different types of childhood abuse and neglect. The concept of resilience refers to a child’s positive adaptation despite experiences of significant life adversity. As search terms, ‘resilience’, ‘invincible’ and ‘invulnerable’ were used synonymously and systematically. Resilience research looks at the interactive effect of risk and protective factors and subsequently these were also used as search terms. Third, search terms associated with child psychopathology, such as mental disorders and mental health difficulties, were entered consecutively. Finally, all search terms were used in different combinations and truncated where appropriate (e.g., child abuse AND resilien*, child abuse AND psychopatholog*).

Several criteria were employed in an attempt to identify appropriate references and only primary studies meeting those criteria were included in the current review. The following criteria were applied on identified studies:

Population: Children aged 17 years and younger with a history of child maltreatment.

Exposure: Experience of different types of CM independently or in coexistence. CM is considered to be maltreatment of children and adolescents up to the age of 17 years.

Child sexual abuse (CSA) was defined as an act of commission in which children are used to provide sexual gratification for the perpetrator, including voyeurism, fondling, penetration, molestation with genital contact, or other forms of sexual acts.

Child physical abuse (CPA) was defined as an act of commission by a caregiver that results or has the potential to result in physical harm, such as slapping, pushing, punching, kicking and choking.

Child emotional abuse (CEA) was defined as an act of commission or omission that includes rejecting, isolating, terrorizing, ignoring, or corrupting a child⁶.

Child neglect (CN) was defined as an act of omission by a parent or caregiver that involves refusal or delay in providing health care; failure to provide basic needs and attention; inadequate supervision or abandonment (Browne, Hanks, Stratton & Hamilton, 2002).

<i>Comparison:</i>	Children aged 17 years and younger without a history of CM.
<i>Outcome:</i>	Mental health difficulties are defined in accordance to the Diagnostic and Statistical Manual of Mental Disorders – IV edition, [DSM-IV], (American Psychiatric Association, 2000) or the international classification of diseases and health related problems [ICD-10] (World Health Organization, 2004). Alternatively, resilience as an outcome is defined as successful adaptation despite early experiences of maltreatment in childhood (Luthar, 2003, p. xxix) in relation to internalising and externalising symptoms, and trauma symptoms. This is assessed through outcome measures (e.g., absence of psychiatric disorders, internalising and/or externalising symptoms).
<i>Study type:</i>	Quasi-experimental, cohort or case-control, cross-sectional or retrospective studies are considered, except narrative or meta-analytical reviews, commentary and opinion papers, bibliographies, book reviews and multiple publications based on same dataset (i.e., most recent publication included).

After excluding publications that did not meet the inclusion criteria, qualities of each study were assessed on the basis of a checklist established largely prior to the review. The threshold criteria were:

⁶ This review distinguishes between child emotional abuse and witnessing family violence. Emotional abuse is defined as psychological violence directed towards the child whereas witnessing family violence is defined as exposure to violence in which one of the caregivers is the perpetrator or to bidirectional acts of violence between caregivers (Evans et al., 2008).

- Clear and concise definition of child maltreatment or referenced to definitional research criteria of child maltreatment
- Clear age range where the upper age limit was 17 years or younger at the time of outcome assessment⁷.
- Clear description of outcome measures

The above criteria were applied to sample of 264 publications by two reviewers independently. Any disagreements were solved through discussion between the two reviewers. Studies which did not meet the threshold criteria were excluded for poor study quality.

Search results

The initial electronic search showed 19 683 publications between the years 1985 and 2006. Of these, 7,193 were duplicate references, opinion papers or book reviews. In addition, 12,226 publications were excluded for the following reasons

- focus on risk factors associated the occurrence of CM, intergenerational cycle of violence in offenders or psychopathology in adulthood;
- narrative reviews and meta-analyses;
- provided insufficient information about age range or the inclusion of adults or young adult and child victims (i.e., older than 17 years);
- normative data as comparison group;

⁷ Studies involving both adults and child victim (e.g., 8-18 or 13-45) and combined results from these two groups were excluded.

- focus on other measures of child exposure, such as witnessing family violence, verbal aggression, or community violence;
- outcomes related to cognitive neuropsychology (e.g., corticotrophin-releasing hormone), physical health (e.g., motor development), school functioning (e.g., academic achievement) or a certain behaviour (e.g., running away, delinquency).

This left 264 publications. Of these 264 publications, 144 did not meet the threshold criteria or included less than 10 children in the victimised and the non-victimised group respectively. These publications were subsequently excluded to ensure study quality and sufficient statistical power. Finally, 52 multiple publications of the same data were excluded because it may bias the result.⁸ Only the most recent publication related to the same data included (Kitchenham, 2004). Thus, for dissertations that had been published, the published article was included and the dissertation excluded. This left 64 primary studies included in this systematic review (see figure 2).

⁸ In cases where there was a suspicion that the reports referred to the same study, the authors were contacted for clarification.

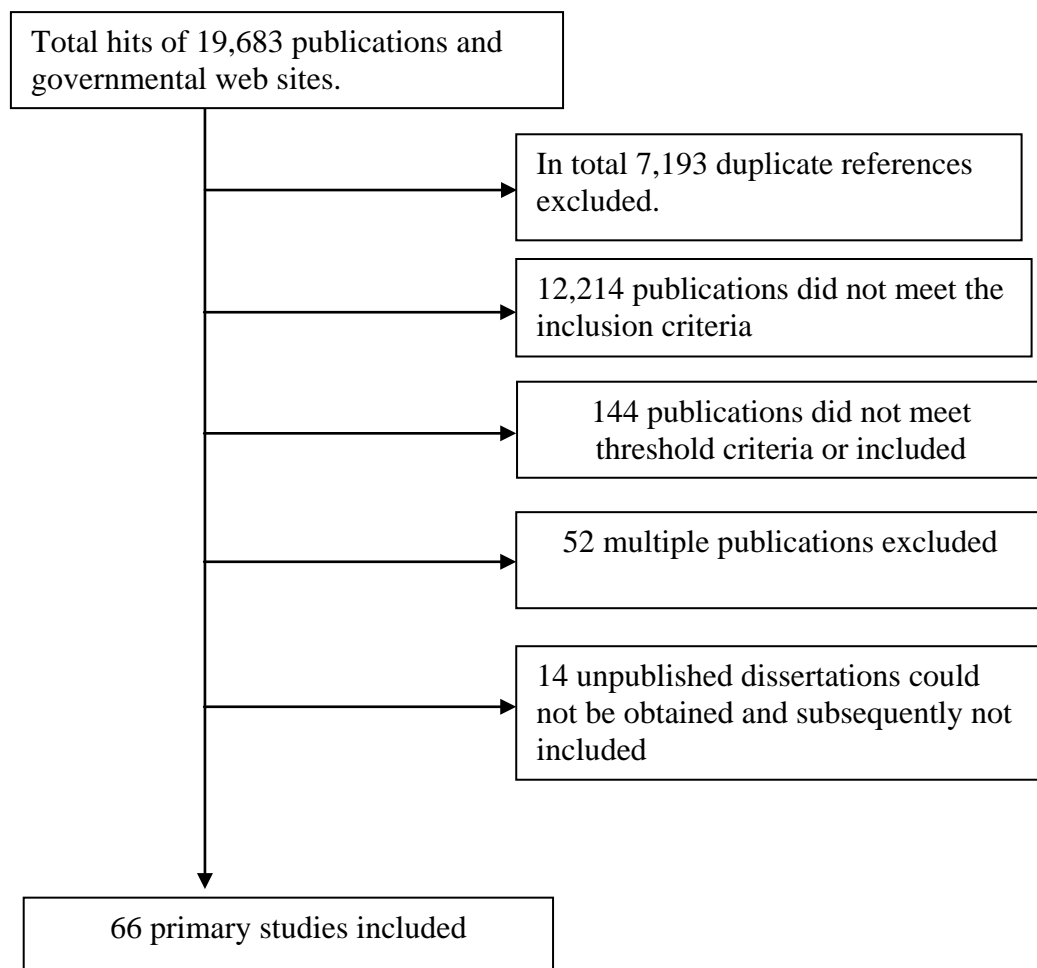


Figure 2: Evaluation of search results

Quality assessment

Each study was considered using a pre-defined checklist to assess the study quality through three categories of systematic error: selection, performance and detection bias and attrition bias (Adapted from Browne, Chou & Hamilton-Giachritsis, 2004). The number of items within each category slightly varied between cohort (longitudinal), case control and cross-sectional quality assessment sheets (see Appendices D). A scoring system was applied to each item as follows:

- condition fully met = 2
- condition partially met = 1
- condition not met = 0
- unclear / insufficient information (counted separately)

Overall scores for methodological quality of the primary studies were established by adding the scores for each item (2, 1 or 0). Cut-off scores were identified to determine which primary studies were of high methodological quality. For each quality assessment sheets (i.e., cohort, case-control or cross-sectional), studies were divided into two groups (low quality and high quality) based on total quality score. A high-quality study was defined as scoring positive on at least 50% (greater than or equal to 50%) of the items, which is in concordance with previously published systematic reviews (Bisset, Paoungmali, Vicenzino & Beller, 2004).

In cases where the information sought was not stated or where the primary studies did not provide sufficient information to rate the item, the item was rated as a condition not met or 'unclear'. The specificity of reporting was counted by the number of 'unclear' items (scored as 1) by adding the scores for this separately from the three other methodological quality conditions. This number is presented in brackets next to the methodological quality score. In this case, higher scores showed poor clarity of reported information.

The primary reviewer assessed all the studies by applying the checklist criteria and the secondary reviewer assessed 20% of the total numbers of primary studies to ensure the

assessment was consistent. This was done independently. Any differences in rating were discussed and disagreements in rating were resolved by the third reviewer. The overall agreement rate between the primary and secondary reviewers was 97.2%.

Data extraction

Data were extracted using a form established prior to the review (see Appendix E) noting the quality assessment score and the number of unclear or unanswered questions for each study.

Results

The 66 studies investigated the effect of one (n=44) or more types of CM (n=22) on a wide range of symptoms. The most commonly studied type of child maltreatment (CM) in descending order was child sexual abuse (CSA, n=43), followed by child physical abuse (CPA, n=28), child neglect (CN, n=12) and child emotional abuse (CEA, n=3). The research method used in the studies was: 16 cohort studies, 31 case-control studies and 19 cross-sectional studies.

As previously described, the number of item within each study quality checklist slightly varied between the different types of research method used because of different questions need to be asked. The total methodological quality scores across the cohort studies ranged between 14 and 21 (out of a maximum possible score of 28). The mean quality score was 17.5 (SD=2.13). For case-control, the quality score ranged between 12 and 24 (out of 30) and the mean quality score was 17.2 (SD=2.57). Finally, for cross-sectional studies, the

score ranged between 9 and 22 (out of 24) with a mean quality score of 15.2 (SD=2.85). Overall, the majority of studies (n=60, 90.9%) scored over the cut-off criteria of 50% for high quality based on the total quality score. Conversely, six primary studies (8.1%) scored below the cut-off criteria (Chaffin, Silovsky & Vaughn, 2005; Cohen, Deblinger, Maedel & Stauffer, 1999; Deblinger, McLeer, Atkins, Ralphe & Foa, 1989; Perkins & Jones, 2004; Reyes-Wilson, 1990; Stern, Lynch, Oates, O'Toole & Cooney, 1995),

The reviewed studies used samples from several different sources. The majority of studies was based on child protection samples of maltreated children or maltreatment evaluation samples. Other investigators recruited from treatment programmes or specific sub-group of victims, such as day-care victims and domestic violence shelters. The sample size ranged from small (N=34, Elliott & Tarnowski, 1990) to very large (N=16,313, Perkins & Jones, 2004), with the majority between 50 to 100 children. All of the studies included comparison groups. Some researchers' included non-clinical (n=44) or clinical (n=12) controls only. Others included both non-clinical and clinical control groups (n=5) or children at risk groups (i.e., 'other comparison group', n=5). The studies used a variety of sources for assessment, including parent report, clinician report, teacher report and children's self-report (see Table 2a-c).

1. Is child maltreatment associated with increased risk for childhood behavioural and emotional difficulties?

The researchers in 60 of the 66 reviewed studies (90.9%) concluded that children who have experienced different types of CM are at increased risk of developing a wide range of

mental health difficulties in childhood. Six studies found no significant differences in development of childhood mental health difficulties between maltreated and non-maltreated children (Deblinger et al., 1989; Kenny & Faust, 1997; Kumar, Steer & Deblinger, 1996; Paradise, Rose, Sleeper & Nathanson, 1994; Powell, 1990; Scerbo & Kolko, 1995). The major commonality in these studies is that they were based on clinical populations and used a cross-sectional design (Deblinger et al., 1989; Kenny & Faust, 1997; Kumar et al., 1996; Powell, 1990; Scerbo & Kolko, 1995). However, this review also included 12 clinical samples in which significant differences were found and subsequently may not serve to explain the non-significant results in the 6 studies.

These discrepancies were also not related to study quality or quality of reporting, as there were no significant differences between the groups (i.e., those who found significant vs. non-significant results). The mean quality score for cross-sectional studies supporting a significant difference was 15.57 (out of 24) compared to a mean of 14 (out of 24) for 'non-supporting' studies. The mean number of unclear items (poor reporting) for cross-sectional and supporting studies was 2.5 (out of 12) compared to a mean of 2.8 (out of 12) for non-supporting studies. For the cohort studies supporting a significant difference, the mean quality score for was 17.46 (out of 28) whereas the mean quality of the 'non-supporting' study was 17. The mean of unclear items was 3.5 (out of 14) for supporting as opposed to a mean of 2 for the non-supporting. Overall, the quality was slightly better for supporting studies but not significantly different from non-supporting studies. In terms of poor reporting, however, the trend was the opposite for cohort studies. Thus, this finding is likely to be accounted for by the inclusion of supporting studies with lower study quality

and poorer reporting. Nonetheless, the non-significant results may also be related to other methodological issues not included in the quality assessment, such as sample size.

Because the studies examined a wide range of symptoms, those that appeared in many studies was integrated into a framework based on three categories: a) internalising symptoms b) externalising symptoms and c) other. In this review, internalising includes symptoms of anxiety, depression, dissociation and withdrawn behaviour. Externalising refers aggression, anger, antisocial behaviour and delinquency. The ‘other’ category includes to sexually inappropriate behaviour, sexual activity and psychiatric disorder. Tables 2.1.1 and 2.1.2 provides a summary of the findings in non-clinical and clinical studies in relation to each category.

Non-clinical and non-maltreated comparison

A total of 54 studies included non-clinical comparison sample (49 non-clinical samples and 5 ‘other comparison samples’). Most studies found maltreated children to be significantly more symptomatic than their non-clinical and non-maltreated counterparts (see Table 2.1.1). The type of CM with the lowest percentage of studies in which a difference was found was CN in relation to externalising symptoms. Additionally, some studies reported mixed findings in symptomatology. The discrepancies found were not related to study quality. Ligezinska, Firestone, Manion, McIntyre, Ensom and Wells (1996) reported that teachers were less likely to report elevated internalising symptoms than parents. Other studies found differences between parent and child rating (e.g., Elliott & Tarnowski, 1990) or between different forms of internalising or externalising symptoms (Mannarino & Cohen, 1996).

Table 2.1.1. Maltreated versus non-maltreated children: Nonclinical Comparison Groups

	Total no. studies	CM > NC ^a	No differenc e	Mixed findings
Child Maltreatment				
Internalising symptoms	11	8	3	---
Externalising symptoms	9	8	1	---
Other	---	---	---	---
Child Physical Abuse				
Internalising symptoms	14	12	1	1
Externalising symptoms	12	9	---	2
Other	1	1	---	---
Child Sexual Abuse				
Internalising symptoms	29	26	---	3
Externalising symptoms	18	13	4	1
Other	8	7	1	---
Child Neglect				
Internalising symptoms	7	5	2	---
Externalising symptoms	6	3	3	---
Other	---	---	---	---
CM=Child Maltreatment. ^a Maltreated children exhibited significantly more problems than children in the control group				

Clinical and non-maltreated comparison

A total of 17 studies included samples of clinical, non-maltreated children (i.e., children in treatment) as a comparison (Consentino, Meyer-Bahlburg, Alpert, Weinberg & Gaines, 1995; Deblinger et al., 1989; Kazdin, Moser, Colbus & Bell, 1985; Kenny & Faust, 1997; Kolko, Moser & Weldy, 1988; Kumar et al., 1996; Lau, Valeri, McCarty & Weisz, 2006; Lau & Weisz, 2003; Mannarino & Cohen, 1989; McLeer, Dixon, Henry, Ruggiero, Escovitz et al., 1998; Naar-King, Silvern, Ryan & Sebring, 2002; Reinmann, Stark & Swearer, 2003; Ruggiero & McLeer, 2000; Scerbo & Kolko, 1995; Thompson, 1996). As previously described, 5 clinical studies found non-significant results for internalising and/or externalising symptoms. Findings from the remaining 11 studies reported mixed result without any relation to specific types of mental health difficulties, study quality or

informant (i.e., who rated the child's behaviour, see Table 2.1.2). For example, two studies demonstrated that maltreated children exhibited significantly less externalising symptomatic behaviour compared to clinical children (McLeer et al., 1998; Thompson, 1996). However, the same studies also reported significant differences for internalising symptoms with maltreated children manifesting more elevated symptoms compared to their non-maltreated clinical counterparts.

Table 2.1.2: Maltreated versus non-maltreated children: Clinical Comparison Groups (n=16)^{a b}

	Total no. Studies	CM>PC ^c	No differenc e	Mixed Findings	CM<PC ^d
Child Maltreatment (n=1)					
Internalising symptoms	1	---	1	---	---
Externalising symptoms	1	1	---	---	---
Other	---	---	---	---	---
Child Physical Abuse (n=6)					
Internalising symptoms	5	---	3	2	---
Externalising symptoms	4	1	3	---	---
Other	1	---	1	---	---
Child Sexual Abuse (n=13)					
Internalising symptoms	10	1	6	3	---
Externalising symptoms	9	---	7	---	2
Other	4	2	2	---	---

CM=Child Maltreatment. ^a Ford et al.'s (2002) study was excluded from the table as they examined the likelihood of CSA in a clinical population of children with ADHD, ODD and adjustment disorder and not differences between groups per se. ^b Child neglect excluded due to lack of studies using clinical comparison groups ^c Maltreated children exhibited significantly more problems than children in the control group ^d clinical control group of non-maltreated children exhibited significantly more externalising symptoms compared to sexually abused children

In summary, children who have experienced different types of CM present with a wide variety of symptoms rather than a specific maltreatment profile, and symptom levels for maltreated children, while usually higher than non-clinical samples, are usually similar to

those seen in children within clinical settings. These findings underscore the seriousness of CM in the development of subsequent childhood mental health difficulties.

Table 2.2.1 shows that the majority of studies found maltreated children to exhibit significantly more behaviour and mental health difficulties compared to non-maltreated, whereas Table 2.2.2 includes studies that did not find any differences. The majority of the studies were conducted amongst children on the child protection register or those from low socioeconomic status. Comparison groups tended to be non-clinical. Study quality was found not to be related to outcome.

Tables 2.2.3-4 show research findings on outcome following child physical abuse. Similarly to samples of maltreated children (e.g., child physical and sexual abuse combined), experiences of physical abuse was, more often than not, associated with greater symptoms. Also, the majority of studies were based on child protection samples or low income families. In terms of comparison group, studies were likely to include non-clinical comparison.

2.2.1: Studies showing maltreated children exhibiting significantly more problems compared to non-maltreated

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
<i>a) Internalising symptoms</i>							
	Cohort	Kim & Cicchetti (2004), USA	Low SES community sample	345(M,F)	NC	CBCL counsellors report of internalising symptoms CM > NC	18/26 (3/13)
	Cohort	Thornberry et al. (2001), USA	At risk sample for delinquency and drug use.	881(M,F)	O	CBCL parent report of internalising symptoms: CM > O	15/28 (4/13)
	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, low SES control sample by public advertising.	139(M,F)	NC	CBCL parent report of internalising symptoms: CM > NC	24/28 (2/15)
	Case-control	Wills (1999), USA	Child protection sample, low SES control sample receiving public assistance	143(M,F)	NC	CBCL parent report of internalising symptoms: CM > NC CDI child self-report of depression: CM > NC RCMAS child self-report of anxiety: CM > NC	15/30 (5/15)
	Cross-sectional	Rogosch & Cicchetti (2005), USA	Low income sample attending summer day camp (included children on child protection register and those from families receiving public assistance).	360(M,F)	NC	CBCL counsellor report of internalising problem: CM > NC. Counsellor and child report of borderline precursors composite: CM > NC.	16/24 (2/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
b) Externalising symptoms	Cross-sectional	Sagy & Dotan (2001), Israel	Community sample	226(M,F)	NC	Child self-report of psychological distress: CM>NC.	15/24 (3/12)
	Cross-sectional	Shapiro & Levendosky (1999), USA	Children from domestic violence shelter, community control sample	80(F)	NC	Child self-report of psychological symptoms (CDI and TSC): CM>NC	17/24 (3/12)
	Cross-sectional	Sebre et al. (2004), Latvia, Lithuania, Macedonia and Moldova	Community sample	145(M,F)	NC	TSCC child self-report of depression, dissociation, anxiety and PTSD symptoms CM>NC ASCQ child self-report of somatic problems CM>NC	12/24 (4/12)
	Cross-sectional	Turner et al. (2006), USA	National sample	2,030(M,F)	NC	TSC parent report and child self-report of depression: CM >NC	17/24 (1/12)
	Cohort	Kim & Cicchetti (2004), USA	Low SES community sample.	345(M,F)	NC	CBCL counsellor report of externalising symptoms: CM >NC	18/28 (3/14)
	Cohort	Lau & Weisz (2003), USA	Clinical sample	343(M,F)	PC	CBCL parent report of externalising symptoms: CM>PC	18/28 (5/14)
	Cohort	Thornberry, Ireland & Smith (2001), USA	At risk sample for delinquency and drug use.	881(M,F)	O	CBCL parent report of externalising symptoms CM>O	15/28 (4/14)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items) ^b
c) Other	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, public advertising low SES control sample.	139(M,F)	NC	CBCL parent report of externalising symptoms CM>NC	24/30 (2/15)
	Case-control	Schweder (2003), USA	Child protection sample, public advertising low SES control sample.	83(M,F)	NC	TSR teacher report of externalising symptoms CM>NC	19/30 (1/15)
	Case-control	Wills (1999), USA	Child protection sample, low SES control sample receiving public assistance.	143(M,F)	NC	CBCL parent report externalising symptoms: CM>NC	15/30 (5/15)
	Cross-sectional	Rogosch & Cicchetti (2005), USA	Child protection sample, low SES control sample receiving public assistance	360(M,F)	NC	CBCL counsellor report externalising problem: CM>NC.	16/24 (2/12)
	Cross-sectional	Sebre et al. (2004), Latvia, Lithuania, Macedonia and Moldova	Community sample	1,145(M,F)	NC	TSCC child self-report of anger CM>NC	12/24 (4/12)
	Cross-sectional	Turner, Finkelhor & Ormrod (2006), USA	National sample	2,030(M,F)	NC	TSC parent and child report of anger/aggression: CM >NC	17/24 (2/12)
	Cross-sectional	Sebre et al. (2004), Latvia, Lithuania, Macedonia and Moldova	Community sample	1,145(M,F)	NC	TSCC child self-report of sexual concerns CM>NC	12/24 (4/12)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CM=Child Maltreatment. ^aCM=NC = no significant difference between CM and NC group. ^bCM > NC = CM children exhibited more internalising or externalising symptoms than NC children .

Table 2.2.2: Studies showing no significant differences between maltreated and non-maltreated children in terms of outcome

Type of outcome	Type of study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
<i>a) Internalising symptoms</i>							
	Cohort	Bolger & Patterson (2001), USA	Community sample participating in an intervention program (included CM children on child protection register).	785(M,F)	NC	YSR child self-report of internalising symptoms: CM=NC	20/28 (3/14)
	Cohort	Lau & Weisz (2003), USA	Clinical sample.	343(M,F)	PC	CBCL parent report of internalising symptoms CM = PC	18/28 (5/14)
	Case-control	Toth & Cicchetti (1996), USA	Child protection sample, low SES control sample receiving public assistance	92(M,F)	NC	CDI child self-report of depression: CM=NC	15/30 (5/15)
	Case-control	Wills (1999), USA	Child protection sample, low SES control sample	143(M,F)	NC	CBCL child self-report internalising symptoms: CM=NC	15/30 (5/15)
<i>b) Externalising symptoms</i>							
	Case-control	Wills (1999), USA	Child protection sample, low SES control sample	143(M,F)	NC	CBCL child self-report externalising symptoms CM=NC	15/30 (5/15)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CM=Child Maltreatment. ^aCM=NC = no significant difference between CM and NC group.

Table 2.2.3: Studies showing physically abused children exhibiting significantly more problems compared to non-abused children

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
<i>a) Internalising symptoms</i>							
	Cohort	Boney-McCoy & Finkelhor (1996), USA	National sample	1,433(M,F)	NC	DIS-III child self-report of depression: CPA>NC PSS-SR child self-report of PTSD: CPA>NC	16/28 (4/14)
	Cohort	Johnson et al. (2002), USA	High risk for CM sample (including child protection sample, low SES control sample without none of the risk factors for CM)	167 (M,F)	NC	CBCL parents report of depression CPA>NC	21/28 (3/14)
	Cohort	Landsford et al. (2002), USA	Community sample	585(M,F)	NC	CBCL parents report of internalising symptoms (anxiety/depression, dissociation or posttraumatic stress disorder): CPA>NC	20/28 (2/14)
	Case-control	Allen & Tarnowski (1989), USA	Child protection sample, community control sample	36(M,F)	NC	CDI child self-report of Depression: CPA>NC	19/30 (3/15)
	Case-control	De Paul & Arriabarrena (1995), Spain	Child protection sample, community control sample	66(M,F)	NC	TSR teacher report internalising symptoms: CPA>NC	18/30 (2/15)
	Case-control	Finzi et al. (2001), Israel	Child protection sample, low SES control sample from community	14(M,F)	NC	CDI child self-report of depression: CPA>NC CSPS child self-report of suicidality CPA>NC	15/30 (3/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
08	Case-control	Macfie et al. (2001), USA	Child protection sample, low SES control sample receiving public assistance	198(M,F)	NC	CDC teacher report dissociation: CPA>NC	16/30 (3/15)
	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, low SES control sample by public advertising	139(M,F)	NC	CBC parent report internalising symptoms: CPA>NC	24/30 (2/15)
	Case-control	Prino & Peyrot (1994), USA	Child protection sample, middle to low SES control sample from day-care centres	68(M,F)	NC	PASS teacher report withdrawal: CPA>NC	18/30 (2/15)
	Case-control	Salzinger et al. (2002), USA	Child protection sample, school sample of school children	200(M,F)	NC	TSR teacher report internalising symptoms CPA>NC CBCL parent report internalising symptoms CPA>NC	21/30 (2/15)
	Case-control	Williamson et al. (1991), USA	Child protections sample, low SES control sample from community	50(M,F)	NC	Parents report anxiety-withdrawal CPA>NC	22/30 (2/15)
	Cross-sectional	Flisher et al (1997), USA	Community sample	665(M,F)	NC	Parent or child self-report of the NIMH DISC mood or anxiety disorders (major depression, dysthymia, social phobia, simple phobia, agoraphobia, separation anxiety, overanxious disorder and generalised anxiety disorder): CPA>NC	17/24 (2/12)
	Cross-sectional	Kazdin et al. (1985)	Clinical sample	79(M,F)	PC	CDI and BID child self-report of depression: CPA>PC	22/24 (1/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
				187(M,F)	PC	IES child self-report of PTSD: CPA>PC	15/24 (4/12)
				16,313 (M,F)	NC	ABC child self-report of purging and suicide CPA>NC	9/24 (5/12)
<i>b) Externalising symptoms</i>	Cohort	Johnson et al. (2002), USA	High risk for CM sample (including child protection sample, low SES control sample without none of the risk factors for CM)	167 (M,F)	NC	CBCL parents report of aggression CPA>NC	21/28 (3/14)
	Cohort	Kurtz et al. (1993), USA	Child protection sample, community sample	139(M,F)	NC	TSR teacher report of behaviour problems: CPA>NC CBCL parents report of behaviour problems: CPA>NC Child self-report of aggression: CPA>NC	19/28 (3/14)
	Cohort	Landsford et al. (2002), USA	Community sample	585(M,F)	NC	CBCL parents report of aggression: CPA>NC CBCL parents report of delinquency: CPA>NC	20/28 (2/14)
	Case-control	De Paul & Arriabarrena (1995), Spain	Child protection sample, community control sample	66M,F	NC	TSR teacher report total behaviour problems: CPA>NC	18/30 (2/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
82	Case-control	Finzi et al. (2001), Israel	Child protection sample, low SES control sample from community	114M,F	NC	CSPS child self-report of aggression: CPA>NC	15/30 (3/15)
	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, low SES control sample by public advertising	139M,F	NC	CBCL parent report externalising symptoms: CPA>NC	24/30 (2/15)
	Case-control	Prino & Peyrot (1994), USA	Child protection sample, middle to low SES control sample from day-care centres	68M,F	NC	PASS teacher report aggression: CPA>NC	18/15 (2/15)
	Case-control	Salzinger et al. (2002), USA	Child protection sample, school sample of school children	200(M,F)	NC	TSR teacher report externalising symptoms CPA>NC CBCL parent report externalising symptoms CPA>NC	21/30 (2/15)
	Case-control	Williamson et al. (1991), USA	Child protections ample, low SES control sample from community	50M,F	NC	Parents report conduct disorder, socialised aggression: CPA>NC	22/30 (2/15)
	Cross-sectional	Flisher et al. (1997), USA	Community sample	665M,F	NC	Parent or child self-report of the NIMH DISC disruptive disorders (conduct disorder, ADHD, ODD): CPA>NC	17/24 (2/12)
	Cross-sectional	Lau et al. (2003), Hong Kong	Community sample	489M,F	NC	Teacher and parent report of the CBCL total behaviour: CPA>NC Child self-report of substance abuse and self-harming behaviour: CPA>NCPA	17/24 (3/12)
	Cross-sectional	Lau et al. (2006), USA	Clinical sample	205(M,F)	PC	CBCL parent report externalising symptoms: CPA>PC	16/24 (1/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
<i>c) Other</i>	Cross-sectional	Perkins & Jones (2004), USA	Community sample	16,313 (M,F)	NC	ABC child self-report of alcohol use, tobacco use, drug use and antisocial behaviour: CPA>NC	9/24 (5/12)
	Case-control	Williamson et al. (1991), USA	Child protections sample, low SES control sample from community	50(M,F)	NC	Parents report Psychiatric symptomatology: CPA>NC	22/30 (2/15)
	Cross-sectional	Perkins & Jones (2004), USA	Community sample	16,313 (M,F)	NC	ABC child self-report of sexual activity CPA>NC	9/24 (5/12)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CPA=Child Physical Abuse. ^aCPA > NC/PC = CPA children exhibited more internalising or externalising symptoms than NC/PC children .

Table 2.2.4: Studies showing no significant differences between physically abused (CPA) and non-abused children in terms of outcome

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
<i>a) Internalising symptoms</i>							
24	Cohort	Johnson et al. (2002), USA	High risk for CM sample (including child protection sample, low SES control sample without none of the risk factors for CM)	167 (M,F)	NC	TSCC child self-report of depression: CPA=NC TSCC child self-report of anxiety: CPA=NC	21/28 (3/14)
	Case-control	Reyes-Wilson (1990), New Mexico	Child protection sample, low SES control sample from community	151(F)	NC	CDI child self-report of depression CPA=NC CSEI child self-report of self-esteem: CPA=NC	12/30 (3/15)
	Cross-sectional	Deblinger et al. (1989), USA	Clinical sample	87(M,F)	PC	Clinician diagnosis of DSM-II-R (APA, 1987) PTSD criteria: CPA=PC	10/24 (5/12)
	Cross-sectional	Kazdin et al. (1985)	Clinical sample	79(M,F)	PC	Childhood diagnosis of major depression and other primary diagnoses: CPA=PC BID parent and CDI child self-report of depression: CPA=PC HSLs parent report of hopelessness CPA=PC SEI parent report of self-esteem: CPA=PC CBCL parent report of internalising symptoms: CPA=PC	22/24 (1/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
85 b) Externalising symptoms	Cross-sectional	Kolko et al. (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of fear/mistrust, unhappiness/escape, school apathy/neglect, and withdrawal/poor appetite: CPA=PC HCR report of fear/anxiety, sleep disturbance, fantasy/regression and sadness/depression: CPA=PC	14/24 (2/12)
	Cross-sectional	Lau et al. (2006), USA	Clinical sample	205(M,F)	PC	CBCL parent report internalising symptoms: CPA=PC	16/24 (1/12)
	Cross-sectional	Naar-King et al (2002), USA	Clinical sample	187(M,F)	PC	BDI child self-report of depression: CPA=PC RCMAS child self-report of anxiety CPA=PC	15/24 (4/12)
	Cross-sectional	Scerbo & Kolko (1995), USA	Clinical sample	52(M,F)	PC	CBCL parent report of internalising problems: CPA=PC	15/24 (2/12)
	Cohort	Johnson et al. (2002), USA	Child protection sample, low SES control sample	167 (M,F)	NC	TSCC child self- report of anger: CPA=NC	21/28 (3/14)
	Case-control	De Paul & Arriabarrena (1995), Spain	Child protection sample, community control sample	66(M,F)	NC	TSR teacher report externalising symptoms: CPA=NC	18/30 (2/15)
	Cross-sectional	Kazdin et al. (1985)	Clinical sample	79(M,F)	PC	CBCL parent report of externalising symptoms: CPA=PC	22/24 (1/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Cross-sectional	Kolko et al. (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of conduct problems: CPA=PC	14/24 (2/12)
	Cross-sectional	Serbo & Kolko (1995), USA	Clinical sample	52(M,F)	PC	HCR report of aggression: CPA=PC OAS staff report of aggression: CPA=PC TRF teacher report and CBCL parent report of aggression: CPA=PC	15/24 (2/12)
c) Other	Cross-sectional	Kolko et al. (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of sexual activity: CPA=PC HCR report of sexual behaviour: CPA=PC	14/24 (2/12)

^aM= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CPA=Child Physical Abuse. ^aCPA=NC/PC = no significant difference between CM and NC/PC group

As shown in Tables 2.2.5 and 2.2.6, most researchers had focused on the impact of child sexual abuse on childhood behaviour and mental health difficulties, using hospital, low income or child protection samples and community or clinical samples as comparisons. The studies reported mixed result without any reference to study quality.

Tables 2.2.7 and 2.2.8 focus on child neglect. In contrast to the other forms of CM (i.e., maltreatment in general, child physical and sexual abuse), child neglect appeared to be relatively under-researched. Existing studies showed mixed result in terms of outcome. Although most studies included a child protection sample to measure consequence of child neglect, the comparison in all studies were community samples.

Table 2.2.5: Studies showing sexually abused children exhibiting significantly more problems compared to non-abused children

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
a) Internalising symptoms	Cohort	Bagley & Mallick (2000), Canada	At risk sample from infant health clinics, random control sample from same infant health clinics	290(F)	NC	Self-report of emotional disorder: CSA>NC	14/28 (5/14)
	Cohort	Bailey & McCloskey (2005), USA	Sample of battered women and their children (from shelter and community), community control sample of mother/child pairs	150(F)	NC	CBCL parent report and CED-S child self-report of depression: CSA>NC	17/28 (3/14)
	Cohort	Bolger & Patterson (2001), USA	Community sample participating in an intervention program (included CM children on child protection register).	785(M,F)	NC	YSR child self-report of internalising symptoms: CM>NC	20/28 (3/14)
	Cohort	Boney-McCoy & Finkelhor (1996), USA	National sample	1,4333(M,F)	NC	DIS-III child self-report of depression: CSA>NC PSS-SR child self-report of PTSD: CSA>NC	16/28 (4/14)
	Cohort	Manion et al (1998), Canada	Child protection sample, control sample selected from medical records at a hospital.	131(M,F)	NC	CBCL parent report of internalising symptoms: ECSA>NC Child self-report of depression: ECSA>NC	18/28 (2/14)
	Cohort	Putnam et al. (1995), USA	Child protection sample, control sample by public advertising and notes in social service agencies	51(F)	NC	CDC child self-report of dissociation: CSA>NC	14/28 (3/14)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Case-control	Black et al. (1994), USA	Low SES sample (including hospital clinic evaluating children suspected of being victims of CSA, paediatric primary care control sample)	85(M,F)	NC	CBCL parent report of internalising symptoms CSA>NC	16/30 (3/15)
	Case-control	Chaffin et al. (2005), USA	CSA and control sample recruited from different clinical (inpatient unit, outpatient clinic) and non-clinical sources (emergency room exam)	196(M,F)	O	DICA- R combined parent and child report of separation anxiety disorder, overanxious disorder, obsessions, compulsions and phobias: CSA>O	14/30 (3/15)
	Case-control	Cohen et al. (1999), USA	Clinical sample, general paediatric sample.	60(M,F)	NC	CITES-R child self-report of sexual anxiety: CSA>NC	14/30 (4/15)
	Case-control	Collin-Vézina & Hébert (2005), Canada	Sample from a paediatric clinic after alleged CSA, low SES community control sample	134(F)	NC	CDC child self-report of dissociation: CSA>NC CITES child self-report of posttraumatic stress disorder: CSA>NC	17/30 (4/15)
	Case-control	Consentino et al. (1995), USA	CSA treatment program sample, clinical control sample and general pediatric clinic control sample	60(F)	PC, NC	CBCL parent report of depression and internalising symptoms: CSA>N	19/30 (3/15)
	Case-control	Elliott & Tarnowski (1990), USA	Child protection sample on waiting list for treatment services, community control sample	34(M,F)	NC	CBCL parent report of internalising symptoms: CSA>NC	18/30 (3/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
06	Case-control	Friedrich & Schafer (1995), USA	Clinical sample, community control sample	847(M,F)	NC	CBCL and CSBI parental report of somatic symptoms: CSA>NC	18/30 (4/15)
	Case-control	Hibbard & Hartman (1992), USA	CSA sample from clinic evaluating children suspected being victims of CSA, control sample from general paediatric clinics	171(M,F)	NC	CBCL parent report of internalising symptoms: CSA>NC	17/30 (2/15)
	Case-control	Ligezinska et al (1996), Canada	Child hospital sample (including children from child protection register and control children from medical records at the same hospital).	84(M,F)	NC	CBCL parent report of internalising symptoms: ECSA>NC Child self-report of depression and fear: ECSA>NC	17/30 (3/15)
	Case-control	Macfie et al. (2001), USA	Child protection sample, low SES control sample receiving public assistance	198(M,F)	NC	CDC teacher report dissociation: CSA>NC	16/30 (3/15)
	Case-control	Mannarino & Cohen (1989), USA	Victim assistance agency sample, clinical control sample and community control sample	258(F)	PC, NC	STAIC child self-report of state anxiety: CSA>PC and NC CBCL parent report of internalising symptoms: CSA>NC	18/30 (2/15)
	Case-control	Mannarino & Cohen (1996), USA	Victim assistance agency sample, community control sample	165(F)	NC	CBCL parent report of internalising symptoms: CSA>NC CDI child self-report of depression: CSA>NC STAIC child self-report of state and trait anxiety: CSA>NC	15/30 (4/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
16	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	Combination of parent and child self-report of K-SADS-E of PTSD: CSA>PC and NC CBCL parents report of internalising symptoms: CSA and PC>NC CGAS child self-report of psychosocial functioning: CSA and PC>NC CDI child self-report of depression: CSA and PC>NC STAIC child self-report of anxiety: CSA and PC>NC	16/30 (2/15)
	Case-control	Mian et al. (1996), Canada	CSA sample from hospital clinic evaluating children suspected of being victims of CSA, control sample experienced minor trauma or illness and referred from emergency department or paediatrician	132(F)	O	CBCL parent report of internalising symptoms: ICSA and ECSA >O	17/30 (2/15)
	Case-control	Porter et al. (2005), USA	Clinical sample, community control sample.	48(M,F)	NC	TSCC parent report of depression: CSA>NC PIC-R parent report of depression, somatic concern, withdrawal, anxiety and psychosis: CSA>NC CPRS-R parent report of psychosomatic problems: CSA>NC	16/ 30 (2/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	
	Case-control	Reyes-Wilson (1990), New Mexico	Child protection sample, low SES control sample from community	151(F)	NC	CDI child self-report of depression CSA>NC	12/30 (3/15)
	Case-control	Ruggiero & McLeer (2000), USA	Child protection sample, clinical control sample and community control sample.	184(M,F)	PC, NC	CBCL parent report of PTSD CSA>NC	19/30 (3/15)
	Case-control	Stern et al. (1995), USA	Child protection sample, community control sample	165	NC	CDI child self-report of depression: CSA<NC CBCL parent report of internalising symptoms: CSA>NC TSR teacher report of internalising symptoms: CSA>NC	14/30 (5/15)
	Cross-sectional	Kolko et al. (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of fear/mistrust and withdrawal/poor appetite: CSA>PC HCR report of fear/anxiety and sadness/depression: CSA>PC	14/24 (2/12)
	Cross-sectional	Naar-King et al. (2002), USA	Clinical sample	187(M,F)	PC	IES child self-report of PTSD: CSA>PC RCMAS child self-report of anxiety: CSA>PC BDI child self-report of depression: CSA>PC	15/24 (4/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
93 b) Externalising symptoms	Cross-sectional	Reinmann et al. (2003), USA	Clinical sample	57(M,F)	PC	Combined parent and child self-report on K-SADS interview of depression: CSA>NC	16/24 (2/12)
	Cross-sectional	Shapiro & Levendosky (1999), USA	Children from domestic violence shelter, community control sample	80(F)	NC	Child self-report of psychological symptoms (CDI and TSC): CSA>NC	17/24 (3/12)
	Cross-sectional	Turner, Finkelhor & Ormrod (2006), USA	National sample.	2,030M,F	NC	TSC depression: CSA>NC	17/24 (2/12)
	b) Externalising symptoms Cohort	Bailey & McCloskey (2005), USA	Sample of battered women and their children (from shelter and community), community control sample of mother/child pairs	150(F)	NC	CBCL parent report and child self-report CBC-YSR of aggression and attention problems: CSA>NC	17/28 (3/14)
	Cohort	Bagley & Mallick (2000), Canada	At risk sample from infant health clinics, random control sample from same infant health clinics	290(F)	NC	Self-report of conduct disorder CSA>NC	14/28 (5/14)
	Cohort	Manion et al (1998), Canada	Child protection sample, control sample selected from medical records at a hospital.	131(M,F)	NC	CBCL parents report of externalising symptoms: ECSA>NC TSR teacher report of externalising symptoms: ECSA>NC	18/28 (2/14)
	Case-control	Black et al. (1994), USA	Low SES sample (including hospital clinic evaluating children suspected of being victims of CSA, paediatric primary care control sample)	85(M,F)	NC	CBCL parent report of externalising symptoms CSA>NC	16/30 (3/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Case-control	Consentino et al. (1995), USA	Mixed sample characterised by low SES (including children from CSA treatment program, control children from clinical sample and control children from a general pediatric clinic)	60(F)	PC, NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA and PC>N	19/30 (3/15)
	Case-control	Hibbard & Hartman (1992), USA	CSA sample from clinic evaluating children suspected being victims of CSA, control sample from general paediatric clinics	171(M,F)	NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA>NC	17/30 (2/15)
	Case-control	Ligezinska et al (1996), Canada	Children hospital sample (including children from child protection register and control children from medical records at the same hospital).	84(M,F)	NC	CBCL parent report of externalising symptoms: ECSA>NC TSR teacher report of externalising symptoms: ECSA>NC	17/30 (3/15)
	Case-control	Mannarino & Cohen (1989), USA	Victim assistance agency sample clinical control sample and community control sample	258(F)	PC, NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA>NC	18/30 (2/15)
	Case-control	Mannarino & Cohen (1996), USA	Victim assistance agency sample, community control sample	165(F)	NC	CBCL parent report of externalising symptoms and total behaviour problems: CSA>NC	15/30 (4/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
95	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	CBCL parent reports of total behaviour problems and externalising symptoms: CSA and PC > NC	16/30 (2/15)
	Case-control	Porter et al. (2005), USA	Clinical sample, community control sample	48(M,F)	NC	PIC-R parent report of delinquency CSA>NC CPR-R parents report of ADHD index and oppositional: CSA>NC	16/ 30 (2/15)
	Case-control	Stern et al. (1995), USA	Child protection sample, community control sample	165	NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA>NC TSR teacher report of total behaviour problems and externalising symptoms: CSA>NC	14/30 (5/15)
	Case-control	Thompson (1996), USA	Clinical sample of CSA children clinical control sample and community control sample	74	PC, NC	TSR teacher report of total behaviour problems: CSA>NC	15/30 (2/15)
	Cross-sectional	Turner, Finkelhor & Ormrod (2006), USA	National sample.	2,030M,F	NC	TSC anger/aggression: CSA>NC	17/24 (2/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear ems)
c) Other	Case-control	Consentino et al. (1995), USA	Mixed sample characterised by low SES (including children from CSA treatment program , control children from clinical sample and control children from a general pediatric clinic)	60(F)	PC, NC	CSBI parent report of sexual behaviour problems: CSA>PC and NC	19/30 (3/15)
	Case-control	Einbender & Fredrich (1989), USA	Clinical sample, community control sample	92(F)	NC	Combined parent and child self-report of sexual preoccupation CSA>NC	20/30 (3/15)
	Case-control	Hibbard & Hartman (1992), USA	CSA sample from clinic evaluating children suspected being victims of CSA, control sample from general paediatric clinics	171(M,F)	NC	CSBI parent report of sexual behaviour problems: CSA>NC	17/30 (2/15)
	Case-control	Mannarino & Cohen (1996), USA	Victim assistance agency sample, community control sample	165(F)	NC	CSBI parent report of sexual behaviour problems: CSA>NC	15/30 (4/15)
	Case-control	McLeer et al. (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	Combination of parent and child self-report of K-SADS-E of psychiatric disorder: CSA>NC	16/30 (2/15)
	Case-control	Mian et al. (1996), Canada	CSA sample from hospital clinic evaluating children suspected of being victims of CSA, control sample experienced minor trauma or illness and referred from emergency department or paediatrician	132(F)	O	CSBI parent report of sexual behaviour problems: ICSA and ECSA >O	17/30 (2/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Case-control	Stern et al. (1995), USA	Child protection sample, community control sample	165	NC	CBCL parent report of sexual behaviour problems: CSA>NC	14/30 (5/15)
	Cross-sectional	Kolko et al. (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of sexual activity: CSA>PC HCR report of sexual behaviour problems: CSA>PC	14/24 (2/12)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CSA = Child Sexual Abuse. ^aCSA > NC/PC = CSA children exhibited more internalising or externalising symptoms than NC/PC children .

Table 2.2.6: Studies showing no significant differences or less problems for sexually abused (CSA) compared to non-sexually abused (NCSA) children in terms of outcome

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
86	a) Internalising symptoms						
	Cohort	Manion et al. (1998), Canada	Child protection sample, control sample selected from medical records at a hospital.	131(M,F)	NC	TSR teacher report of internalising symptoms: ECSA=NC	18/28 (2/14)
	Case-control	Einbender & Fredrich (1989), USA	Clinical sample, community control sample	92(F)	NC	Combined parent and child self-report of emotional functioning (i.e., interpersonal functioning, depression, suicide indicators, self-esteem, self-report depression and emotional resources): CSA=NC	20/30 (3/15)
	Case-control	Consentino et al. (1995), USA	Mixed sample characterised by low SES (including children from CSA treatment program, control children from clinical sample and control children from a general pediatric clinic)	60(F)	PC, NC	CBCL parent report of depression and internalising symptoms: CSA= PC	19/30 (3/15)
	Case-control	Elliott & Tarnowski (1990), USA	Child protection sample on waiting list for treatment services, community control sample	34(M,F)	NC	CDI child report of depression CSA=NC	18/30 (3/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear -ems)
66	Case-control	Mannarino & Cohen (1989), USA	Victim assistance agency sample, clinical control sample and community control sample	258(F)	PC, NC	STAIC child self-report of trait anxiety: CSA=PC and NC CDI child self-report of depression: CSA= PC and NC CBCL parent report of internalising problem: CSA=PC	18/30 (2/15)
	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	CBCL parent reports of internalising symptoms: CSA=PC TSR teacher report of internalising symptoms: CSA=NC STAIC child self-report of anxiety: CSA=PC CDI child self-report of depression: CSA= PC	16/30 (2/15)
	Case-control	Ruggiero & McLeer (2000), USA	Child protection sample, clinical control sample and community control sample.	184(M,F)	PC, NC	CBCL parent report of PTSD: CSA=PC	19/30 (3/15)
	Cross-sectional	Deblinger et al. (1989), USA	Clinical sample	87(M,F)	PC	DSM-II-R (APA, 1987) PTSD criteria: CSA=PC	10/24 (5/12)
	Cross-sectional	Kenny & Faust (1997), USA	Low SES sample recruited from mental health clinics	54(M,F)	PC	RBPC parents report of anxiety: CSA=PC RCMAS child self-report of Anxiety: CSA=PC	17/24 (2/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear tems)
100				103(M,F)	PC	SASC parental report of unhappiness/escape and school apathy/neglect: CSA=PC HCR report of adult roles, isolation, sleep disturbance, fantasy/regression: CSA=PC	14/24 (2/12)
	Cross-sectional	Kumar et al. (1996), USA	Low SES clinical sample	1(M,F)	PC	Clinician diagnose of different types of DSM-III-R mental disorder: CSA=PC YSR child self-report of internalising symptoms: CSA=PC BAI child self-report of anxiety: CSA=PC BDI child self-report of depression: CSA=PC	13/24 (4/12)
	Cross-sectional	Powell (1990)	Clinical sample	50(F)	PC	CDI child self-report of depression: CSA=PC	15/24 (1/12)
b) Externalising symptoms	Cohort	Paradise et al (1994)	CSA sample from The Children's Hospital, community control sample without major illness and receiving primary care in general medical clinic or emergency department	134(M,F)	O	CBCL parent report of total behaviour problems: CSA=O	17/28 (2/14)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Case-control	Chaffin et al. (2005), USA	CSA and control sample recruited from different clinical (inpatient unit, outpatient clinic) and non-clinical sources (emergency room exam)	196(M,F)	O	DICA- R combined parent and child report of ADHD: CSA=O	14/30 (3/15)
	Case-control	Elliott & Tarnowski (1990), USA	Child protection sample on waiting list for treatment services, community control sample	34(M,F)	NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA=NC	18/30 (3/15)
	Case-control	Ligezinska et al (1996), Canada	Children hospital sample (including children from child protection register and control children from medical records at the same hospital).	84(M,F)	NC	TSR teacher report of internalising symptoms: ECSA=NC	17/30 (3/15)
	Case-control	Mannarino & Cohen (1989), USA	Victim assistance agency sample, clinical control sample and community control sample	258(F)	PC, NC	CBCL parent report of total behaviour problems and externalising symptoms: CSA=PC	18/30 (2/15)
	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	CBCL parent report of total behaviour problems and externalising problems: CSA=PC TSR teacher report of total behaviour problems and externalising problems: CSA=NC	16/30 (2/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	TSR teacher report of total behaviour problems and externalising problems: CSA<PC	16/30 (2/15)
	Case-control	Mian et al. (1996), Canada	CSA sample from hospital clinic evaluating children suspected of being victims of CSA, control sample experienced minor trauma or illness and referred from emergency department or paediatrician	132(F)	O	CBCL parent report of externalising symptoms: ICSA and ECSA=O	17/30 (2/15)
	Case-control	Thompson (1996), USA	Clinical sample of CSA children, clinical control sample and community control sample	74	PC, NC	TSR teacher report of total behaviour problems: CSA<PC	15/30 (2/15)
	Cross-sectional	Kolko et al (1988), USA	Clinical sample	103(M,F)	PC	SASC parental report of conduct problems: CSA=PC HCR report of aggression: CSA=PC	14/24 (2/12)
	Cross-sectional	Kumar et al. (1996), USA	Low SES clinical sample	111(M,F)	PC	YSR child self-report of externalising symptoms: CSA=PC	13/24 (4/12)
	Cross-sectional	Reinmann et al. (2003), USA	Clinical sample.	57(M,F)	PC	Combined parent and child self-report on K-SADS interview of substance abuse: CSA=PC	16/24 (2/12)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
103	Cross-sectional	Scerbo & Kolko (1995), USA	Clinical sample	52(M,F)	PC	OAS staff report of aggression: CSA=PC TRF teacher report and CBCL parent report of aggression CSA=PC	15/24 (2/12)
	c) Other						
	Case-control	Cohen et al. (1999), USA	Clinical sample, general paediatric sample	60(M,F)	NC	SAFE child self-report of sexual discomfort/fear: CSA=NC	14/30 (4/15)
	Case-control	McLeer et al (1998)	Non-clinically referred child protection sample, clinical control sample and community control sample	230(M,F)	PC, NC	Combination of parent and child self-report of K-SADS-E of psychiatric disorder: CSA=PC	16/30 (2/15)
	Cross-sectional	Reinmann et al. (2003), USA	Clinical sample.	57(M,F)	PC	Combined parent and child self-report on K-SADS interview of psychiatric disorder: CSA=PC	16/24 (2/12)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CSA=Child Sexual Abuse ^aCSA=NC/PC = no significant difference between CSA and NC/PC group.

Table 2.2.7: Studies showing neglected children (CN) exhibiting significantly more problems compared to non-abused children

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
		Bolger & Patterson (2001), USA	Community sample participating in an intervention program (included CM children on child protection register).			YSR child self-report of internalising symptoms CN>NC	20/28 (3/14)
	Case-control	Dubowitz et al. (2005), USA	Mixed sample characterised by low SES (child protection sample and control sample including children at risk)	740	O	CBCL parent report of internalising symptoms: CN>O TSC-C child self-report of anxiety: CN>O TSC-C child self-report of depression: CN>O TSC-C child self-report of dissociation: CN>O TSC-C child self-report of PTSD: CN>O	17/30 (4/15)
	Case-control	Macfie et al. (2001), USA	Child protection sample, low SES control sample receiving public assistance	198(M,F)	NC	CDC teacher report of dissociation: CN>NC	16/30 (3/15)
	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, low SES control sample by public advertising.	139M,F	NC	CBCL parent report of internalising symptoms: CN>NC	24/30 (2/15)
	Case-control	Prino & Peyrot (1994), USA	Child protection sample, middle to low SES control sample from day-care centres	68(M,F)	NC	PASS Teacher report withdrawal behaviour: CN>NC	18/15 (2/15)

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
b) Externalising symptoms							
	Case-control	Dubowitz et al. (2005), USA	Mixed sample characterised by low SES (child protection sample and control sample including children at risk)	740	O	CBCL parent report of total behaviour problems and externalising symptoms: CN>O TSC-C child self-report of anger: CN>O	17/30 (4/15)
	Case-control	De Paul & Arriabarrena (1995), Spain	Child protection sample, community control sample	66(M,F)	NC	TSR teacher report total behaviour problems and externalising symptoms: CN>NC	18/30 (2/15)
	Case-control	Maughan & Cicchetti (2002), USA	Child protection sample, low SES control sample by public advertising.	139M,F	NC	CBCL parent report of externalising symptoms: CN>NC	24/30 (2/15)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CN= Child Neglect ^a CN > NC/PC = CN children exhibited more internalising or externalising symptoms than NC/PC children.

Table 2.2.8: Studies showing no significant differences between neglected (CN) and non-abused children in terms of outcome

Outcome	Type of Study	Author, year, country	Sample	Total N	Comparison Group/s	Results ^a	Q.S. (no. of unclear items)
a) Internalising symptoms							
	Case-control	De Paul & Arriabarrena (1995), Spain	Child protection sample, community control sample	66(M,F)	NC	TSR teacher report internalising symptoms: CN=NC	18/30 (2/15)
	Case-control	Finzi et al. (2001), Israel	Child protection sample, low SES control sample from community	114(M,F)	NC	CDI child self-report of depression: CN=NC CSPS child self-report of suicidality CN=NC	15/30 (3/15)
b) Externalising symptoms							
	Cohort	Kurtz et al. (1993), USA	Child protection sample, community sample	139(M,F)	NC	TSR teacher report of behaviour problems: CN=NC CBCL parents report of behaviour problems: CN=NC Child self-report of aggression: CN=NC	19/28 (3/14)
			Child protection sample, low SES control sample from community	114(M,F)	NC	CSPS aggression: CN=NC	15/30 (3/15)
			Child protection sample, middle to low SES control sample from day-care centres	68(M,F)	NC	PASS Teacher report aggression CN=NC	18/15 (2/15)

M= Male, F=Female, NC=Normal Control, PC=Psychiatric Control, O=Other Comparison Group, CN=Child Neglect ^aCN=NC/PC = no significant difference between CN and NC/PC group.

2. Factors associated with childhood mental health difficulties

Many investigators have tried to account for variations in children's outcome by examining different types of a) maltreatment characteristics, b) child characteristics and c) family characteristics. The following paragraphs will discuss the results for the most commonly examined characteristics.

a. maltreatment characteristics

Of the 66 studies, 27 (40.9%) studies had examined the impact of maltreatment characteristics on outcome. Most of the studies (n=22) focused on CSA characteristics. Only five studies examined the impact of maltreatment characteristics for other types of CM (CPA n=6 and/or CN=2).

Child Physical Abuse. Few studies have examined differences in outcome based on the nature of physical abuse (n=6, Keiley et al., 2001; Kurtz et al., 1993; Naar-King, 2002; Thornberry, Ireland & Smith, 2001; Sebre, Sprugevica, Novotni, Bonevski, Pakalniskiene, Popescu et al., 2004). Of the limited amount of studies, research considered age of onset of CPA as intervening variable showed mixed findings (see Table 2.5.1). In a 9 year cohort study of 585 school children, Keiley et al. (2001) found that the experiences of early CPA (before age 5) was significantly associated with more severe forms of internalising and externalising symptoms in adolescence compared to those who experienced CPA at a later age (between age 6-9; Keiley et al., 2001). However, Thornberry et al. (2001) found evidence in their cohort study to suggest that children who experience CPA in their adolescence are at greater risk to suffer more problematic outcomes during adolescence (i.e., from age 12 through 17 years) compared those who experienced early childhood-only

maltreatment (i.e., before age of 11; Thornberry et al. 2001). In contrast, Naar-King, Silvern, Ryan and Sebring (2002) found that age of onset did not predict symptoms. However, the cross-sectional nature of the study design may have affected the non-significant result. Thus, research evidence of any direction is insufficient to permit any conclusion about whether age of onset is related to greater symptomatology for physically abused children. With regard to frequency of physical abuse, two studies found no supporting evidence (Naar-King et al., 2002, Reyes-Wilson, 1990). However, this may be in part because frequency of abuse is related more to other characteristics of the abuse, such as severity of physical acts, relationship to perpetrator/s and/or co-occurrence of other types of CM, than severity of symptoms. For example, Reyes-Wilson (1990), one of the lower scoring studies, did not report severity of CPA or relationship to perpetrator in her sample of abused children. Table 2.5.1 provides a summary of the intervening variables.

Table 2.5.1: Influence of Intervening Variables: Child Physical Abuse Characteristics

Variable	No of studies		Directions of findings
	With significant differences in impact	Total <i>N</i>	
Age at onset	2	3	Mixed results
Severity	1	1	Symptoms were increased when child had sustained physical injuries requiring outpatient or hospital treatment
Frequency	0	2	No difference
Time elapsed since last abusive incident	1	1	Experience of CPA closer in time was related to increased symptoms
Duration	2	2	Longer duration was related to increased symptoms
Multiple-type Maltreatment	3	3	Experiences of multiple-type of maltreatment was related to increased symptoms

Child Sexual Abuse. Contrary to the common belief in research, the majority of studies did not find supporting evidence that severe, recurrent and/or longer duration of CSA as well as closer relationship to perpetrator/s is associated with more adverse outcome (Black, Dubovitz & Harrington, 1994; Chaffin et al., 2005; Cohen et al., 1999; Collin-Vezina & Hebert, 2005; Einbender & Friedrich, 1989; Elliott & Tarnowski, 1990; Kumar et al., 1996; Ligezinska et al., 1996; Mannarino et al., 1989; Mian et al., 1996; Naar-King et al., 2002; Oates, O'Toole, Lynch, Stern & Cooney, 1994; Paradise et al., 1994; Putnam, Helmers, Horowitz & Trickett, 1995; Reinmann, Stark & Swearer, 2003; Reyes-Wilson, 1990; Stern et al., 1995). In addition, findings on sexual abuse characteristics suggested that greater symptomatology was not related to age of onset of CSA (see Table 2.6.2; Cohen et al., 1999; Consentino et al., 1995; Friedrich & Schafer, 1995; Kumar et al., 1996; Naar-King, et al., 2002; Putnam et al., 1995). Table 2.5.2 provides a summary of intervening variables for child sexual abuse.

Table 2.5.2: Influence of Intervening Variables: Child Sexual Abuse Characteristics

Variable	No of studies		Directions of findings
	With significant differences in impact	Total <i>N</i>	
Age at onset	0	6	No difference
Severity/penetration	7	16	Oral, anal, or vaginal penetration was related to increased symptoms
Frequency	2	10	Higher frequency was related to increased symptoms
Duration	2	15	Longer duration was related to increased symptoms
Force	2	5	Use of force was related to increased symptoms
Coercion	2	5	Use of coercion was related to increased symptoms
Relationship to Perpetrator	2	16	Closer relationship to perpetrator was related to increased symptoms
No. Perpetrators	2	4	Experiences of CSA by multiple perpetrator was related to increased symptoms
Multiple-type Maltreatment	4	5	Experiences of multiple-type of maltreatment was related to increased symptoms

Child neglect. The effect of CN characteristics on outcome was under-researched (see Table 2.5.3). Only a third (n=3) of the studies examining CN as separate form of CM (n=9) also considered the impact of CN characteristics during childhood. In a cohort study of 881 children at high risk for serious delinquency and drug use, Thornberry et al. (2001) found evidence to suggest that children who experienced CN early in childhood (i.e., before age 11) are more likely to exhibit more adverse outcomes in adolescence compared to those neglected in adolescence (i.e., from age 12 through 17 years). In a cohort study of 139 physically abused, neglected or non-maltreated children, Kurtz et al (1993) found that severity and time elapsed since last abusive incident of CN was not predictive of child functioning on outcome measures. Therefore, Kurtz et al. (1993) concluded that the negative effects of chronic neglect may alleviate over time. Two studies considered multiple-type of maltreatment (Bolger & Patterson, 2001; Kurtz et al., 1993). This

research found that those who experienced other forms of CM (especially CSA) in addition to CN are more likely to manifest higher levels of childhood mental health difficulties (Bolger & Patterson, 2001; Kurtz et al., 1993)

Table 2.5.3: Influence of Intervening Variables: Child Neglect Characteristics

Variable	No of studies		Directions of findings
	With significant differences in impact	Total <i>N</i>	
Age at onset	1	1	Younger children were more symptomatic
Severity	0	1	No difference
Time elapsed since last CN incident	1	1	Experience of CN closer in time was related to increased symptoms
Multiple-type Maltreatment	2	2	Experiences of multiple-type of maltreatment was related to increased symptoms

In summary, few studies on CPA and CN have examined factors such as age at onset, frequency and duration and severity of abuse (Naar-King et al., 2002). Therefore, given the limited amount of research examining the impact of maltreatment characteristics of CPA and CN, the direction of the findings needs to be taken with caution. For CSA, however, the most general conclusion which can be drawn seem to indicate that frequency, severity, duration and relationship to perpetrator often do not account for a large amount of the variance in mental health outcomes. The discrepancies in findings were not related to study quality.

b. Child characteristics

A limited number of child characteristics were considered by researchers (see Tables 2.6.1 and 2.6.2). Four out of six studies on CSA found no effect of age in sexually abused children and their level of symptomatology (Einbender & Friedrich, 1989; Elliott & Tarnowski, 1990; Hibbard & Hartman, 1992; Putnam et al., 1995). Non-significant result for age at assessment was also reported in a study amongst physically abused children (Allen & Tarnowski, 1989). In terms of gender differences in symptomatic behaviour, most studies found no significant difference within the maltreated group (Boney-McCoy & Finkelhor, 1996; Chaffin et al., 2005; De Paul & Arriagarrena, 1995; Elliott & Tarnowski, 1990; Hibbard & Hartman, 1992; Kenny & Faust, 1997; Kolko et al., 1988; Ligezinska et al., 1996; Rogosch & Cicchetti, 2005; Schweder, 2003). This finding is in contrast to the popular belief that girls are more likely to manifest internalising symptoms whereas boys are more likely to exhibit externalising symptoms (see Table 2.6.1). When main effects of sex was examined (i.e., without the interaction with CM status), however, the majority of studies found significant differences (e.g., Naar-King et al., 2002).

Insert Table 2.6.1 about here

Other child characteristics that were hypothesised to influence the symptom level in maltreated children was attachment to mother figure, perceived control, attribution style, emotion regulation and social competence.

Attachment style.

Shapiro & Levendovsky (1999) found, in a non-clinical sample of high-risk females, that attachment mediated the impact of different types of CM on psychological distress and coping. Such a mediating effect was not found in Kim and Cicchetti's (2004) longitudinal study of mother-child relationship quality where a secure mother-child attachment was negatively associated with internalising symptoms without any relation to CM status. In addition, Boney-McCoy & Finkelhor (1996) found that adolescents' perceptions of parenting did not account for posttraumatic reactions to sexual assaults during a 15 month period. Thus, Oates et al. (1994) found that the families' ability to problem-solve led to a decrease in child symptoms following CSA. Moreover, Oates et al., 1994) found that the mothers' use of avoidant coping styles (i.e., resulting in the absence of support for the child) was associated with a deterioration in child behaviour whereas mothers' level of psychopathology and functioning were not directly associated with children's symptoms.

Table 2.6.1: Child Characteristics

Author, year	CM	Significant Differences	Direction of Finding/s
Child's current age (n=7)			
Allen & Tarnowski (1989)	CPA	No	No difference between age of CSA group and CBCL scores; Younger CSA children exhibited higher cognitive competence and social acceptance
Black et al. (1994)	CSA	Mixed	
Cohen et al. (1999)*	CSA	Mixed	
Einbender & Friedrich (1989)	CSA	No	
Elliott & Tamowski (1990)	CSA	No	Younger CSA children experienced more sex-related fears; a tendency for sexual anxiety
Hibbard & Hartman (1992)	CSA	No	
Putnam et al. (1995)	CSA	No	
Sex of child (n=13)			
Rogosch & Cicchetti (2005)	CM	No	
Schweder (2003)	CM	No	
Boney-McCoy & Finkelhor (1996)	CPA	No	
De Paul & Arriabarrena (1995)	CPA	No	
Finzi et al. (2001)	CPA	Mixed	No difference on depression or suicidality; Physically abused boys showed more antisocial behaviour than girls.
Kenny & Faust (1997)	CPA	No	Physically abused girls exhibited more dissociation, social problems, though problems and social withdrawal compared to physically abused boys.
Kolko et al. (1988)	CPA	No	
Landsford et al. (2002)	CPA	Yes	
Boney-McCoy & Finkelhor (1996)	CSA	No	
Chaffin et al. (2005)*	CSA	No	
Elliott & Tamowski (1990)	CSA	No	
Hibbard & Hartman (1992)	CSA	No	
Kolko et al. (1988)	CSA	No	
Ligezinska et al. (1996)	ECSA	No	Sexually abused girls exhibited more depression than sexually abused boys.
Reinmann et al. (2003)	CSA	Yes	
De Paul & Arriabarrena (1995)	CN	No	

*Scored >50% on quality assessment

Locus of Control

The role of locus of control on development of internalising and externalising symptoms for maltreated children was investigated in four studies. Of these, three studies found significant differences between maltreated and non-maltreated children in perceived control over their environment and future (Allen & Tarnowski, 1989; Bolger & Pattersson, 2001; Wills, 1999). Bolger and Pattersson (2001) and Wills (1999) found supporting evidence to suggest that perceived internal control mediates the relationship between CM and childhood mental health difficulties. In contrast, Mannarino and Cohen (1996) found no significant difference.

Negative attributional style

Three studies (Ligezinska et al., 1996; Manion, Firestone, Cloutier, Ligezinska, McIntyre & Ensom, 1998; Powell, 1990) found that greater symptomatology was found in sexually abused children with distortions and irrational beliefs associated with the abuse, such as self-blame for the abuse as well as other negative events, such as legal proceedings, and family break-up (see Table 2.7.2). Two studies reported mixed findings in relation to type of informant (Mannarino & Cohen, 1996) and comparison groups (Thompson, 1996). For example, Mannarino and Cohen (1996) found a significant moderating effect of attribution style on child self-report of internalising symptoms for sexually abused children, but not on parents rating of internalising symptoms. In addition, Thompson (1996) found no difference in attribution style between the CSA and non-maltreated, clinical control group. However, a significant difference was found between the CSA and non-maltreated, non-clinical control group. Consistent with the expectations, the CSA group exhibited significantly more negative attributions of themselves and others.

Emotion regulation

Three studies (Maughan & Cicchetti, 2002; Rogosch & Cicchetti, 2005; Thompson, 1996) reported mixed results for emotion regulation. Maughan and Cicchetti (2002) and Rogosch and Cicchetti (2005) found that maltreated children manifested significantly more dysregulated emotion patterns (i.e., undercontrolled/ambivalent and overcontrolled/underresponsive types) compared to non-maltreated children. In Maughan and Cicchetti's (2002) study, experiences of CPA were associated with overcontrolled/underresponsive whereas experiences of CN were linked with undercontrolled/ambivalent emotion regulation patterns. Further analysis of mediating effect, the result indicated that a undercontrolled/ambivalent regulation pattern mediated the path between CM and anxious/depressed symptoms. However, no mediating effect was found for adaptive emotion regulation or overcontrolled/unresponsive emotion. In contrast, Thompson (1996) found no difference in emotion regulation problems between sexually abused children and their non-clinical and non-maltreated counterparts. However, a significant difference was found between the abused group and the clinical and non-maltreated control group, with the psychiatric control group exhibiting more emotion regulation problems.

2.6.2: Intervening factors: Child characteristics

Author, year	CM	Significant Differences	Direction of Finding/s
Attachment and quality of family relationships			Mixed findings
Boney-McCoy & Finkelhor (1996)	CM	No	
Kim & Cicchetti (2004)	CM	No	
Oates et al. (1994)	CSA	Yes	
Shapiro & Levendosky (1999)	CSA	Yes	
Perceived control			Not clear.
Bolger & Patterson (2001)	CM	Mixed	Depends on type of CM
Wills (1999)	CM	Yes	
Allen & Tarnowski (1989)	CPA	Unknown	Physically abused were more likely to have external locus of control. Possible mediating effect not investigated.
Mannarino & Cohen (1996)	CSA	No	
Negative attribution style			Greater symptomatology was associated with attribution of guilt and blame
Thompson (1996)	CM	Mixed	Depends on type of control group
Ligezinska et al. (1996)	ECSA	Yes	
Manion et al. (1998)	ECSA	Yes	
Mannarino & Cohen (1996)	CSA	Mixed	Depends on type of internalising symptoms
Powell (1990)	CSA	Yes	
Emotion Regulation			Not clear.
Maughan & Cicchetti (2002)	CM	Mixed	Depends on type of symptoms
Rogosch & Cicchetti (2005)	CM	Unknown	Maltreated children were more likely to manifest more lability/negativity compared to non-maltreated. Possible mediating effect not investigated.
Thompson (1996)	CSA	Mixed	Depends on type of control group

*Scored >50% on quality assessment

c. Family Characteristics

Family Functioning.

Seven studies investigated the effect of a range of different types of family characteristics on child mental health (Kurtz et al., 1993; Mian et al., 1996; Paradise et al., 1994; Reinmann et al., 2003; Sagy & Dotan, 2001; Schweder, 2003; Stern et al., 1995). Some researchers tested the moderating properties of family characteristics (Kurtz et al., 1993; Mian et al., 1996; Paradise et al., 1994; Schweder, 2003; Stern et al., 1995). Findings from this research indicated that symptom level in maltreated children is associated to alcohol abuse by father (Kurtz et al., 1993; Mian et al., 1995), poorer maternal health (Paradise et al., 1994), history of paternal psychopathology (Schweder, 2003) and change in parent figure or could not live with at least one biological parent (Stern et al., 1995). Other researchers showed that when controlling for level of depression sexually abused adolescents could be differentiated from their non-maltreated counterparts based on family variables (Reinmann et al., 2003). In addition, Sagy and Dotan (2001) found that family coherence explained most of the variance in level of perceived competence for maltreated children, but not in terms of their psychological distress.

Discussion

This systematic review aimed to answer two questions

1. Is child maltreatment associated with increased risk for childhood behavioural and emotional difficulties?

In terms of study quality, this systematic review identified 60 studies (90.9%) of reasonable quality; 16 were cohorts, 27 case-control and 17 cross-sectional studies. Most of these studies (n=54) found a negative effect of CM on children and adolescence in relation to childhood mental health. Therefore, this review concludes that there is substantial evidence supporting the idea that CM has a profound effect on social, cognitive and psychological health in childhood, which is consistent with the conclusions of previous literature reviews on children (Kendall-Tackett et al., 1993; Malinosky-Rummell & Hansen, 1993).

It was evident that no specific psychological profile is associated with a particular type of CM. On the contrary, CM was found to have a negative effect on a range of internalising and externalising symptoms. Of the few investigations of association between CM and symptoms in child clinical samples, most focused on CSA or CPA (Consentino et al., 1995; Deblinger et al., 1989; Kazdin, Moser, Colbus & Bell, 1985; Kenny & Faust, 1997; Kolko, Moser & Weldy, 1988; Kumar et al., 1996; Lau, Valeri, McCarty & Weisz, 2006; Mannarino & Cohen, 1989; McLeer et al., 1998; Naar-King, Silvern, Ryan & Sebring, 2002; Reinmann et al., 2003; Ruggiero & McLeer, 2000; Scerbo & Kolko, 1995;

Thompson, 1996). These studies indicate that maltreated children are likely to exhibit similarly elevated symptoms as children in clinical settings (i.e., therapeutic input but non-maltreated). This finding points to the need for these children to have access specialist attention. However, it also shows the need to conduct research regarding the impact of CN and CEA in clinical population.

2. Can the association between CM and childhood behavioural and emotional difficulties is explained by other factors

The following paragraphs will discuss the result for the most common examined characteristics.

Maltreatment Characteristics

Based upon previous reviews (e.g., Kendall-Tackett et al., 1993; Malinosky-Rummell & Hansen, 1993), other maltreatment characteristics (i.e., severity, duration, frequency, relationship to perpetrator/s) were also expected to influence the association between different types of CM and symptom level. Of the limited amount of studies examining maltreatment characteristics, the majority focused on abuse characteristics of childhood sexual abuse. Very few studies examined the role of maltreatment characteristics for child physical abuse and child neglect, no conclusion could be drawn with regards to the moderating properties (Bolger & Patterson, 2001; Keiley, Howe, Dodge, Bates & Pettit, 2001; Kurtz et al., 1993; Naar-King, 2002; Thornberry, 2001; Sebre et al., 2004)

The most general conclusion in this Chapter that was drawn for sexual abuse characteristics were that age at onset of abuse, frequency, duration and relationship to perpetrator appears not to account for a significant amount of the variance in childhood behavioural and emotional difficulties. These results indicate that whether CSA occurs as a single incident or chronic, intrafamilial or extrafamilial, it increases the risk of developing childhood mental health difficulties. Other characteristics of sexual abuse (i.e., severity, force, coercion, number of perpetrators) did not show consistent evidence to establish whether they indeed had a moderating impact (Black et al., 1994; Chaffin et al., 2005; Cohen et al., 1999; Collin-Vezina & Hebert, 2005; Consentino et al., 1995; Einbender & Friedrich, 1989; Elliott & Tarnowski, 1990; Friedrich & Schafer, 1995; Kumar et al., 1996; Ligezinska et al., 1996; Mannarino et al., 1989; Mian et al., 1996; Naar-King et al., 2002; Oates et al., 1994; Paradise et al., 1994; Putnam et al., 1995; Reinmann et al., 2003; Putnam et al., 1995; Reyes-Wilson, 1990; Stern et al., 1995).

However, it may be that different associations between the CSA characteristics (e.g., early onset of CSA with intrafamilial perpetrator) may contribute to the development of psychopathology. For example, Trickett et al. (2001) clustered abuse characteristics into three different profile groups based on number and relationship to perpetrator and duration of abusive act in a cohort study of 154 sexually abused girls study. Profile 1 and 2 consisted of girls who had been sexually abused by multiple intrafamilial perpetrators (excluding biological father) or by a single intrafamilial or extrafamilial perpetrator (excluding biological father) for a relatively shorter period. In contrast, profile 3 included CSA by biological father and multiple perpetrators for a longer period. No differences were found between the profiles groups in terms of severity and age. However, significant

differences between groups were found in relation to nine outcome variables (i.e., delinquent/ misbehaving, immaturity/bizarre behaviour, aggressiveness/bullying, depression/withdrawn, physical problems, CDI depression, trait anxiety, global perceived competence, CDC dissociation) at time point 1 (aged 6-16 years). Findings showed that children in profile group 3 (i.e., CSA by biological father and multiple perpetrators, longer duration) exhibited higher levels of symptomatic behaviour on most outcome variables (i.e., 8 out of 9 outcomes) compared to children in profile 1 (i.e., multiple intrafamilial perpetrators, not biological father, shorter duration) and 2 (i.e., single intra or extrafamilial perpetrator, not biological father, shorter duration).

In summary, the majority of studies focused on between-group differences (i.e., maltreated and non-maltreated children or between CPA and CN) rather than within-group differences. Therefore this review stresses the need for future research to investigate maltreatment within-group characteristics (i.e., CSA, CPA, CN and CEA), as well as consider the impact of combined factors.

Child characteristics

Gender

For CPA and CSA, the papers reviewed suggest no gender difference in symptom level within the abused group of children. This was true for both parent-report and self-report measures. Contrary to findings by other researchers in the field (Chapter 1), this suggests that male and female children responded to CPA and CSA in a similar manner.

Based upon previous reviews (Kendall-Tackett et al., 1993), it was anticipated that a child's gender would be significantly related to the level of internalising or externalising symptoms attributed to the parent rating or child self-report, with females experiencing more internalising behaviours, and males experiencing more externalising behaviours. Some researchers have speculated that gender differences in symptom level are more a result of the different maltreatment experiences of males and females than to inherent gender differences (Huston, Prihoda, Parra & Foulds, 1997; Wright, 1998). However, this was not substantiated within this current review as the maltreatment experience was reported to differ for males and females (e.g., Naar-King et al., 2002). For example, sexually abused females are often reported to been abused at an earlier age and for longer duration compared to sexually abused males (e.g., Naar-King et al. 2002). Other researchers have proposed that the stipulated gender differences in research might be explained by small and unequal sample sizes (Cohen & Mannarino, 1988). This might subsequently lead to different symptom pattern for male and female children. Most of the reviewed studies, however, included a large sample size which might have allowed this current review to more accurately draw the conclusion of gender similarities in symptom patterns among CPA and CSA children.

Age

Kendall-Tackett et al. (1993) and other researchers have found a relationship between a child's age and the symptom reported by the parent and/or the child. It has been theorised that there is a developmental component to symptoms reported. Overall, this review found no evidence of a relationship between a child's age and symptom levels. However, this review only considered age differences/similarities in relation to maltreatment status.

Attachment

Insecure attachment styles in early childhood have been linked to poor child functioning at a later time (Lynch & Cicchetti, 1991). Similarly insensitive parenting has been associated with CM in research among young children (Carlson, Cicchetti, Barnett, & Braunwald, 1989; Crittenden & Ainsworth, 1989; Lynch & Cicchetti, 1991), school age children (Finzi et al., 2001) and adult victims who experienced CM in their childhood (Higgins & McCabe, 2003). Thus, some researchers have proposed that CM is psychologically damaging because it violates the quality of the emotional bond between the parent and child (e.g., Toth & Cicchetti, 1996). From the studies reviewed, findings in regards to the mediating effect of attachment style and parenting were inconclusive. Two studies found supporting evidence for a mediating effect (Shapiro & Levendovsky, 1999; Oates et al., 1994), whilst the other two did not (Boney-McCoy & Finkelhor, 1996; Kim & Cicchetti, 2004). The discrepancy could not be explained by quality differences. Therefore, the impact of attachment still remains an open question.

Perceived control

In terms of perceived control, this review found inconclusive support for a mediating effect (Allen & Tarnowski, 1989; Bolger & Patterson, 2001; Mannarino & Cohen, 1996; Wills, 1999). The mixed results were not related to study quality. However, one can speculate whether the different result was related to the maltreatment characteristics (e.g. age at onset of CM, duration, severity). For example, it would be expected that external locus of control is more associated with severe, recurrent and longer duration of abusive act.

Negative attributional style

This review found supporting evidence to suggest that negative appraisals plays a role in the development of mental health difficulties among sexually abused children. (Ligezinska et al., 1996; Mannion et al., 1998; Mannarino & Cohen, 1996; Powell, 1990; Thompson, 1996).

Emotion regulation

In families where CM occurs, children may develop different emotion regulation strategies in order to cope with their environments. For example, being withdrawn, minimising emotional expressions as a response to a stressor might reduce chances for further abuse and/or neglect. As such these strategies may first appear adaptive. However, if these strategies are maintained in non-threatening environments over a longer period of time, they become maladaptive and place the child at risk of for developing mental health difficulties. There is a theoretical premise for expecting that an individual's capacity to effectively regulate emotion (i.e., decrease the intensity of experienced emotional arousal) would be relevant factor in predicting adaptive functioning. However, this review found mixed results for mediating role of emotion regulation (Maughan & Cicchetti, 2002; Thompson, 1999). Nevertheless, the results of the studies in this review highlight the need for further research to establish the true nature and dynamics of the relationship between the child's capacity to effectively regulate his emotions and the his/her ability to adapt in various situations.

Family characteristics

This review concluded that family functioning plays an important role in the development and maintenance of childhood mental health difficulties (Kurtz et al., 1993; Lau et al., 2006; Lau & Weisz, 2003; Manion et al., 1998; Mian et al., 1996; Paradise et al., 1994; Reinmann et al., 2003; Sagy & Dotan, 2001; Schweder, 2003; Stern et al., 1999). Perhaps it is the reassurance that the children are not to blame for the CM, the adaptability of the family and the modelling of healthy coping responses, or the relationship (e.g., cohesion) between family members that is responsible. Alternatively, it may be that how parents respond to stress and how this impacts their parenting style and availability to the child is the critical factor, or, a combination of several factors may be involved.

Although the majority of primary studies reviewed (90.9%, n=60) were judged to be of high quality, some problems based on the research methodologies applied can be highlighted. For cohort studies, the most significant problem was the lack of reported attrition rates and reasons for drop-outs. The loss of some participants to follow-up can significantly affect the outcome. For studies using a case-control design, the main issue was that most of the studies draw on child protection samples of maltreated children and maltreatment evaluation samples. Although this research generates very important information on how children respond to and cope with their experiences of CM, it may be a stressful point in the child's life and subsequently not representative of his or her behavioural and mental health in the long-term. For cross-sectional studies, however, the sometimes over-reliance of self-disclosure of childhood maltreatment by caregivers is highlighted in this review as an issue that may pose threats against the validity of the study.

Methodological limitations of the review

A number of limitations of this review should be considered when interpreting the findings. First, as with any systematic review, there is a possibility of publication bias (whereby studies with positive results are more likely to be published). In this review, researchers in the field were contacted to obtain unpublished research. A further criticism of this review is that the literature search conducted although extensive was restricted from 1985 to 2006. With current advances in research (e.g., robustness of design and methodological rigour), it would be interesting to see if similar conclusion would be drawn. Finally, the quality assessment was developed a priori on the basis of other assessments and subsequently the validation may be criticised. However, the inter-rater reliability was acceptably high between the three independent reviewers. Thus, it is possible that the reviewers rated the methodological quality with slightly different meanings from those intended by the authors of the reviewed papers.

Conclusion

This review found supporting evidence that CM has many negative consequences on childhood behaviour and mental health. In addition, this review concludes that there are no gender and age differences in symptomatic behaviour following CM. Moreover, this review found that negative appraisals and family functioning mediate the impact between CM and childhood behaviour and mental health. However, this review could not reach any firm conclusions regarding effect of maltreatment characteristics and certain child characteristics (i.e., attachment, perceived control, emotion regulation).

This review found few studies investigating the effects of CN and CEA meeting the inclusion criteria. There are many reasons why CN and CEA have received less attention in research. In addition to issues of standard definition and continually underestimation of seriousness of these two forms of maltreatment (Dubowitz et al., 2005). There is a need to conduct research among child population that have experienced these types of CM in order to establish their independent contributions to negative outcomes beyond the deleterious influence of related risk factors and other forms of CM. A related issue is that the majority of studies conducted in the field of CM are on child protection samples or maltreatment evaluation samples from lower income homes. Although most studies controlled for these factors as covariates, this might subsequently have affected the result obtained as these children are already placed in economically challenging environments with its accompanying risks. In addition to these studies that focus mainly on child protection samples, there is a need to broaden the scope to include children from the general population. This would help in getting a clearer understanding of the mechanism that may assist maltreated children in their recovery.

PART II: EMPIRICAL RESEARCH

CHAPTER 3: PATHWAYS FROM VICTIMISATION HISTORY TO BEHAVIOURAL AND EMOTIONAL DIFFICULTIES

Chapter rationale

There is a growing body of research that highlights the co-occurrence of experiences of CM and witnessing IPV in the family unit (Casanueva, Martin & Runyan, 2009; Dixon et al., 2007; Herrenkohl & Herrenkohl, 2007; Herrenkohl et al., 2008; Knickerbocker, Heyman, Smith Slep, Jouriles & McDonald, 2007). Yet, until recently, many researchers have failed to account for this overlap. Therefore, this chapter considers the effect of experiencing child maltreatment (CM) in addition to witnessing intimate partner violence (W.IPV) in a community population of school children in a small town in Sweden. Based on Chapter 2, this Chapter explores the idea that children's cognitions or cognitive processes (i.e., negative automatic thoughts, perceived control and emotion regulation) and environmental factors (i.e., prosocial behaviour), independently or in co-existence, intervene in the pathway to behavioural and emotional difficulties following W.IPV and/or CM.

In Sweden, few empirical studies have provided information about the extent of the problem of CM in addition to W.IPV and even less is known about its consequences on childhood behaviour and mental health (Almqvist & Jansson, 2004; Ekblom & Landberg, 2001; Eriksson et al., 2006; Lindell & Svedin, 2001, 2004, 2006; Lundgren et al., 2001). Knowledge about CM and/or W.IPV, such as risk and protective factors, characteristics of child victims, and interventions come mainly from research studies conducted internationally, foremost in the U.K. and the U.S. Conducting research in a community

sample has value for advancing knowledge about CM in addition to W.IPV and for informing public policy, particularly with regard to estimating the extent of the problem. Swedish comparable data on the rate, nature and dynamics of the problem is needed to aid research to better understand this vulnerable population of young people and to plan effective service responses for the child victim(s) and their families.

Introduction

Over the past decade, there has been a growing consensus that the pathway from witnessing intimate partner violence (W IPV) and/or experiencing child maltreatment (CM) to behavioural and emotional difficulties is the result of a complex interaction between risk, protective and mediating factors (Bolger & Patterson, 2001; Cicchetti & Rogosch, 1997, 2001; Macfie et al, 2001). Recent studies have identified child factors (such as perceived internal control, emotional regulation, negative automatic thought) that interact to promote a more adaptive level of functioning (Bolger & Patterson, 2001; Fincham, Korthals Altes, Stein & Seedat, 2009; Flores, et al., 2005; Martinez-Torteya et al., 2009; Zielinski & Bradshaw, 2006). Similar to previous research, it is proposed that cognitive (i.e., automatic thoughts, perceived control) and emotional (i.e., emotion regulation) processes are key protective factors in the developmental background of resilience.

In this study it is proposed that the independent contribution of the protective factors as well as the combination of them together, needs to be explored. This theoretical idea is based on the assumption that a maltreated child may manifest a high perceived internal control (e.g., Bolger & Patterson, 2001) but at the same time use dysfunctional cognitive emotional strategy to reach this inner sense of control (e.g., Shields & Cicchetti, 1995; 1997). This study was primarily initiated due to the small amount of research being conducted in Sweden on the extent and consequences of W IPV and/or CM (Annerbäck, Lindell, Svedin & Gustafsson, 2007; Lindell & Svedin, 2001, 2004, 2006). The present study explored a number of these factors related to high-risk children's adaptation to

determine their role in the association between family maltreatment and emotional/behavioural problems in childhood in a Swedish school sample of children.

Extent of CM and witnessing IPV

According to the Swedish National Council for Crime Prevention, 10,500 children (aged 0-14 years) were reported to the police in Sweden to have experienced likely CM in 2008, giving a national incident rate of 6.89 per 1,000 children (approximately 0.7% of Swedish children that year, Brottsförebyggande rådet, 2008). Considering incidence rates reported in other countries, a substantially lower incidence rate was reported in Denmark (2.7 per 1,000, aged 0-17 years; Riis, Bodelsen & Knudsen, 1997) and the U.K. where 2.5 per 1,000 children under the age of 18 were on the Child Protection Register in 2007 (Department for Children, School and Families, 2008). In contrast, in the USA the annual national statistics showed a higher incidence rate of 43 referrals per 1,000 children, i.e., approximately 3.2 million referrals of child abuse and neglect (U.S. Department of Health and Human Services, 2009).

Notably, the Danish incidence rate was extrapolated from data collected from the schools, general practitioners and local authorities in the 18 districts in the county of Copenhagen (Riis et al., 1997), whereas the other three countries data was national but different sources were taken. For example, in Sweden the rate included all reports of likely CM to the police and possible reports of revictimisation, whereas in the UK it only included number of new cases of maltreated children reported and those who were actually registered as having experienced CM.

Prevalence rates are equally different. Overall, few studies have been conducted on the prevalence of CM using the same survey methodology (Gilbert, Spatz-Widom, Browne, Fergusson, Webb & Janson, 2009), therefore making it difficult or even inappropriate to make direct comparisons among the rates from the different countries. However, in a comparison study of violence against children in the USA and Sweden, Gelles and Edfelt (1986) interviewed 2,316 caregivers using the Conflict Tactic Scales. In this study it was found that Swedish parents reported less severe physical violence towards their children in 1980 than American parents reported in 1975 (51.3% vs. 79.2%), but there was no significant difference between reports from the parents in terms of severe physical abuse (4%). In 2000, the same types of interviews were carried out again in Sweden (Statens Offentliga Utredningar, 2001). The finding indicated a major decrease in the reporting of less severe of physical abuse (8.3%). Notably, no reduction in severe abuse was found.

Recent findings from an American national longitudinal study of 15,197 young adults (aged 18 to 26, 77.4% of the initial sample) showed that 28.4% reported a history of physical assault, 11.8% physical neglect and 4.5% contact sexual abuse (Hussey, Chang & Kotch, 2006). In comparison, a national prevalence study of CM among approximately 2,869 English young adults (18-24 years, May-Chahal & Cawson, 2005) found that 16% had experienced some form of maltreatment (both intrafamilial and extrafamilial) before the age of 16. May-Chahal and Cawson (2005) reported that 11% of the sample reported serious physical neglect, 11% contact child sexual abuse, 7% severe physical abuse and 6% severe emotional abuse (including W.IPV).

In terms of exposure to IPV, there is currently no reliable national data available in Sweden, however, existing data sources suggest a considerable number of children are affected. For example, in a study conducted among school children, the reported prevalence of witnessing IPV during childhood in Sweden ranges from 5-10% of children aged 9-12 years (Statens Offentliga Utredningar, 2001) and 8-10% of children aged 15-16 years (Janson, Langberg & Svensson, 2007). In addition, Arnell and Ekblom (1999) estimated the prevalence rate at which children are exposed based on the number of IPV cases reported to the police, assuming two children in each family, at approximately 190 000 children per year. This corresponds to approximately 10% of children, aged 0-17, in Sweden. Of these children, it has been estimated that one third of them are known to the social services (Barnombudsmannen, 2007).

In the U.S., studies have estimated that 10 to 20 percent of children are at risk for exposure to IPV (Carlson, 2000). These findings translate into approximately 3.3 to 10 million children who witness IPV each year (Straus & Gelles, 1990). In the U.K., the Government estimates that at least 750,000 children a year witness IPV, while nearly three quarters of children on the 'at risk' child protection register live in households where IPV occurs (Cleaver, Unell & Aldgate 1999; Department of Health, 2002).

Given the magnitude of the problem of W.IPV and/or CM, there is cause for concern considering that many of the violence-exposed children are at elevated risk for behavioural and emotional difficulties (Buckner et al., 2004; Gewirtz & Edleson, 2007; Hildyard & Wolfe, 2002; Holt, Buckley & Whelan, 2008; Huges & Etzel, 2001; McDonald, Jouriles, Tart & Minze, 2009). Clinical and research evidence suggests that childrens' reactions and

coping abilities to W.IPV and/or CM exist on a continuum where some children show no detectable symptomatology whilst others exhibit severe psychiatric symptomatology (Evans et al., 2008; Maker, Kemmelmeier & Peterson, 1998; Sternberg et al., 1993). Prior literature has begun to address the question of why some maltreated children are more vulnerable to developing psychological disorders than others, albeit they have experienced similar forms of W.IPV and/or CM (Cicchetti & Rogosch, 2009; Daignault & Hebert, 2009; Fincham et al., 2009; Flores et al., 2005; Gewirtz & Edleson, 2007; Landsford, Malone, Stevens, Dodge, Bates & Pettit, 2006).

Definition of resilience

Children who manifest positive adaptation despite their early experience of maltreatment are referred to in the literature as resilient (Luthar, Cicchetti, & Becker, 2000; Masten & Obradovic, 2006). The limited amount of research linking W.IPV with resilience has suggested that approximately half the children who witnessed IPV show modest or no emotional and behavioural problems in childhood (Gewirtz & Edleson, 2007), with rates ranging from 31% (Grych et al., 2000) to 65% (Hughes & Luke, 1998). In a recent community longitudinal study of young children who witnessed IPV, Martinez-Torteya et al. (2009) defined resilience as those who scored lower than the clinical cut-off for both internalising and externalising subscales of the CBCL (Achenbach, 1991) at two, three and four year. The findings showed that 54% (n=62) of children who witnessed IPV fulfilled the criteria for resilience. However, when the number of IPV exposure periods increased, the number of children classified as resilient decreased (Martinez-Torteya et al., 2009).

In comparison to the W.IPV group, more research has been conducted on resilience in maltreated children. However, little is still known about how children cope with experiences of CM. Given that individuals may appear resilient at one time or domain of functioning but not another time or domain (Manly, Kim, Rogosch & Cicchetti, 2001; Masten, Hubbard, Scott, Tellegen, Gramzy & Ramirez, 1999; McGloin & Spatz Widom, 2001), research on the consequences of CM have begun to investigate different domains of functioning and over time. For example, Cicchetti and Rogosch (1997) conducted a longitudinal study of maltreated and non-maltreated, low-income and disadvantaged children who were assessed across three consecutive years. In this study, resilience was defined according to a adaptive composite across the three time points (calculated by summing the number of the seven adaptive indicators: internalising, externalising, depression, school risk index, prosocial, disruptive and withdrawn behaviour). Findings suggested that only 1.5% of the 133 maltreated children exhibited an overall high level of adaptive functioning over time (i.e., met criteria of 5 or more adaptive indicators). However, when a broader definition was used to include those who exhibited modest symptoms (scores of 2 to 4) or improved their level of functioning over time, then 37.6% of the maltreated children were classified as resilient.

Similarly, in a more recent longitudinal study among 107 maltreated, low-income, school-age children, Bolger and Patterson (2003) found that 6% of the maltreated children manifested high level of functioning in at least one of the four domains (peer acceptance, internalising, externalising and academic achievement) and without exhibiting very poor adjustment (i.e., one standard deviation worse than the mean) at one time point across three consecutive years. Further analysis of a composite measure of adaption based on the

four domains demonstrated a higher resilience rate (21%) among the maltreated children at any time point. However, when the definition of resilience was narrowed to those who sustained high level of adaptive functioning over time, less than 5% of the maltreated children qualified as resilient.

In summary, rates of resilience have ranged from 31-65% for W.IPV exposed children (Grych et al. 2000; Hughes & Luke, 1998) and 1.5-37.6% for maltreated children (Cicchetti & Rogosch, 1997). The variety of methods used for classifying resilience may explain differences in resilience rates between W.IPV and maltreated children. Existing data have shown that prevalence rates of resilience greatly depends on definition, sample source (i.e., clinical vs. non-clinical), methodology (i.e., cross-sectional, longitudinal) and statistical cut-off scores (Cicchetti & Rogosch, 1997; Spaccarelli & Kim, 1995). Over the last decade, research has moved from defining resilience as the absence of psychopathology to functioning across different domains (McGloin & Spatz Widom, 2001). An advantage of assessing functioning across multiple domains is that it gives a more accurate picture of the extent of consequences and how maltreated children respond in the face of adversity, having implications for theoretical understanding, as well (more importantly) the practical knowledge needed to enhance treatment of traumatised children.

Along with these advantages, however, it raises questions about what degree of stringency for 'resilience' is appropriate. For example, defining resilience simply in terms of the absence of psychopathology may be appropriate for a child who has been directly victimised physically or sexually and indirectly through witnessing violence between his/her parents. However, as well as differences arising from methodological issues, the

fact remains that some children have better outcomes than others to witnessing IPV and/or experiencing CM. Therefore, research has begun to consider risk and protective factors that might be important in this process. While risk factors help to explain adverse outcomes, protective factors may help to explain more optimal outcomes.

Risk and protective factors

As described in the Introduction of this thesis, models explaining effects of CM and/or W.IPV on child outcome generally focus on a particular level of the child's ecosystem, such as the child's own characteristics and developmental stage or the immediate parenting process. Consistent with three ecological levels, this study examine the effect of child and partner maltreatment (i.e., microsystem) on child outcome mediated through child characteristics (i.e., onogenic system) and prosocial behaviour (i.e., exosystem, Bronfenbrenner, 1979).

Negative cognitive appraisal

Limited research has focused on child sexual abuse in relation to negative cognitive appraisals. This research has found cognitive appraisals to have a mediating effect on emotional problems in childhood while controlling for level of sexual abuse experienced (Spaccarelli, 1995; Spaccarelli & Fuchs, 1997; Spaccarelli & Kim, 1995). For example, Spaccarelli and Kim (1995) found negative cognitive appraisals of threat, harm or loss associated with child sexual abuse to have a mediating impact on two domains: maintenance of social competence and absence of parent- and child-reported symptomatology. Those sexually abused girls who were classified as resilient

demonstrated significantly fewer negative appraisals regarding the abuse than those girls who presented with more symptomatology.

Perception of Control

Not surprisingly, considering the unpredictable and threatening nature of families characterised by maltreatment, research findings suggest that children who have witnessed IPV and/or experienced CM are less likely to feel in control of their lives (Bolger & Patterson, 2001; Buckner et al., 2004). This feeling of lack of control (i.e., external control) has been shown in research, to foster feelings of depression and anxiety. However, empirical evidence regarding the role of control-related beliefs and processing patterns in maltreated children is relatively sparse (Bolger & Patterson, 2001; Buckner et al., 2004). Thus, existing studies suggest that high levels of perceived internal control are linked to positive adaption in maltreated children, whereas high levels of perceived external control are predictive of high levels of emotional and behavioural problems (Bolger & Patterson, 2001; Buckner et al., 2004; Moran & Eckenrode, 1992).

Emotion regulation

According to Maughan and Cicchetti (2002, p.1525), emotion regulation is “influenced by caregivers’ shaping of children’s perception of the environment and their affective reactions to and interpretation of emotionally stimulating events” and may be viewed as a form of coping strategy to regulate their “internal emotional experiences, degree of emotional expressiveness, and management of emotional arousal”. Early witnessing of IPV and/or experiencing CM and accompanying high levels of intensity and negativity significantly influence a child’s ability to process and manage emotions effectively and

subsequently put the child at increased risk of developing psychopathology (Greenberg, Kusche & Speltz, 1991). Findings have shown that maltreated children who manifest deficits in emotional and behaviour regulation have shown with significantly higher rates of internalising and externalising problems compared to their non-maltreated counterparts (Alik et al., 2009; Buckner et al., 2004; Shields & Cicchetti, 1994; 1995; Shields & Cicchetti, 2001; Shields, Ryan & Cicchetti, 2001; Teisl & Cicchetti, 2008).

Study Rationale

Having established W.IPV and CM as important risk factors for emotional and behavioural problems in childhood, research needs to focus on individual differences in mental health outcomes in child victimised samples (Fiering, Taska & Lewis, 1998). A growing body of theory and research points to children's cognitive appraisals and perceptions of traumatic event as well as capacity for emotion regulation potentially playing key roles in the impact on mental health outcomes (Alik et al., 2009; Brown & Kolko, 1999; Schniering & Rapee, 2004; Maughan & Cicchetti, 2002; Shields & Cicchetti, 1994; 1995; Shields et al., 2001; Spaccarelli, 1994, 1995; Spaccarelli & Fuchs, 1997; Spaccarelli & Kim, 1995; Teisl & Cicchetti, 2008; Toth, Cicchetti & Kim, 2002). However, little is known about how these risk and protective factors independently and in combination with each other, influence whether the maltreated child manifests emotional and behavioural problems on the outcome measures. Understanding the ways in which children cope with their traumatic experience and pathways to emotional and behavioural problems are important goals for research in the field of developmental psychopathology.

Aims

Therefore, the aims of this paper are to:

1. Explore the prevalence of IPV and CM in a general population of Swedish school children;
2. Explore the extent to which child cognitive factors (i.e., physical threat, social threat, hostility, personal failure, perceived internal control, perceived external control and emotion regulation) and prosocial behaviour mediate the association between W IPV and/or CM and PTSD symptoms, anxiety, depression, dissociation, aggression and behavioural difficulties;
3. Provide an overview of resilient features among children who have witnessed IPV and/or experienced CM and explore differences in level of adaptation in terms of presence of risk and protective factors.

Method

Participants

Schoolchildren, aged 8-12, were recruited from 11 schools in a small town in Sweden. All the parents of children in Years 2-5 (i.e., 772 families with 896 children) in the municipality of Tierp were approached via an initial letter and a follow-up letter approximately one month later. The total response rate was 352 (45.6%) of families. Of these, 107 agreed for their children to participate (30.4%) but 245 families declined (69.6%).

There may also have been some parents who just forgot to complete the forms or who did not want to invest the time completing the parent questionnaires. Indeed, five families failed to return the questionnaires and an additional five children were not available during the three days of assessment (e.g., illness, vacation) even though their caregivers' had completed and returned the questionnaires. This study is based on the remaining 97 children from 97 families (12.6%) with complete sets of caregiver and child self-report questionnaires. Parental information came from biological mother (n=80, 82.5%), biological father (n=15, 15.5%) and foster/adoptive mother (n=2, 2%).

Of these 97 children, 58.8% (n=57) were boys and 41.2% (n=40) were girls. The mean age at the time of child self-report was 9.89 (SD=1.21). Demographic information is presented in Table 3.1.

Table 3.1: Demographic Characteristics for school sample of children (N=97) reported by parents

Variable	n(%)
Nationality	
Child born in Sweden	94(96.9)
Parents born in Sweden	86(88.7)
Parents income (n=97) ¹²³⁴	
SEK Less than 100,000	13(13.4)
SEK 100 – 200,000	28(28.9)
SEK 200 – 300,000	36(37.1)
SEK More than 300, 000 (maximum 800,000)	20(20.6)
Parents Education Level (n=94) ⁵	
Completed High School	1(1.1)
Some Upper Secondary School ⁶	6(6.4)
Completed Upper Secondary School	48(51.1)
Some University studies	12(12.8)
Bachelor's Degree	23(24.5)
Graduate/Professional Degree	4(4.3)
Number of Children (n=82)	
One	5(6.1)
Two	34(41.5)
Three or more	43(52.4)
Current Relationship Status (n=97)	
Single, never married	3(3.1)
Single, divorced or separated	6(6.2)
Single, widowed	1(1)
Cohabited	33(34)
Married	54(55.7)

¹ SWE 1 krona is equivalent to approximately £0.077 (depending on current currency).

² Maximum income reported was SEK 600 – 800,000

³ These figures should be taken with caution as the caregivers may have interpreted this question about family income per year differently (i.e., total family income versus individual parent income).

⁴ These figures can be compared to the average income in the municipality of Tierp (SWE228.500) and the national average (SWE 257.000; “Ekonomifakta”, 2010)

⁵ These figures can be compared to the average of people who has some or completed university studies in the municipality of Tierp (11.8%) and the national average (22.2%; “Ekonomifakta, 2010)

⁶ Education in Sweden is mandatory for all children aged 7-16. All young people who have completed compulsory school are entitled to three years of schooling at upper secondary school, called gymnasieskola.

Procedures

As the study concerned children below the age of 15, parents were provided with information sheets about the study. Information and consent sheet and caregiver self-report questionnaires were sent to all caregiver/s of children in Year 2-5 in schools in the municipality of Tierp, Sweden (Appendix F for consent sheet). The information sheet contained information about the aim of the study, how this study would be conducted and their rights as parents. An unsealed envelope containing this information, the consent sheet and the caregiver self-report questionnaires was given out with three options offered:

- I. choose not to open the envelop, seal it up and return it;
- II. open the envelop, choose not to complete the questionnaires, seal the envelop and return it;
- III. open the envelop, answer some or all of the questions and/or questionnaires, seal the envelop and return it.

All of the children and their caregivers were assigned a number to maintain confidentiality (see 'ethical considerations' section) and encouraged to use their personal number for future correspondence with the researcher (e.g., if they later decided that they wished to withdraw from the study). Those caregivers who gave their consent for their child to participate also agreed for additional file information to be used for research purposes.

There were three stages to this study for those who took part:

Stage 1 - Parental questionnaires: two concerning their child's experience of early life events and family functioning, whilst the other three measured their child's emotional and

behavioural strengths, as well as difficulties. Parents who had more than one child in Years 2 to 5 completed with regard to the youngest child.

Stage 2 - Child questionnaires: the questionnaires were administered by the primary researcher. Children were individually provided with a booklet containing the questionnaire and their personal code after a brief introductory individual talk about the project, why they had been assigned a code number, their right to withdraw and whom to speak to if they felt distressed or uncomfortable (e.g., researcher, school psychologist or to name a member of staff they would wish to discuss their feelings with). Next, small age-appropriate groups of approximately six school children, aged 8-9 and 10-12 years, completed a variety of measures in their classroom setting (with parental permission) for approximately 30 minutes at a time across three days (i.e., a total of approximately 90 minutes). The child questionnaires were spread over the three days to minimise concentration difficulties and/or boredom in the participating children. On any subsequent days of data collection, it was arranged that the child had a choice of i) not completing the measures ii) doing them in a private room iii) staying in the classroom.

For ethical reasons, the experience of maltreatment among these children was not measured directly. This information was collected from parental self-reports, school files and school medical files containing information of referral to a mental health professional or social services. The variety of measures that the children completed involved evaluation of protective factors (i.e., automatic thoughts, perceived control) and current adjustment (i.e., academic achievement, peer friendship, emotional and/or behavioural problems).

Given the number of children involved in the study, it was necessary to undertake most of the work in classroom groups. For some children, this can be less daunting than being in a one-to-one situation in a private room. In three cases where the researcher noticed that the child was disengaged or having difficulties to concentrate, the child was approached as inconspicuously as possible at the end of the assessment session and asked how they felt, if they wished to sit individually to complete the questionnaire or if they wished to stop altogether. Of three children who were approached, one said that he would like to stay in the classroom with the other children but that he found it difficult to fill in the right line on the questionnaires and therefore wanted to sit close to the researcher for additional help. The other two children expressed their wish to complete them in a private room together with the researcher as this would aid their concentration. At the second assessment session, however, one of these two children subsequently stated that he did not wish to continue and was excluded from the sample. The school psychologist was available for those children who found the questionnaires upsetting and offer them additional debriefing and counselling, both during and after the study was completed. None of the 97 participating children (including the child who choses to withdraw his participation) was reported by their parents, teacher or school psychologists to have been distressed and/or sought additional debriefing.

Stage 3: File information. File based data was collected from three sources: the county medical files (birth to age 6), school medical files (from age 6) and school files to give a more comprehensive view over the child's potential emotional and behavioural problems and referral to social services. Data was extracted from each file using a pre-defined proforma in a systematic way.

Measures

The translations for the three measures were conducted by the primary researcher and four Swedish native speaking colleagues according to the developer and/or publisher requirements:

- i) English-Swedish bilingual speakers who knew the Swedish culture
- ii) current items were reviewed for cultural relevance
- iii) the translated items were translated into Swedish, then back-translated to English.

Internal reliability (Appendix G) and inter-correlations between subscales within the different measures (Appendix H) were calculated. Table 3.2 provides descriptive information regarding the different caregiver and child measures.

A) The caregivers answered four questionnaires:

- Emotional Regulation Checklist (ERC, Shields & Cicchetti, 1995);
- Lifetime Incidents of Traumatic Events (LITE, Greenwald, 2000);
- Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997; Malmberg, Rydell & Smedje, 2003; Smedje, Broman, Hetta & Von Knorring, 1999);
- The Trauma Symptom Checklist for Young Children (TSCYC, Briere, 2005).

B) Children completed two measures:

- Children's Automatic Thoughts Scale (CATS, Schiniering & Rapee, 2002);
- The Multidimensional Measure of Children's Perceptions of Control (MMCP, Connell, 1985).

C) Children aged 11-12 years (n=49) also completed an age-appropriate self-report measure:

- Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997).

Table 3.2: Descriptive information of the different parent and/or child measures

Measures	Items	Description	Scale	Range of possible scores	Clinical cut-off
CAREGIVER MEASURES					
i) Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1995)	24	Designed to detect processes central to a child's ability to regulate emotional stress. In this study, the scores were combined to create an overall emotion regulation measure and defined as including stable mood, emotional sensitivity, situational appropriateness of emotional responses, emotional understanding, self-control, and empathy.	4-point Likert scale ranging from 1 (almost always) to 4 (never).	23-92 Higher scores on this measure indicate adaptive regulation of emotions.	N/A
ii) Lifetime Incidents of Traumatic Events (LITE-P; Greenwald, 2000).	16	Child's history of exposure to adverse life events. Items include car accident, house fire, death of a family member, exposure to threats, sexual assault, and other potentially upsetting events.	The items are scored as yes/no, how many times and the child's age at first exposed. In addition the parents scores on a three point scale from 0 (not at all) to 2 (a lot) on the child's level of distress of each of the endorsed events both when they occurred and current functioning.	N/A	N/A
iii) The Trauma Symptom Checklist for Young Children (TSCYC; Briere, 2005)	90	<p>The psychological sequelae of traumatic experiences</p> <ul style="list-style-type: none"> • Anxiety; • Depression; • Anger/Aggression; • Posttraumatic Stress Disorder Symptoms • Dissociation; • Sexual concerns. <p>The Sexual Concern scale was omitted from the current</p>	It consists of responses ranging from 1 (<i>not at all</i>) to 4 (<i>very often</i>).	<p>Range of raw scores on each of the subscales: 9-36</p> <p>For the overall measure of PTS symptoms: 36-108</p> <p>Higher scores on each subscale</p>	T scores between 65 and 69 are considered to be problematic T scores at or above 70 are considered

study because there was no cases with suspicion of CSA, and the internal consistency for that subscale was <.60.

indicate higher level of that particular behavioural problem.

clinically significant

CHILD MEASURES:

i) Children's Automatic Thoughts Scale (CATS; Schiniering & Rapee, 2002).	40	<p>Child's cognitive representation of themselves in different situations whilst considering the child's developmental stage and potential emotional and behavioural problems.</p> <p>Children's negative thoughts in four domains;</p> <ul style="list-style-type: none"> • physical threats; • social threats; • personal failure; • hostility. 	Children are asked to rate their answer on a scale 0 (not at all) to 5 (all the time).	<p>Each of the domains ranged from: 0-50</p> <p>High scores on this measure indicate more negative thoughts.</p>	N/A
ii) The Multidimensional Measure of Children's Perceptions of Control (MMCPC; Connell, 1985)	24	<p>Children's beliefs about whether their successes and failures are caused by:</p> <ul style="list-style-type: none"> • their own attributes (perceived internal control); • other people's attributes or unknown factors (perceived external control) <p>In this study, the children completed the social and cognitive subscales.</p>	Children are asked to rate their answer on a 1 (<i>not at all true</i>) to 4 (<i>very true</i>) point scale.	<p>For internal control: 8-32</p> <p>For external control: 16-64</p> <p>The higher scores on the scales indicated a high external versus internal perceived control.</p>	N/A

Measures	Items	Description	Scale	Range of possible scores	Clinical cut-off
CHILD AND CAREGIVER MEASURES:					
i) Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997)	25	This is a screening instrument measures emotional and behavioural strengths as well as difficulties in children and adolescents.	The SDQ is scored on a scale from 0 (<i>Not True</i>) to 2 (<i>Certainly True</i>).	Each subscale: 0-10 SDQ Overall Difficulties: 0-40 The higher scores on the scales indicate more behavioural and emotional difficulties versus prosocial behaviour.	Total difficulties score: cut-offs borderline ≥ 14 ; abnormal behaviour ≥ 17 . Prosocial behaviour score: cut-offs borderline ≤ 5 ; abnormal ≤ 4 (negatively)

Definitions

W.IPV and CM: Classifications were based on the definitions used by the school to report to social services (the Social Services Act, chapter 5, paragraph 1, 2001:453) and/or definitions provided by the caregiver self-report questionnaire Lifetime Incidents of Traumatic Events (LITE-P, Greenwald, 2000, see Table 3.3). According to the Social Services Act (2001:453 1§ Chapter 14) the school staff has the duty to report to social services if information comes to light suggesting that a child is being badly treated in school, at home or in their leisure time (Höglund, 2002). This involves physical abuse, sexual abuse, emotional abuse, child neglect, substance misuse, criminality or other social exposure or extreme poverty. For the purpose of this research, both classifications were followed. A child's exposure to intimate partner violence in which one of the caregivers is the perpetrator or psychological violence directed towards the child was regarded as form of child emotional abuse (see Table 3.3).

Table 3.3: Definitions of Intimate Partner Violence and Child Maltreatment based on Life Incidence of Traumatic Events – Parent version (LITE-P, Greenwald, 2000)

Child Emotional abuse	Parents (or partner) destroyed property, hurt each other physically
Child Physical Abuse	The child is/has been beaten or injured by someone
Child Sexual Abuse	The child is/has been forced to carry out sexual acts

Resilience: Children who, despite their experience of family maltreatment, manifested no symptoms were classified as resilient (i.e., absence of sub-clinical or clinical levels of both behavioural and emotional difficulties).

Data Treatment

Witnessing IPV and/or experiencing CM

As analysis of W.IPV and different types of maltreatment would give low power due to small sample size (n=17, 17.5% witnessed IPV and/or experienced CM), a dichotomised group of W.IPV/CM versus non-maltreated children was created.

Information concerning W.IPV and CM (except child neglect) were collected both from school files and caregiver self-report on the questionnaire Life Incident of Traumatic Events of W.IPV and CM in attempt to get as accurate picture of the prevalence as possible. However, the self-report questionnaire did not include items relating to child neglect. Thus, the presence of child neglect was solely based on school reports to social services.

The caregiver self-report included items directly related to a child's exposure to IPV and/or experiences of child physical and sexual abuse. Other items such as 'threatened', 'exposure to other threatening situation' and 'locked into a close confinement' were excluded because it could not be established in some cases that the caregivers were reporting incidents of CM. For example, in two separate cases, it was clear that the caregiver was not referring to CM. In one case, the mother described how child got distressed when their house pet died as child's exposure to threatening or emotionally upsetting situation. Another mother described how the child had been locked into the bathroom by accident at the nursery (i.e., locked confinement). Other caregivers did not describe the nature of the incident/s and subsequently it could not be presumed that they

were in fact reporting CM and were subsequently not recorded included in the W.IPV/CM group.

Normative data as comparison

Since the sample was non-clinical, raw scores were used for statistical analysis (Black, Papas, Hussey, Hunter, Dubowitz et al., 2002; Johnson, Kotch, Catellier, Winsor, Dufort, Hunter et al., 2004), whereas normed referenced *T* scores (mean 50, SD 10) were used to examine whether symptomatology was normal functioning, subclinical difficulties or clinical levels of psychological disturbance.

On the TSCYC, 11 caregivers had a *T* score of 70 or higher on the tendency to underreport (all parents of non-maltreated children). Analysis showed that these parents scored their child's level of emotional and behavioural problem significantly lower compared to those caregivers who did not show a tendency to under-report and therefore were excluded from main analyses. This left a sample of 86, of whom 17 had W.IPV/CM.

Statistical analyses

Bivariate relationships were investigated using Chi-Square statistics (categorical variables) and Pearson correlation coefficients, t-test or Mann-Whitney U tests for other variables (depending on normal distribution). In the multiple regression, the B coefficient shows the strength of the relationship between childhood mental health difficulties and each predictor. The *R*-square provide information the goodness of fit of a regression line and the proportion of variance in the DV explained by the predictor variable/s. To examine mediation, the procedure outlined by Baron and Kenny (1986) and Kenny, Kashy and

Bolger (1998) was used. The Sobel test was conducted to examine whether there was a mediation (Preacher & Hayes, 2004).

Missing data

W.IPV and CM. Details on maltreatment characteristics (e.g., severity, frequency and duration) of W.IPV and CM were scarce. For IPV, the information was unavailable in most of the cases for frequency (86.7%) and duration (52.2%). For CM, the information regarding frequency and duration was unavailable in 78.7% and 83.9% of cases respectively. Evidently, this information is of little assistance for analysis.

Emotional and Behavioural Outcome Measures. Whether or not missing data will introduce bias depends upon the proportion of non-missing data. If less than 5% of data is missing, this is usually considered unproblematic, whereas more than 20% missing data is of concern (Menard, 2003). The proportion of missing scores in the child measure Multidimensional Measure of Children's Perception of Control (MMCP; Connell, 1985, see method section) was 5.2%. For the other measures, less than 5% of the data was missing. Examining these measures revealed no systematic pattern of missing values. On the contrary, the missing values appeared to be random across both caregiver and child self-report questionnaire.

Some of the questionnaires had their recommended procedures for treating missing data (TSCYC, Briere, 2005, SDQ, Goodman, 1997), which was followed. Other measures did not have their own procedure (MMCP; Connell, 1985; LITE, Greenwald, 2000; CATS, Schniering & Rapee, 2002; ERC, Shields & Cicchetti, 1997). Therefore, the decision was

made to permit two omitted items per subscale for these questionnaires (as per the Culture Free Self-Esteem Inventory, CFSEI-3, Battle, 2002). The procedure of treating missing data for the scores for the omitted items in the questionnaires was to compute the average of the other items in the same subscale. Thus, the total score of those scales containing more than two omitted items were put as missing in SPSS. In terms of issues of multiply marked items on Likertscale, if the item had been answered by checking two close items (e.g., Likertscale ranging from 1 to 5, the child has checked both 3 and 4) then the middle score would be chosen (e.g., 3.5). But, if the items were not close to each other, the rule of permitting two multiply items per subscale and computing the average of the other items in the same subscales was employed. For the caregiver self-report LITE-P (Greenwald, 2000), where yes or no response items were missing, these were recorded as missing data.

Concurrent Validity of Child/Caregiver report

As there are empirical studies showing low concurrent validity between childrens' and parents' report of outcome measures (Mannarino, Cohen, Smith, & Moore-Motily, 1991; Mcloskey, Figueredo & Koss, 1995), the raw scores from the child report SDQ and parent rating SDQ (n=52) were correlated to determine the strength of relationship between the two types of reports. The correlation coefficients were significant at $p < .05$, with the exception of emotional difficulties. Children reported a higher mean of emotional problems compared to their parents. A similar pattern, but of less significance, was found for the other subscales (see Appendix I). The significant findings indicate concurrent validity between the children's self-report and caregiver ratings.

Reliability of Proforma

One researcher collected all the data due to availability of staff, confidentiality and language issues. For intra-rater reliability, three files were trawled twice by the researcher one week after first completion (100% concordance rate).

Ethical considerations

This research was approved by the ethical committee in Uppsala, Sweden (Dnr: 2006/135). The information sheet was written in accordance to the ethical committee's recommendations and incorporates both the Swedish Personal Data Act and equivalent UK Data Protection Act and specifies the type of information that would be gathered from school files. In addition, the ethics committee requested a legal agreement concerning data protection to be drawn up between the municipality of Tierp and the University of Birmingham, U.K. After making amendments to this application on the basis of the given advice by the ethics committee, the application was approved in August 2007.

Child is experiencing or is at significant risk of experiencing harm

Prior to the data collection, the practice procedures were agreed between the municipality of Tierp, Sweden, and University of Birmingham, U.K., that the researcher would report the information to the responsible person within the school in cases where information comes to light suggesting that a child is in danger of significant harm. This person was the head of the school psychologists, school doctors and works closely with social services in the municipality of Tierp. The head of the school psychologists and doctors would therefore make the decision as to whether the social services needed to take action to

protect a minor (the Social Services Act, 1980:620 §71). However, there were no cases of concern during the data collection process.

Informed Consent and the Right to Withdraw

Although the consent was sought by caregiver/s, the children's (with parental permission) assent was also sought at the stage of data collection. The caregivers and their children were informed by the researcher that they may withdraw their participation at any stage of the study. As the children may believe that they will upset the researcher or parent if they withdraw from the study, the researchers explicitly stated that she would not be "angry" or "sad" if the children did not wish to take part or withdraw from the study. In addition, the caregivers were encouraged to discuss their participation with their child before agreeing to participate. As outlined above, only one child wished to withdraw his participation.

Confidentiality

The children and their caregiver/s who were participating in the study were coded by a numbering system to maintain confidentiality. The matching of coding between caregiver and child assessments and information collected from the files was done by the researcher. Only this number was placed on the computer and the list of children's names and numbers is kept in a locked filing cabinet in accordance with the data protection act. This locked cabinet is only accessible to the researcher.

Debriefing

For the school sample, the school psychologists were available for the participating families for debriefing and counselling.

Results

1. Child maltreatment and other types of childhood trauma

As shown in Table 3.4, the prevalence rate of parental report-only of witnessing IPV and/or experiencing child maltreatment was 12.4% (9 boys, 3 girls), 3 of whom were also reported by school. Inclusion of children identified via school reports to social services increased the overall prevalence rate to 17.5% (n=17), an additional two boys and three girls.

Table 3.4: Children reported witnessing IPV and/or experiencing CM (N=97)

Variable	Parents Self-Report of CM (only)	School Reports to Social Services of CM	Both Parent and School Report	Total
	n(%)	n(%)	n(%)	n(%)
Witnessed IPV	3(3.1)	1(1)		4(4.1)
Child Physical Abuse	6(6.2)	1(1)	1(1)	8(8.2)
Child Sexual Abuse	---	---	---	---
Child Neglect	---	3(3.1)		3(3.1)
Mixed abuse	---	---	2(2.1) ^a	2(2.1)
Total	9(9.3)	5(5.2)	3(3.1)	17(17.5)

^aOne boy witnessed IPV and experienced CN and one boy witnessed IPV and experienced CPA

As shown in Table 3.5, preliminary analyses revealed few significant differences between W.IPV and/or CM children and non-maltreated children in terms of early experiences of adverse events. W.IPV and/or CM children were more likely to have been ‘threatened, exposed to ‘other threatening situations’ and ‘bullied at school’ compared to non-

maltreated children (see Table 3.5). No other significant differences were found between the groups.

Table 3.5: Experiences of other types of adverse life events (LITE) reported by caregivers (N=97)

Adverse Life Events	W.IPV and/or CM (n=17)	Non- maltreated (n=80)	Test statistics
Threatened	6(6.2)	5(5.2)	FE=.004*
Exposure to other type of threatening or emotionally upsetting situations	6(6.2)	5(5.2)	FE=.004*
Locked into an confinement	1(1.0)	2(2.1)	FE=.450
Car accident	4(4.1)	6(6.2)	FE=.070
Injured in other type of accident or hospitalised	4(4.1)	21(21.6)	FE =1.000
Witnessed somebody getting injured	3(3.1)	12(13.4)	FE=.713
Family Member Hospitalised	10(10.3)	37(38.1)	FE=.285
Family Bereavement	7(7.2)	23(23.7)	$X^2_1 = .947$; p=.330
Peer Friend Injured Severely	3(3.1)	5(5.2)	FE=.129
Parents Divorced or Separation	8(8.2)	18(18.6)	FE=.067
Fire	2(2.1)	1(1.0)	FE=.078
Robbed	---	1(1.0)	FE=1.000
Bullied	5(5.2)	4(4.1)	FE=.008*

FE = Fisher's Exact Test

*p<.005

For the analyses of child symptoms, children whose parents were found to under-report child emotional and behavioural problems (n=11) were excluded as this might have skewed the result. In addition, one parent was found to omit too many items for the TSCYC subscales (in accordance to the recommended procedures; see section about missing data) and therefore the child was excluded from further analysis as the presence/absence of mental health difficulties could not be established. Hence, the following descriptive information and statistical analyses will be based on 85 children (17

maltreated and 68 non-maltreated). Table 3.6 depicts the means and standard deviations of all of the predictor variables and outcome measures involved in the proposed analyses respectively.

Table 3.6: Descriptive information for each measure by Group (N=85)

Measure and variable	W.IPV		Statistics	Range of possible scores
	and/or CM (n=17)	Non-maltreated (n=68)		
	M(SD)	M(SD)		
CATS Social Threat ^a	7.35(9.20)	6.22(7.71)	$t_{84} = -.52, p=.483$	0-50
CATS Physical Threat ^a	7.47(9.15)	5.37(7.66)	$t_{84} = -.97, p=.334$	0-50
CATS Hostility ^a	8.58(6.78)	7.30(6.67)	$t_{84} = -.70, p=.483$	0-50
CATS Personal Failure ^a	7.53(9.60)	6.48(7.48)	$t_{84} = -.49, p=.627$	0-50
MMCPIC Internal Control ^b	18.78(4.28)	20.66(4.14)	$t_{84} = 1.63, p=.106$	8-32
MMCPIC External Control ^a	27.00(8.28)	27.20(7.19)	$t_{84} = .10, p=.924$	16-64
ERC Emotion Regulation^b	71.90(9.29)	80.08(8.31)***	$t_{84} = 3.55, p<.001$	23-92
TSCYC PTS symptoms^{c, d}	57.76(14.42)	45.82(5.50)***	$U = 197.00, p<.001$	0-100
TSCYC Anxiety ^{c, d}	54.59(13.41)	49.16(6.60)	$U = 453.00, p=.166$	0-100
TSCYC Depression^{c, d}	55.82(10.58)	47.10(4.87)***	$U = 224.50, p<.001$	0-100
TSCYC Dissociation ^{c, d}	49.24(8.74)	46.53(4.80)	$U = 485.50, p=.283$	0-100
TSCYC Anger^{c, d}	50.11(8.43)	45.28(5.50)**	$U = 197.00, p<.01$	0-100
SDQ Difficulties^{c, e}	12.75(7.59)	6.75(5.03)**	$U = 269.00, p<.005$	0-40
SDQ Prosocial^{b, f}	7.29(2.47)	8.70(1.44)*	$U = 364.00, p<.05$	0-10

*Significant to $p<.05$

** Significant to $p<.01$

***Significant to $p<.001$

^a higher scores indicate risk factor.

^b higher scores indicate protective factor.

^c high scores indicate emotional and/or behaviour problems.

^d t-scores are reported; range = 0-100; score between 65-69 is considered to be problematic and above 70 is clinically significant.

^e raw scores are reported: range=0-40; the cut-off score for borderline behavioural problems is 14 and score at 17 and above is considered abnormal.

^f raw scores are reported: range=0-10; the cut-off for borderline prosocial problems is 5 and score at 4 or below is considered abnormal.

Figure 3.1 demonstrates the number of W.IPV and/or CM children scoring in a borderline range and clinical of different behavioural and emotional difficulties. For example, this figure shows that 23.5% (n=4) of W.IPV and/or CM children were rated by their parents to exhibit clinical levels of posttraumatic symptoms and behavioural and emotional difficulties (see Figure 3.1).

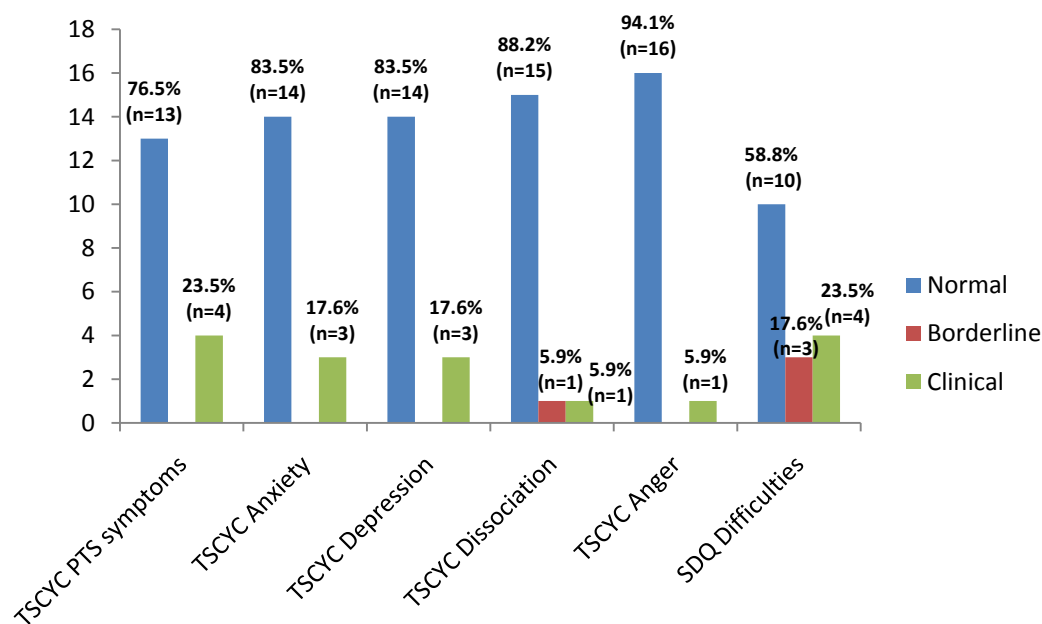


Figure 3.1. Number of W.IPV/CM children exhibiting different levels of behavioural and emotional difficulties as rated by caregivers (n=17).

Figure 3.2 presents the number of non-maltreated children scoring in the borderline and clinical range of different behavioural and emotional difficulties. Of the non-maltreated children, 5.9% (n=4) were rated by their caregivers to exhibit clinically elevated behavioural and emotional difficulties (see SDQ difficulties in Figure 3.2).

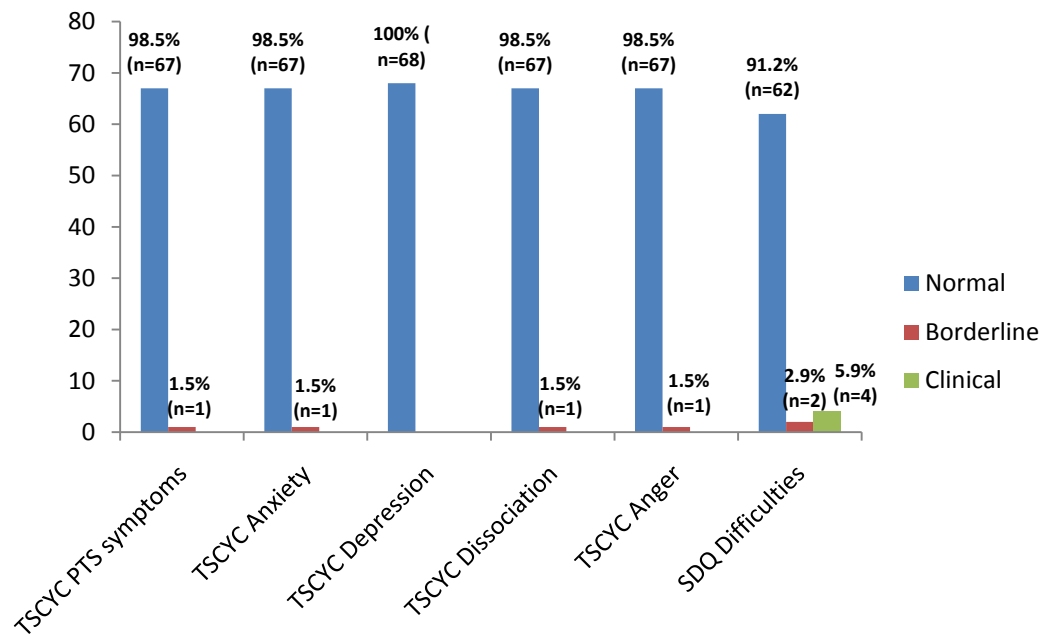


Figure 3.2. Number of non-maltreated children exhibiting different levels of behavioural and emotional difficulties as rated by caregivers (n=68).

In the two groups (W.IPV/CM vs. non-maltreated children), those who were rated to manifest borderline/clinical levels for one form of mental health difficulties were more likely to exhibit borderline/clinical levels for another mental health difficulties. Figure 3.3 shows the number of children in each group who manifested symptoms within the normal, borderline or clinical range. This figure shows that 10.6% (n=8) and 8.2% (n=7) of the W.IPV/CM and non-maltreated children exhibited borderline/clinical symptoms of mental health difficulties respectively.

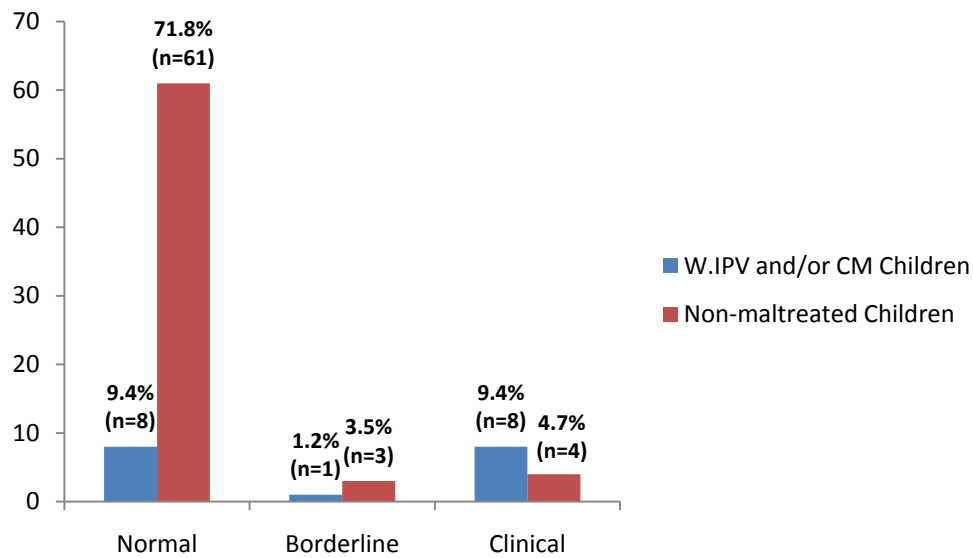


Figure 3.3. Number of W.IPV/CM and non-maltreated children exhibiting different levels of behavioural and emotional difficulties as rated by caregivers (n=85).

2. Mediation analysis

Establishing a mediating effect. The aim was to examine the possible mediating properties of the risk and protective factors. The four-step mediational procedure outlined by Baron and Kenny (1986) and Kenny et al., (1998) were used (see data treatment).

Step 1: Links between child maltreatment and emotional and behavioural problems in childhood. The first equation found that W.IPV and/or CM significantly regressed onto the six different childhood emotional and behavioural problems evaluated (see Table 3.7.1), thereby fulfilling the first step of Baron and Kenny's (1986) requirements for mediation, demonstrating that there is an effect to be mediated. As Table 3.7.1 demonstrates, experiences of W.IPV/CM explained 5% (TSCYC dissociation) to 28% (posttraumatic stress symptoms) of the variance, depending on outcome.

Table 3.7.1: Multiple regression analysis examining the direct pathway of W.IPV/CM on current Childhood Emotional and Behavioural Problems as reported by their caregivers (N=85)

Equation variables ¹	B(SE)	B	R ²	95% Confidence Intervals for B	
				Lower	Upper
W.IPV/CM predicting TSCYC PTSS ¹	8.75(1.56)	.52***	.28	5.64	11.86
W.IPV/CM predicting TSCYC Anxiety ²	1.78(.71)	.27*	.07	.37	3.19
W.IPV/CM predicting TSCYC Depression ³	2.77(.54)	.49***	.24	1.70	3.83
W.IPV/CM predicting TSCYC Dissociation ⁴	1.44(.72)	.22*	.05	.01	2.87
W.IPV/CM predicting TSCYC Anger ⁵	1.88(.77)	.26*	.07	.35	3.41
W.IPV/CM predicting SDQ Difficulties ⁶	6.00(1.56)	.39***	.16	2.91	9.10

Note: The numbers are rounded off to two decimal.

¹ For TSCYC PTSS, adjusted R² = .27, Model $F = 1, 83 = 31.41$, $p < .001$.

² For TSCYC Anxiety, adjusted R² = .06, Model $F = 1, 83 = 6.30$, $p = .014$.

³ For TSCYC Depression, adjusted R² = .23, Model $F = 1, 83 = 26.55$, $p < .001$.

⁴ For TSCYC Dissociation, adjusted R² = .05,, Model $F = 1, 83 = 4.67$, $p = .034$.

⁵ For TSCYC Anger, adjusted R² = .06, Model $F = 1, 83 = 5.97$, $p = .017$.

⁶ For SDQ Difficulties, adjusted R² = .15, Model $F = 1, 81 = 14.91$, $p < .001$.

Step 2: Links between child maltreatment and risk and protective factors. To comply with the second step, the seven risk and protective factors were regressed onto the IV (child maltreatment). As shown in Table 3.7.2, emotion regulation (overall model significance test: $F_{1, 85} = 6.88$, $p < .01$) and prosocial behaviour (overall model significant test: $F_{1, 84} = 9.43$, $p < .005$) as influencing variables discriminated between the groups and were therefore included in the mediational analysis. The other variables did not reach significance and were excluded from further analysis (see Table 3.7.2).

Table 3.7.2: Multiple regression analysis examining effect of W.IPV/CM predicting risk and protective factors (N=85)

Equation variables ¹	B(SE)	β	R^2	95% Confidence Intervals for B	
				Lower	Upper
W.IPV/CM predicting Physical Threat ¹	2.10(2.16)	.11	.01	-2.20	6.40
W.IPV/CM predicting Social Threat ²	1.13(2.17)	.06	.00	-3.19	5.46
W.IPV/CM predicting Hostility ³	1.05(2.15)	.05	.00	-3.23	5.33
W.IPV/CM predicting Personal Failure ⁴	1.29(1.81)	.08	.01	-2.33	4.89
W.IPV/CM predicting Perceived Internal Control ⁵	-1.89(1.16)	-.18	.02	-4.19	.41
W.IPV/CM predicting Perceived External Control ⁶	-.20(2.05)	-.01	.00	-4.28	3.89
W.IPV/CM predicting Emotional Regulation⁷	-8.29(2.39)	-.35**	.13	-13.04	-3.54
W.IPV/CM predicting Prosocial Behaviour⁸	-1.41(.46)	-.32***	.10	-2.32	-.50

Note: W.IPV/CM= Witnessing Intimate Partner Violence and/or Child Maltreatment. The numbers are rounded off to two decimal.

**Significant to $p < .01$

***Significant to $p < .005$

¹ For Physical Threat, adjusted $R^2 = .00$, model $F_{1, 83} = 0.94$, $p = .334$

² For Social Threat, adjusted $R^2 = .00$, model $F_{1, 83} = 0.27$, $p = .604$

³ For Hostility, adjusted $R^2 = -.00$, model $F_{1, 83} = 0.23$, $p = .627$

⁴ For Personal Failure, adjusted $R^2 = -.01$, model $F_{1, 83} = .50$, $p = .483$

⁵ For Perceived Internal Control, adjusted $R^2 = -.02$, model $F_{1, 82} = 2.67$, $p = .106$

⁶ For Perceived External Control, adjusted $R^2 = -.00$, model $F_{1, 83} = .01$, $p = .924$

⁷ For Emotion Regulation, adjusted $R^2 = .12$, model $F_{1, 84} = 12.06$, $p < .001$

⁸ For Prosocial Behaviour, adjusted $R^2 = .09$, model $F_{1, 84} = 9.43$, $p < .005$

Step 3: Mediators relation to the DV. In accordance with the third meditational step, when controlling for the IV (child maltreatment, see Table 3.7.3), it was demonstrated that emotion regulation was significantly related to all 6 of the TSCYC and SDQ outcome measures the different types of DV: TSCYC PTSD symptoms (adjusted $R^2 = .49$, Sig. F Change = $p < .001$ for Block 2, Model $F_{2, 83} = 31.41$, $p < .001$), TSCYC anxiety (adjusted $R^2 = .11$, Sig. F Change = $p = .018$ for Block 2, Model $F_{2, 83} = 6.22$, $p = .003$), TSCYC depression (adjusted $R^2 = .42$, Sig. F Change = $p < .001$ for Block 2, Model $F_{2, 82} = 31.06$, $p < .001$), TSCYC dissociation (adjusted $R^2 = .18$, Sig. F Change = $p < .001$ for Block 2, Model $F_{2, 83} = 9.89$, $p < .001$), TSCYC anger (adjusted $R^2 = .46$, Sig. F Change = $p < .001$ for

Block 2, Model $F_{2, 83}=36.87$, $p<.001$) and SDQ Difficulties (adjusted $R^2=.54$, Sig. F Change = $p<.001$ for Block 2, Model $F_{2, 80}=49.99$, $p<.001$).

For prosocial behaviour, the result was significant on four out of the six DVs, when controlling for the IV: TSCYC PTS symptoms (adjusted $R^2=.30$, Sig. F Change = $p<.05$ for Block 2, Model $F_{2, 80}=31.41$, $p<.001$), TSCYC dissociation (adjusted $R^2=.14$, Sig. F Change = $p=.01$ for Block 2, Model $F_{2, 80}=9.89$, $p<.01$), TSCYC anger (adjusted $R^2=.06$, Sig. F Change = $p=.168$ for Block 2, Model $F_{2, 80}=3.77$, $p<.05$) and SDQ difficulties (adjusted $R^2=.21$, Sig. F Change = $p<.01$ for Block 2, Model $F_{2, 80}=11.64$, $p<.001$). However, the relationship to TSCYC anxiety (adjusted $R^2=.06$, Sig. F Change = $p=.630$ for Block 2, Model $F_{2, 80}=3.47$, $p<.05$) and TSCYC depression (adjusted $R^2=.24$, Sig. F Change = $p=.209$ for Block 2, Model $F_{2, 82}=13.06$, $p<.000$) were non-significant, when controlling for the IV (child maltreatment, see Table 3.7.3).

Table 3.7.3: Multiple regression analyses examining the effect of emotion regulation and prosocial behaviour on current childhood emotional and behavioural problems, while controlling for child maltreatment (n=85)

Equation variables	B(SE)	β	R^2	ΔR^2	95% Confidence Intervals for B	
					Lower	Upper
Emotion Regulation predicting TSCYC PTSS (controlling for CM)	-.36(.06)	-.51***	.50	.23	-.48	-.25
Emotion Regulation predicting TSCYC Anxiety (controlling for CM)	-.08(.03)	-.26*	.13	.06	-.14	-.01
Emotion Regulation predicting TSCYC Depression (controlling for CM)	-.11(.02)	-.46***	.43	.19	-.15	-.07
Emotion Regulation predicting TSCYC Dissociation (controlling for CM)	-.12(.03)	-.41***	.20	.15	-.18	-.06
Emotion Regulation predicting TSCYC Anger (controlling for CM)	-.21(.03)	-.68***	.47	.41	-.26	-.16
Emotion Regulation predicting SDQ Difficulties (controlling for CM)	-.44(.05)	-.68***	.56	.40	-.54	-.33
Prosocial behaviour predicting TSCYC PTSS (controlling for CM)	-.81(.38)	-.21*	.31	.04	-1.56	-.07
Prosocial behaviour predicting TSCYC Anxiety (controlling for CM)	.08(.17)	.06	.08	.00	-.26	.43
Prosocial behaviour predicting TSCYC Depression (controlling for CM)	-.17(.13)	-.13	.26	.02	-.43	.10
Prosocial behaviour predicting TSCYC Dissociation (controlling for CM)	-.54(.17)	-.36**	.16	.11	-.87	-.21
Prosocial behaviour predicting TSCYC Anger (controlling for CM)	-.26(.19)	-.16*	.09	.02	-.63	.11
Prosocial behaviour predicting SDQ Difficulties (controlling for CM)	-.96(.36)	-.28**	.23	.07	-1.68	-.25

Note: CM = Child Maltreatment; PTSS = Posttraumatic Stress Symptoms

* Significant to $p < .05$, ** Significant to $p < .01$, ***Significant to $p < .001$.

Step 4: Examining Mediating effect: Emotion regulation and prosocial behaviour

For the fourth step of mediation, the effects of child maltreatment on emotional and behavioural problems, whilst controlling for emotion regulation and prosocial behaviour, was calculated (see Table 3.7.4). This following paragraph presents the results first for each of the hypothesised mediating variables and then their combined effect.

Emotion regulation

Table 3.7.4 demonstrates that for emotional regulation, the percentage accounted for the 6 outcomes ranged from 10% (TSCYC Anxiety) to 54% (SDQ Difficulties). While all β coefficients were reduced and R^2 values increased, the pathway between W.IPV/CM and TSCYC posttraumatic stress symptoms (adjusted $R^2=.49$, Sig. F Change = $p<.001$ for Block 2, Model $F_{2, 82}=41.39$, $p<.001$) and TSCYC depression (adjusted $R^2=.42$, Sig. F Change = $p<.001$ for Block 2, Model $F_{2, 82}=31.06$, $p<.001$) were reduced in absolute size (see Table 3.7.4). Therefore, the Sobel test statistics was used to examine the significance of the partial mediation by emotional regulation on the association (see data treatment). Emotion regulation was found to significantly partially mediate the effect of W.IPV/CM on posttraumatic stress symptoms (TSCYC PTSS $z=2.16$ $p=.031$) and depression ($z=2.83$, $p=.005$).

As shown in Table 3.7.4, the results showed complete mediation for emotion regulation on the association between W.IPV/CM and TSCYC anxiety (adjusted $R^2=.11$, Sig. F Change = $p=.121$ for Block 2, Model $F_{2, 82}=6.22$, $p=.003$), TSCYC dissociation (adjusted $R^2=.18$, Sig. F Change = $p=.510$ for Block 2, Model $F_{2, 82}=9.89$, $p<.001$), TSCYC anger (adjusted $R^2=.46$, Sig. F Change = $p=.825$ for Block 2, Model $F_{2, 82}=36.87$, $p<.001$) and SDQ

difficulties (adjusted $R^2=.54$, Sig. F Change = $p=.084$ for Block 2, Model $F_{2, 80}=49.99$, $p<.001$) as the pathways were reduced to non-significant levels.

Figure 3.4 demonstrates the pathway from W.IPV/CM to posttraumatic stress symptoms and depression remained significant while controlling for emotion regulation. Conversely, the effect of W.IPV/CM on anxiety, dissociation, anger and total difficulties was non-significant.

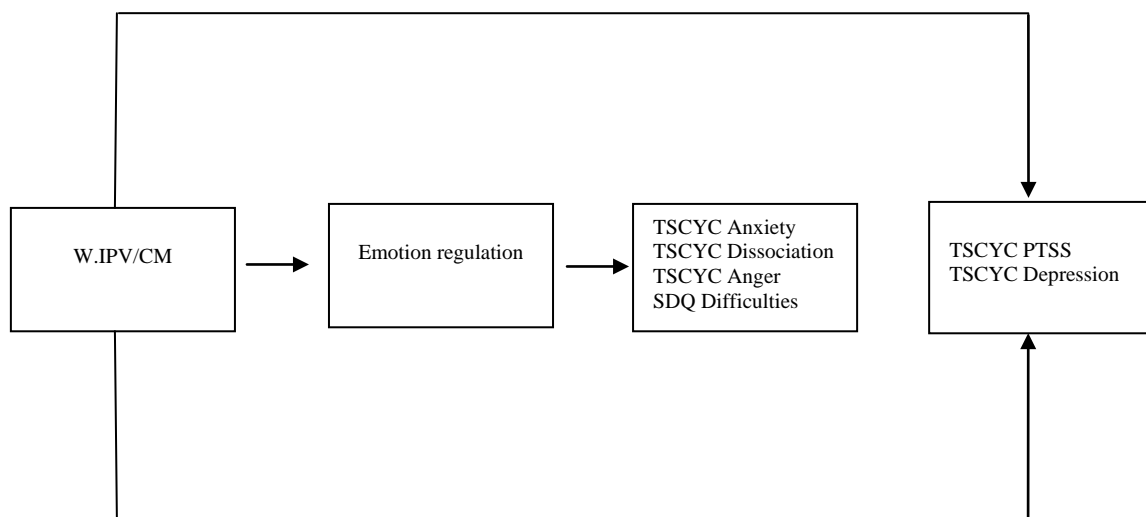


Figure 3.4: Mediation model of emotion regulation

Prosocial behaviour

Because the paths from prosocial behaviour to anxiety and depression were reduced to non-significant results in step 3 (see Table 3.7.3) subsequently the hypothesis of possible mediating effect was rejected and these outcomes were omitted from the fourth step. Hence, the effects of CM on posttraumatic stress symptoms, dissociation, anger and total behavioural difficulties were examined, whilst controlling for prosocial behaviour (see

Table 3.7.4). Table 3.7.4 demonstrates that the percentage for prosocial behaviour ranged from 2% (TSCYC anger) to 11% (TSCYC dissociation and SDQ difficulties).

Although the result showed that the pathway between W.IPV/CM and TSCYC posttraumatic stress symptoms were reduced in absolute size (adjusted $R^2=.30$, Sig. F Change = $p<.001$ for Block 2, Model $F_{2, 80}=18.17$, $p<.001$) and SDQ difficulties (adjusted $R^2=.21$, Sig. F Change = $p<.001$ for Block 2, Model $F_{2, 80}=11.64$, $p<.001$), the effect of W.IPV/CM remained significant. The Sobel test statistics demonstrated a significant partial mediation for prosocial behaviour on the association between W.IPV/CM and total behavioural difficulties (SDQ difficulties $z=2.05$, $p<.05$), but not on posttraumatic stress symptoms (TSCYC PTSS $z=1.72$ $p=.085$; see data treatment).

As shown in Table 3.7.4, the result indicated complete mediation for TSCYC dissociation (adjusted $R^2=.14$, Sig. F Change = $p=.399$ for Block 2, Model $F_{2, 80}=6.37$, $p<.01$) and TSCYC anger (adjusted $R^2=.06$, Sig. F Change = $p=.079$ for Block 2, Model $F_{2, 80}=3.76$, $p<.05$) as the pathways were reduced to non-significant levels.

Figure 3.5 shows the mediation model of prosocial behaviour on the association between W.IPV/CM and six outcome measures.

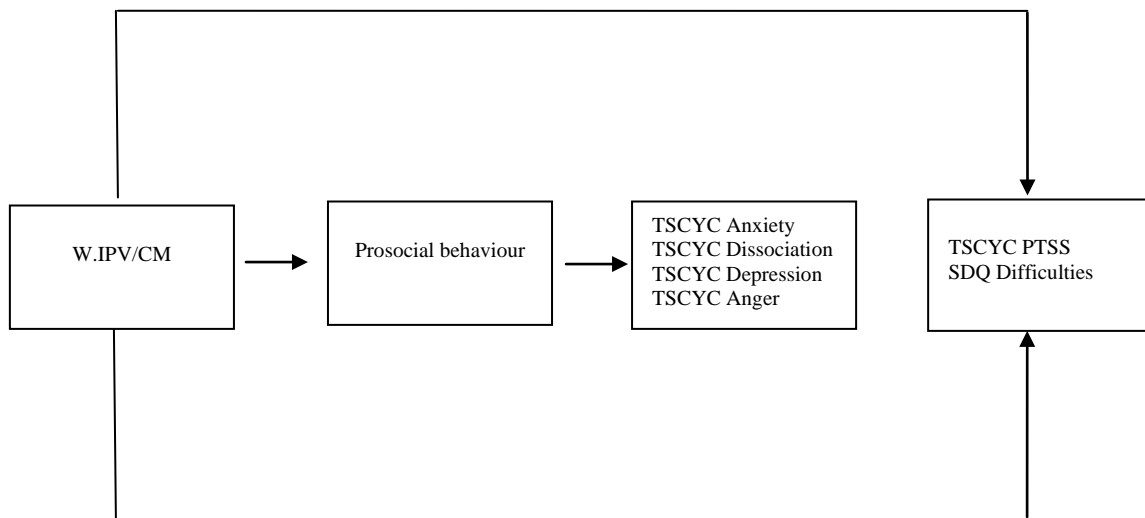


Figure 3.5: Mediation model of prosocial behaviour

Emotion regulation and prosocial behaviour

Both the two mediating variables (emotion regulation and prosocial behaviour) were found to significantly intervene in the pathway from W.IPV/CM to posttraumatic stress symptoms (but not any others). Therefore, it was of interest to further examine whether their combined effect would have a greater impact on posttraumatic stress symptoms. Whilst controlling for the presence of emotion regulation and prosocial behaviour, the result showed that W.IPV/CM still significantly predicted posttraumatic stress symptoms (overall model significance test: adjusted $R^2=.47$, Sig. F Change = $p<.001$ for Block 2, Model $F_{3, 79}=25.58$, $p<.001$). It is of interest to note that the main effect of prosocial behaviour was reduced to non-significant when emotion regulation was entered in the same block. This finding indicates that the presence of emotion regulation significantly reduced the pathway from W.IPV/CM through prosocial behaviour to posttraumatic stress (see Figure 3.6).

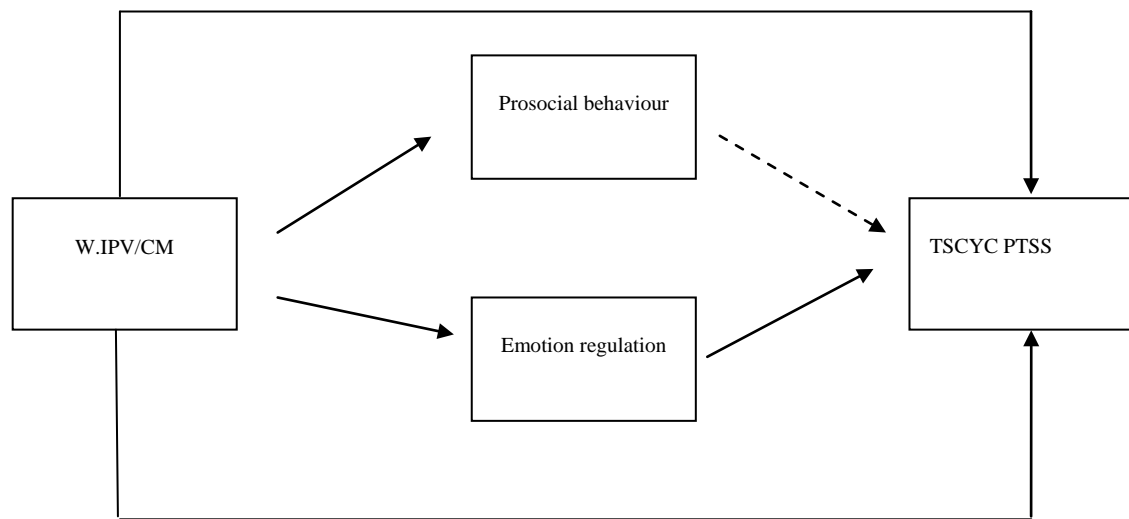


Figure 3.6: Mediation model of the collective effects of emotion regulation and prosocial behaviour on posttraumatic stress symptoms. Please note the dashed line represents the pathway that was reduced to non-significant.

In summary, the two mediating variables collectively provided 40% of the overall variance to be explained and 49% of the total effect for posttraumatic stress symptoms (see Table 3.7.4). This is in comparison to the effect of emotion regulation alone (40%), indicates that emotion regulation better explained the variance for posttraumatic stress symptoms than prosocial behaviour.

Table 3.7.4: Multiple regression analyses examining the mediating effect of emotion regulation and prosocial behaviour on the pathway from W.IPV/CM to childhood behavioural and emotional difficulties (n=85)

Equation variables ¹	B(SE)	β	R^2	ΔR^2	95% Confidence Intervals for B	
					Lower	Upper
4. CM predicting TSCYC PTSS (controlling for Emotion Regulation)	5.75(1.39)	.34***	.50	.10	2.98	8.51
CM predicting TSCYC Anxiety (controlling for Emotion Regulation)	1.16(.74)	.17	.13	.03	-.31	2.62
CM predicting TSCYC Depression (controlling for Emotion Regulation)	1.85(.50)	.33***	.43	.10	.85	2.84
CM predicting TSCYC Dissociation (controlling for Emotion Regulation)	.47(.71)	.07	.19	.00	-.94	1.98
CM predicting TSCYC Anger (controlling for Emotion Regulation)	.14(.62)	.02	.47	.00	-1.10	1.38
CM predicting TSCYC SDQ Difficulties (controlling for Emotion Regulation)	2.14(1.22)	.14	.56	.02	-.30	4.57
CM predicting TSCYC PTSS (controlling for Prosocial behaviour)	7.55(1.64)	.45***	.31	.18	4.28	10.81
CM predicting TSCYC Dissociation (controlling for Prosocial behaviour)	.62(.73)	.09	.16	.01	-.83	2.06
CM predicting TSCYC Anger (controlling for Prosocial behaviour)	1.46(.82)	-.16	.06	.04	-.17	3.09
CM predicting TSCYC SDQ Difficulties (controlling for Prosocial behaviour)	4.49(1.60)	.29**	.23	.08	1.30	7.67
5. CM predicting TSCYC PTSS (controlling for Emotion regulation and Prosocial behaviour)	5.52(1.47)	.33***	.49	.09	2.60	8.45

Note: CM = Child Maltreatment; PTSS = Posttraumatic Stress Symptoms

* Significant to $p < .05$, ** Significant to $p < .01$, ***Significant to $p < .001$.

1. Preliminary analysis of Resilient Features

Child maltreatment and Resilience

Positive adaptation was defined as the absence of sub-clinical and clinical levels of emotional and behavioural problems as measured by the TSCYC (Briere, 2005) and SDQ (Goodman, 1997) that is, TSCYC subscales T-scores ≤ 70 and ≤ 17 on SDQ respectively. CM and level of functioning were classified into four groups of children (a) *resilient*: experienced any form of W.IPV and/or CM and manifested positive adaptation, (b) *non-resilient*: experienced any form of early maltreatment and exhibited sub-clinical or clinical levels of emotional and behavioural problems, (c) *competent*: no history of early maltreatment and manifested positive adaptation , and (d) *vulnerable*: no history of early maltreatment and exhibited sub-clinical or clinical levels of emotional and behavioural problems.

Of the W.IPV and/or CM children, 47% (n=8) fulfilled the criteria for resilience, whereas 90.8% of the non-maltreated children (n=59) showed positive adaptation. Table 3.8 demonstrates group frequencies of positive adaptation in relation to witnessing IPV and/or experiencing CM.

Table 3.8: Group frequencies concerning partner and/or child maltreatment and positive adaptation (N=85)*

	W.IPV and/or CM Children	Non-maltreated Children
	(n=17)	(n=69)
	n(%)	n(%)
Positive Adaptation	8(47.1)	62(89.9)
Negative Adaptation	9(52.9)	7(10.1)
*Total	17(100)	69(100)

Because details on maltreatment characteristics were scarce for both W.IPV and CM, referral source was correlated with resilient and non-resilient groups of W.IPV and/or CM children as it was believed that referral cases to social services would be associated with more severe, recurrent and longer duration of W.IPV and/or CM. This could subsequently indirectly have affected a child's symptom level. Chi-square statistics showed no significant association between the groups. Children referred by a school or other were equally likely to be classified as resilient as those to social services 'unknown' cases (i.e., parental self-report of W.IPV and/or CM only).

Exploring whether any other traumatic events (i.e., Lifetime Incidents of Traumatic Event Questionnaire reported by caregivers) could explain level of adaptation though chi-square statistics showed no significant results for the non-resilient W.IPV/CM group (versus resilient W.IPV/CM group) and vulnerable non-maltreated group (versus competent non-maltreated group; see Appendix J for frequencies of adverse life events in relation to each group).

Level of adaptation in relation to risk and protective factors

The role of risk and protective factors on differences in level of adaptation and risk and protective factors were examined in W.IPV and/or CM (*resilient* vs. *non-resilient*) and non-maltreated children (*competent* vs. *vulnerable*) using t-tests and Mann-Whitney U test where appropriate. As shown in Table 3.9, three of the risk and protective factors differentiated (i.e., hostility, personal failure and emotion regulation) between *competent* and *vulnerable* non-maltreated children in terms of their adaptation. However, no significant differences were found between *resilient* and *non-resilient* W.IPV and/or CM children with respect to presence of risk and protective factors. Notably, W.IPV and/or CM children who had been classified as *resilient* on the basis of the absence of psychopathology scored higher on several of the risk factors (e.g., physical threat, social threat and personal failure). Other factors showed in the expected direction, with the *resilient* W.IPV and/or CM children showing higher mean scores of perceived internal control, emotion regulation, prosocial behaviour and lower mean scores of perceived external control than *non-resilient* W.IPV and/or CM children.

Table 3.9: Descriptive information about differences in level adaptation with respect to risk and/or protective factors (N=85)

Risk and/or Protective Factors	W.IPV and/or CM children			Non-Maltreated children		
	Resilient	Non-Resilient	Statistics	Competent	Vulnerable	Statistic
	n=8	n=9		n=62	n=7	
	M(SD)	M(SD)		M(SD)	M(SD)	
Physical Threat	10.75(12.22)	4.56(4.07)	U=27.50, p=.423	4.47(6.32)	14.66(13.44)*	U=82.50, p<.05
Social Threat	12.00(11.75)	3.22(2.82)	U=21.50, p=.157	5.48(6.64)	13.83(13.44)*	U=88.50, p<.05
Hostility	8.88(7.70)	8.31(6.33)	t ₁₅ = -.17, p=.871	6.34 (5.37)	17.22(10.72)**	U=44.00, p<.001
Personal Failure	10.25(13.20)	5.11(4.22)	t ₁₅ = -1.11, p=.285	5.61(6.65)	15.50(10.21)*	U=58.00, p<.05
Perceived Internal Control	19.98(3.91)	17.58(4.54)	t ₁₄ = -1.13, p=.276	20.41(4.14)	22.86(3.72)	t ₆₄ = 1.49, p=.140
Perceived External Control	27.63(9.66)	39.70(7.26)	t ₁₄ = -.29, p=.776	26.41(6.92)	33.83(6.44)**	t ₆₄ = 2.69, p<.01
Emotion Regulation	75.42(7.53)	68.77(9.97)	t ₁₅ = -1.54, p=.145	81.74(5.99)	65.43(11.79)***	U=32.50, p<.001
Prosocial Behaviour	8.00(2.98)	6.67(1.87)	t ₁₅ = -1.12, p=.128	8.88(1.40)	7.43(.98)**	t ₆₄ = -.2.66. p<.01

* Significant to p<.05

** Significant to p<.01

***Significant to p<.001

Discussion

This study was designed to explore the prevalence rate of W.IPV and/or CM in a general population of school children in Sweden because there has been a notable lack of research conducted in this area. Perhaps more importantly, there is a general congruence in the literature that the effects of W.IPV and/or CM are deleterious to the emotional and physical health of children. Therefore the aim was to gain a greater understanding of the underlying processes linking the effects of W.IPV and CM to mental health difficulties in young children in an attempt to identify protective factors that might aid to intervene as early as possible and prevent the occurrence of psychiatric disturbance.

Prevalence of witnessing intimate partner violence and child maltreatment

Overall, there were 17 children (17.5% of sample) who had witnessed IPV and/or experienced different types of CM. Of these, 9.3% (n=9) were caregiver self-report only. Although there was no documentation of school reports to social services of these cases, it is beyond the scope of this study whether the family had been in contact with social services, without the schools' involvement.

Because a child living in a household with IPV is likely to exhibit similar mental health difficulties to a child that has been maltreated (Kitzmann et al., 2003), children who had witnessed IPV and/experienced CM were collapsed into the same group in this study to facilitate comparison of children who have experienced any form of childhood victimisation and those who have no history of childhood victimisation. However, in order

to compare the prevalence rate in this study to other countries, the following paragraphs will discuss each of the form of childhood victimisation separately.

Intimate partner violence

Of the children who had experienced any form of childhood victimisation, 4.1% (n=4) had witnessed IPV. This figure is comparable to other studies conducted in Sweden (5-10%, Statens Offentliga Utredningar, 2001), but considerably lower compared to international studies of 10 to 20% (Carlson, 2000; Cleaver et al., 1999).

Child Maltreatment

Considering prevalence of CM, 13.4% (n=13) children were reported to have experienced child physical abuse and child neglect in this study. The rate was somewhat comparable to the average number of cases of suspected CM; children (aged 0-14), reported to the police during the time period 1996 to 2007 in the municipality, i.e., approximately 13.9 and 2.3 children respectively per year (Brottsförebyggande rådet, 2008). In contrast, the prevalence rate in the current study was considerably higher than the national prevalence statistics on reported cases of suspected child maltreatment cases of children aged 0-14 to the police in Sweden (0.7%, Brottsförebyggande rådet, 2008; Statistiska Centralbyrån, 2008). A discrepancy between parental and/or school report of a child's experiences of CM and the actual reports to the police might be explained by the large number of cases going unrecorded (Annerbäck et al., 2007; Statens Offentliga Utredningar, 2001). However, this study's reported rate is similar to the municipality rate, not the national rate. This suggests that the occurrence of CM may be more common in the municipality compared to the rest of the country. However, whether it has to do with a consistent higher rate in the number of

maltreated children, fluctuation in CM rates over years, willingness to report child maltreatment or a combination of all of these factors is not known. Thus, it is also important to bear in mind when interpreting the official figures that the police records do not indicate whether the same child has been reported to suffer CM more than once to the police or if the data represent new CM cases. The prevalence of CM in this study was comparable to that in international studies of 16 to 28.4% (Hussey et al., 2006; May-Chahal & Cawson, 2005).

Rate of mental health difficulties in childhood

The present study found that 10.6% (n=8) and 7.2% (n=7) of the W.IPV and/or CM and non-maltreated children manifested borderline/clinical elevated levels of different behavioural and emotional difficulties. Consistent with previous research (Kitzmann et al., 2003), this study found that children who had witnessed IPV and/or experienced CM exhibited significantly more difficulties in different areas of functioning. Children in the W.IPV and/or CM group were significantly more likely to be rated by their parents to exhibit elevated levels of posttraumatic stress symptoms, anxiety, depression, dissociation, anger and/or behavioural and emotional difficulties (SDQ) compared to the non-maltreated. In accord with findings of studies conducted in adult and child population reviewed in this thesis (Chapter 1 and 2), the high co-morbidity of different behavioural and emotional difficulties suggest that that experience of W.IPV and/or CM increases the vulnerability for range of behavioural and emotional difficulties, rather being associated with a particular type (e.g., anxiety, depression). Notably, however, the variance of the total effect accounted to the presence of W.IPV and/or CM was low across the six outcome measures. The percentage ranged from 5% for dissociation to 28% for posttraumatic stress

symptoms. Because data relating to frequency, duration and severity was scarce in this study, one can only speculate whether this small amount of variance explained by W.IPV and/or CM may be accounted to these factors, such as short duration of abuse, single incidents of maltreatment, minor severity, and/or length since last abusive incident. This is supported by previous literature that has found that community sample often do not include the most severe form of partner and child maltreatment as well as have a broader severity range (Margolin & Gordis, 2000).

Mediating Impact of Cognitive and Environmental Factors

Although the result showed that childhood experiences of W.IPV and/or CM significantly predicted various outcomes, the low amount of variability explained illustrates the importance of studying other variables, such as emotion regulation and prosocial behaviour. Identifying individual factors relating to increased vulnerability may be able to provide additional clinically relevant information that could be used to inform treatment planning. Findings identified specific individual and environmental factors that mediated the pathway from W.IPV and/or CM to childhood behavioural and emotional difficulties. The mediational model showed that emotion regulation and prosocial behaviour were good predictors of child outcomes.

Emotion regulation

In this study, a child's level of behavioural and emotional difficulties was associated with emotion regulation, an individual's ability to "influence which emotions they have, when they have them, and how they experience and express these emotions" (Gross, 1998, p.275). Corroborating with recent American studies of resilience and maltreatment (Alik et

al., 2009; Curtis & Cicchetti, 2007; Greenberg et al., 1991; Shields & Cicchetti, 1994; 1995, 1997; Shields et al., 2001; Teisl & Cicchetti, 2008), data from this study indicate that among W.IPV and/or CM children, a lower ability to regulate their emotions was associated with different behavioural and emotional difficulties. However, the extent to which emotion regulation had a mediating impact varied depending on type of emotional and behavioural difficulties. In comparison to W.IPV and/or CM, most of the variability seen in posttraumatic stress symptoms, anger and overall behavioural and emotional difficulties (i.e., SDQ) were attributed to emotion regulation (23% to 41%). In support of this theory, W.IPV and/or CM children are frequently in the literature described as having problems regulating their emotions, exhibiting both increased and uncontrollable affect, or a restriction in affect (Cicchetti & Rogosch, 1997).

Prosocial behaviour

In this study, it was also found that prosocial behaviour had a intervening effect on posttraumatic stress symptoms, dissociation, anger and overall difficulties. This finding is consistent with previous research on the link between CM and resilience suggesting that peer acceptance and friendship contribute to youth development and buffer against negative impact of adverse family experiences (Bolger, Patterson & Kupersmidt, 1998; Cicchetti & Toth, 1995; Cicchetti, Toth & Maughan, 2000; Heller et al., 1999; Reyes, Kokotovic & Cosden, 1996).

Provide an overview of resilient features among W.IPV and/or CM children.

Examination of categorically-defined groups of children revealed that *vulnerable* non-maltreated children were characterised by more negative automatic thoughts, perceived

external control, poor emotion regulation and prosocial behaviour compared to their *competent* non-maltreated counterparts which is consistent with previous literature (Schiniering & Rapee, 2004; Shields & Cicchetti, 1997). However, there was no difference in terms of *resilient* and *non-resilient* W.IPV and/or CM children which raise a number of questions that warrant study. For example, the fact that emotional regulation and prosocial behaviour successfully differentiated between W.IPV and/or CM children and non-maltreatment in terms of emotional and behavioural problems, but not for level of adaptation between *resilient* and *non-resilient* W.IPV and/or CM children, requires explication.

Amongst W.IPV and/or CM children, it was found that higher levels of thoughts of physical threats (i.e., worried that something will happen to them or their parents), social threats (i.e., worried what other kids/people think of them), hostility (i.e., that they have the right to revenge) and/or personal failure (i.e., that they cannot do anything right) was linked with lower symptoms. This was in the opposite direction than hypothesised. In contrast, the means for the competent and vulnerable groups showed trends in the hypothesised direction (and significant differences), that negative automatic thoughts are associated with greater symptomatology among the non-maltreated counterparts. However, whether these negative thoughts are adaptive or maladaptive response to W.IPV and/or CM is too early to say. It might be that these negative thoughts in some way helped them resolve what have happened to them. However, it might also be that their more adaptive emotion regulation skills helped them control their emotions and not get overwhelmed in situations where they have these thoughts. For example, the child might think in certain situations that they will make a fool out of themselves or that other kids will laugh at them

(i.e., social threat). Whilst one child might stay and continue whatever they were doing with the other kids (adaptive emotion regulation), another child might withdraw from the situation completely and resort to less adaptive behaviour.

Limitations of this study

There were several limitations to this study. The response rate and low willingness to participate in the study may have been due to the nature of this research. Families who are characterised by violence and/or dysfunction might have chosen not to participate in this study because of risk of receiving attention from social service. However, 9.3% of the children reported to have witnessed IPV and experienced CM in this study had not previously been identified by social services or other agencies. This indicates that there were caregivers characterised by W.IPV and/or CM that agreed to participate, despite the study nature. On the other hand, there were also families who agreed to participate but did not self-report family maltreatment. Overall, when comparing national prevalence rates with the results of this study, similar rates were found for CM (13.9% and 13.4% respectively), but somewhat lower for W.IPV (5-10% and 4.1% respectively).

There is also some concern that sample characteristics associated with the willingness to participate may have influenced the results of this study. Although the demographic characteristics for parents income (SWE 200-300,000) and education level (completed university studies 28.7%) were normally distributed and somewhat comparable to the national average in the municipality of Tierp (income: SWE 228,500 and university studies: 11.8%) and Sweden in general (income: SWE 257,000 and university studies: 22.2%; Ekonomifakta, 2010), it is important to bear in mind the low willingness to

participate (12.6%) when interpreting the results of this study. Other sample characteristics associated with the caregivers' willingness to participate that may have influenced the results, such as willingness to disclose information about them and their family and/or seeking help from various services for symptoms of mental ill-health and/or problems.

Methodologically there is some concern that child's prosocial behaviour and emotion regulation might have been influenced by method variance, as both variables were measured by caregiver measure and subsequently it assess the caregiver's perception. However, the concordance between child and parent ratings was sufficient (SDQ). A concern was the unequal sample size across many of the analyses. However, the small sample size of children who had W.IPV/CM did not detract in the statistical analyses from detecting significant direct and indirect effects related to W.IPV/CM. Nonetheless, a larger number of study participants would have been advantageous to examine more multi-dimensional model of risk, protective and mediating factors, in particular in relation to different types of CM (e.g., child physical abuse, child sexual abuse, child neglect, child emotional abuse). In addition, a larger sample of W.IPV/CM children could better determine the pathway in which resilience is promoted. Finally, longitudinal studies examining the role of risk and protective factors in relation to child maltreatment are needed to clarify the pathway that leads to long-term outcomes.

Conclusion

The current study is consistent with previous research that children who have witnessed IPV and/or experienced CM show higher levels of emotional and behavioural problems in childhood than non-maltreated children. At the same time, the analysis of the risk and

protective factors shed new light on the association, indicating that emotional regulation and prosocial behaviour may play a role in the association between W.IPV and/or CM and childhood emotional and behavioural problems. It is interesting to note that the result indicated no difference in level of risk and protective factor among resilient maltreated children and non-maltreated children. However, the low willingness to participate in relation to small sample size of W.IPV and/or CM exposed children warrants caution in interpreting the results. Therefore, these findings highlight the need for more research (with an adequate sample size) to further investigate the pathways for adaptive functioning in maltreated children, as well as to eliminate other possible explanations for the results observed in this study (e.g., sample characteristics associated with willingness to participate in research). As such, clinicians and researchers may also wish to explore how children's interpersonal skills and emotion regulation strategies can be improved through intervention and the extent to which these factors may promote childrens' well-being over time.

CHAPTER 4: INVESTIGATING THE EFFECT OF INTIMATE PARTNER VIOLENCE AND CHILD MALTREATMENT ON MENTAL DISORDER IN CHILDHOOD

Chapter rationale

Moving to clinical sample of children and adolescents, this Chapter investigates the effects of concurrent forms of child and partner maltreatment on childhood behaviour and mental health in a clinical sample of children and adolescents. In addition, the nature and dynamics of concurrent maltreatment are examined. Furthermore, existing literature has shown that W.IPV and CM are related to a wide-range of multiple stressors (Herrenkohl & Herrenkohl, 2007; Herrenkohl et al., 2008; Rossman, 2000; Shipman, Rossman & West, 1999; Dodd, 2004). Therefore co-occurring stressors, both within and outside the family unit, are considered to better understand the range and outcomes for overlapping experiences for these children (in accordance to the ecological model; Bronfenbrenner, 1979).

Abstract

Objective: This study considers the effects of concurrent witnessing of intimate partner violence and child maltreatment in a sample of children referred for intervention to a Child and Adolescent Psychiatric Service (CAPS) in a large city in Sweden. First, the rate of overlap is explored, before investigating differences in child and/or family characteristics between children who witnessed intimate partner violence and experienced child maltreatment (W.IPV/CM group) and children who witnessed intimate partner violence only (W.IPV group). Finally the predictive validity of group membership in determining mental health outcome, whilst controlling for covariate factors is explored.

Method: The sample consisted of 195 children and adolescents (aged 1-17 years) who had all witnessed IPV. This sample was identified from a larger sample of 347 children who had been referred to CAPS for intervention between the years 1998 and 2006 to CAPS.

Results: Of the referred children, 51.3% (n=100) were exposed to both W.IPV and CM. Children in the W.IPV/CM group were significantly more likely to have been diagnosed with a mental disorder in accordance to the DSM-IV compared to children in the W.IPV group (43.3% versus 26.7%). In addition, W.IPV/CM children were significantly more likely to have witnessed W.IPV for a longer duration and been referred to CAPS at an older age compared to W.IPV children. Regression analyses showed the W.IPV/CM group was significantly more likely to have been diagnosed with a mental disorder compared to children in the W.IPV group. Other significant predictive factors associated with the risk of mental disorder in the children were nationality (OR = 3.23) and peer friendships (OR = 3.75).

Conclusion: Children exposed to both W.IPV and CM are at greater risk for developing mental disorders in childhood than children who have witnessed IPV only. Children residing in both groups with parents of Swedish origin or experienced peer acceptance and friendship were less vulnerable and more likely to exhibit no to modest symptomatology. The results are discussed in light of social support, child protection issues and practice implications for professionals working with children.

Introduction

Nature of W. IPV

The nature of a child's exposure to IPV can vary along a continuum of severity from verbal abuse to severe physical and/or sexual violence (Wolak & Finkelhor, 1998). In homes where the IPV is not chronic, approximately one third of the children are aware of the violence whilst this figure rises up to 50% in chronically violent families (Edleson, Mbilinyi, Beeman & Hagemester, 2003). Children are exposed to the violence between caregivers in various different ways, although they may not be directly involved in the abusive incident (Jaffe, Zerwer & Poisson, 2002). For example, exposure can include hearing a parent shouting or crying, seeing the physical injury sustained from the violence (Edleson, 1999; Evans et al., 2008), or being taken hostage in order to exercise forcible control over the other partner (Edleson, 1999). Furthermore, a child's exposure to sexual victimisation directed towards the mother by her male partner is often overlooked. A child's exposure to such sexual abuse can range from witnessing sexually threatening behaviour to forced sexual intercourse (Cambell, 1998).

Research shows that "children are not oblivious to the abuse nor do they remain unaffected simply because they are not direct victims of the abuse" (Jaffe et al., 2002, p.20). It is important to recognise that while the concept of witness implies a passive role, children living with violence are often actively engaged in interpreting and predicting when the next episode will take place and worrying about their role in causing the violence. In addition, they may also attempt to prevent or intervene in abusive incidents and subsequently put themselves at risk of getting caught up in the violent act (Cunningham & Baker, 2004). For

example, in a Swedish study of 50 domestically abused mothers and 86 children, Almqvist and Broberg (2004) found that 77% of the children had been in the same room when the abuse occurred and 45% were caught up in the parental violence (e.g. hitting or threatening the child while in his or her mother's arms).

Co-occurrence of W. IPV and CM

The overlap of W.IPV and CM in the family has long been recognised (Apple & Holden, 1998; Casanueva et al., 2009; Dixon et al., 2008; Herrenkohl et al., 2008; Hester & Pearson, 1998; Jouriles, McDonald, Skopp, 2005; Knickerbocker et al., 2007; Zielinski & Bradshaw, 2006), with research suggesting an overlap rate between 30-60% (Browne & Hamilton, 1999; Edleson, 1999). It has been found that children living with IPV are 15 times more at risk of being victimised compared to children who are living in non-violent families (Jansson & Almqvist, 2000; Osofsky, 2003). Other research has also found that families characterised by concurrent W.IPV and CM are more likely to suffer greater severity of IPV and have a higher number of previous referrals to domestic violence units (DVUs) and police child protection units (CPUs). The children living in these families have been found to experience more physical abuse than sexual abuse, emotional abuse and/or neglect and their siblings are likely to also have experienced maltreatment (Browne & Hamilton, 1999). This suggests that "any type of prior victimization increases vulnerability to any other type of abuse, rather than having a limited effect within abuse types" (Hamilton & Browne, 1998, p. 49). Therefore, Higgins and McCabe (1998; 2001) propose that a distinction should be made between people who have experienced one type of maltreatment and those who have experienced more than one type (i.e. multiple-type maltreatment). However, victimisation of a child may occur by the same perpetrator/s or

by different perpetrators on different occasions and move from intra- to extrafamilial abusers, and vice versa (Hamilton & Browne, 1999).

Effects of W. IPV and CM on Children

Research has established that in addition to W.IPV increasing the likelihood that a child will experience child maltreatment, it also increases a child's vulnerability to develop a range of emotional and behavioural impairments as a sequelae of the exposure (Evans et al., 2008; Maker et al., 1998; Sternberg et al., 1993). A recent meta-analysis on the effects of W.IPV, found that 63% of the exposed children showed worse emotional and behavioural outcomes compared to those not exposed (Kitzmann et al., 2003). Other literature has reported that approximately one third of children who witness IPV demonstrate emotional and behavioural problems in childhood (Edleson et al., 2003). Most empirical studies investigating the outcome of W.IPV and CM have used the standardised Child Behavior Checklist (Achenbach, 1991; Achenbach & Edelbrock, 1986) as the predictive and diagnostic screening tool for symptoms of child psychopathology (Evans et al., 2008; Kitzmann et al., 2003; Wolfe et al., 2003). Hence, extensive research exists on the prevalence of emotional and behavioural problems or maladjustment, while little attention has been directed towards the prevalence of clinical psychiatric disorders in childhood (Wolfe et al., 2003). As Silverman, Reinhertz and Giaconia (1996, p.710) stated "reports based on symptomatology may underscore the potential seriousness of CM in the development of subsequent disorders".

Of the limited amount of research linking violence-exposure to childhood diagnosis, associations have been found with various psychiatric disorders, such as PTSD, eating

disorders, substance abuse and suicidal ideation (Adams, 2006; Graham-Bermann & Levendosky, 1998; Kilpatrick & Williams, 1998; Rossman & Ho, 2000; Olofsky, 1995). Addressing factors and emergent symptoms of ill-health at an earlier stage may prevent a pattern of chronic psychopathology emerging in these vulnerable children. Identifying factors which put a child at particular high risk for adverse psychiatric outcomes following witnessing IPV has subsequent implications for interventions with traumatised children.

Other research on child witnesses of IPV has begun to consider for the co-occurrence of different types of CM that may influence children's emotional well-being (Herrenkohl & Herrenkohl, 2007; Kilpatrick & Williams, 1998). However, the empirical evidence of whether or not specific types of psychopathology are related to particular types of CM and/or W.IPV has not been conclusive (Sternberg et al., 1993). For example, some research has found no difference between the effect of W.IPV and physical abuse (Kitzmann et al., 2003). Other research has suggested that the effect of experiencing CM are more detrimental than witnessing it (Higgins & McCabe, 2003; Levendosky & Graham-Bermann, 2001; Lipschitz, Winegar, Hartnick, Foote & Southwick, 1999; Wolfe et al., 2003). In contrast, Sternberg et al.'s (1993) study showed mixed results. Although a debate still exists on which type of exposure is more harmful (Olofsky, 2003), there is congruence among prior research that these children tend to manifest a range of symptoms of ill-health (Higgins & McCabe, 2003; Kitzmann et al., 2003).

In terms of the moderating impact of abuse characteristics, it has been suggested that the experience of more than one type of CM increases the risk of severe forms of internalising and externalising behavioural problems in childhood (Falshaw & Browne, 1997; Pelcovitz

et al., 2000). Other characteristics associated with long-term outcomes are the child's age at onset, type of abuse, chronicity, severity and duration of abuse (McAlister Groves, 1999; Sternberg et al., 1993).

It has therefore been proposed that symptoms of ill-health demonstrated by children who witnessed IPV vary in relation to their age, gender and developmental stage. However, some of the findings from existing meta-analyses have been less than conclusive (Evans et al., 2008; Kitzmann et al., 2003; Wolfe et al., 2003). For example, Wolfe et al. (2003) proposed that young children are more vulnerable to the development of mental health difficulties because of their lack of cognitive understanding of conflict and resources to cope with the experience, however, Kitzmann et al. (2003) and Evans et al (2008) found no differences between age groups. Two of the meta-analyses found that boys who witnessed IPV manifested more externalising behavioural symptoms compared to girls (Evans et al., 2008; Kitzmann et al., 2003). In contrast, no significant gender differences in internalising behavioural symptoms were found (Evans et al., 2008; Kitzmann et al., 2003; Wolfe et al., 2003).

Not all children who have witnessed IPV and/or have been victimised develop deleterious mental health difficulties. The experience of the same violence may have different consequences for different children. For example, Kitzmann et al.'s (2003) meta-analysis demonstrated that 37% of the child witnesses of IPV showed outcomes similar to children who had not witnessed domestic violence. Other research has therefore given greater focus to family functioning in determining outcome. This research has proposed that family dysfunction has a critical role in the development and maintenance of psychopathology

(Gold, Hyman & Andres-Hyman, 2004; Rossman, 2000). Conversely, adaptive family function and emotional support of one of the caregivers (Egeland et al., 1993; McAlister Groves, 1999) may buffer the effect of IPV and/or CM. However, it also is important to recognise that child victims of family maltreatment may overcome and cope with their traumatic experiences with the emotional support from extended family members or people outside their family such as peer friendship (Bolger & Patterson, 2003; Egeland et al., 1993), despite high family dysfunction and/or lack of parental support.

Study Rationale

Extensive research has recognised that exposure to IPV is associated with emotional and behavioural difficulties in childhood. However, less attention has been directed towards understanding the effects on mental health for children and adolescents who witness IPV and/or experience CM. Little is known about the confounding impact in families experiencing concurrent CM that other multiple risk factors, in addition to IPV, have on a child's mental health, such as parental criminality, parental psychopathology and parental substance abuse. These factors may play a crucial role for the understanding of the development of child psychopathology following family maltreatment.

Aims

This study aims to investigate the effects of concurrent W.IPV and CM in a clinical population of children and adolescents referred to the CAPS in Sweden. First, the rate of overlap is explored before investigating differences in the nature and dynamics of maltreatment, mental disorder and child and family characteristics between W.IPV and

W.IPV/CM. Finally, the predictive validity of group membership (W.IPV/CM and W.IPV) in determining mental health outcome, whilst controlling for covariate factors, is explored.

Specifically, four research questions are investigated:

1. To explore the rate, nature and dynamics of concurrent W.IPV/CM in comparison to families characterised by W.IPV only.
2. To determine the rate of childhood mental health outcomes for each group (W.IPV/CM and W.IPV only).
3. To explore differences between W.IPV/CM and W.IPV groups in family and child characteristics.
4. To explore the extent to which each group (W.IPV/CM and W.IPV) can predict the development of mental disorder, independent of child and family characteristics

Method

Sample

In total, 393 children and adolescents from 295 families had been referred to a Swedish CAPS, for intervention between the years 1998-2006. This clinic is a specialist unit in Stockholm County which offers treatment to children and adolescents who have witnessed IPV between their caregivers or for mental health symptoms related to violence exposure. Of the 295 referred families, forty-nine (16.6%) families declined participation. Therefore, the files of 245 families (83.1%) involving 347 children and adolescents were reviewed. The response rate is described in the section regarding ethical considerations.

In this study, it was required that the youth were younger than 18 years at the time of the referral to CAPS, the mother had suffered intrafamilial violence by an intimate partner, they had received a mental health evaluation and were assessed in accordance to the DSM-IV (American Psychiatric Association, [APA], 2000) or ICD-10 criteria (World Health Organisation, [WHO], 2004). Applying this inclusion criteria highlighted that five youths were aged 18 or older, three children had witnessed violence by a non-intimate partner, and 144 children had not received a mental health evaluation or assessment. These children were therefore excluded. This study is based on the psychiatric charts of the remaining 195 children and adolescents (56.2% of the 347 cases reviewed) with complete mental health evaluation data.

Of the 195 referred children, 50.3% (n=98) were boys and 49.7% (n=97) were girls. The age range of sample at the time of referral was 25 to 213 months (M=104.8: SD=49.03). Parents' nationality was recorded in two groups: parents who were born in Sweden were coded as Swedish and where both or one of the parents were born in a country other than Sweden, parents were categorised as non-Swedish. More than half of the parents had sole custody with the mother or father as main caregiver (n=99 and n=2 respectively), and 0.5% had a designated caregiver/s (n=1). Demographic characteristics of the clinical sample of children and adolescents are summarised in Table 4.1.

Table 4.1: Demographic Characteristics for clinical sample of children and adolescents (N=195)

Demographic variable	Mean (SD)
Age (in months)	104.8 (49.03)
	n(%)
Gender (n=195)	
Male	98 (50.3)
Female	97 (49.7)
Parental nationality (n=190)	
Swedish parents	93(48.9)
Non-Swedish parents	97(51.1)
Serious Economical and Housing Difficulties (n=137)	21(15.3)
Custody (n=191)	
Sole Custody	101(52.8)
Joint Custody	89(46.6)
Number of referred children within the family unit (n=195)	
Single referred child	139(71.3)
Two or more referred children	56(28.7)
Total Number of Children within the family unit ^a (n=195)	
Single Child	39(12.1)
Two or more Children	283(87.9)

^a Not all children who had witnessed IPV from each family were referred to the clinic for treatment.

In all of the referral cases, the victim of IPV was the child's biological mother (n=139), although there were some cases of reciprocal mother to father violence (n=3). Ninety-eight percent (95 males, 86 females, 10 missing values) of the children was reported to have heard the abusive incident/s and 96.7% (93 males, 84 females, 12 missing values) had been in the same room when the abuse occurred. The most common form of IPV reported in the psychiatry charts in descending order was physical abuse (97.1%, n=135), emotional abuse (75.5%, n=105) and parental rape (8.6%, n=12). Almost three quarters of the mothers' had experienced multiple forms of IPV (74.8%, n=104) and the majority reported severe forms (84.5%, n=104, 16 missing cases; see data treatment). The clinicians reported the battered women to have suffered IPV at a median duration of 6 years or more (SD=1.99) and children to have witnessed their mother being abused for a median duration of three to four

years (SD=1.99). Additionally, it was known in some families (n=8, 5.8%) that the violence also had previously or currently been directed towards one or more than one of the child's step-mothers'.

Overall, in 87.8% of the families (n=122), the IPV had been committed by a single perpetrator and 12.2% (n=17) by multiple perpetrators (2 missing values). The most frequent perpetrators were the child's biological father (n=108, 78.8%), followed by step-father (n=32, 23.4%) and non-intimate partner, such as extended family members or acquaintances (n=8, 5.8%). Since the violence was in some cases committed by more than one person, the combined percentages are greater than 100.

Procedure

The files contained recurring notes from treatment sessions, investigations and statements. Data was systematically extracted from each file using a pre-defined proforma designed to extract specific and reliable information (see Appendix K). The variables were coded as present if they were present during the referred child's period of treatment.

Definitions

Definition of IPV:

Parents were defined to be partners if a level of intimate/romantic relationship was discussed in the report and/or if the parents were married, cohabiting or living separately. The types of IPV experienced by the victims were collapsed into three main categories: physical abuse, emotional abuse and sexual abuse (see Appendix L).

Definition of CM

In terms of defining child maltreatment, any case in which the clinician administering treatment stated that CM occurred was categorised as CM. A child's exposure to IPV or psychological violence from one or both parents directed towards the child was regarded as child emotional abuse. Therefore, these children are referred to as 'child witnesses' or 'emotionally abused'. In cases where a child experienced multiple forms of abuse or neglect, they were categorised as mixed maltreatment. The types of child maltreatment were coded into five categories: child emotional abuse, child physical abuse, child sexual abuse, child neglect and mixed maltreatment (see Appendix L).

Severity of IPV and CM

Severity of abuse that had occurred was based on the severity index listed in the coding dictionary (see Appendix L) where each form of maltreatment was rated on a four-point scale, from minor to very severe or life-threatening. This severity of maltreatment scale was devised prior to the onset of data collection. However, it was found that this scale did not apply particularly well to the data since the majority of cases involving emotional and physical abuse were classed as 'severe'. In addition, all cases of sexual IPV was classified as severe and for child sexual abuse, it appeared that a distinction needed to be drawn between non-contact- and contact abuse. Therefore, a new set of definitions of severity was assimilated. Data on IPV and CM was later collapsed into larger 'severity' categories, where one category involved minor to moderate IPV and/or CM and the second category included severe to life threatening, because of the small number for some variables. No detailed information concerning child neglect could be obtained from the psychiatric charts, therefore, child neglect was excluded from the analysis of severity.

Siblings

The child's siblings within a family may also have witnessed IPV and/or experienced CM. In addition the consequences of IPV and CM may also vary greatly within a family. Where one or more siblings were referred to the clinic in the time period of 1998-2006 because of their exposure to intimate partner violence and/or child maltreatment, information relating to their victimisation was gathered and used in data analysis.

Child psychopathology

Information regarding child psychopathology was also collected (see Appendix L). Child psychopathology was defined in accordance to the Diagnostic and Statistical Manual of Mental Disorders [DSM-IV] (APA, 2000) and somatoform disorder of the International Statistical Classification of Diseases and Related Health Problems [ICD-10] (WHO, 2004). For those children not reaching a clinical cut-off for any given psychopathology, the informant/clinician was asked to indicate whether the children displayed sub-clinical symptoms (e.g. meeting only two out five of the diagnostic criteria) or were asymptomatic.

Treatment of Data

All data collection was conducted by one researcher. To ensure reliability of the data collection, intra-rater reliability was measured to assess the validity and reliability of data obtained. Ten files were trawled twice by the same rater. The files were coded at the initial phase of the data collection and were re-coded one month later. Agreement over time reached a 100% concordance rate.

For the rating of severity scales of IPV and/or CM, all of the data was rated by one researcher. A selection of the total data (17.3%; n=24) was rated by a second researcher in order to assess the reliability of the first coder. There was a concordance rate of 87.5% (n=21).

Ethical consideration

The Regional Board for the Ethics Committee in Stockholm approved of the study (Dnr: 2006/581-31, 2007/234-32). During autumn 2006, parental consent (Appendix M) was sought from the caregiver/s of 399 children (295 families) who had been referred to a Child and Adolescent Psychiatry Service, Sweden, between June 1998 and October 2006. This method of recruitment, however, resulted in a low response rate (36.6%, n=108). Of those families who responded, consent was obtained from only 59 families to use their data for research purposes and 49 families declined participation. The low response rate was due to the difficulty getting the correct mailing address as these families often had hidden identities and repeated residential relocations (26.4%, n=78). In addition, the biological father could not be contacted in 20.7% (n=61) of the families as any contact could have put the child at risk of significant harm (e.g. in terms of threat, stalking). Taking these issues into account, the Ethics Committee advised that parental consent was bypassed and a second amended application was approved to this effect in June 2007. The final sample (excluding those 49 families and 52 children who declined) represented 83.1% (n=246) and 88.3% (n=347) of the total number of families and children referred to the clinic respectively.

Statistical analyses

In order to test the first to third hypotheses, bivariate relationships among variables were investigated using Chi-Square statistics for categorical variables. In cases of low frequency in each cell, the Fisher's Exact Probability Tests was used. In addition, Mann-Whitney U test was appropriate when one variable was categorical and the other continuous (depending on normal distribution). For the fourth hypothesis, an enter method logistic regression was used to examine the pathway from exposure to IPV and/or experiencing CM to psychopathology independently by child, family or social characteristics. The variance inflation factors (VIF) were examined to detect and ensure that collinearity between maltreatment. The VIF values were small, ranging from 1.03 to 1.27, indicating that there was no problem of collinearity in the regression analyses (Tabachnick & Fidell, 1996).

Results

1. To explore the rate, nature and dynamics of concurrent W.IPV/CM in comparison to W.IPV

From the 195 referrals for W.IPV, an overlap of 51.3% (n=100) was found between witnessing IPV and experiencing CM. Examining the nature of W.IPV in families characterised by W.IPV/CM in comparison to W.IPV showed significant difference for median duration ($\chi^2_1 = 8.37, p < .005$). It was found that the W.IPV/CM group were more likely to have lived with violence for more than five years as opposed to W.IPV. In both groups, most of the mothers' were reported to have experienced multiple and severe forms of IPV.

Table 4.2: W.IPV characteristics in relation to group composition (N=195)

W.IPV characteristics	W.IPV (n=95)	W.IPV/CM (n=100)	Statistics ^a
Type of W.IPV			
Physical Abuse (n=191)	93	98	$\chi^2_{1=.60}$, p=1.000
Emotional Abuse (n=154)	71	83	$\chi^2_{1=1.16}$, p=.165
Sexual Abuse (n=16)	7	9	$\chi^2_{1=.68}$, p=.796
Concurrent W.IPV (n=195)			
Single W.IPV	23	72	$\chi^2_{1=.213}$, p=.221
Multiple-type of W.IPV	17	83	
Severity of physical IPV(n=132) ^b			
Less severe	9	55	$\chi^2_{1=.16}$, p=.694
Severe	8	60	
Severity of emotional IPV (n=93) ^b			
Less severe	13	29	$\chi^2_{1=.14}$, p=.819
Severe	14	37	
Severity of sexual IPV(n=12) ^{b c}			
Severe	4	8	---
Duration W.IPV (n=90)			
Less than 5 years	29	11	$\chi^2_{1=8.37}$, p=.004
5 years or more	21	29	

^a Test statistics are highlighted in bold to demonstrate significance. ^b Missing data for physical abuse (31%, n=59), emotional abuse (39.6%, n=61) and sexual abuse (25%, n=4). ^c Statistical comparison of groups could not be computed as no cases of less severe sexual abuse was recorded.

For the W.IPV/CM group, the most common form of CM was physical abuse (n=86, 44%), followed by child neglect (n=20, 10.3%) and child sexual abuse (n=18, 8.7%). Almost forty percent of the children (n=77) had experienced one type of CM, whereas eleven percent (n=22) had a history of two or more types of CM. Further analysis showed that child sexual abuse and child neglect were significantly associated with child physical abuse (Fisher's exact test, p=.003 and p=.001 respectively). Approximately sixty percent (n=10) of sexually abused children and neglected children (n= 12) had also experienced physical abuse respectively. In terms of severity of CM, the majority of children had experienced severe form of child sexual and physical abuse. Table 4.3 shows the co-occurrence between different types of maltreatment and severity of CM.

Table 4.3: Co-occurrence and severity of child maltreatment (N=100)

	Child Physical Abuse (n=86)	Child Sexual Abuse (n=18)	Child Neglect (n=20)
	n(%)	n(%)	n(%)
Type of Maltreatment (n=85) ^a			
Single type of CM	65(75.6)	6 (33.3)	7(35)
Multiple type of CM	21(24.4)*	12 (66.7)	13 (65)
Severity of Maltreatment (n=68) ^{a b}			
Minor	15(26.8)	---	---
Moderate	19(33.9)	4 (33.3)	---
Severe	21(37.5)	8 (66.7)	---
Life-threatening	1(1.8)	---	---

^a Note missing values for number and severity of CM.

^b Information concerning severity of child neglect could not be obtained from the psychiatric charts and therefore rating of severity was not computed.

*Child physical abuse was significantly associated with child sexual abuse and child neglect respectively.

The result indicated that three out of five maltreated children (n=68) had suffered maltreatment by a single perpetrator, whereas two out of five (n=17) had been maltreated by multiple perpetrators. Information concerning relationship to perpetrator/s was available for 96 cases. The most frequent perpetrators were the child's biological father (n=71, 75.5%), biological mother (n=1, 17%), step-mother (n=1, 1.1%), step-father (n=14, 14.9%), sibling (n=1, 1.1%), extended family member (n=3, 3.2%), boyfriend (1 female, 1.1%), an acquaintance (n=2, 2.1%) and/or stranger (n=5, 5.3%). Percentages are greater than 100 due to presence of multiple perpetrators (see Table 4.4).

Table 4.4: Perpetrator characteristics in relation to CM (N=100)

	Child Physical Abuse Only n=65	Child Sexual Abuse Only n=6	Child Neglect Only n=7	Mixed type of abuse n= 22
	n (%)	n (%)	n (%)	n (%)
Number of Perpetrator/s (n=85) ^a				
Single Perpetrator	58(89.2)	6(100)	3(42.9)	3(13.6)
Multiple Perpetrators	5(7.7)	---	---	14(63.6)
Relationship to Perpetrator/s (n=98) ^a				
Intrafamilial	64(98.5)	4(66.7)	7(100)	16(72.7)
Extrafamilial	---	2(33.3)	--	---
Mixed	---	---	--	5(22.7)

^a Note missing values for number and relationship to perpetrator/s.

In terms of patterns of child victimisation, 5.4% (n=4) had experienced single victimisation. In terms of recurrent maltreatment, 68.9% (n=51) children experienced repeated maltreatment by the same intrafamilial perpetrator, whereas 18.9% (n=14) were repeatedly revictimised by two intrafamilial perpetrators on different occasions. Additionally, 6.7% (n=5) of maltreated children had experienced repeat revictimisation by both family and non-family members (2 missing values). Overall, in 92.9% (n=91) of maltreatment cases, the child was offended by family member/s and 7.1% (n=7) by both family and non-family members. Table 4.5 demonstrates the prevalence and characteristics of child victimisation in families where the child has been exposed to IPV.

Table 4.5: Type of victimisation in relation to CM (N=100)

	Child Physical Abuse Only n=65	Child Sexual Abuse Only n=6 ^a	Child Neglect Only n=7	Mixed type of abuse n= 22
	n (%)	n (%)	n (%)	n (%)
Type of Victimization ^b				
Single Victimization	4(6.2)	---	---	---
Repeated Victimization	42(64.6)	---	7(100)	2(9.1)
Repeat Revictimisation	5(7.7)	---	---	14(63.6)

^a Information concerning child sexual abuse could not be obtained from the psychiatric charts and therefore rating of type of victimisation was not computed

^b Note missing data for child physical abuse (21.5%, n=14), child sexual abuse (100%, n=6) and mixed type of abuse (27.3%, n=6).

2. To determine the rate of childhood mental health outcomes for each group (W.IPV/CM and W.IPV)

Table 4.6 shows the rate of childhood mental health outcomes for each group of children. Eighty-five of the W. IPV/CM children (43.6%) and fifty-two children (26.7%) in the W.IPV group had been diagnosed with a DSM-IV mental disorder. Overall, the majority of W.IPV/CM children (85%) had developed a mental disorder compared to 54.7% of the W.IPV only group. Chi-square statistics demonstrated that children in the W.IPV/CM group were significantly more likely to have developed a mental disorder than children in the W.IPV group (see Table 4.6). Specifically, PTSD differed significantly between groups with the W.IPV/CM group demonstrating a higher rate, whilst no other mental disorder reached significance.

Table 4.6: Rates of childhood mental health for each group (N=195)

Mental Health Outcome	W.IPV group (n=95)	W.IPV/CM group (n=100)	Statistics ^b
	n(%) ^a	n(%) ^a	
Mental Disorder (n=195)	52(26.7)	85(43.6)	$\chi^2_1 = 21.35, p<.001^*$
Type of Mental Disorder			
Anxiety (n=14)	5(2.6)	9(4.6)	<i>FE</i> =.409
Attention Deficit Hyperactivity Disorder (n=5)	1(.5)	4(2.1)	<i>FE</i> =.622
Communication Disorder (n=3)	1(.5)	2(1)	<i>FE</i> =.487
Conduct Disorder (n=7)	3(1.5)	4(2.1)	<i>FE</i> =1.000
Developmental Coordination Disorder (n=2)	1(.5)	1(.5)	<i>FE</i> =1.000
Dissociation (n=2)	---	2(1)	<i>FE</i> =.498
Eating Disorder (n=4)	1(.5)	3(1.5)	<i>FE</i> =.622
Encopres (n=1)	1(.5)	---	<i>FE</i> =.487
Enuresis (n=3)	2(1)	1(.5)	<i>FE</i> =.614
Learning Difficulties (n=2)	1(.5)	1(.5)	<i>FE</i> =1.000
Mood Disorder (n=7)	1(.5)	6(3.1)	<i>FE</i> =.119
Obsessive Compulsive Disorder (n=1)	1(.5)	---	<i>FE</i> =.487
Oppositional Defiant Disorder (n=5)	2(1)	3(1.5)	<i>FE</i> =1.000
Pervasive Developmental Disorder (n=1)	1(.5)	---	<i>FE</i> =.487
Post-traumatic Stress Disorder (n=100)	36(18.5)	64(32.8)	$\chi^2_1 = 11.281, p=.001^*$
Sexual and Gender Identity Disorder (n=4)	---	4(2.1)	<i>FE</i> =.122
Sleep Disorder (n=13)	4(2.1)	9(4.6)	$\chi^2_1 = 1.80, p=.180$
Substance Abuse (n=1)	1(.5)	---	<i>FE</i> =.487
Suicidal Ideation (n=4)	1(.5)	3(1.5)	<i>FE</i> =.622
Tics, Tourette (n=1)	---	1(.5)	<i>FE</i> =1.000

^a Some children had been diagnosed with more than one mental disorder and therefore the combined percentages are greater than 100.

^bTest statistics are highlighted in bold to demonstrate significance

* $p<.001$

3. To differentiate between the groups on family and child characteristics on childhood mental health outcomes.

Table 4.7 demonstrates the prevalence of child and family characteristics and outcome in relation to group composition. Chi-square statistics revealed a significant difference

between W.IPV group only and W.IPV/CM group in relation to age at referral. The result indicated that children in the W.IPV group were referred to the CAPS at a younger age, whereas children in the W.IPV/CM were older at the referral (see Table 4.7). Thus, the intercorrelation analyses showed no other significant differences in terms of child characteristics (e.g. gender and nationality), family demographic (e.g. parental psychiatric disorder, parental substance abuse and parental criminality) and peer friendship were found between groups.

Table 4.7: Child, Family and Social Characteristics by Group (N=195)

Variable	W.IPV group (n=95)	W.IPV/CM group (n=100)	Statistics ^a
	M (SD)	M (SD)	
Child's age at the referral (in months)	94 (42.36)	114 (52.89)	U= 3707.5; p<.01*
	n (%)	n (%)	
Child Characteristics			
Sex (n=195)			$\chi^2_1=.13, p=.719$
Males	46 (48.4)	49 (49)	
Females	49 (51.2)	51 (51)	
Nationality (n=190)			$\chi^2_1=.53, p=.468$
Swedish	49 (51.2)	44 (46.3)	
Non-Swedish	46 (48.4)	51 (53.7)	
Family Characteristics (n=191)			
History of parental substance abuse	47 (49.5)	37 (38.5)	$\chi^2_1=3.09, p=.079$
History of parental psychiatric disorder	16 (16.8)	22 (22.9)	$\chi^2_1=1.11, p=.293$
History of parental criminality	12 (12.6)	13 (13.5)	$\chi^2_1=.15, p=.703$
Social relationships (n=189)			
Peer friendship difficulties	16 (16.8)	25 (26.3)	$\chi^2_1=2.40, p=.121$

^aTest statistics are highlighted in bold to demonstrate significance

*p<.01

4. To explore the extent to which each group of children (W.IPV/CM vs. W.IPV) can predict the development of a mental disorder independent of child, family and social characteristics

Regression analysis was run to examine the predictive validity of group (W.IPV/CM and W.IPV) for the development of a mental disorder independent of child, family and social characteristics. In the regression analysis, all of the variables (i.e. child, family and social relationship and maltreatment status) were entered in the same block. Table 4.8 shows the predictive validity of group membership in determining mental health outcome.

The regression analysis was conducted on a total of 185 cases and the model was shown to significantly predict level of mental health problems ($\chi^2_8 = 44.43$, $p < .000$). This model accounted for 89.1% of the children who were diagnosed with a mental disorder being successfully predicted, while 49.1% of the predictions of modest or no symptoms of ill-health were accurate. Overall, 76.8% of the cases were correctly predicted on the basis of the combination of covariates included in the model.

As Table 4.8 shows three risk factors were significantly predictive of current child mental disorder: ‘experience of concurrent W.IPV/CM’ (OR = 4.69), ‘nationality’ (OR = 3.23) and peer friendship problems (OR = 3.75). Evaluation of the moderating properties of nationality and peer friendship in relation to child maltreatment showed no interaction effect. This suggests that the presence of these three factors independently increased the odds of mental health difficulties in childhood occurring.

Table 4.8: Child mental disorder predicted by child, family and social characteristics and group composition (W.IPV and W.IPV/CM), as determined by logistic regression

Variable	<i>B</i> (SE) ^{a,b}	Wald	95% confidence intervals for Exp(B) ^b		
			Lower	Exp(B)	Upper
<i>Constant</i>	-1.99 (.92)*	4.67			
Gender ^c	.68 (.37)	3.42	.25	.51	1.04
Age at Referral	.00 (.00)	.12	.99	1.00	1.01
Parental Nationality^b	1.17 (.41)**	8.26	1.42	3.23	7.19
Parental Psychiatric Disorder	.81 (.51)	2.58	.84	2.25	6.07
Parental Substance Abuse ^c	.76 (.43)	3.19	.93	2.14	4.93
Parental Criminality	-.20 (.67)	.09	.22	.82	3.03
Concurrent W.IPV/CM^b	1.55 (.40)***	15.00	2.15	4.69	10.24
Peer Relationship Difficulties^b	1.32 (.56)*	5.52	1.25	3.75	11.31

Note. Age at time of referral is a continuous variable. All the others are dichotomously coded with a value of 0 reflecting that the characteristic was not endorsed and a value of 1 indicating that the characteristic was endorsed. $R^2 = .39$ (Hosmer & Lemeshow), .21 (Cox & Snell), .30 (Nagelkerke). Model $\chi^2_8 = 44.43$, $p < .001$.

^a For an explanation of statistical terms see statistical analysis section

^b Test statistics are highlighted in bold to demonstrate significance.

^c Trend towards significant for gender ($p = .06$) and parental substance abuse ($p = .07$).

* Significant to $p < .05$.

** Significant to $p < .01$.

***Significant to $p < .001$.

Discussion

The purpose of this study was to explore the effect of concurrent W.IPV/CM in a clinical population of children. First, the rate of concurrent W.IPV/CM was explored, before examining differences in development of mental disorder and child, family and social characteristics between the groups (W.IPV and W.IPV/CM). Finally, the extent to which group membership predicted the development of mental disorder, independent of child, family and social characteristics, was examined.

1. Concurrent W. IPV/CM and W. IPV only

Consistent with reports by other investigators (Apple & Holden, 1998; Browne & Hamilton, 1999; Dixon et al., 2007; Edleson, 1999; Evans et al., 2008; Hildyard & Wolfe, 2002; Hughes & Etzel, 2001; Kitzmann et al., 2003; Luthra, Abramovitz, Greenberg, Schoor, Newcorn, Schmeidler et al., 2008; McDonald et al., 2009; Rossman & Rosenberg, 1998; Sternberg et al., 2006; Wolfe et al., 2003), this study found that children who grow up in a violent family may not only witness violence and aggression, they may also bear the brunt of it. In this study, about half of the children who had witnessed IPV also reported a history of CM, foremost child physical abuse. Looking at maltreatment characteristics within the concurrent IPV/CM group, the rates indicated that the majority of children had experienced recurrent intrafamilial CM by their biological father and one out of four children had experienced more than one type of CM.

Investigating the nature and dynamics between the groups (i.e. W. IPV and W. IPV/CM), the result showed that children in the concurrent W. IPV/CM group were significantly more likely to have witnessed IPV for a longer duration (i.e. five or more years) compared to children in the IPV group. This finding is congruent with previous studies reporting high concurrent rate of lifetime prevalence of IPV/CM (Apple & Holden, 1998). Previous research findings have also suggested that women in families characterised by concurrent IPV/CM are likely to suffer more frequent and severe forms of IPV compared to those in families with only IPV occurring (Browne & Hamilton, 1999). However, this study found no significant difference in between the groups (W. IPV and W. IPV/CM). In addition, no significant group difference was found for type of W. IPV (i.e. physical, emotional and/or sexual abuse). However, the non- significant results for nature of exposure between groups

may reflect a ceiling effect related to sample source. Similar to reports from studies conducted in domestic violence shelters (Jouriles et al., 2005; McDonald et al., 2009), most of the mothers in both groups were reported to have experienced multiple events of IPV severe enough to warrant seeking medical attention/treatment. By studying the nature and dynamics of families with concurrent IPV/CM in comparison to families with IPV, the specific experiences of children in IPV families and the consequences of those experiences for different aspects of children's functioning.

2. Childhood mental health outcomes

Using the DSM-IV criteria to explore the prevalence of mental disorders in these vulnerable children, the present study found that 70.3% (n=137) of the children reached the clinical level of mental disorders, whilst children in the IPV/CM group were shown to be significantly more likely to have developed a DSM-IV disorder. However, some children in the W.IPV only group also manifested child pathology. These findings suggest that any type of victimisation history puts a child at a greater risk of developing mental disorder in childhood.

Similar to previous research on child victims of IPV (Kilpatrick & Williams, 1998), PTSD was found to be the most common disorder in these vulnerable children (50.1%). However, children diagnosed with the same type of disorder may manifest different symptoms of behaviours as a sequelae of the trauma. For example, children with PTSD may display regressive behaviour, clinging behaviour, withdrawal, difficulties to concentrate, hyperactivity and/or aggression. Therefore, Kilpatrick et al. (1998) proposed the high prevalence of PTSD in children who witnessed domestic violence may explain the range of

emotional and behavioural problems found in this population. However, many of the children in the present study demonstrated other types of child psychopathology, such as sleep disorder and anxiety disorder (without symptoms of obsessive compulsive disorder and post-traumatic stress disorder).

The high prevalence of mental disorders stresses the need of services providing early intervention for vulnerable children who witness IPV. It would seem unlikely that the psychological well-being of these children may be expected to improve without intervention that has an impact on their emotional distress. However, the first step towards a successful intervention is to enable security and safety for the mothers and their children (McAlister, 1999). Literature on intervention in relation to family support system has found that the protection issue and feeling of safety are crucial for the children's recovery of traumatic experiences (McAlister, 1999). In accomplishing this task, however, family support systems working also need to address additional stressors that these families face. For example, in this study, it was evident that a substantial number of families in both groups were characterised by other family adversities, foremost parental substance abuse, parental psychopathology, parental and history of criminality and thus this might also explain the non-significant results between both groups (i.e. children who witnessed IPV as opposed to children who have both witnessed IPV and experienced CM).

However, it is also important to acknowledge that not all children who witnessed IPV and/or experienced CM developed a psychiatric disorder. About twenty-two percent of the IPV only group of children exhibited modest level of symptomatology (n=26) or no symptoms (n=17) of mental ill-health respectively. For the IPV/CM group, however, this

percentage was substantially lower; only 8% manifested sub-clinical symptoms within the non-clinical range of psychological symptoms (n=13) or asymptomatic behaviour (n=2). However, this finding could be viewed as being indicative of resilience. Another possibility is that the symptoms would appear to deteriorate with time, a so-called sleeping effect (Finkelhor & Berliner, 1995; Gomes-Schwartz, Horowitz, Cardarelli & Sauzier, 1990; Kendall-Tackett et al., 1993; Putnam, 2003). For example, Gomes-Schwartz et al. (1990) found that 30% of the asymptomatic children at their 18 month follow-up appeared to deteriorate. Overall, relatively little is known about the processes surrounding resilient or asymptomatic maltreated children and the well-being of maltreated children who were labelled as resilient in childhood but later in adolescence showed a delayed effect of the violence (see Chapter 7 for more details about asymptomatic children and long-term responses). A better understanding of how children respond and cope with their traumatic experience has many implications for theoretical understanding, as well (more importantly) as for the practical knowledge needed to enhance treatment of traumatised children.

3. Child, family and social characteristics

In terms of examining group differences in child, family and social characteristics, the only significant difference found was the child's age at the referral. It was found that children in the concurrent W.IPV/CM group were referred at an older age (mean age 9.5 years) as compared to children in the W.IPV only group (mean age 7.8 years), which is consistent with the finding that children in the concurrent W.IPV/CM group were exposed to IPV for a longer duration. No significant group differences were found for sex, parental substance abuse, parental psychiatric disorder, parental criminality and peer friendship difficulties. However, this finding might be due to sampling biases, rather than an actual finding, as almost

three quarters of the children had witnessed multiple forms of IPV (i.e., emotional, physical and/or sexual abuse) and the majority reported severe forms.

The current sample was demographically similar to many other IPV and/or CM samples studied throughout the literature (Gillbert et al., 2009). It was predominately comprised of children from violent households and both of groups of children (W.IPV/CM and W.IPV) reported a similar rate of family risk factors, such as parental substance abuse, parental psychiatric disorder and parental criminality (Dixon et al., 2007; Rossman, 2000; Dodd, 2004).

Many of the children in both groups had one or two immigrant parents (total 53.5%), unlike the general population in Sweden (24%, Hindberg, 1999). Notably, this was a sample with higher rates of family stressors than the general population in Sweden. First, both groups were characterised by a high rate of parents with a history of substance abuse problem (43%). This figure is three times higher than the national statistics in Sweden (compared to national statistics of 10%, the National Board of Health and Welfare, 1999). Second, parental history of psychiatric disorder as a risk factor accounted for 19.5% in both the groups, in comparison with 20-30% of the Swedish population of adult patients who have minor children in psychiatric ward. Finally, a total of 12.5% of the children had criminal parents. Studies have shown that the accumulation of risk factors and subsequent few (or no) protective factors in the environment exacerbates the risk for these children developing emotional and behavioural problems. For example, Hughes and Luke (1998) found that in families in which children are exposed to both IPV and parental psychopathology, the violence is likely to be more severe and chronic, compared to

families in which the violence does not co-occur with parental psychopathology, and their children experienced poorer behavioural and emotional health.

4. Predictive analysis

It has been suggested in the literature that children who experience concurrent W.IPV and CM are more likely to develop serious emotional and behavioural problems (Higgins & McCabe, 2003; Sternberg et al., 2003). However, the empirical evidence investigating this phenomenon is scarce. Many studies have failed to examine the cumulative risks associated with experiencing both W.IPV and CM, such as also being a victim of physical abuse, sexual abuse and/or neglect. In addition, the extent to which child and family characteristics and social support influence the mental health outcomes following experiences of W.IPV and/or CM is still largely unanswered, despite research indicating that parenting that has been compromised by psychopathology, substance use, criminal activity, economic hardship or social hardship, has been found to result in further exacerbating mental health outcomes of children following IPV and/or CM (Zielinski & Bradshaw, 2006).

Similar to reports by other studies (Higgins & McCabe, 2003; Knickerbocker et al., 2007; Pelcovitz et al., 2000; Zielinski & Bradshaw, 2006), this study found that concurrent W.IPV and CM exerted a cumulative effect on the development of severe mental disorders. Importantly, the results of this study further suggest that the effects of W.IPV cannot be discussed without considering the confounding impact of CM. Children who witnessed IPV and had direct experiences of a violent or abusive act were almost five times at higher risk of developing mental disorders compared to those who “only” witnessed IPV.

Moreover, the strength of its role on serious mental health outcomes already manifested in childhood and the prospect of long-term consequences, while controlling for other stressors, suggest a causal association and warrant close attention from mental health professionals and policymakers concerned with children's emotional well-being. This stresses the need for clinicians and other professionals working with children and adolescents who have witnessed IPV to develop the awareness of the high prevalence of CM. It also highlights the importance that children who have witnessed IPV should be evaluated and treated by trained clinicians when warranted.

Nationality

A significant elevated risk pattern was found for children whose caregiver(s) were of a minority status in terms of their nationality. In violent families where one or both of the caregivers were of non-Swedish nationality, children were at three times more at risk of developing mental disorder compared to children whose caregivers were of Swedish nationality. Families of non-Swedish nationality may be particularly vulnerable to mental disorders because they might not have the social support in Sweden and subsequently at higher risk of social isolation. Indeed, previous studies have highlighted the important protective role of social support for children who have grown up in a violent family (Zilenski & Bradsaw, 2006). Additional processes that may explain these effects involve oppressive factors within the family such as risk of abduction of the child and/or threats of violence from extended family members (Siddiqui, 2003). In recent years it has also been recognised that women from minority groups may find it difficult to get protection for IPV because of poor accessibility of refugees, legal and welfare services (Calder, Harold & Howarth, 2004).

Peer Friendship

In this study, it was also found that child witnesses (regardless of maltreatment status) who experienced relationship difficulties with peer friends were almost four times more likely to have developed mental disorders. On the other hand, however, children who experienced peer acceptance and friendship were shown to be at less risk of child psychopathology following W.IPV and/or CM. As no moderating impact in relation to maltreatment status was found, this result indicates that the role of peer friendship has a protective factor for both groups of children (i.e., WIPV/CM and W.IPV only group). This finding is consistent with previous research on the link between CM and resilience suggesting that peer acceptance and friendship contribute to youth development and buffer against negative impact of adverse family experiences (Bolger et al., 1998; Cicchetti & Toth, 1995; Cicchetti, Toth & Maughan, 2000; Heller et al., 1999; Reyes et al., 1996; Tajima, Herrenkohl & Moylan, 2007).

Methodological Considerations

It is important to consider the methodological limitations of this study. First, the quality of information concerning maltreatment characteristics in the psychiatric charts was dependent upon the professionals involved in each case. The professionals systematically used a standardised proforma assessing child and family characteristics (according the CAPS custom), whilst this procedure is not yet in place in terms of details of family maltreatment. This might have subsequently affected the results. Second, file-based data was collected at a clinic which specialises in intervention for children who witness IPV. Almost all of the children had been exposed to severe IPV and were often living with a traumatised parent. Therefore, the abused sample might be considered atypical and not

representative of the general population. Finally, the generalisability of findings is limited, given the absence of a non-abused control group. Future research on child witnesses to IPV should seek to include a non-abused psychiatric group of children to accurately determine group differences in developing psychiatric disorders in childhood.

Conclusion

Overall, the findings show the importance of alerting professionals who work with parents and children to the fact there is a high risk the child may themselves have been subjected to maltreatment. Although there was a high prevalence of emotional and behavioural difficulties in both groups of children, children who had both witnessed IPV and experienced CM were shown to be more likely to have developed a mental disorder compared to child witnesses. It also demonstrates the importance of tailoring IPV interventions to support the specific needs of minorities. Many of the referred children were reported to live in families characterised by parental substance abuse, parental criminality and parental psychopathology. These findings show that the context of IPV for children is often an aversive one with multiple issues beyond the exposure to violence.

The results of this study stress the need for law enforcement officers, social welfare system and other people working with these vulnerable families, to co-operate to help these families and not overlook children when an incident of IPV occurs. In terms of legal legislations of child protection, there has been an acceleration of policy development and increased awareness of the need to support children living with IPV over the last two decades. Thus, it is only in recent years that child witnesses to IPV have been recognised as a vulnerable group in need of legal protection. In Sweden, for example, the Criminal

Injuries Compensation Act (1978:413) and the Social Services Act (2001:453) were amended in 2006 to recognise a child who witnesses domestic violence as a victim of crime and not only as a witness of crime (Höglund, 2002). This amendment has resulted in a stricter sentence of the perpetrator/s. It also increased and ensured the child's rights in society as well as elucidating the mandatory responsibility for social care to provide support, help and protection to these vulnerable children. As a part of this progress, the criminal justice system and social services have begun to shift attention to the issue of accessibility to treatment and child protection for children witnessing intimate partner violence in relation to child custody proceedings in family court.

However, although it is important to acknowledge that important advances have been made, there are still many improvements in the legal and welfare system that need to be made. First and foremost, the current Swedish legislation concerning the parental right to oppose their child receiving therapeutic intervention needs to be amended. At present, the legislation allows an abusive caregiver to oppose to their children receiving mental health evaluation and/or treatment from the CAPS and social services despite the history of IPV. For example, in such cases at present, a battered woman who seeks treatment for her child/-ren to cope with their traumatic experience needs to be able to show evidence that joint custody and/or relationship with the other caregiver entails an enduring risk to the child's health or development. At the very least, there should be a centralised agency to assist women in accessing appropriate services and learning about the legal process in which they can seek temporary sole custody for the duration their child receives trauma-focused intervention while waiting for the court proceedings concerning the IPV, custody, residence and/or child access.

CHAPTER 5: ASSOCIATION BETWEEN VICTIMISATION HISTORY AND CHILD RECOVERY

Chapter rationale

Research on the effects of IPV and/or CM on children extensively documents the harm such maltreatment causes for the child. Chapter 4 highlighted that children who had experienced concurrent W.IPV and CM were likely to have developed a mental disorder compared to those who witnessed IPV only. In addition, it was found that children residing in both groups (W.IPV/CM versus W.IPV only) who had parents of non-Swedish origin, or had experienced peer difficulties, were more vulnerable to develop mental disorder. This chapter analyses the same clinical sample used in Chapter 4. However, this chapter aims to explore the follow-up assessment of child functioning, extending the ecological approach to gain an understanding of how maltreatment, child, family and environmental characteristics may account for changes in symptoms over time.

Introduction

As outlined in Chapter 4, children growing up in a violent family are often exposed to multiple stressors, such as economic impoverishment, ethnic minority background, parental substance abuse and parental psychopathology (Gold et al., 2004; Rossman, 2000). In light of the fact that the combined effect of the different stressors may be many times stronger than their effect in isolation (Calder et al., 2004), these children are extremely vulnerable to develop emotional and behavioural problems. In addition, residential mobility has frequently been cited as an indicator of the unstable family environment. Bronfenbrenner (1986) noted the importance of investigating the effect that residential mobility has on family functioning and child development. Frequency in residential relocations has been found to be related to children's developmental well-being. For example, Pulkkinen (1982) conducted a longitudinal study in which family mobility was included as a factor in an index of family instability. This index was found to be a highly significant predictor of later developmental adjustment.

As highlighted in Chapter 4, it remains somewhat unclear how different forms of childhood victimisation (e.g., witnessing IPV and/or experiencing CM) affects behaviour and mental health when the effects of other stressors are controlled. Collaborating with recent findings (Sternberg et al., 2006), however, it was found that children doubly exposed to partner and child maltreatment has worse outcomes than others. This finding is of particular importance considering many of the children who witness IPV are subjected, more often than not, to abuse and/or neglect (Apple & Holden, 1998; Browne & Hamilton,

1999; Dixon et al., 2007; Edleson, 1999; Hamilton & Browne, 1998; Hester & Pearson, 1998).

Victimisation of a child may occur by the same perpetrator/s or by different perpetrators on different occasions. Therefore, Hamilton and Browne (1998) proposed a new glossary of terms for future research to draw distinctions between different patterns of single and recurrent victimisation in relation to relationship to perpetrator/s (i.e., intra- to extrafamilial abusers). This glossary distinguishes between single victimisation (single maltreatment incident, single perpetrator), multiple victimisation (single maltreatment incident, multiple perpetrators), repeat victimisation (multiple maltreatment incidents, same perpetrator/s) and revictimisation (multiple maltreatment incidents, different perpetrators). In family functioning terms, a child maltreated by a father figure whilst residing in a family characterised by IPV but where there may be an emotional responsive parent would be expected to have a different potential outcome to a child maltreated by both parents.

However, there is a growing recognition that separation does not necessarily mean cessation of abuse (Jaffe et al., 2002). For many women and children, the maltreatment and threats continue after separation from the abusive partner, despite efforts being made by legislators, law enforcement officers, social workers and other professionals to assist and protect them (Jaffe et al., 2002). In a population-based survey of 970 Swedish women who had ended an abusive relationship, Lundgren et al. (2001) found that over a third of them had experienced some form of post-separation violence including 33% verbal threats, 20% stalking and 9% physical or sexual abuse. Many of the post-separation violent incidents had happened in relation to access transfers (24%, 8% and 4% respectively).

Looking at Canada., Jaffe et al. (2002) reported a higher prevalence rate of post-separation violence in a longitudinal study of 62 women and their children. Ninety-seven percent of the women reported suffering multiple forms of IPV following separation, (foremost emotional abuse), whilst 80% reported that their former partner used the children as a means to continue the abuse. In some cases, for example, the former partner encouraged the children to make false accusations of maltreatment by their mother or to come and live with them. In addition, 22% of the families where the child/ren had either regular or irregular contact with their fathers, the mother reported verbal threats and/or harassment during exchanges (Jaffe et al., 2002). These findings, collaborating with previous research, suggest that women and children are vulnerable for further physical and/or emotional abuse after separation, in particular during access transfers (e.g. Humphreys & Thiara, 2003; Jaffe et al., 2002). In light of the association between witnessing IPV and childhood mental health difficulties, it would be reasonable to assume that post-separation maltreatment would hinder the child's recovery.

Study Rationale

Prior cross-sectional and case-control studies have indicated that there might be a difference in level of mental health difficulties between child witnesses and those who have both witnessed IPV and experienced CM (Higgins & McCabe, 2003; Levendosky & Graham-Bergmann, 2001; Lipschitz et al., 1999). However, it is unclear whether these differences are sustained over time. Most researchers have examined the recovery process for all children who have witnessed IPV over time in treatment, without differentiating between child witnesses and child victims who have experienced maltreatment in addition to witnessed IPV (Graham et al., 2007; Jouriles et al., 2001; Liberman et al., 2005a; Liberman et al., 2005b).

In addition, little attention has been directed towards the cumulative risk of being maltreated by more than one person and whether the perpetrator(s) is intrafamilial or extrafamilial in relation to single and recurrent victimisation (Hamilton & Browne, 1998; 1999) as well as multi-type victimisation (Higgins & McCabe, 1998; 2003) on a child's recovery from childhood maltreatment despite the consensus that they play an important role in the development of psychopathology. The theoretical background for investigating the effect of concurrent witnessing IPV and experiencing CM in relation to multiple stressors (using an ecological model) has been described in detail in the Introduction and Chapter 4.

Aims

In summary, this study aims to explore the mental health recovery for children who have witnessed IPV and/or experienced CM, whilst taking into account the role of the type of victimisation (Hamilton & Browne, 1998), multiple-type exposure to intimate violence (Higgins & McCabe, 2003) and multiple-type of maltreatment

The aims of this paper are to:

1. Explore the nature and dynamics of concurrent W.IPV/CM.
2. To explore differences between the W.IPV/CM and W.IPV groups in child, family and environmental characteristics. Specifically,
 - a. child characteristics (i.e., sex, age at referral);
 - b. familial characteristics (i.e., custody, parental nationality, parental psychiatric disorder, parental substance misuse, parental criminality, maternal serious economical and housing difficulties and maternal repeated residential relocation);
 - c. peer friendship;

- d. and treatment duration.
3. Explore the psychosocial functioning of children entering treatment and after treatment completion in relation to
 - a) child and family characteristics
 - b) their victimisation history (i.e., maltreatment status, multiple-type maltreatment, type of victimisation, post-separation abuse).
 4. To consider the effects of groups (W.IPV/CM and W.IPV) in relation to child characteristics and family characteristics on treatment outcome (an ecological model). Specifically, to explore:
 - a. the extent to which the groups (W.IPV/CM and W.IPV) and child/family characteristics can predict childrens' level of psychosocial functioning of children pre treatment
 - b. the extent to which the groups (IPV and IPV/CM) and child/family characteristics can predict childrens' level of psychosocial functioning post treatment

Method

Sample

The files of 347 children and adolescents who had been referred to the Child and Adolescent Psychiatry Service (CAPS) for intervention between the years 1998 and 2006 were reviewed. A detailed description of the recruitment process and response rate is given in Chapter 4. In this study, it was required that the mother had suffered violence by her intimate partner, her child was younger than 18 years at the time of the referral to CAPS and that young person the youth had completed the Global Assessment of Functioning

(GAF, American Psychiatric Association, 2000). In three cases the violence was by a non-intimate partner, five youths were aged over 18 and 192 children had not completed the GAF scale ($n=200$, 57.6%). Therefore, 147 children and adolescents from 121 families (42.4% of the 347 cases) were reviewed for this study.

All of the children had been referred because they had witnessed IPV between their caregivers and/or for symptoms related to W IPV. In all of the cases, the victim of IPV was the child's biological mother ($n=147$), although there were some cases of reciprocal mother to father violence ($n=2$). Of the 121 families, 36 (29.8%) families had an only child whilst the remainder had a average number of 2.4 children per family ($SD=1.38$). However, not all children were referred to the clinic. Of the sample of 147 children and adolescents, 21 children had siblings referred to the clinic ($n=26$). Because the effect of witnessing IPV may vary greatly within a family, siblings were also included in this study.

Overall, 66 (44.9%) were boys and 81 (55.1%) were girls. The age range of sample at the time of referral was 11 months to 17 years ($M=8.4$, $SD=4.03$). Parents' nationality was recorded in two groups: parents who were born in Sweden were coded as Swedish and where both or one of the parents were born in a country other than Sweden, parents were categorised as non-Swedish. About half of the parents were of non-Swedish origin ($n=77$) and had joint custody ($n=75$) of their children despite not living together.

Procedure

Data was collected from the files using the proforma and definitions described in Chapter 4 and Appendix K.

Measure

Global Assessment of Functioning scale (GAF; American Psychiatric Association, 2000)

The GAF scale was used to assess the referred children's overall psychological, social and occupational functioning in relation to severity of behavioural symptoms (Axis V of the DSM-IV; APA, 2000) and consists of ten behavioural descriptors ranging from "no symptoms" to "persistent danger of severely hurting self or others" and "persistent inability to maintain minimal personal hygiene or serious suicidal act with clear expectation of death". (see Appendix N). In CAPS, children are rated by clinicians between 0 (severely impaired) and 100 (superior functioning), both at the initial and completion phase of treatment. The symptoms and functional impairment has most common been defined in the intervals; 'serious impairment' (1-50), 'moderate' (51-60), 'slight impairment' (61-80) and 'normal variants' (81-100) respectively (Schorre & Vandvik, 2003). In the present study, the mean GAF score at the baseline was 61.88 (SD=13.63) and the post-treatment GAF score 76.13 (SD=11.83). Previous research has found convergent and discriminant validity and the inter-rater reliability for the GAF scale to range from fair (.41-.60) to substantial (0.81-1.00) (Hilsenroth et al., 2000; Rey et al., 1995; Schorre & Vandvik, 2004; Shrout, 1998; Söderberg, Tungström & Armelius, 2005; Tracy, Adler, Rotrosen, Edson & Lavori, 1997).

Treatment of Data

Intra-rater reliability and inter-rater reliability were measured as described in the section titled 'treatment of data' in Chapter 4. In addition, ethical considerations have been discussed in Chapter 4.

Statistical analyses

Bivariate relationships among variables were investigated using Chi-Square statistics for categorical variables. In cases of low expected cell frequency, the Fisher's Exact Probability Tests was used. In addition, a series of mixed repeated measures Analysis of Variance (ANOVA) were used to assess childrens' functioning pre- and post-treatment. The repeated within group measure was Time of assessment (i.e., pre- and post scores of the GAF scale) and the independent variables were between subjects factor Group (child and family characteristics and victimisation history).

Standard multiple regression was used to examine the contribution of child, family and maltreatment characteristics to psychosocial functioning of children entering treatment and after completion of treatment. The multiple regression is expressed in terms of the unstandardised B coefficient, standard error (SE), the standardised coefficient β and the significant levels, the *R*-square and adjusted *R*-square statistics. The B coefficient shows the strength of the relationship between childhood mental health difficulties and each predictor. The *R*-square provides information about the goodness of fit of a regression line and the proportion of variance in the DV explained by the predictor variable/s. To examine the risk of multi-collinearity, the tolerance level and Variance inflation (VIF) tests was investigated. The results indicated that there was no risk for multi-collinearity problem between concurrent IPV/CM and the other five factors across pre- and post-treatment outcome models of psychosocial functioning as the factors demonstrated tolerance level close to 1 (pre-treatment ranging from .82 to .89, post-treatment ranging from .82 to .90; Menard, 1995) and the VIF values were small (pre-treatment ranging from 1.11 to 1.22; post-treatment ranging from 1.11 to 1.22; Myers, 1990).

Results

1. The nature and dynamics of concurrent IPV/CM

Of the 147 referred children, seventy-nine (53.7%) children had witnessed IPV and experienced CM. Table 5.1 presents maltreatment characteristics for children who experienced concurrent IPV/CM. As some children experienced more than one type of CM committed by more than one perpetrator, the following percentages are greater than 100. The most common type of CM and perpetrator/s reported was child physical abuse (83.5%) and by a single (84.9%) and intrafamilial perpetrator (93.7%). Chi-square statistics showed that child physical abuse was significantly associated with child sexual abuse (Fisher's exact test, $p=0.005$) and child neglect (Fisher's exact test, $p=.002$). No other significant associations were found.

Table 5.1. Maltreatment characteristics for clinical sample of children and adolescents (N=79)

Abuse Characteristics	n(%)
Concurrent IPV/CM (n=79)	
Child Physical Abuse	66(83.5)
Child Sexual Abuse	17(21.5)
Child Neglect	11(13.9)
Multiple Maltreatment (n=79)	
Single Maltreatment	65(82.3)
Multiple Maltreatment	14(17.7)
Victimisation History (n=51)	
Single victimisation	5(9.8)
Repeated victimisation	33(64.7)
Revictimisation	13(25.5)
Type of perpetrator (n=73)	
Single Perpetrator	62(84.9)
Multiple Perpetrator	11(15.1)
Relationship to perpetrator (n=79)	
Intrafamilial	74(93.7)
Extrafamilial	1(1.2)
Mixed	4(5.1)

2. Child and Family Characteristics

Demographic characteristics are summarised in relation to their exposure to W.IPV and experience of CM in Table 5.2. The two groups of children (W.IPV/CM and W.IPV) differed significantly on certain demographic characteristics. The mothers of children who witnessed IPV and experienced CM were significantly more likely to have sole custody of the child/-ren ($\chi^2_1=5.30$, $p<.05$), have serious economic and housing difficulties ($\chi^2_1=5.82$, $p<.05$) and repeated residential relocations ($FE=.01$) compared to mothers' of children with a history of W.IPV only. In addition, the W.IPV/CM group of children were reported to have significantly more difficulties with peer friendship than the W.IPV group of children ($\chi^2_1=7.12$, $p<.01$). Conversely, there was significantly more parental substance abuse reported for the W.IPV group than the concurrent W.IPV/CM group ($\chi^2_1=4.99$, $p<.05$, see Table 5.2).

Table 5.2. Child and family characteristics by group (N=147)

Variable	W.IPV group n=68	W.IPV/CM group n=79	Statistics ^a
	Mean (SD)	Mean (SD)	
Age (in years)	8.2(3.8)	8.6(4.6)	$t_{145} = -.53, p=.60$
	n(%) ^b	n(%) ^b	
Gender (n=147)			$\chi^2_1=.24, p=.63$
Male	32(21.8)	34(23.1)	
Female	36(24.5)	45(30.6)	
Parental nationality (n=144)			$\chi^2_1=1.22, p=.27$
Swedish	34(23.6)	33(22.9)	
Non-Swedish ^c	32(22.2)	45(31.3)	
Custody (n=143)			$\chi^2_1=5.30, p<.05$
Sole Custody	25 (17.5)	43(30.1)	
Joint Custody ^d	42(29.4)	33(23.1)	
Number of referred children within the family unit (n=147)			$\chi^2_1=1.34, p=.25$
Single referred child	43(29.3)	57(38.8)	
Two or more referred children	25(17)	22(15)	
Total Number of Children within the family unit (n= 126)			$\chi^2_1=.02, p=.89$
Single Child	17(13.5)	19(15.1)	
Two or more Children ^e	39(31)	46(26.5)	
Post-separation Abuse (n=147)	33(22.4)	44(30)	$\chi^2_1=.75, p=.39$
Peer Friendship Difficulties (n=146)	4(2.7)	17(11.6)	$\chi^2_1=7.12, p<.01$
Parental Substance Abuse (n=147)	31(21.1)	22(15)	$\chi^2_1=4.99, p<.05$
Parental Psychiatric Disorder (n=146)	15(10.3)	15(10.3)	$\chi^2_1=.26, p=.61$
Parental Criminality (n=146)	7(4.8)	11(7.5)	$\chi^2_1=.41, p=.52$
Maternal Serious Economical and Housing Difficulties (n=146)	6(4.1)	19(13)	$\chi^2_1=5.82, p<.05$
Maternal Repeated Residential Relocation (n=146)	3(2.1)	16(11)	$FE=.008$
Treatment Duration: Less than 6 months (n=122)	26(21.3)	27(22.1)	$\chi^2_1=.21, p=.65$
Treatment Duration: 6 to 12 months (n=122)	13(10.7)	19(15.6)	$\chi^2_1=.65, p=.42$
Treatment Duration: More than 13 months (n=122)	18(14.8)	19(15.6)	$\chi^2_1=.08, p=.78$

FE Fishers Exact statistical Test. ^a Test statistics are highlighted in bold to demonstrate significance. ^b Percentages are rounded off to one decimal. ^c Eleven percent of children in Sweden have one immigrant parent, while 13% have two (Hindberg, 1999). ^d The parents of 25 children (7.6%) were still living together. ^e Not all children who had witnessed IPV from each family were referred to the clinic.

3. Psychosocial functioning pre- and post treatment

Evaluating pre- and post GAF scores for all children ($M=61.88$, $SD=12.63$ and $M=76.14$, $SD=11.84$ respectively) through repeated measures ANOVA, the result showed a significant within-group effect ($F_{1, 146}=225.24$, $p<.001$). This result indicates that overall the children showed a significant improvement in level of psychosocial functioning across time in treatment. Figure 5 demonstrates the number of children scoring in a clinical/borderline range of psychosocial malfunctioning pre treatment, in contrast to the number post treatment. This figure shows that 21.8% ($n=32$) of children were rated by clinicians to exhibit serious psychosocial impairment at baseline as opposed to 3.4% ($n=5$) at the end of treatment. In addition, the majority of children were shown to exhibit slight psychosocial impairment both pre- and post- treatment (see Figure 5).

Examination of the four different categories of psychosocial functioning across time revealed that 50 (34%) children were rated by clinicians as remaining in the same symptom category. However, 97 (66%) children improved their psychosocial functioning at the post-treatment assessment. Analysis showed that children who had improved their level of psychosocial functioning were associated with longer treatment duration (i.e., most improvement in children who received more than 13 months treatment and less improvement in those who received less than 6 months; $\chi^2_3=19.25$, $p<.001$).

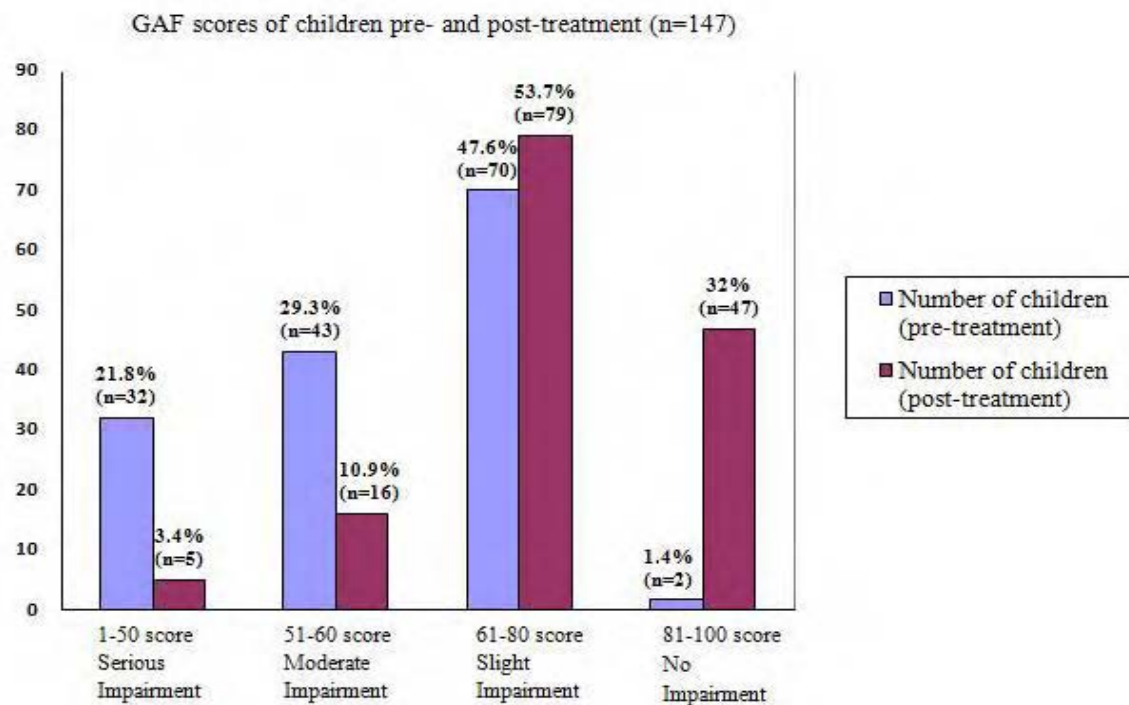


Figure 5: Number of children exhibiting different levels of psychosocial functioning as rated pre- and post-treatment by clinicians according to the DSM-IV criteria.

3a) Effect of Child and Family Characteristics

Means and standard deviations for psychosocial functioning of children rated by clinicians are presented in Table 3. A series of mixed repeated measures ANOVA was run on child and family characteristics data in relation to psychosocial functioning. The results showed significant main effects for parental nationality and peer friendship, that is, children who had Swedish parents ($F_{(1, 144)}=11.82, p<.001$) or experienced less peer friendship difficulties ($F_{(1, 143)}=19.70, p<.001$) exhibited a higher level of psychosocial functioning. Significant main effects were also found for the following family characteristics: parental criminality ($F_{(1, 144)}=17.36, p<.001$), maternal serious economic/housing difficulties ($F_{(1, 144)}=11.82, p<.001$) as well as maternal repeated residential relocation ($F_{(1, 144)}=4.88,$

$p < .05$). No other links were found between psychosocial functioning and child or family characteristics (see Table 5.3).

In terms of interaction effects, significant results were found for age at referral, parental criminality and peer friendship. The significant interaction effect ($F_{1, 144} = 9.75$, $p < .01$) of Time at assessment (pre- and post treatment) and age (younger than 8 and aged 8 or older) indicated that children who were younger than 8 years at the time of referral manifested lower levels of psychosocial functioning pre-treatment, but higher levels at post-treatment compared to those who were aged 8 or older. Additionally, the significant interaction effect for children with criminal parents or who experienced peer friendship difficulties implies that these children continued to exhibit significantly lower psychosocial functioning over time in treatment ($F_{1, 144} = 8.48$, $p < .01$ and $F_{1, 143} = 7.37$, $p < .01$).

Table 5.3. Means and Standard deviation for psychosocial functioning over time (N=147)

Characteristics	GAF scores ^a				Statistics ^b
	Pre-treatment		Post-treatment		
	n	M(SD)	n	M(SD)	
Sex					$F_{(1, 145)} = .00, p = .99$
Males	66	61.38(12.58)	66	76.67(11.41)	
Females	86	62.30(12.73)	81	75.70(12.22)	
Age at referral					$F_{(1, 144)} = .01, p = .91$
Younger than 8 years	72	60.39(13.86)	72	77.83(10.66)	
8 years and older	75	63.32(11.24)	75	74.51(12.73)	
Parental Nationality					$F_{(1, 144)} = 11.82, p = .001$
Non-Swedish	78	59.79(13.67)	78	75.78(11.98)	
Swedish	66	64.35(11.13)	66	77.20(11.51)	
Custody					$F_{(1, 141)} = 7.36, p < .01$
Sole Custody	68	59.37(12.81)	68	74.01(11.12)	
Joint Custody	75	64.24(12.10)	75	78.72(11.95)	
Parental Substance Abuse					$F_{(1, 144)} = 2.97, p = .09$
No	94	62.84(11.79)	94	77.47(10.92)	
Yes	53	60.19(13.95)	53	73.77(13.07)	
Parental Psychiatric Disorder					$F_{(1, 144)} = .48, p = .49$
No	116	62.08(12.64)	116	76.56(11.35)	
Yes	30	61.20(12.99)	30	74.37(13.78)	
Parental Criminality					$F_{(1, 144)} = 17.36, p < .001$
No	128	63.73(11.78)	128	76.93(11.13)	
Yes	18	48.83(22.24)	18	70.28(15.38)	
Maternal Serious Economic/Housing Difficulties					$F_{(1, 144)} = 11.82, p < .001$
No	121	63.59(12.51)	121	77.12(11.47)	
Yes	25	53.72(10.16)	25	71.20(12.77)	
Maternal Repeated Residential Relocations					$F_{(1, 144)} = 4.88, p < .05$
No	127	62.54(12.61)	127	76.98(11.04)	
Yes	19	57.63(12.57)	19	70.26(15.50)	
Peer Friendship Difficulties					$F_{(1, 143)} = 19.70, p < .001$
No	117	64.44(11.47)	117	77.37(11.69)	
Yes	28	51.68(12.47)	28	71.07(11.66)	
Treatment Characteristics					$F_{(2, 119)} = .01, p = .99$
Less than 6 months	53	62.41(11.87)	53	73.79(11.71)	
6 to 12 months	32	60.16(13.14)	32	75.31(8.22)	
More than 13 months	37	58.89(13.77)	37	77.30(12.99)	

^a High score indicate better psychosocial functioning^b Test statistics are highlighted in bold to demonstrate significance

3b) Effect of Maltreatment Characteristics

The mixed repeated measures ANOVA demonstrated a significant main difference for CM status with those who had experienced CM exhibiting significantly lower psychosocial functioning over time in treatment (see Table 5.4). Examining the role of multiple-type of maltreatment (i.e., W.IPV; W.IPV/CM one type; W.IPV/CM multiple), the result also showed a significant main effect. Further evaluation of group differences through Bonferroni corrected post hoc test showed that children who experienced more than two forms of CM demonstrated significantly lower psychosocial functioning over time in treatment compared to those who had a history of one form of CM ($p < .05$) or those who witnessed W.IPV only ($p < .001$). In addition, children in the W.IPV only group showed greater psychosocial functioning over time in treatment than those who experienced one form of CM ($p < .001$).

In terms of examining the role of single or recurrent child victimisation (i.e., no victimisation history, single victimisation, repeated victimisation by same perpetrator/s, revictimisation by different perpetrators) on level of functioning over time in treatment, the result showed a main effect. Bonferroni corrected post hoc tests showed that children who had experienced repeated victimisation (i.e., same perpetrator, more than once) or revictimisation (i.e., different perpetrators, different times) manifested significantly lower psychosocial functioning compared to those who experienced a single incident of CM or those in the W.IPV group only ($p < .001$ and $p < .001$ respectively). No significant differences were found between the W.IPV group of children only and those who experienced a single incident of CM or between repeat victimisation and revictimisation. Finally, a significant main effect was found for number of perpetrators indicating that

children who have been maltreated by more than one perpetrator exhibited worse psychosocial functioning. No main effect was found to relationship to perpetrators or post-separation abuse.

Table 5.4. Means and Standard deviation for psychosocial functioning over time (N=97)

Characteristics	GAF scores ^a				Statistics ^b
	Pre-treatment		Post-treatment		
	n	M(SD)	n	M(SD)	
Maltreatment status					F_(1, 145)=27.46, p<.001
W.IPV only	68	67.13(11.53)	68	80.15(11.13)	
W.IPV/CM	79	57.37(11.82)	79	72.68(11.39)	
Multiple-type Maltreatment					F_(2, 144)=17.79, p<.001
W.IPV only	68	67.13(11.53)	68	80.15(11.13)	
W.IPV + one type of CM	65	58.95(11.14)	65	73.78(11.11)	
W. IPV + two or more types of CM	14	50.00(12.50)	14	67.57(11.68)	
Victimisation History					F_(3, 115)=11.19, p<.000
No	68	67.13(11.53)	68	80.14(11.13)	
Single Victimisation	5	64.00(10.84)	5	79.00(8.94)	
Repeated Victimisation	33	55.42(12.68)	33	73.52(12.82)	
Revictimisation	13	49.85(11.65)	13	67.77(11.05)	
Number of perpetrator/s					F_(1, 71)=4.41, p<.05
Single Perpetrator	62	58.06(11.35)	62	73.40(11.69)	
Multiple Perpetrators	11	51.91(11.13)	11	66.91(10.49)	
Relationship to perpetrator/s					F_(1, 77)=14, p=.71
Intrafamilial	74	57.26(11.94)	74	73.00(11.27)	
Mixed	5	59.00(10.84)	5	68.00(13.51)	
Post-separation abuse					F_(1, 145)=1.51, p=.22
No	70	62.66(12.06)	70	77.66(10.89)	
Yes	77	61.18(13.17)	77	74.75(12.55)	

^a High score indicate better psychosocial functioning

^b Test statistics are highlighted in bold to demonstrate significance

4. Explore effects on psychosocial functioning over time

As described previously, the result showed that certain child and familial characteristics (i.e., custody, maternal serious economic/housing difficulties, maternal repeated residential relocation, peer friendship difficulties) were associated with the presence of CM and treatment outcome. Two separate standard multiple regression analyses were used to assess the contribution of child and family characteristics in relation to group membership (W.IPV/CM and W.IPV) to psychosocial functioning at baseline and post treatment

a. Predicting level of psychosocial functioning of children pre-treatment

The results of the multiple regression analysis for psychosocial functioning pre-treatment are presented in Table 5. The overall model was significant (Model $F = 5, 134 = 11.43$, $p < .001$). Three factors (i.e., W.IPV/CM, maternal serious economic/housing difficulties and peer friendship difficulties) were each independently significant predictors of psychosocial functioning. As shown in Table 5.5, the main effects factors collectively explained 34% of the variance in psychosocial functioning.

Table 5.5: Multiple Regression of Psychosocial functioning at baseline (N=144)

Variable	Psychosocial Functioning (pre-treatment)		R^2	95% Confidence Intervals for B	
	B(SE)	β		Lower	Upper
Constant	70.33(1.66)		.34***	67.05	73.63
Concurrent W.IPV/CM	-7.96(1.97)	-.31***		-11.84	-4.07
Custody	-.88(1.88)	-.04		-4.59	2.83
Maternal Serious Economic/Housing Difficulties	-7.12(2.50)	-.22**		-12.07	-2.17
Maternal Repeated Residential Location	3.15(2.87)	.08		-2.53	8.82
Peer Friendship	-11.82(2.45)	-.37***		-16.66	-6.97

Note. The numbers are rounded off to two decimal. For psychosocial functioning, adjusted $R^2 = .31$

* Significant to $p < .05$.

** Significant to $p < .01$.

*** Significant to $p < .001$.

b. Predicting level of psychosocial functioning of children post treatment

The procedure of multiple regression analysis was repeated on post-treatment scores in order to determine whether the same factors would predict treatment outcome. The result showed that the overall model was significant (Model $F = 5, 134 = 4.75, p < .001$) despite a decrease in percentage of overall variance explained by the model (18%). At the completion of treatment, only the experience of concurrent W.IPV/CM was associated with poorer psychosocial functioning at the end of treatment. No other factors were found to have a significant main effect (see Table 5.6).

Table 5.6: Multiple Regression of Psychosocial functioning on children after completion of treatment (N=144)

Variable	Psychosocial Functioning (post-treatment)			95% Confidence Intervals for B	
	B(SE)	B	R ²	Lower	Upper
Constant	83.68(1.73)		.18***	80.26	87.10
Concurrent W.IPV/CM	-6.36(2.05)	-.27**		-10.41	-2.30
Custody	-2.18(1.95)	-.09		-6.05	1.68
Maternal Serious Economic/Housing Difficulties	-2.95(2.61)	-.10		-8.11	2.21
Maternal Repeated Residential Location	-2.03(2.98)	.06		-7.94	3.88
Peer Friendship	-3.15(2.55)	-.11		-8.19	1.90

Note. The numbers are rounded off to two decimal. For psychosocial functioning, adjusted R² = .14

* Significant to p<.05.

** Significant to p<.01.

*** Significant to p<.001

In summary, as shown in Tables 5 and 6, childhood experiences of concurrent W.IPV/CM was found to have a significant effect on both pre- and post-treatment scores of psychosocial functioning. Maternal serious economic/housing difficulties and peer friendship difficulties were associated with children's psychosocial functioning entering treatment. However, these factors were not shown to have an impact on treatment outcome. The low percentage of variance explained in the pre- and post-treatment model (34% and 18% respectively) indicates that other variables, that were not included in this model, are likely to have an impact on children's functioning.

Discussion

The aim of the current study was to gain a greater understanding of factors affecting the psychosocial functioning following W.IPV and/or CM and to understand how these factors continue to have an impact on functioning across time. Findings from this study provide new information concerning the role of victimisation history, child and family characteristics on children's level of psychosocial functioning over time in a clinical sample. A summary of the key findings and clinical implications is discussed below.

Concurrent W.IPV/CM

Consistent with previous research (Browne & Hamilton, 1999; Dixon et al., 2007; Evans et al., 2008; Hildyard & Wolfe, 2002; Hughes & Etzel, 2001; Kitzmann et al., 2003; Luthra et al., 2008; Rossman & Rosenberg, 1998; Sternberg et al., 2006; Wolfe et al., 2003), the present study found that CM, in particular child physical abuse, is common among children who have witnessed W.IPV. The results from this study also suggests that those who had experienced concurrent W.IPV and child physical abuse were also more likely to have suffered child sexual abuse or child neglect (i.e., multiple-type maltreatment).

Child and familial characteristics

As described in Chapter 4, the current sample was demographically similar to many other W.IPV and/or CM samples studied throughout the literature. Perhaps not surprisingly, the mothers of children who experienced concurrent W.IPV/CM were significantly more likely to have sole custody of their child/-ren compared to mothers with children who had a history of W.IPV only. They also reported significantly more serious economic/housing

difficulties and repeated residential relocations. In addition, the W.IPV/CM group of children were reported to have significantly more difficulties with peer friendship than the W.IPV only group of children. This finding is consistent with that of Chapter 4 and the literature on maltreated children that has found a link between child maltreatment and peer friendship difficulties (Bolger & Patterson, 2001).

Psychosocial functioning over time

Findings showed that children showed a significant improvement in level of psychosocial functioning across time in treatment. Notably, about half of the children were shown to exhibit only slight psychosocial impairment both pre-treatment (47%, n=70) and post-treatment (53%, n=79). In addition, it was found that that 21.8% (n=32) of children were rated by clinicians to exhibit serious psychosocial impairment at baseline as opposed to 3.4% (n=5) at the end of treatment. Examination of the four different categories of psychosocial functioning across time revealed that 50 (34%) children were rated by clinicians to exhibit within the same symptom category. However, 97 (66%) children improved their psychosocial functioning at the post-treatment assessment. It was found that differences between groups could be explained by treatment duration. Children who had received 6 months or less treatment were more likely to exhibit the same level of psychosocial functioning at the follow-up assessment and those who received treatment up to 12 months or more than 13 months (i.e., longer treatment duration) were more likely to show improvements.

Child and Family Characteristics

There were certain child and family characteristics found to significantly affect children's improvement over time, such as parental nationality, custody, parental criminality, maternal serious economic/housing difficulties, maternal repeated residential relocations and peer friendship difficulties. Notably, the differences between groups post-assessment is considerably smaller than at pre-assessment, which suggest that the impact of these factors on child psychosocial functioning diminishes over time.

Victimisation history

The findings of this study further suggest that the recovery process cannot be discussed without considering the impact of CM. Children who had experienced concurrent W.IPV/CM were found to manifest significantly lower psychosocial functioning over the course of time in treatment. Particularly low psychosocial functioning was found for those who suffered more than one type of child maltreatment. This finding indicates that the recovery process for children who have experienced one or more types of maltreatment may take longer for them compared to children who have only witnessed IPV.

Further examination on the impact of type of child victimisation showed similar pattern. Children who have experienced recurrent maltreatment by intra- and/or extrafamilial perpetrators are more likely to show worse overall level of functioning compared to children who have suffered maltreatment by the very same perpetrator that is abusing his/her mother or children who witnessed IPV only. Recent research has begun to stress the importance of evaluating which specific factors relating to W.IPV and/or CM are more

likely to be associated with increased risk of emotional and behavioural difficulties in childhood (Herrenkohl & Herrenkohl, 2007).

Fifty-two percent (n=77) of the women had experienced post-separation abuse. This rate is higher than the findings by Lundgren et al. (2001) in population-based survey of Swedish women, but substantially lower than reported than of a study amongst IPV exposed women in Canada (Jaffe et al., 2002). However, the difference in rate might be due to the nature of the studies. This study in addition to the Canadian study used non-community samples (i.e., clinical sample and shelter respectively) likely to be characterised by severe forms and longer duration of IPV which in turn could potentially explain the higher post-separation abuse rate.

Contrary to expectations, post-separation abuse did not show any effect on functioning over time. However, the coding of post-separation abuse might not have been accurate representations of the family circumstances. For example, if information was not recorded in the files, the researcher had to assume that no post-separation abuse had occurred. However, the professionals might have failed to record the information or parents might have forgotten to report it to the professionals. Nonetheless, the non-significant difference might be also due to the nature of W.IPV as the majority of the children had witnessed severe forms (see Chapter 4).

Predicting psychosocial functioning

The finding that concurrent W.IPV/CM, maternal serious economic/housing difficulties and peer friendship predict childrens' level of functioning supports previous literature and

need of incorporating factors from both within and outside the family (Bolger & Patterson, 2001; Bronfenbrenner, 1979). However, the data of this study showed that only W.IPV/CM remained a significant predictor of functioning post-treatment. Other studies have also shown that these factors relate to increased family stress which, in turn, affects the likelihood of CM (Herrenkohl & Herrenkohl, 2007; Herrenkohl et al., 2008).

However, this lack of significant relationships at the post-treatment assessment illustrates the importance of continuously gathering information of risk and protective factors. The non-significant association for maternal serious economic/housing difficulties and peer friendship with post-treatment outcome might be explained by the mother and her child/ren having settled down in their new neighbourhood and developed new support networks. Thus, the lack of significant relationship and low predictive prevalence also highlights the need for studying other variables, such as perceived control and emotional regulation (Chapter 3). This would in ecological terms mean bringing in the individual element as well as the community. In practical terms, this could provide more clinically relevant information that could be used to inform treatment planning (Alik et al., 2009). Moreover, because perceived control and emotion regulation could be promoted in treatment, it might have implications not only for the theoretical understanding, but also practically to inform treatment interventions.

Methodological Considerations

It is important to acknowledge the limitations within this study. The length of time in treatment may not have accurately reflected the amount of time in actual therapeutic

contact. This might have subsequently obscured the result. Other methodological limitations have been described in Chapter 4.

Conclusion

In accordance with the ecological model, this study identifies certain family and environmental contextual factors that are associated with poorer outcomes when comparing pre- and post-treatment, such as concurrent W.IPV and CM, solo custody, parental nationality (i.e., non-Swedish), parental criminality, maternal economic/housing difficulties, maternal repeated residential relocations and peer friendship difficulties. Worth noting, however, is that although these factors initially appeared to have a detrimental impact on child functioning, post-treatment scores reveal that these children showed greater improvements in their psychosocial functioning over time in treatment. Of particular importance, these findings indicate that experiences of concurrent W.IPV/CM continued to have an effect on child functioning.

In the light of treatment strategies, it is important to acknowledge that children who witnessed IPV are often exposed to chronic stressors, such as post-separation maltreatment. Despite increased recognition in the literature (Jaffe et al., 2002), little is still known about the impact of post-separation W.IPV and/or CM in relation child's recovery. It is likely that post-separation maltreatment has direct and profound effect on mental health and subsequently hinders the child's recovery. Further studies are therefore needed in this area of research.

CHAPTER 6: ASSOCIATIONS BETWEEN VICTIMISATION HISTORY AND RE-REFERRAL

Chapter rationale

As highlighted in Chapters 3, 4 and 5, there has been a proliferation of research on the impact of witnessing intimate partner violence (IPV) and the co-occurrence with child maltreatment (CM) over the last two decades. Concomitantly, W.IPV has moved from being considered a private matter to becoming an important public welfare issue and children exposed to partner violence have increasingly being recognised as secondary victims (Black, Trocmé, Fallon & MacLaurin, 2007; Jaffe & Crooks, 2004). However, there has been less focus on these childrens' mental health service use (Bai, Wells & Hillemeier, 2009). It remains to date that little is known about the practices of mental health services in cases where children witnessed IPV. Even less is known about children's mental health improvement over time and the extent to which they need recurrent mental health assistance (Bai et al., 2009). Identifying characteristics associated with re-referral may have implications for intervention efforts, not to mention improving the life of that child and his/her family. Therefore, this Chapter aims to explore the rate of re-referral to a Child and Adolescent Psychiatry Service (CAPS) and whether characteristic similarities and differences exists between children who are re-referred on more than one occasion in comparison to those who are only referred once.

Introduction

Witnessing IPV as a Child Protection Issue

In recent years, there has been a worldwide movement to give W.IPV considerable weight in the law and acknowledging children who are exposed to violence as a child protection issue (Jaffe & Crooks, 2004). In Sweden, for example, the Criminal Injuries Compensation Act (1978:413), the Social Services Act (2001:453) and the Family Law (Parental code 2006:6:2) were amended in 2006 to recognise a child who witnesses IPV as a victim of crime and not only as a witness of crime (Höglund, 2002). Similarly, the Adoption and Children Act (2002: 120) in the United Kingdom was enacted in 2005 and amends the definition of harm in the Children Act (1989) as including “impairment suffered from seeing or hearing the ill-treatment of another”. In some U.S. jurisdictions, a similar law approach has been taken to enable intervention of the child protection system. Other U.S. jurisdictions, however, have taken the law a step further and considered exposing children to partner violence as a separate criminal offence and/or a form of child neglect (Jaffe & Crooks, 2004; Jaffe, Baker & Cunningham, 2004).

As a part of this progress, the criminal justice system and social services have begun to shift attention to the issue of child protection for children exposed to IPV in relation to child custody and visitation proceedings in family court (Black et al., 2007; Jaffe & Crooks, 2004). Traditionally, the presence of IPV to a great extent has not been considered as a factor in determining child custody after parental separation/divorce (Jaffe & Crooks, 2004; Silverman, Mesch, Cuthbert, Slote & Bancroft, 2004). Despite the increased awareness that children exposed to IPV are in need of protection and amendments made in

child welfare policy and legislation, Jaffe and Crooks (2004) highlights in their review of custody laws in four countries (the U.S., Canada, Australia and New Zealand) that there is still a considerable gap between the spirit of legislation and the actual practice (Jaffe & Crook, 2004). Moreover, Jaffe and Crooks (2004, p. 929) further criticise how “politicians have sought popular quick fixes, such as dropping the word custody from Canadian policy or promotion of automatic joint custody and equal access in Australia”. Similar criticism of an overriding presumption of joint custody and contact, constructing fatherhood as non-violent, has been raised for family law and policies in Sweden and U.K respectively (Eriksson & Hester, 2001; Eriksson, Hester, Keskinen & Pringle, 2005). However, the unintended consequences of such ‘quick fixes’ put the mothers’ and their childrens’ health, safety and well-being at risk.

Given the many negative consequences following W IPV on children’s cognitive, emotional and social development, there has also been a growing recognition of the needs of the children in terms of mental health interventions (Wolfe et al., 2003; Onyskiw , 2002; Vickerman & Margolin, 2007; Dodd, 2004). As a result, mental health interventions serving these children have been established in different types of health and mental health services and advocacy approaches. However, many efforts have been affected by the difficulty of identifying and accessing the battered mothers’ and their children. This is because of the often secretive climate of IPV (McAlister Groves, 1999; Dodd, 2004).

In the U.S., an additional issue raised by researchers and practitioners is the funding of mental health services as it may cause uninsured children having difficulties to access mental health care or to receive appropriate trauma-focused intervention (McAlister

Groves, 1999; Saathoff & Stoffel, 1999; Salcido Carter, Weithorn & Behrman, 1999). However, there are also practical considerations affecting the accessibility to specialist services, such as limited resources. Only a few psychological or counselling services in the U.S, U.K. and Sweden are offered nationally to children and women by professionals with expertise of IPV (Humphreys & Mullender, 2000; Eriksson et al., 2006; Saathoff & Stoffel, 1999; Dodd, 2004).

In Sweden, a related issue and concern raised in recent years by social workers and other professionals working with violence-exposed children involves the policy and legislation of the parental right to object to their child receiving therapeutic intervention (Barnombudsmannen, 2003, 2007). At present, the legislation allows an abusive caregiver to oppose their children receiving mental health evaluation and/or treatment from the Child and Adolescent Psychiatry Services (CAPS) and social services despite the history of W.IPV. In such cases, a battered woman who seeks treatment for her child/-ren to cope with their traumatic experience needs to be able to show evidence that joint custody and/or relationship with the other caregiver entails an enduring risk to the child's health or development. In the light of the growing evidence that exposure to IPV affects children in many negative ways, access to services providing trauma-focused interventions for these vulnerable children is crucial. However, few studies exist on the service utilisation of children exposed to IPV and their mental health status over time (Onyskiw, 2002).

Witnessing IPV and Mental Health Service Use

Children who have developed emotional and behavioural problems reaching clinical levels of concern (e.g. posttraumatic stress disorder, depression, anxiety) as a sequelae of W.IPV

have increased need of and use of mental health services (McAlister Groves, 1999; Dodd, 2004). In an American study, it was reported that IPV-exposed children used mental health services six to eight times more often than non-exposed children (Rath, Jarett & Leonardson, 1989). Conversely, in a Canadian national study of use of health services of 329,657 children aged 2 to 11 years, Onyskiw (2002) found child witnesses (n=1,648, 8.6%) to have been less in contact with family practitioners and paediatricians compared to the comparison group. However, the IPV-exposed children had been significantly more in contact with other professionals, such as medical doctors, public health nurses, child welfare workers and social workers. Thus, it should be noted that despite most children in both groups being reported to have very good to excellent health by their parents, those with a history of W IPV exhibited significantly more health problems compared to children without such a history (Onyskiw, 2002). In a review of the extent and range of services provided for families characterised by W IPV in Sweden, Eriksson, Biller and Balkmar (2006) reported (based on extrapolation from national survey data on 37 mental health services) that approximately 2,100 child witnesses are referred each year to mental health services in Sweden. Surprisingly, few studies have examined the variety and frequency of service utilisation for children who have grown up in a violent family, given the degree of need within this population (Onyskiw, 2002; Saathoff & Stoffel, 1999).

Recurrent Need of Mental Health Intervention following IPV exposure

However, even less is known about IPV-exposed children's mental health status over time and prolonged need of mental health services. Research on lifetime occurrence of psychiatric disorder has shown that some people never fully recover and continue to have symptoms of the disorders fluctuating over the course of time with the result of marked impairment in functioning (Johnson, Zlotnick & Zimmerman, 2003). An increasingly large

amount of literature highlights that “following a subsequent trauma related or unrelated to the original trauma, a life stressor, or by cue of the original trauma may trigger the symptoms of mental ill health to re-emerge” (Wolfe, Rawana & Chiodo, 2006, p.653). As the developmental path of childhood mental disorders does seldom involve a stable set of symptoms, however, the symptom patterns may change over the course of time. Consequently, the index referral symptom may be improved, but the underlying problem may manifest itself in a different way at later stages of the child’s development (Saywitz, Mannarino, Berliner & Cohen, 2000, p. 1042).

In terms of recurrent referral to mental health services following exposure to IPV, there is currently no data available. However, research on physically abused children in Sweden indicates that there is a continuing need of mental health interventions. For example, in a four year follow up study of social services provided, Lindell and Swedin (2006) reported that 57 physically abused children had over a four year period been 122 times referred to Child and Adolescent Psychiatry Services (CAPS). This gives a referral prevalence rate of 214%, indicating that re-referral to mental health services are common among this population. As patterns of re-referral were not the focus of this paper, however, the authors only noted that “physically abused children have often been in contact to CAPS prior to the abuse for different reasons, initially due to individual problems and later on regarding family conflict” (Lindell & Swedin, 2006, p. 179).

Study Rationale

In summary, research into predictive factors for re-referral to mental health services for more support and treatment in cases where children have witnessed IPV and/or experienced CM is warranted. This would not only shed light on the nature of children’s’

mental health problems and the processes involved across time, but also indirectly inform intervention efforts. For many women and children, the maltreatment and threats continue after separation from the abusive partner, despite efforts being made by legislators, law enforcement officers, social workers and other professionals to assist and protect them (Jaffe et al., 2002). These findings, in agreement with previous research, suggest that women and children are vulnerable for further physical and/or emotional abuse after separation, in particular during access transfers (e.g. Humphreys & Thiara, 2003; Jaffe et al., 2003). In the light of the association between IPV and mental health problems, it would be reasonable to assume that new incident of W.IPV and/or CM would trigger the symptoms of mental ill health to re-emerge. To address this gap in the literature, this present study explored the nature as well as factors associated with re-referrals to mental health services for children who have been exposed to W.IPV and/or experienced CM.

Aims

This study aims to explore factors associated with re-referral to CAPS in a sample of children who have all been exposed to IPV (using an ecological transactional approach). Specifically, the following research questions were investigated:

1. To report the level of recurrent re-referral within this sample
2. Do children who have been re-referred to CAPS differ in comparison to those have not, in the extent to which
 - a. they have experienced CM and the nature of IPV and CM they endured
 - b. they experienced family and environmental adversity
3. To explore reasons for recurrent re-referral and abuse characteristics
4. To explore intervention duration and level of psychosocial functioning across re-referral

Method

Sample

The files of 347 children and adolescents who had been referred to the Child and Adolescent Psychiatry Service (CAPS) for intervention between the years 1998-2006 were reviewed (see Chapter 4 for more details). In this study, it was required that the youth were younger than 18 years at the time of the referral to CAPS and the mother had suffered IPV by intimate partner. In addition to the exclusions in Chapter 4, the files of six children contained insufficient information about victim and perpetrator characteristics of W.IPV and therefore were excluded. This study is based on the files of the remaining 329 children and adolescents (94.8% of the 347 cases reviewed) with complete data concerning their exposure to IPV at index referral.

Of the 329 referred children, 46.5% (n=153) were girls and 53.5% (n=176) were boys. The age range of sample at the time of referral was 11 months to 17 years ($M=8.47$, $SD=4.09$). Parents' nationality was recorded in two groups: parents who were born in Sweden were coded as Swedish and where both or one of the parents were born in a country other than Sweden, parents were categorised as non-Swedish. More than half of the parents had joint custody of their children despite not living together. Demographic characteristics of the clinical sample of children and adolescents used for this Chapter are summarised in Table 6.1. Since the consequences of witnessing IPV may vary greatly within a family, siblings were also included in this study. Of families with 329 children, of whom 97 were siblings ($M=2.3$; $SD=1.26$).

Table 6.1. Demographic Characteristics for clinical sample of children and adolescents (N=329)

Demographic variable	Mean (SD)
Age (in years)	8.47(4.09)
	n(%)
Gender (n=329)	
Male	176(53.5)
Female	153(46.5)
Nationality (n=316)	
Parents born in Sweden	155(48.1)
Parents born in another country ^a	161(50.9)
Custody (n=315)	
Sole custody	145(46)
Joint custody ^b	167(53)
Designated caregiver	2(1)
Number of referred children within the family unit	
Single referred child	165(51.2)
Two or more referred children	164(49.8)
Total Number of children within the family unit	
Single child	56(17)
Two or more children ^c	273(83)

^a Eleven percent of children in Sweden have one immigrant parent, while 13% have two (Hindberg, 1999).

^b The parents of 25 children (7.6%) were still living together.

^c Not all children who had witnessed IPV from each family were referred to the clinic. One-hundred and nine referred children had siblings who had not been referred for treatment.

In most cases, the IPV had been perpetrated by the child's biological father (85.8%, n=200) and stepfather (18%, n=42). In a few cases (6.4%, n=15) the mother was still in an intimate relationship with the person who abused her.

Procedure

Data was collected from the files using the proforma, definitions and ethical considerations described in Chapter 4. Intra-rater reliability and inter-rater reliability are also reported in Chapter 4. For this study, the psychometric test assessing psychosocial functioning (the Global Assessment of Functioning scale - GAF scale, APA, 2000; see Chapter 5) was utilised. Children referred between 1998 and 2006 have been rated both at the initial and completion phase of intervention by clinicians.

Data treatment

Initially, the whole sample of 329 child witnesses was considered to establish how many had been referred at least once to mental health services. Following this, the data was analysed in terms of comparing:

1. Recurrent re-referral group:
 - i. Prior referral (i.e., those who at the index referral had a known history of previous referrals to other types of mental health services before 1998);
 - ii. Re-referral (i.e., those who after the index referral was re-referred to the clinic between the years 1998 to 2006);
2. Single referral group (i.e., those who only had an index referral).

Bivariate relationships among variables were investigated using Chi-Square statistics for categorical variables, Independent t-test were appropriate when one variable was categorical and the other continuous.

Results

1. Level of re-referral

Nearly two thirds of the sample (n=202, 61.4%) was single referral (i.e., only referred once). Of those who had recurrent referrals to CAPS: 28.6% (n=96) had a known history of prior referral to other mental health services, 6.7% (n=22) was re-referrals and 3.3% (n=11) had been referred to mental health services three or more times (i.e., history of prior referral, index referral and re-referral).

Of the children with prior referral, 29 (46%) had been referred to the clinic within a year and 54% (n=34, 42 missing values) were referred after 13 months or more. For the re-referral group, 22 (6.7%) of the index children were re-referred to the clinic within a median length of time of 16 months (SD=15.53, 3 missing values), with re-referral ranging from 1 month to 61 months.

a) maltreatment characteristics

A table was constructed to consider maltreatment characteristics reported by clinicians at the index referral between children who had been re-referred and those who had not (see Table 6.2). Comparing children who had recurrent re-referral (i.e., prior referral and re-referral) with those who were not (i.e., single referral), the result indicated that children with single referral were significantly more likely ($\chi^2_1=10.41$, $p<.001$) to have witness IPV than those with recurrent re-referral. Also the analysis showed that children with recurrent re-referral to mental health services were those who at the index referral was reported to have experienced concurrent W.IPV and CM ($\chi^2_1=10.41$, $p<.001$), in particular child neglect (Fisher's Exact Probability Test, $p=.016$), than those with single referral.

Table 6.2: Rate of recurrent referrals in relation to type of W.IPV and/or CM reported at the index referral to CAPS (N=329).

Variable	Prior Referral (n=94)	Single referral (n=202)	Re-referral (n=22)	All ^c (n=11)	Statistics ^a
	n(%) ^b	n(%) ^b	n(%) ^b	n(%) ^b	
W.IPV only (n=169)	31(9.4)	118(35.9)	14(4.3)	6(1.8)	$\chi^2_1=10.41$, $p<.001^{**}$
Physical abuse (n=108)	38(11.6)	61(18.5)	7(2.1)	2(.6)	$\chi^2_1=1.64$, $p=.200$
Sexual abuse (n=13)	8(2.4)	5(1.5)	---	---	$\chi^2_1=3.03$, $p=.082$
Neglect (n=10)	5(1.5)	2(.6)	---	3(.9)	$FE=.016^*$
Mixed (n=29)	12(3.6)	16(4.9)	1(.3)	---	$\chi^2_1=.52$, $p=.471$

FE Fishers Exact statistical Test. ^a Test statistics are highlighted in bold to demonstrate significance.

^b The percentages are rounded off to one decimal. ^c This group includes children who had a prior referral and re-referral.

* Significant to $p<.05$

** Significant to $p<.001$

b) Child, family and environmental characteristics

Examining child, family and environmental characteristics reported at index referral between children who had recurrent referral and those who had single referral (see Table 6.3). The result indicated that children with recurrent re-referral were significantly more likely to have a parent diagnosed with psychiatric disorder ($\chi^2_1=6.59$, $p=.01$), have been diagnosed with a DSM-IV mental disorder ($\chi^2_1=6.42$, $p<.05$) and experience peer friendship difficulties at index referral ($\chi^2_1=8.55$, $p<.01$). In contrast, single referred children were more likely to have parents with joint custody than children with recurrent re-referrals ($\chi^2_1=7.59$, $p<.01$). Furthermore, no other significant associations were found between the groups (single vs. recurrent referral).

Table 6.3: Rate of recurrent referrals in relation to child, family and environmental characteristics reported at the index referral to CAPS (N=329).

Variable	Prior Referral (n=94)	Single referral (n=202)	Re- referral (n=22)	All ^c (n=11)	Statistics ^a
	n(%) ^b	n(%) ^b	n(%) ^b	n(%) ^b	
Female (n=329)	45(13.7)	91(27.7)	11(3.3)	6(1.8)	$\chi^2_1=.45$, p=.505
Swedish Parents (n=316)	54(17.1)	88(27.8)	9(2.8)	4(1.2)	$\chi^2_1=2.03$, p=.155
Joint custody (n=311)	36(11.6)	111(35.7)	10(3.2)	7(2.2)	$\chi^2_1=7.59$, p<.01
Substance abuse (n=324)	39(12.0)	91(28.0)	9(2.8)	6(1.9)	$\chi^2_1=.30$, p=.584
Criminality (n=321)	13(4.0)	31(9.7)	4(1.2)	2(.6)	$\chi^2_1=.02$, p=.882
Psychiatric disorder (n=321)	26(8.1)	29(9.0)	20(6.2)	5(1.6)	$\chi^2_1=6.59$, p=.01
Economic/ Housing Difficulties (n=321)	14(4.4)	31(9.7)	5(1.6)	2(.6)	$\chi^2_1=.05$, p=.816
Repeated residential relocations (n=317)	15(4.7)	17(5.4)	2(.6)	2(.6)	$\chi^2_1=3.03$, p=.082
Peer friendship difficulties (n=314)	24(7.6)	24(7.6)	6(1.9)	2(.6)	$\chi^2_1=8.55$, p<.01
Diagnosed with mental disorder (n=204)	61(29.9)	97(47.5)	14(6.8)	6(2.9)	$\chi^2_1=6.42$, p<.05

FE Fishers Exact statistical Test. ^a Test statistics are highlighted in bold to demonstrate significance. ^b The percentages are rounded off to one decimal. ^c This group includes children who had a prior referral and re-referral.

* Significant to p<.05

** Significant to p<.001

c) Re-referral and maltreatment characteristics

No information could be obtained regarding reasons for prior referral to other mental health services. Therefore, the following descriptive information will be based on those that were re-referred (n=33) to the clinic.

The most common reason for re-referral was due to problems related to exposure to violence (77.7%, n=21) and custody issues (55.6%, n=15). Other reasons for referrals were that the child manifested internalising (33.3%, n=9) and/or externalising (22.2%, n=6)

behavioural problems, parental worry and anxiety over their child (25.9%, n=7) and the child having problems at school (7.4%, n=2).

Looking at the new incidents of W.IPV and/or CM reported at the re-referral, the information was available for 27 children (including 1 sibling). Table 6.4 shows the number of children who experienced the same type of violence at re-referral as at index referral.

Table 6.4. Recurrent W.IPV and/or CM in relation to re-referral status (N=27)

Variable at Re-referral	Index referral		Statistics ^a
	W.IPV	CM	
	(n=16)	(n=11)	
	n(%) ^b	n(%) ^b	
Recurrent W.IPV (n=12)	11(40.7)	1(3.7)	FE=.005
Recurrent CM (n=7)	2(7.4)	5(18.5)	FE=.074

FE Fishers Exact statistical Test. ^a Test statistics are highlighted in bold to demonstrate significance. ^b The percentages are rounded off to one decimal.

* Significant to p<.05

** Significant to p<.001

As Table 6.4 demonstrates, 12 children (44%) were reported to have witnessed a new incident of W.IPV and 7 children (25.9%) had experienced a new incident of CM. In terms of abuse characteristics of W.IPV at re-referral, in 9 out of 12 cases the violence was directed towards the same victim (9 biological mothers) and perpetrated by the same perpetrator (7 biological fathers, 2 step-fathers). One case showed different victim (1 extended family member) and perpetrator (1 step-father). With reference to the type of maltreatment at the index referral, 4 out of the 6 children (57.1%, 2 child physical abuse, 2 child neglect) had experienced a new incident of the same type of CM by the same

intrafamilial perpetrator (i.e. biological fathers). In the two remaining cases, different type of CM by a different perpetrator (1 biological mother, 1 extended family member) was reported when compared to index referral.

4. Intervention duration and level of functioning at re-referral

Exploring whether differences existed between the groups in terms of intervention duration at the index referral, the result showed no significant difference between the single referral (Mean in months $M=17.31$, $SD=13.70$) and re-referral (Mean in months $M=17.30$, $SD=13.23$; $t_{197}=.006$, $p=.995$).

Complete pre and post treatment GAF scores across index referral and re-referrals were available for 23 (70%) and 11 (33.3%) children respectively. In order to compare child mental health characteristics at re-referral, a series of repeated t-tests were performed on the data. For both the index referral and re-referral groups, the result demonstrated a significant within-group effect for treatment over time ($t_{(22)} = -7.696$, $p<.001$ and $t_{(10)} = -6.603$, $p<.001$ respectively). This indicates that children increased their level of psychosocial functioning. Table 6.5 provides descriptive information regarding the childrens' level of psychosocial functioning across re-referrals.

Table 6.4: Functioning over time in treatment in relation to re-referral (N=33)

	GAF scores		Statistics
	Pre-treatment M(SD)	Post-treatment M(SD)	
Index referral (n=23)	62.09 (10.76)	80.87 (9.37)	$t_{(22)} = -7.69$, $p<.001$
Recurrent referral (n=11)	64.81 (13.50)	81.64 (9.77)	$t_{(10)} = -6.60$, $p<.001$

In order to evaluate if the children's psychosocial functioning had significantly decreased between referrals, the post scores of GAF at index referral was examined in relation to the pre scores of GAF at re-referral. The result demonstrated a significant result ($t_{(10)} = 5.548$, $p < .001$). This indicates that the children's level of functioning significantly worsen between referrals.

Discussion

To our knowledge, this is the first study to explore the recurrent referral rates to mental health services in a clinical population of children who have all witnessed IPV. The aims of this study were to examine the extent and patterns of recurrent referrals to CAPS. Consistent with an ecological approach to studying the effects of W.IPV in addition to CM, the impact of different child, family and environmental characteristics on rate of recurrent referral were explored.

Extent of re-referral

Based on this sample, it was found that 28.6% of the index children had been in contact with mental health services prior their index referral to CAPS. In addition, 6.7% of the index children were re-referred to the clinic for additional interventions and 3.3% were re-referred more than three times. Overall, the recurrent referral rate of the sample was 38.5%. This rate is substantially lower than the rate of 214% reported in the Swedish study of physically abused children by Lindell and Swedin (2006). However, the reasons for re-referral in the latter study are unknown and therefore one can only speculate about the discrepancy between re-referral rates.

Since few research studies have specifically examined mental health service utilisation used by IPV-exposed children, some of the findings from the literature on maltreated children may be imported to shed light on mental health practices. In a 6-month follow-up study of mental health service utilisation amongst 25 economically disadvantaged American children (67.6% out of the original sample of 37 children) who had substantiated cases of physical abuse and their caregivers, Swenson, Brown and Sheidow (2003) found that the rate of children receiving mental health treatment declined from 43% to 35% at follow up.

Recurrent re-referral in relation to maltreatment, child, family and environmental characteristics and intervention duration

Children who had experienced concurrent W.IPV/CM, specifically child neglect, were found to have a significantly higher re-referral rate compared to the other forms of childhood victimisation (i.e., W.IPV, child physical and sexual abuse, mixed abuse), thus corroborating DePanfilis and Zurvin's (1999) finding that childhood neglect increase the likelihood that a child experience recurrent maltreatment during child protective services intervention.

Other factors shown to be related to recurrent re-referral status were; sole custody, parental psychological problems, peer friendship difficulties and child mental disorder. As highlighted in the introduction of this chapter, the current legislation regarding joint custody allows an abusive caregiver to oppose to their children receiving any form of intervention. This may subsequently explain why a higher rate was found for children whose mothers have sole custody, as the fathers consent is not needed. In addition, parental

psychopathology (Hughes & Luke, 1998) and peer friendship (Bolger & Patterson, 2001) has been linked to more severe behaviour and emotional difficulties in children.

Reasons for re-referral and abuse characteristics

While still rarely the focus of research, this study investigated the presence of post-separation abuse and recurrent child victimisation in relation to re-referrals. Of the re-referrals, 55.5% of the children (n=15) had witnessed post-separation abuse and/or experienced new incident of CM by the same perpetrator as at the index referral. However, no significant difference in re-referral rate was found between children who had witnessed a new incident of IPV and/or experienced CM and those who had not. Looking at the reasons why the children were re-referred, in particular for those who were known to not experience any new incident of IPV and/or CM, three quarters of the children (77.7%, n=21) were experiencing problems related to their exposure to family violence. For example, two children who had been re-referred stated how they were living in constant fear that the father could find them. In another case, where the biological mother was still romantically involved with the abuser, the child was frightened that he would abuse the mother as he used to previously. It was clear that these families had experienced family violence over many years and the impact of violence continued to reverberate in the child's life

Symptom pattern at re-referral

All of the re-referred children showed a significant decrease in psychosocial functioning at the time of re-referral (when compared to index referral). However, the result needs to be interpreted with caution because of the small sample size. No specific pattern emerged for occurrence of mental disorders. About the same proportion of children who met the criteria

for the same mental disorder reported at index referral as those who exhibited sub-clinical symptoms.

Limitations and Future Directions

It is acknowledged that the results of this study are preliminary and that the conclusions that can be drawn from these results are limited by several factors. First, the analyses that were significant must be interpreted with caution, given that the characteristic data was based on retrospective information collected at the index referral. This means that W.IPV and/or CM in addition to the familial and environmental adversities might not have been present at the time at the prior referral. Nonetheless, results that children who are re-referred to mental health services tend to be those that have experienced both W.IPV and CM, in particular child neglect, provide interesting information enough to warrant reporting and further investigation. Second, the potential impact of sample size for analysis of the recurrent referral cannot be ignored. Other methodological issues have been described in Chapter 4.

Conclusion

The finding that nearly a third of children had previously been in contact with mental health services indicates that these children are in need of mental health services. However, because the prior referrals involved referral to other mental health services, the scope of reasons for referral was beyond the scope of this study. Thus, the reason for re-referral in more than three quarters of the sample was directly or indirectly related to the IPV. This finding suggests that the re-emergence of symptoms of mental health difficulties and subsequent re-referral rates to CAPS may be associated with the feeling of safety, rather than new incident of IPV and/or CM per se. From a risk and protective factors framework,

these findings demonstrates more actions to develop child protection procedures and legislation in needed to be able to provide basic safety and protection for these families.

CHAPTER 7: ASSOCIATION BETWEEN CHILDHOOD VICTIMISATION HISTORY AND ASYMPTOMATIC CHILDREN

Chapter rationale

In Chapter 3, it was found that 47% (8 out of 17) of the school children who experienced child and partner maltreatment exhibited adaptive functioning (i.e., scored in the non-clinical range of behavioural and emotional symptoms). For the clinical sample in Chapter 4, the percentage of W.IPV and/or CM children classified within the non-clinical range was slightly lower (29.7%, 58 out of 195 W.IPV and/or CM children).

This Chapter extends the aims of previous Chapters (i.e., 3 and 4) by exploring differences in a matched clinical sample of asymptomatic and symptomatic children in terms of maltreatment and family characteristics and symptom change/stability over time. Specifically, this Chapter investigates whether the conceptualisation of a child exhibiting asymptomatic behaviours may be seen as indicative of resilience in relation to W.IPV and CM-related characteristics and level of psychosocial functioning.

Abstract

Objective: This study aims to examine factors associated with asymptomatic children in a clinical sample who had been witnessed intimate partner violence (W.IPV) and understand how they differ from symptomatic children exposed to W.IPV.

Method: A Swedish sample of 56 asymptomatic children was matched with 73 symptomatic children on age, gender and ethnicity. This sample was identified from a larger sample of 347 children who had been referred for intervention between the years 1998 and 2006 to a Child and Adolescent Psychiatry Service. All of the children had witnessed IPV.

Result: A number of factors were identified that increased the risk of childhood mental ill-health, such as exposure to severe emotional and sexual IPV, co-occurrence of CM (in particular physical abuse and mixed maltreatment), parental psychiatric problems and financial hardship. Results also showed that asymptomatic children had a higher level of adaptive psychosocial functioning compared to symptomatic children at baseline and over time in treatment.

Conclusion: This is the first study to empirically explore factors associated with symptom level within a clinical population of W.IPV children. The finding that asymptomatic children exhibit adaptive psychosocial functioning supports the notion that asymptomatic classification may be indicative of resilience. The findings are discussed in the light of CM, child and family characteristics.

Introduction

There is still much to learn about factors associated with children who are asymptomatic following W.IPV, such children are often termed ‘resilient’ in the literature because of their ability to respond and recover from childhood victimisation (Kinard, 1998). It has been established that W.IPV has a range of negative consequences on child health in terms of cognitive, physical, social and emotional development (Edleson, 1999; Edleson et al., 2003). However, to date little is known about child victims' who manifest modest or no symptomatology in childhood. Further, those asymptomatic child victims may appear resilient yet still remain challenged by their experiences. However, it is important to note that whilst some child victims appear to be resilient, or do not exhibit symptoms, it is not to say that childhood victimisation is not harmful.

The extent and definition of asymptomatic child victims

Although the last decade has shown an increased focus in research on asymptomatic child victims, there is little consensus regarding what constitutes a child being ‘asymptomatic’, or what are the best methods for determining whether or not a child may be classified as asymptomatic (Tylor, 2002). For example, some researchers have defined ‘asymptomatic’ as the absence of emotional and behavioural problems (Grych, Jouriles, Swank, McDonald & Norwood, 2000) whereas others have employed a broader definition in which they have included children who manifest modest (e.g. sub-clinical symptoms of mental ill-health) or no symptoms (Hughes & Luke, 1998). Prior empirical studies examining factors associated with a child being asymptomatic have also used a variety of methods for classifying children as asymptomatic, such as standardised psychological measures, clinical judgment, and/or interviews. In some studies, ‘asymptomatic’ has been defined as being within the

non-clinical range on self-report measures of emotional and behavioural problems, such as the caretaker report Child Behavior Checklist (CBCL; Achenbach, 1991). Conversely, other studies have used various assessment measures and/or multiple informants. In resilience research, however, researchers' have noted that as the number of data sources increase the percentage of maltreated children classified as resilient decline (Kinard, 1998). Similarly, when the definition of resilience is expanded to include different domains of functioning and/or across time, researchers' also note a drop in proportion of resilience in maltreated children (Cicchetti & Rogosch, 1997; Kinard, 1998).

Research demonstrates that approximately half of W.IPV exposed children exhibit few or no behavioural and emotional problems (Grych et al., 2000; Hughes & Luke, 1998). For example, Hughes and Luke (1998) found that 65% of their sample of 58 children, residing in a shelter, maintained positive behavioural and emotional adjustment. In a more recent study of 228 children (aged 8 to 14) living in a battered women's shelter, Grych et al. (2000) found that 31% (n=71) of their sample of children were functioning within the normal range on the adjustment measure and 18% (n=40) exhibited only mild distress symptoms. Thus, the remaining children showed different patterns of emotional and behavioural problems, whereby 21% (n=47) exhibited externalising behavioural problems, 19% (n=44) externalising multiple-problem and 11% (n=26) internalising multi-problem. It was found that the severity of children's emotional and behavioural problems increase with frequency of W.IPV and aggression towards the children themselves. Furthermore, children who perceived the W.IPV as threatening and blamed themselves for their role in causing the violence were more likely to demonstrate high levels of emotional and behavioural problems.

In some cases, the asymptomatic children seem to emerge with apparently good long-term functioning and never show symptoms as a sequelae of W.IPV. However, in other cases, research has stressed that children may be experiencing psychological symptoms that are undetectable to researchers due to insensitive measures, or a developmental-related sleeper effect where symptoms appear to deteriorate with time (Finkelhor & Berliner, 1995; Mannarino et al., 1991; McGloin & Spatz Widom, 2001; Pelcovitz et al., 1994; Putnam, 2003). For example, Mannarino et al. (1991) found that more serious symptoms did not manifest themselves until a year after disclosure in a group of severely sexually abused children. It has been further proposed that maltreated children who remain in the abusive environment may not currently manifest symptoms of ill-health until later in life when they leave home (Pelcovitz et al., 1994). Other children, however, may not exhibit psychological symptoms following IPV and/or CM because the abusive event was a relatively minor incident that was not experienced as traumatic (Putnam, 2003).

Factors that have been shown to affect the child's response to W.IPV and/or CM involve maltreatment, child and family characteristics. These factors have also been described in Chapter 4.

Study Rationale

Most of the empirical studies on asymptomatic children have been conducted in samples of maltreated children, in particular amongst sexually abused children (Taylor, 2002). Relatively little is known about asymptomatic children beyond the few empirical studies on patterns of adjustment among children who have been exposed to IPV and/or CM and whether the symptom patterns are sustained over time (Grych et al., 2000; Hughes & Luke, 1998). Moreover, one area that has been under-researched is resilient features among

children who have been exposed to IPV and/or CM in clinical settings. It would be reasonable to assume that the prevalence of asymptomatic children in clinical setting is lower compared to maltreated children from a general population, since clinical populations are by definition suffering from behavioural and emotional difficulties.

Aims

This study aims to use an ecological approach to examine factors associated with asymptomatic children in a clinical sample who have all W IPV. Specifically, the following research questions were examined:

1. To examine differences in asymptomatic children in comparison to symptomatic children in the extent to which
 - a. they have experienced CM and the nature of IPV/CM they endured
 - b. they have experienced repeat victimisation and re-victimisation
 - c. they experienced family adversity
 - d. they have a previous history of referral to CAPS
2. To examine symptom change over time for children who were asymptomatic or symptomatic at baseline.

Method

Sample

In total, 393 children and adolescents from 295 families had been referred to a Swedish Child and Adolescent Psychiatry Service (CAPS), for intervention between the years 1998-2006. Of the 295 referred families, the files of 245 (83.1%) families involving 347 children

and adolescents were reviewed. Therefore, 50 (16.6%) families declined to participate. The response rate is described in chapter 4 under ethical considerations.

Four inclusion criteria were applied in this study. First, it was required that the biological mother had experienced IPV by their partner and subsequently three cases of violence by non-intimate partners were excluded. Second, five children were excluded as they were aged 18 or older at the time of the referral to CAPS. Third, the children who had not received a mental health evaluation or assessment were excluded (n=144). This left 195 children and adolescents. Of these, 58 children had been classified as asymptomatic or with sub-clinical symptoms and 137 with a mental disorder by clinicians at the clinic. Fourth, the 58 youths who exhibited sub-clinical or no symptoms were matched with youths who fulfilled the criteria for a mental disorder on gender, age and nationality. Matching ensured control of any child characteristics that may influence the association between IPV and/or CM and outcome studied. This procedure led to the exclusion of two asymptomatic children and sixty-four symptomatic children. Thus, a total in 129 children and adolescents (32.8% of the total sample) were included in the data analyses. Parent Nationality was recorded in two groups: parents who were born in Sweden were categorised as Swedish, where both or one of the parents was born in a country other than Sweden, parents were categorised as non-Swedish. Demographic characteristics of the asymptomatic and symptomatic children are summarised in Table 7.1.

Table 7.1: Demographic Characteristics (n=129)

	Asymptomatic n=56	Symptomatic N=73	Statistics ^a
	Mean (SD)	Mean (SD)	
Age (in years)	7.95 (3.69)	7.68 (3.72)	$t_{(127)}=-.40$, $p=.692$
	N (%)	N (%)	
Gender			
Male	35 (62.5)	41 (56.2)	$\chi^2_1=.53$, $p=.468$
Female	21 (37.5)	32 (43.8)	
Nationality			
Parents born in Sweden	36 (64.3)	37 (50.7)	$\chi^2_1= 2.39$, $p=.122$
Parents born in another country	20 (35.7)	36 (49.3)	
Siblings			
No	28(50)	51(69.9)	$\chi^2_1= 5.27$, $p<.05$
Yes	28(50)	22(30.1)	

^aTest statistics are highlighted in bold to demonstrate significance

Of the 129 children and adolescents included, 26 were siblings. Thus, a total of 103 families were included in the study. Chi-square statistics showed that siblings were significantly likely to exhibit similar psychological sequelae following exposure to family maltreatment (see Table 7.1). However, siblings were included because they may have different experiences of IPV and/or CM compared to the index child. In terms of custody, forty-four (43.1%) of the parents had joint custody, fifty-six (54.9%) mothers and one father (0.9%) had sole custody and one child had a designated caregiver (0.9%, 1 missing value).

The most common type of W.IPV reported was physical abuse (99%, n=102), followed by emotional abuse (79.6%, n=82) and sexual abuse (11.7%, n=12). In cases where information was known, it was evident that most of the biological mothers had experienced severe to life threatening physical abuse (83.6%, n=61, 29 missing values), severe to very severe emotional abuse (75.9%, n=41, 28 missing values) and severe sexual abuse (100%, n=9, 3 missing values). The data indicated, where information was available, that most of

the mothers had suffered abuse for more than three years (71.4%, n=56, 47 missing values). Furthermore, the most recent abusive incident happened within one year of the referral to the clinic (54.8%, n=23, 61 missing data).

Procedure

Data was collected from files using the proforma and definitions used in Chapter 4 and Appendix K. In addition, the concordance rate of reliability of data has been discussed in Chapter 4 under treatment of data. Furthermore, data from the Global Assessment of Functioning scale (GAF scale, American Psychiatric Association, 2000) was available at both at the initial and completion phase of treatment by clinicians. The GAF scale has been described in Chapter 5 under measures and Appendix N. Within this study, a symptomatic child was defined as being within clinical range on the DSM-IV criteria and an asymptomatic child as exhibiting sub-clinical or no behavioural and emotional symptoms. Children who exhibited sub-clinical or no symptoms will herewith be referred to as asymptomatic children and those diagnosed with a mental disorder as symptomatic.

Results

1a) Extent and the nature of W.IPV/CM

Examining the impact of concurrent W.IPV and CM on level of symptomatology showed significant results (see Table 7.2). Children experiencing concurrent W.IPV/CM were significantly more likely to be classified as symptomatic when compared to those exposed to W.IPV only ($\chi^2_1=20.23$, $p<.001$). Where the type of W.IPV was known, it was found that emotional ($\chi^2_1=5.31$, $p<.05$) and/or sexual W.IPV ($FE=.039$) was associated with

symptomatology among the children. In addition, symptomatic children were more likely to have witnessed severe emotional W.IPV ($\chi^2_1 = 12.29$, $p < .001$) and/or severe sexual W.IPV ($FE = .042$) compared to asymptomatic children (see Table 7.2).

Table 7.2: Rate of maltreatment characteristics in relation to group composition (n=129).

	Asymptomatic n=56	Symptomatic n=73	Statistics ^a
	n (%) ^{b, c}	n (%) ^{b, c}	
Type of W.IPV and/or CM (n=129)			$\chi^2_1 = 20.23$, $p < .001$
W.IPV only	43(76.8)	27(37)	
W.IPV/CM	13(23.2)	46(63)	
Emotional W.IPV (n=102)	39/56(69.6)	63/73(86.3)	$\chi^2_1 = 5.31$, $p < .05$
Physical W.IPV (n=126)	54/55(98.2)	72/73(98.6)	$FE = 1.000$
Sexual W.IPV (n=13)	2/56(3.6)	11/73(15.1)	$FE < .05$
Severe Emotional W.IPV (n=96)	21/37(56.8)	52/59(88.1)	$\chi^2_1 = 12.29$, $p = .001$
Severe Physical W.IPV (n=87)	28/35(80)	47/52(90.4)	$FE = .211$
Severe Sexual W.IPV (n=10)^d	1/1(100)	9/9 (100)	$FE = .042^*$

FE Fishers Exact Test

*Significant to $p < .05$

**Significant to $p < .001$

^a Test statistics are highlighted in bold to demonstrate significance

^b Percentages are rounded off to one decimal.

^c The initial figure refers to the number of children who had the characteristics, the second is the valid n size of each characteristic once missing data had been taken into account.

^d For sexual W.IPV only severe cases were recorded (2 missing values).

Table 7.3 highlights the type of CM experienced in relation to group composition. To explore whether specific types of CM were related to symptomatology further bivariate analysis was conducted. It was found that physically abused children and those who experienced multiple-type CM were more likely to have developed symptoms compared to those without a history of CM. No significant association were found for severity of different types of CM.

Table 7.3: Rate of CM in relation to group composition (N=129).

	Asymptomatic n=56	Symptomatic n=73	Statistics ^a
	n(%) ^b	n(%) ^b	
Type of CM			
Physical Abuse (n=38)	10(17.9)	28(38.4)	$\chi^2_1 = 6.41, p < .05$
Sexual Abuse (n=5)	2(3.6)	3(4.1)	<i>FE</i> = 1.000
Neglect (n=5)	---	5(6.8)	<i>FE</i> = .068
Mixed (n=11)	1(1.8)	10(13.7)	<i>FE</i> < .05
TOTAL	13(100*)	46(100*)	

FE = Fisher's Exact Test

^a Test statistics are highlighted in bold to demonstrate significance

^b Percentages are rounded off to one decimal.

1b) Extent of experiencing repeat victimisation and revictimisation

Exploring the rate of single victimisation (single perpetrator, single incident), repeat victimisation (same perpetrator, more than once) and revictimisation (different perpetrators, different times) in relation to group composition of symptomatology (asymptomatic and symptomatic) showed no significant differences (See Table 7.4). In addition, no significant difference was found between the asymptomatic/symptomatic groups in terms of relationship to perpetrator.

Table 7.4: Rate of victimisation in relation to group composition (N=59).

	Asymptomatic n=13	Symptomatic N=46
	n(%) ^{a, b}	n(%) ^{a, b}
Type of Victimisation (n=42)		
Single Victimisation	2/6(33.3)	2/36(5.6)
Repeat Victimisation	4/6(66.6)	23/36(63.8)
Revictimisation	---	11/36 (30.6)
Relationship to Perpetrator (n=58)		
Intrafamilial	12/12(100)	42/46(91.3)
Intrafamilial/Extrafamilial	---	4/46(91.3)

^a Percentages are rounded off to one decimal.

^b The initial figure refers to the number of children who had the characteristics, the second is the valid n size of each characteristic once missing data had been taken into account.

1c) Extent of experiencing family adversities

Chi-square statistics showed that parental psychiatric problems and financial hardship was significantly related to the child's symptomatology (see Table 7.5). No other significant associations were found. Table 7.5 shows the prevalence of family characteristics in relation to child's severity of symptoms.

Table 7.5: Family characteristics in relation to group composition of asymptomatic and symptomatic (N=129).

Family Characteristics	Asymptomatic n=56	Symptomatic n=73	Test statistics ^a
	n(%) ^b	n(%) ^b	
Psychiatric problems (n=129)	6(10.7)	20(27.4)	$\chi^2_1=5.48$, p<.05
Criminality (n=129)	5(8.9)	12(16.4)	$\chi^2_1=1.56$, p=.211
Substance abuse (n=129)	22(39.3)	31(42.5)	$\chi^2_1=.13$, p=.716
Economic/Housing difficulties (n=129)	2(3.6)	19(26)	$\chi^2_1=11.73$ p<.001

^a Test statistics are highlighted in bold to demonstrate significance

^b Percentages are rounded off to one decimal.

1d) Extent of previous referrals

Symptomatic children were significantly more likely to have been in contact with mental health services prior to their index referral ($\chi^2_1= 9.21$, p=.002) compared to their asymptomatic counterpart. 45.2% (n=33) symptomatic children and 19.6% (n=11) asymptomatic children had a history of a prior referral.

2. Symptom over time for children who were asymptomatic or symptomatic.

At baseline of treatment, an independent t-test showed that asymptomatic children exhibited significantly higher adaptive psychosocial functioning ($t_{(88)}=7.04$, p<.001) compared to symptomatic children. In terms of evaluating study symptom change over time for children who were asymptomatic or symptomatic at baseline, a one way repeated

measures ANOVA was carried out. Table 7.6 provides descriptive information regarding the children's level of psychosocial functioning over time in treatment.

Table 7.6: Descriptive information regarding level of psychosocial functioning over time in relation to group composition of asymptomatic and symptomatic children (N=79)^a

	Asymptomatic (n=33)	Symptomatic (n=46)	Test statistics
	M (SD)	M (SD)	
Pre GAF score	71.24 (9.46)	54.89 (12.21)	$F_{(1, 77)} = 35.16, p < .001$
Post GAF score	83.03 (8.74)	73.59 (12.41)	

^a In terms of missing data on pre and post treatment score on GAF scale, data was missing for 50 children (38.8%).

* $r^2 = .08$, power = .75, $p = .05$

The result showed a main effect for symptom level ($F_{(1, 77)} = 35.16, p < .001, r^2 = .31$, power = 1.000, $p = .05$) where the asymptomatic children demonstrated higher level of psychosocial functioning. A significant within-group effect was also found for improvement in psychosocial functioning over time in treatment ($F_{(1, 77)} = 138.80, p < .001, r^2 = .64$, power = 1.000, $p = .05$). Finally, the interaction effect for symptom level was significant (see Table 6). This finding indicates that asymptomatic children continued to demonstrate significantly higher psychosocial functioning throughout treatment compared to symptomatic children.

Discussion

The aim of the current study was to gain a greater understanding of asymptomatic children after W.IPV and to understand how these children differ from symptomatic children exposed to W.IPV. Therefore, this study explored some of the more complex relationships

between symptom level and the nature and type of maltreatment, child and family characteristics and psychosocial functioning over time. Categorically-defined groups of asymptomatic and symptomatic children allowed for statistical comparison of factors that distinguish the groups

Summary of results

1a) Extent to which they have experienced CM and the nature of IPV/CM they endured

In terms of differences between children and symptom level, some W.IPV related characteristics were found to be significantly associated to the likelihood of symptomatic behaviour. Specifically, children who had witnessed severe emotional and sexual abuse of their mother were found to exhibit symptomatic behaviour. Similarly to the exacerbated effects for children who witnessed severe form of emotional and sexual W.IPV, some of the CM characteristics were also found to be related to symptomatic behaviour. For example, the co-occurrence of CM, in particular for those children experiencing child physical abuse or multiple-type of CM, were both significantly associated the development of childhood symptomatology. These factors have all previously been identified as risk factors for severe forms of emotional and behavioural problems (Hughes & Etzel, 2001; Rossman & Rosenberg, 1998; Wolfe et al., 2003) and support that there might be a ‘double whammy’ effect with concurrent W.IPV and CM causing more detrimental effects than witnessing IPV only. Similarly, Lipschitz et al. (1999) noted in their study among adolescent psychiatric in-patients who had experienced multiple traumas that witnessing family violence was least likely to be rated as the most stressful compared to sexual and physical abuse.

Furthermore, research on CM has suggested the experience of more than one type of maltreatment appears to increase the risk for severe forms of pathology compared to single forms of maltreatment (Huges & Etzel, 2001; Levendovsky & Graham-Bergmann, 1998; Rossman & Rosenberg, 1998). This finding is of particular importance considering many children who witness IPV are subjected to CM and, more often than not, exposed to multiple forms of abuse and neglect (Apple & Holden, 1998; Browne & Hamilton, 1999; Dixon et al., 2007). Looking within the group of maltreated children in this current study, however, the effect of single-type (i.e., child neglect, child physical or sexual abuse) opposed to multiple-type maltreatment (i.e., child neglect, child physical and/or sexual abuse) on child mental health was not empirically supported.

1b) Extent to which they have experienced different types of child victimisation

No significant differences were found between the groups (asymptomatic/symptomatic). The small sample sizes and consequently low statistical power may be responsible for this null result and further analysis with larger samples is warranted.

1c) Extent to which they have experienced family adversities

Other researchers have proposed that differences in symptom levels are more a result of family dysfunction than abuse characteristics. In this study, factors shown to significantly effect the relationship between W.IPV and symptomatology were parental psychiatric problems and serious financial hardship. A potential explanation for the link between childhood mental health problems and parental psychiatric problems may be explained by the genetic risk for mental health difficulties associated with parental mental illness and/or the accumulation of psychosocial risk factors in families where parent psychopathology

and W.IPV and/or CM co-occur (Jaffe, 2004, p.157). However, the association may also be explained in terms of emotional or physical availability of the caregiver who is suffering from psychiatric problems. Some researchers have proposed that a mother's poor mental health would negatively affect a child's experience of violence. In IPV cases, the abused mother may not be able to care for them emotionally or physically because of their own psychological distress or physical injuries sustained from the violence (Dodd, 2004; Pelcovitz et al., 2000). However, the prior findings are conflicting. For example, Levendosky and Graham-Bermann (1998) found that the children of mothers exhibiting stress demonstrated more problem behaviours themselves. In contrast, McClosky et al. (1995) found that mothers' poor mental health did not affect a child's response to violence in the home.

1d) Extent to which they have a history of previous referrals to CAPS

Little is known about service utilisation of children who have witnessed IPV and most of the existing services appear to be offered almost exclusively within shelters (Smith, Kelleher, Barth, Coben, Hazen, Connelley et al., 2005). This study found that children who were classified as symptomatic were significantly more likely to have been in contact with mental health services prior to their index referral compared to their asymptomatic counterpart. This finding could be attributed to symptomatic children at the previous referral presented as asymptomatic; that is, perhaps the symptoms did not manifest until the child reaches a particular stage or the child denied or suppressed the psychological sequelae through defense mechanisms (Taylor, 2002). Or it may be that the measure of psychological distress failed to adequately identify existing psychological symptoms and the child did not receive appropriate intervention or whether the child remained in

treatment long enough for there to be positive therapeutic affects (Taylor, 2002). On the other hand, those who had been previously referred may have continued to be exposed to IPV. Understanding the reasons why the children had previously been in contact with CAPS are beyond the scope of this study and therefore the question remains open.

2. Symptomatology over time

With respect to exploring symptom level in relation to adaptive psychosocial functioning, findings showed significant differences between asymptomatic and symptomatic children. The result showed that asymptomatic children showed significantly higher levels of adaptive functioning at the baseline of treatment. This finding also reflects the group classification of asymptomatic and symptomatic children had good construct validity and supports the notion asymptomatic classification is indicative of resilience. Very little is known about asymptomatic children who have witnessed IPV and/or experienced CM, and even less is known about symptom change over time (Grych et al., 2000; Hughes & Luke, 1998; Taylor, 2002). This study found that asymptomatic children continued to have higher level of psychosocial functioning over time compared to symptomatic children. It is important to note that the symptom change over time for children who were asymptomatic or symptomatic suffered from low sample size and low power (75%). Therefore, results are not completely reliable. Also, the low sample size at follow-up data collection in the present study did not allow for more advanced statistical test to be conducted on the data. Therefore, changes over time cannot be explored to examine what happened in the therapeutic process or explore what other surrounding factors may have effected the relationship.

Methodological Considerations

The limitations with this study have been previously described in Chapter 4.

Conclusion

In conclusion, the current study validated some aspects of the ecological-developmental model of W.IPV, with abuse-related and family-related stressors being significantly associated to child's symptom level. It also supported the suggestion from previous literature that asymptomatic children may be indicative of adaptive functioning. In this study, the rate of asymptomatic children following W.IPV and/or CM was lower (28.9% of the 194 children who fulfilled the initial inclusion criteria, $n=56$) than prevalence rates from previous work (Grych et al., 2000; Hughes & Luke, 1998). Prior research has found a rate of between 49% (Grych et al., 2000) and 65% (Hughes & Luke, 1998) asymptomatic children following IPV exposure. Both studies were conducted amongst children who were recently exposed to IPV in a shelter setting. This difference in rate was expected as the current study was carried out in a clinical child population which by definition suffer from behavioural and emotional problems. An additional explanation for the considerable lower prevalence rate of asymptomatic children could be the majority of children in this study had witnessed, where information was known, recurrent and severe forms of IPV for many years. However, because the data regarding frequency and duration was limited, this information was of little assistance for analysis. It would be reasonable to assume the level of violence in each family and the degree to which each child is exposed to that violence would have an impact on child mental health outcome as consistently shown in previous literature (Edleson, 2004; Grych et al., 2000). One of the aims of a future study should be on service utilisation and level of symptomatology over time for IPV exposed children.

CHAPTER 8: GENERAL DISCUSSION

The aim of this thesis was to investigate the role of childhood maltreatment (CM) and witnessing intimate partner violence (W.IPV) on childhood behaviour and mental health difficulties. The complex interaction of risk, protective factors and mediating factors in this relationship were recognised and considered throughout. Collectively, each piece of research within this thesis has contributed significantly to this aim. For each part of the thesis, the aim and summary of the main findings will be highlighted and consideration of how each chapter addresses the aims outlined in the introduction will be given. Next, the policy and practical implications will be discussed collectively with the strengths and limitations of the research. Finally, the overall implications and conclusions of this thesis are considered in relation to professionals working with vulnerable families.

Summary of main findings

Part I: Reviews of existing literature

This part aimed to assess the quality of existing research on the association between CM and behavioural and emotional difficulties during childhood and adulthood and whether the association can be explained by other factors (such as maltreatment, child, family and environmental characteristics). The following details how Chapters 1 and 2 met the two specific aims described in the Introduction.

a: To examine the relationship between child maltreatment and behaviour and mental health difficulties

b: To explore whether this relationship can be explained by other factors

A critical review of existing reviews in Chapter 1 found consistent evidence to conclude that the experience of child sexual abuse is a key risk factor in the development of psychopathology in adulthood. Collaborating findings in Chapter 1, a review of primary studies in Chapter 2 suggested that the same vulnerability to developing behavioural and mental health difficulties following child maltreatment exists in childhood.

In regards to the question whether other factors can explain the relationship between child sexual abuse and adult psychopathology, Chapter 1 found evidence to suggest that a gender difference exists on self-reported perceived psychological impairment following abuse, but not on assessed level of adult mental health. It was proposed that adult women who had a history of child sexual abuse were more likely to perceive themselves to suffer higher levels of mental health difficulties compared to adult men with a history of child sexual abuse. In contrast, Chapter 2 found that male and female child victims of early maltreatment exhibited similar elevated levels on both self-reported and assessed childhood behavioural and emotional difficulties. In terms of the impact of other characteristics, such as maltreatment characteristics, both chapters concluded that further research is needed to establish whether they indeed have a moderating impact. In addition, in both chapters there was evidence to suggest that family functioning may moderate the association between child maltreatment and behavioural and mental health difficulties. Other factors that were explored in Chapter 2, but not covered by the reviews in Chapter 1, were negative attribution style and prosocial behaviour. There was evidence to suggest that a child's negative attribution style and prosocial behaviour influences the relationship between childhood maltreatment and childhood behavioural and emotional difficulties.

Both Chapters 1 and 2 highlight and discuss several methodological limitations within the research reviewed. In Chapter 1, for example, the issues highlighted were; performing meta-analyses on primary studies with different definitions of child sexual abuse, combining child and adult populations of victims and including adults who had experienced physical abuse or non-contact sexual abuse in their childhood with the non-victimised control group. In Chapter 2, the issue of lack of reported attrition rates and reasons for drop-outs, over-reliance of child protection or maltreatment evaluation samples were highlighted and discussed.

Part II: Empirical research

This part of the thesis aimed to empirically explore the role of experiencing CM and/or witnessing IPV on children's behaviour and mental health difficulties from an ecological focused perspective. Specifically,

- a: To explore the extent to which CM and/or witnessing IPV can predict the development of behaviour and mental health difficulties in childhood, independent from child, family and environmental characteristics;*
- b: To explore the role of CM and/or witnessing IPV on (mal)adaptive recovery process over time, independent from child, family and environmental characteristics*

The following paragraphs will summarise relevant findings in relation to each sample source, starting with the community sample (Chapter 3) and then moving to the clinical sample (Chapters 4, 5, 6 and 7). Table 8.1 provides a summary of the findings on child outcome in each chapter.

8.1 Table: Findings of Empirical Research

Variable (ecological level)		CM	Pre-treatment	Post-treatment	During treatment	Recurrent Re-referral
Chapter 3	W.IPV and/or CM (microsystem)	---	Yes	---	---	---
	Physical Threat (ontogenetic system)	No	No	---	---	---
	Social threat (ontogenetic system)	No	No	---	---	---
	Hostility (ontogenetic system)	No	No	---	---	---
	Personal Failure (ontogenetic system)	No	No	---	---	---
	Perceived Internal Control (ontogenetic system)	No	No	---	---	---
	Perceived External Control (ontogenetic system)	No	No	---	---	---
	Emotion Regulation (ontogenetic system)	Yes	Yes	---	---	---
	Prosocial Behaviour (exosystem)	Yes	Yes	---	---	---
Chapter 4	Concurrent W.IPV/CM (microsystem)	---	Yes	---	---	---
	Gender (ontogenetic system)	No	No	---	---	---
	Age at referral (ontogenetic system)	Yes	No	---	---	---
	Parental Nationality (microsystem)	No	Yes	---	---	---
	Parental Psychiatric Disorder (microsystem)	No	No	---	---	---
	Parental Substance Abuse (microsystem)	No	No	---	---	---
	Parental Criminality (microsystem)	No	No	---	---	---
	Peer Friendship Difficulties (exosystem)	No	Yes	---	---	---
Chapter 5	Concurrent W.IPV/CM (microsystem)	---	Yes	Yes	Yes	---
	Post-separation Abuse (microsystem)	No	---	---	No	---
	Gender (ontogenetic system)	No	---	---	No	---
	Age at referral (ontogenetic system)	No	---	---	No	---
	Parental Nationality (microsystem)	No	---	---	Yes	---
	Parental Custody (microsystem)	Yes	No	No	Yes	---
	Parental Psychiatric Disorder (microsystem)	No	---	---	No	---
	Parental Substance Abuse (microsystem)	Yes	---	---	No	---
	Parental Criminality (microsystem)	No	---	---	Yes	---
	Maternal economic/housing difficulties (microsystem)	Yes	Yes	No	Yes	---
	Maternal repeated residential relocations (microsystem)	Yes	No	No	Yes	---
	Peer Friendship Difficulties (exosystem)	Yes	Yes	No	Yes	---
	Intervention Duration (exosystem)	No	---	---	No	---

Variable (ecological level)		CM	Pre-intervention	Post-intervention	During treatment	Recurrent Re-referral
Chapter 6						
	Concurrent W.IPV/CM (microsystem)	---	---	---	---	Yes
	Gender (ontogenetic system)	---	---	---	---	No
	Parental Nationality (microsystem)	---	---	---	---	No
	Parental Custody (microsystem)	---	---	---	---	Yes
	Parental Psychiatric Disorder (microsystem)	---	---	---	---	Yes
	Parental Substance Abuse (microsystem)	---	---	---	---	No
	Parental Criminality (microsystem)	---	---	---	---	No
	Maternal economic/housing difficulties (microsystem)	---	---	---	---	No
	Maternal repeated residential relocations (microsystem)	---	---	---	---	No
	Peer Friendship Difficulties (exosystem)	---	---	---	---	Yes
	Child diagnosed with mental disorder (ontogenetic system)	---	---	---	---	Yes
Chapter 7						
	Concurrent W.IPV/CM (microsystem)	---	Yes	---	---	---
	Gender (ontogenetic system)	---	No	---	---	---
	Age at Referral (ontogenetic system)	---	No	---	---	---
	Siblings similar (a)symptomatic behaviour (micro system)	---	Yes	---	---	---
	Child Prior Referral to CAPS (ontogenetic system)	---	Yes	---	---	---
	Parental Nationality (microsystem)	---	No	---	---	---
	Parental Psychiatric Disorder (microsystem)	---	Yes	---	---	---
	Parental Substance Abuse (microsystem)	---	No	---	---	---
	Parental Criminality (microsystem)	---	No	---	---	---
	Maternal economic/housing difficulties (microsystem)	---	Yes	---	---	---

W.IPV = Witnessing Intimate Partner Violence, CM=Child Maltreatment.

Note that the dashed lines represent factors that has not been examined.

In order to get an accurate picture of the extent of W.IPV and/or CM, a community sample was chosen and a cross-sectional study (i.e., school children with and without a history of W.IPV and/or CM; Chapter 3), was carried out. As shown in the first and second columns in Table 8.1, it was found that childhood experiences of CM and/or W.IPV significantly predicted elevated levels of behavioural and emotional difficulties, thus corroborating with Chapter 1 and 2. However, this study found that the extent to which different behavioural and emotional difficulties could be accounted for by W.IPV and/or CM alone was low (5-28%). The lower variance found may be explained by the low sample size of W.IPV and/or CM and the almost equal number of non-maltreated children (i.e., vulnerable group) that were found to exhibit clinically elevated levels of behavioural and emotional difficulties.

Prior literature has found that community samples often do not include the most severe form of partner and/or child maltreatment as well as have a broader severity range (Margolin & Gordis, 2000). In addition, the length in time since abusive incident might have influenced the result. Collectively, these factors might explain the low variance found as it would be hypothesised that experiences of severe partner and/or child maltreatment and shorter duration since abusive incidents would lead to more adverse outcomes. This idea is further supported by the findings based on the clinical sample in this thesis (Chapter 7) that found that childrens' level of symptomatic behaviour was related to their exposure of more severe emotional and sexual forms of IPV and experiences of concurrent W.IPV and CM.

The second column in Table 8.1 shows that emotion regulation and prosocial behaviour were also associated with the outcome and this formed the rationale for carrying out an

mediational analysis. The result of this analysis indicated that these factors intervened in the pathway between W.IPV and/or CM and different behavioural and emotional difficulties. Alik et al. (2009) draws attention to their finding that emotion regulation was found to mediate child maltreatment and psychopathology which, in turn, was moderated by mother-child attachment. In contrast, Bukner et al. (2004) failed to find such a mediating impact in their sample of IPV exposed children. Similarly, prosocial behaviour has in previous literature been described to be a protective factor, that buffers against negative impact of adverse family experiences (Bolger et al., 1998; Cicchetti & Toth, 1995; Heller et al., 1999; Reyes et al., 1996; Tajima et al., 2007).

The presence of resilience was also considered through examination of symptom level for each group (i.e. W.IPV and/or CM versus non-maltreatment). It was found that about half the W.IPV and/or CM group could be classified as resilient. Contrary to expectations, the child and environmental factors did not differentiate between resilient and non-resilient W.IPV and/or CM children, despite showing some trends in the hypothesised direction. However, the same factors did differentiate between competent and vulnerable non-maltreated children. It is possible that the effects in the W.IPV and/or CM group of children were masked by unknown maltreatment characteristics (i.e. severity, frequency and duration) and the small sample size of W.IPV and/or CM.

Having established that witnessing IPV and/or experiencing CM predicts childhood behavioural and emotional difficulties in the community sample in Chapter 3 (although the variance explained was low), the attention was shifted towards a clinical sample of children and adolescents who had all witnessed IPV (i.e., retrospective cross-sectional

data). This sample was used because of the high number of children who had experienced overlapping incidents of W.IPV and CM and exhibited different forms and severity of emotional and behavioural problems. When comparing the prevalence of clinically elevated behaviour and mental health difficulties amongst children who had witnessed IPV and/or experienced CM reported in the community study (Chapter 3) with clinical sample (Chapter 4), the rates were higher in the clinical population (52.9% parental self-report vs. 70.2% clinician report). This finding is not surprising as clinical populations by definition are characterised by behaviour and mental health difficulties. It is interesting to note that the clinicians' reports (despite being more objective) still showed the expected differences between the groups.

Corroborating prior research (Casanueva et al., 2009; Edleson, 1999; Hamilton & Browne, 1999; Dixon, et al., 2007), there was a large overlap between partner and child maltreatment reported in the clinical population, ranging from 45.7% to 53.7% (Chapter 4, 5, 6 and 7). Also consistent with previous research (Maughan & Cicchetti, 2002; Wolfe et al., 2003), this thesis found substantial evidence that children who experienced concurrent W.IPV and CM were more likely to exhibit severe forms of behaviour and mental health difficulties at baseline of treatment (Chapter 4, 5 and 7) and at the follow-up assessment after completion of treatment (Chapter 5) than children who had “only” witnessed IPV, thus corroborating the cumulative impact of experiencing CM found in prior research (Evans et al., 2008; Luthra et al., 2008; Wolfe et al., 2003). In fact, children who experienced concurrent CM/W.IPV were found to be five times more likely to have been diagnosed with a mental disorder than children who had “only” witnessed IPV (Chapter 4). In addition, they were found to exhibit significantly lower psychosocial functioning over

the course of time in treatment (Chapter 5) which also highlights that their recovery processes are likely to take longer time compared to those in the W.IPV only group. Finally, they were also found to have been in contact with mental health services more often (i.e., recurrent re-referral, Chapter 6).

The difference in level of behaviour and mental health difficulties found between children who experienced concurrent W.IPV and CM and those who witnessed only IPV may be explained by the nature of the maltreatment. For example, prior research has linked the overlap with greater severity of IPV (Browne & Hamilton, 1999) which, in turn, has been associated with greater symptomatology (Chapter 7). However, most of the mothers in both groups (W.IPV/CM and W.IPV only) were reported to have experienced multiple events of IPV severe enough to warrant seeking medical attention/treatment (Chapter 4). Alternatively, the symptom level might be due to the nature of child maltreatment experienced. Experiences of child maltreatment may be seen as an ‘active’ form of violence and/or non-physical form of abuse (i.e., emotional abuse and neglect) because it is directed towards the child. Likewise, witnessing IPV may be viewed as a ‘passive’ form of violence. One could speculate whether the children in the concurrent W.IPV/CM, because of their fear for their own safety, may rely on passive coping strategies and subsequently be more vulnerable to behaviour and mental health difficulties (Pelcovitz et al., 2000).

However, this does not imply that children who witness IPV only are passive ‘victims’ of violence. As highlighted in Chapter 4, it is important to acknowledge that children who witness IPV are often actively involved in interpreting and predicting when the next abusive incident will occur, excessive worry about their role in causing the abuse and/or

his/her mother and her safety. Many of them also attempt to prevent or intervene to protect their mother (Cunningham & Baker, 2004) which, in turn, increases the risk of them getting caught up in the violence.

The one of the most striking result to emerge from the clinical sample was that that childrens' level of psychosocial functioning had significantly deteriorated between the referrals to the clinic, to the same low levels as assessed by the clinician at the index referral (Chapter 6). This finding is of particular importance as it shows that treatment does not necessarily promote resilience towards subsequent incidence of violence (Wolfe et al., 2006)

As described previously, the effects of W.IPV and/or CM was examined in relation to co-occurring stressors, both within and outside the family unit, on behaviour and mental health outcomes (in accordance to the ecological model; Bronfenbrenner, 1979). When many of the same contextual factors were examined on different aspects of childrens' functioning in the clinical sample, a complex picture of the interaction of risk and protective factors unfolded.

Throughout the clinical chapters, four consistent child, family and environmental factors emerged which had a negative impact on behaviour and mental health difficulties in childhood. The first factor, child's gender (Chapters 4, 5, 6 and 7) shows that male and female child victims of W.IPV and/or CM exhibit similar elevated levels of behaviour and mental health difficulties, thus collaborating with the findings in Chapter 1 and 2. The second factor, parental nationality (Chapter 4 and 5) might be explained by a lack of

established social support network, leading to increased social isolation and susceptibility to behaviour and mental health difficulties (Zilenski & Bradsaw, 2006). These results have not been previously described in relation to childhood outcomes following W.IPV and/or CM, therefore they go some way to enhancing our understanding that this particular group of children might be in greater need of intervention. The third, maternal economic/housing difficulties (Chapters 5 and 6), might be explained by the uprooting nature of repeated residential relocations, with changing schools and losing friends. Repeated residential relocations has been described in the literature as a potential stressor on child well-being (Cunningham & Baker, 2004). However, so far little attention has been paid to the impact of these changes from the child's point of view. The final consistent factor, peer friendship difficulties (Chapters 4, 5 and 6) is more widely supported in prior research, suggesting that peer acceptance and friendship contribute to youth development and buffer against negative impact of adverse family experiences (Bolger et al., 1998; Cicchetti & Toth, 1995; Cicchetti et al., 2000; Heller et al., 1999; Reyes et al., 1996; Tajima et al., 2007).

Although these factors were shown to be important, the result from examining the impact of these factors over time in treatment (Chapter 5) is reassuring. Despite the initial detrimental impact of these factors, post-treatment scores reveal that these children showed greater improvements in their psychosocial functioning. Further regression analyses demonstrated that although maternal repeated residential relocations and peer friendship difficulties initially predicted worse outcome, they lacked predictive value at the post-treatment assessment. These findings might be explained by the mother and her child/ren having settled down in their new neighbourhood and developed new support networks (Chapter 5). Taken together, these findings suggest that these factors have an short-term,

rather than a long-term effect, on a child's well-being. However, this also illustrates the importance of continuously gathering information of risk and protective factors in the different ecological levels. Throughout the thesis, the experiences of concurrent W.IPV and CM was the only factor that was consistently shown to have a long-term consequence.

However, the impact of other child and environmental factors were less than conclusive when different aspects of childrens' functioning was examined. The difference in number of associated factors between the four clinical Chapters may be explained by the different subset of the clinical sample used in the statistical analyses. The subsets were selected on the basis of outcome. For example, Chapter 4 included 195 children who had been assessed in accordance to the DSM-IV criteria (APA, 2000). In contrast, Chapter 5 included only the 147 children who had completed the pre and/or post assessment (Global Assessment of Functioning, GAF, APA, 2000). In Chapter 4, the two groups (W.IPV/CM and W.IPV only) in the sample were equal in terms of family adversities. As such, the exclusion of those without pre and/or post assessment in Chapter 5 may have created an imbalance between the groups. Consequently, the difference between the subsets may reflect a selection bias towards children with concurrent W.IPV/CM having experienced a greater range of adversities (when compared to children who witnessed IPV only).

Although it is important to note the effect of different clinical subsets on the analyses of child and environmental factors, exploring these different aspects of childrens' functioning revealed that many of the child, family and environmental characteristics that may initially increase a child's vulnerability to exhibiting symptoms following CM and/or W.IPV are not predictive over time. In addition, it is proposed that the effect of some of these factors

may be more directly attributed to the child's victimisation (Herrenkohl & Herrenkohl, 2007), than the actual symptom level. However, the lack of significant results might also be a result of intervention efforts.

Finally, it is also important to acknowledge that not all children who had been exposed to W.IPV and/or experienced CM developed deleterious outcomes. In the community sample (Chapter 3), 47% children who had witnessed IPV and/or experienced CM showed positive adaptation (i.e., resilience). A slightly lower percentage (29.7%, n=58) of the W.IPV and/or CM group of children exhibiting modest or no symptoms were found in the clinical sample (Chapter 4). These figures are consistent with previous research that has shown rates ranging from 31% (Grych et al., 2000) to 65% (Hughes & Luke, 1998).

Policy and Practice implications

The findings of the thesis provide a preliminary overview of the complex and sometimes long-term need for children who witness IPV and/or experience CM. Although not all children who have witnessed IPV and/or experienced CM are in need of services (Chapters 3, 4 and 7), there is a large subset of children who do require effective services. The high prevalence of mental disorder found in the clinical population is particularly alarming (70.3%, n=137, Chapter 4), and stresses the need for early intervention and to provide specialist services for vulnerable children. Because there is no typical psychological sequelae following CM and/or W.IPV, a detailed mental health evaluation and assessment of each case is necessary to establish the nature of the behavioural and mental health difficulties and to determine appropriate points of intervention with the family (Frude, 1990).

However, responding effectively to the complex needs of these children presents many challenges. There are practical considerations affecting the accessibility to specialist services, such as identifying children who are living in violent and/or abusive families and limited resources. The often secretive climate of IPV and/or CM makes it difficult to identify and access the battered mothers' and their children. In addition, mainly due to resources, there are only few psychological or counselling services offered nationally to children and women in the UK and in Sweden by professionals with expertise of IPV (Eriksson et al., 2006; Humphreys & Mullender, 2000).

As highlighted in Chapter 6, a related issue and concern raised in recent years by social workers and other professionals working with violence-exposed children in Sweden involves the current policy and legislation that allows an abusive caregiver to oppose their children receiving intervention despite the history of W IPV (Barnombudsmannen, 2003, 2007; Eriksson, 2003). In such cases, a battered woman and/or man who seeks treatment for his/her child/-ren needs to be able to show evidence that joint custody and/or relationship with the other caregiver entails an enduring risk to the child's health or development. In the light of the growing evidence that exposure to IPV affects children in many negative ways, access to services providing trauma-focused interventions for these vulnerable children is crucial. Therefore although it is important to acknowledge that important advances have been made, there are still many improvements in the legal and welfare system that need to be addressed. It is necessary to take the law a step further and ensure these childrens' right to protection and treatment.

However, there are other legal issues that need to be resolved. Many researchers and practitioners have raised the issue that the presence of IPV to some extent is still not being considered a factor in determining child custody and/or access arrangement after parental separation/divorce in Sweden (Eriksson & Hester, 2001; Eriksson et al., 2005). Still to date, the significance of W.IPV is minimised in family court¹ decisions and the violence exposure is seen as a separate issue aside from parenthood (Eriksson & Hester, 2001; Eriksson et al., 2005). In recent years there has been a growing recognition that separation does not necessarily mean cessation of abuse (Jaffe et al., 2002) and that women and/or men and their children are vulnerable for further physical and/or emotional abuse after separation, in particular during access transfers (Humphreys & Thiara, 2003; Jaffe et al., 2003; Lundgren et al., 2001). This finding highlights that such simplistic solutions for parents and children with a history of W.IPV may place them at undue risk.

In the U.K. and Sweden, there have been strong cultural conceptions of mothers as the primary caregiver, which has resulted in holding the mother accountable for her failure to protect the child/ren even if she is not the identified perpetrator (Eriksson & Hester, 2001; Eriksson et al., 2005). In some cases, children have been taken into public care on the basis of the claim that the mother places the child/ren at risk of harm. Conversely, filing ‘failure to protect’ charges against battered mothers may ignore the fact that they might not have been in the position to protect the child/ren because of their own psychological distress or physical injuries sustained from the IPV (Dodd, 2004) or fear for their own or their children’s safety (Matthews, 1999). Such mitigating circumstances should be considered before holding a IPV victim liable (Edleson, 1998; Hartley, 2004).

¹ In Sweden the family court offices are a part of the social services.

The 'failure to protect' charges in W.IPV cases are a complex issue. In this thesis, the sample consisted purely of mothers with their partner as aggressors. However, it is important to recognise that IPV is no longer considered just to involve a male perpetrator and a female victim. Many studies have found that IPV is often bi-directional, where both partners aggress against each other (Archer, 2000; Archer, 2002; Dixon et al., 2007). Thus, there are also IPV cases with a male victim and a female aggressor. Nonetheless, the complexity goes beyond gender-focused discourses on who is the victim/abuser of IPV. In many of these families, the child is also abused and/or neglected. However, as Dixon et al. (2007, p. 676) highlights "it is not only perpetrators of partner abuse who maltreat their child/-ren", in some cases it is the IPV victim. In such families, the presence of IPV should not negate the responsibility for the CM. More attention should therefore be paid to the children living in violent homes. There is a need to consider and conduct assessment on all aspects of parenting from the child's perspective when determining whom to hold liable for this 'failure to protect'.

An additional issue is that the criminal justice system still does not recognise children who witnessed IPV to stand as plaintiff with legal rights to prosecute the abusive caregiver/s for emotional harm suffered from seeing or hearing the ill-treatment of another, despite the current Swedish legislation acknowledging them as a victim of crime. As highlighted in Barnombudsmannen's (2007) statement to the Swedish Department of Justice, this amendment would increase and ensure the child's right to be represented by a third party during police interrogations and court procedures. For example, in Sweden in such cases at present, a suspected caregiver/s can oppose their child/-ren being interrogated by the police. In addition, if the child/-ren could stand as plaintiff, this would give W.IPV more

weight in family court proceedings concerning child custody, living arrangements and accessibility. Perhaps more importantly, it would inform the professionals working within the legal system and social services of the need to systematically assess if W.IPV exposed children are at risk of significant harm.

Given the high rates of concurrent W.IPV and CM (Chapters 4, 5, 6 and 7), it is crucial for clinicians and other professionals working with these children to understand the nature and dynamics of violent families in which IPV and CM interrelate. It also highlights the importance of a co-ordinated multi-agency approach with adequate information exchanges between systems for referrals involving incidents where a child is in a household where an IPV incident has occurred. Indeed, previous literature has raised the issue of lack of co-operation and adequate communication between the police and social services (Eriksson et al., 2007). For example, in a Swedish report of the level of co-operation between the law enforcement and social services in cases of intimate partner violence, Frisk (2003) found that there are a considerable number of child witnesses of intimate partner violence who are known to the police but are not known to the social services. Of 72 children who had witnessed intimate partner violence, only 20 children were reported to the social services by the police. In addition, only one out of eight cases, where intimate partner violence co-occurred with child maltreatment, was reported to the social services. A more recent report demonstrates that there is still a lack of dialog between the two systems (Eriksson et al., 2006). This is particularly worrying in the light of the research finding of increased risk for revictimisation (Cawson et al., 2000; Hamilton & Browne, 1998; 1999) and long-term psychopathology (Falshaw & Browne, 1997; Higgins & McCabe, 2003).

The challenge for service planners and providers is also to address the wide range of circumstances in which family maltreatment co-occurs. The high rate of exposure to many other stressors (i.e., parental psychiatric disorder, parental substance abuse and parental criminality) and parental nationality found amongst these children (Chapters 4, 5, 6 and 7) highlights the need to tailor W.IPV interventions to correspond to the broader ecological context in which the household is situated (Bronfenbrenner, 1979).

The findings may also have implications for improving the mental health service practices in terms of assessment and procedures. As a result of the child clinical study, the Child and Adolescent Psychiatry Services (CAPS) has begun to use the Children's Global Assessment Scale (CGAS, Axis V of the DSM-IV; APA, 2000) to assess the general functioning of children and adolescence and inform about their treatment needs and impact of treatment. Although convergent and discriminant validity and the inter-rater reliability has been consistently found for the GAF scale (Chapter 5, APA, 2000), recent research recommends the CGAS (APA, 2000) to be used with children under the age of 18. In addition, the CAPS are taking measures to systematically collect information concerning W.IPV and CM characteristics, such as severity, frequency and duration.

Cunningham and Baker (2004, p. 46) highlighted that "fleeing or separating from the abuser can uproot children, sometimes repeatedly, with household moves, changing schools, losing friends, and sometimes leaving cherished possessions behind" may be seen as stressors. In Chapter 5, it was found that different environmental stressors initially increased the vulnerability for childhood mental health difficulties, but that the effect of these stressors diminished over time. Persistent and negative effect on child mental health

appeared to extend from the victimisation itself (Chapter 5, 6 and 7) where new incidents of W.IPV and/or CM triggered the symptoms of mental ill health to re-emerge (Chapter 6). However, these results are still promising as it indicates that despite exposure to extreme conditions of stress, once in a safe environment, the child/-ren can start recovering from their traumatic experience. Thus, it illustrates the importance for mental health services to inform caregiver/s that although their child/-ren might at first show elevated symptoms, their choice to leave their abusive partner will in the end help their child's recovery. Equally important is that the CAPS continuously gather information of risk and protective factors throughout intervention. In practical terms, this could provide clinically relevant information that could be used to inform treatment planning.

The findings of the thesis have also lead to several practice-level changes at the schools in the municipality of Tierp (Chapter 3). For example, as a result of this research, the school board is reviewing their procedures on identifying children who are growing up in violent homes. One of the main issues with detecting W.IPV and CM is because of the often secretive climate. In an attempt to encourage openness and disclosure, the schools will continuously provide their pupils with information about where and whom they can turn to if/when facing any type of difficulty. In addition, the school board will implement a so-called "worry box" in the classrooms where any concerns the children have at home or in school, will be written on a piece of paper. The class-teacher will then check it at lunch and at the end of school and discuss the issues with the child or the whole class, depending on the nature of the concern.

Limitations

The limitations of the research must also be acknowledged. First, the cross sectional nature of the data limits the aetiological significance of these findings. Second, several of the analyses that could be conducted were limited by sample size (i.e. Chapter 3, 6 and 7) or the types of subgroups within the sample (i.e. CM and/or W.IPV group in Chapter 3). Third, another limitation is that the presence of CM and/or W.IPV is mainly based on caregiver self-report and subsequently might have been affected by selective memory biases. Fourth, there was a great deal of missing data related to maltreatment characteristics, such as severity, frequency and duration. In the community sample (Chapter 3), one can speculate that the caregivers might not understand the specific characteristics of maltreatment that their child has endured and therefore are unable to complete questionnaires accurately. In addition, it is important to bear in mind the low response rate when interpreting the results as this may have influenced the results. For the clinical sample (Chapters 4, 5, 6 and 7), the procedure to collect data in terms of details of family maltreatment was not yet in place and the quality of the information was dependent upon the professional involved in each case. Finally, almost all of the children in the clinical sample had been exposed to severe IPV and were often living with a traumatised parent. Therefore, the clinical sample of W.IPV exposed and maltreated children and adolescents might be considered atypical and the results might not be generalised to children from community populations.

Future directions

The fact that not all children who witnessed IPV and/or experienced CM develop emotional and behavioural problems suggests that there are other factors that must

influence in the pathway. It is important for future research to consider individual differences in resilience to behavioural and emotional difficulties. For example, further research needs to explore the extent to which post-separation abuse continues to influence the child's functioning. Future studies should also seek to include a non-abused psychiatric group of children to accurately determine group differences in developing psychiatric disorders in childhood. This will explore the fact that this study found some children without traumatic experiences who, nonetheless, showed difficulties (Chapter 3). It is important to explore all aspects of the pathways to childhood mental health difficulties, irrespective of whether it follows from trauma or from some other factors. Clearly, there is also a need for prospective, longitudinal studies to capture the service use and extent of recurrent mental health assistance amongst children and adolescents who have witnessed IPV and/or experienced CM (Chapter 6). This would increase the chances of identifying groups of children and adolescents who are vulnerable for long-term mental health difficulties and consequently inform treatment practices.

Prevention programs, such as the Incredible Years and promoting alternative thinking strategies (PATHS), have in recent years been implemented as class-room activities to help improve at-risk children's interpersonal skills, problem solving and emotion regulation strategies (Smyth & Arigo, 2009). However, whether resilience in children who have witnessed IPV and/or experienced CM can be promoted through targeted emotion-regulation and psychosocial interventions requires further investigation. It would therefore be useful to replicate the school study with an adequate sample size, including measures of emotion regulation and prosocial behaviour to further explore the role of these factors in promoting resilience.

Other areas worthy of future study would be to study change in symptom patterns over time for children who were asymptomatic or symptomatic at baseline. Findings of this thesis suggested that asymptomatic behaviour might be indicative of resilience (Chapter 7). It would therefore be valuable to study factors associated with symptom patterns, such as child behavioural and mental health and family maltreatment over time to fully explore whether asymptomatic children continue to have higher levels of psychosocial functioning (compared to symptomatic children) or if there is a sleeper effect where symptoms appear to deteriorate with time.

Further studies on symptomatology following W IPV and/or CM and siblings are warranted. In this thesis, it was evident that siblings often have witnessed IPV and/or experienced CM (Chapter 4, 5, 6 and 7) and were likely to exhibit similar psychological sequelae as their brother and/or sister (Chapter 7). More research is needed to examine whether the association between the index child and their siblings' level of symptomatology is due to same experiences of family maltreatment or other environmental risk factors. The sibling perspective would provide important information on how exposure to IPV and/or CM affects the whole family and inform practices of social workers and other professionals working with violence-exposed children.

Finally, more research is needed to evaluate family court decisions in terms of custody and access assessment, to investigate how the guidelines regarding child protection are applied in reality. This would give information about how frequent evidence of W IPV and/or CM is presented and considered by the family court and indirectly inform their practices to better protect victims of IPV and their children.

Conclusions

This thesis set out to investigate the pathway from W.IPV and/or CM to behaviour and mental health difficulties. Overall, the findings from this thesis have lead to the conclusion that concurrent W.IPV and CM presents as a particularly strong risk factor for severe behaviour and mental health difficulties and prolonged need of mental health services. In addition, it was shown that the same contextual factors may have a different effect on child outcome at different stages of the child's recovery from W.IPV and/or CM. This suggests that the ecological model in practical terms may in beneficial to assess individual short-term needs and inform treatment interventions. In order to address this, longitudinal studies continuously collecting variables relating to each level of the ecological model are now needed. This might subsequently lead to a more coherent answer about the important factors at play at each level of the model.

Of importance, the findings of the thesis highlighted the multifaceted and sometimes long-term need of mental health services among children who have experienced CM and/or witnessed IPV. Early identification through routine screening for presence of CM and/or W.IPV, as well as increasing access to mental health services, needs to be a priority amongst professionals working with these vulnerable children. Since there is no specific post-maltreatment syndrome, it is also important that each child's needs are individually assessed. Attention to the high overlap of concurrent W.IPV and CM and other co-occurring stressors are also important, especially given that this thesis provides support for their initial cumulative impact. In terms of future research directions, attention should be paid to further examine the role of emotion regulation. In practical terms, this could provide more clinically relevant information that could be used to inform treatment planning.

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Appendix A

Ethics approval (Uppsala)

Copies of the ethics approval may be obtained from Tanja Hillberg
via e-mail: tanjahillberg@gmail.com

Appendix B

Ethics approval (Stockholm)

Copies of the ethics approval may be obtained from Tanja Hillberg
via e-mail: tanjahillberg@gmail.com

Appendix C

Quality Assessment for Meta-Analyses

Quality Assessment Criteria for Systematic review/Meta-analysis

Question	Y	N	P	U	Comments
<p>1. Was the aim(s) of the meta-analysis clear?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>The population studied?</i> - <i>The intervention given?</i> - <i>The comparator addressed?</i> - <i>The outcome considered? (PICO)</i> 					
Selection bias					
<p>2. Was the search for papers extensive and sufficient?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Which bibliographic databases were used?</i> - <i>Did the reviewer(s) have personal contact with experts?</i> - <i>Did the reviewer(s) search for unpublished as well as published studies?</i> - <i>Did the reviewer(s) search for non-English language studies?</i> - <i>Were conclusions drawn about the possible impact of publication bias?</i> 					
<p>3. Were relevant studies included in the review?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Did the papers address the review's question?</i> - <i>Were the papers designs appropriate?</i> <p><i>HINT:</i></p> <p><i>Follow up the papers from the review's reference lists.</i></p>					

<p>4. Was the quality of the included studies assessed?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Were the criteria for inclusion of studies clearly described?</i> - <i>Was study quality assessed by blinded or independent reviewers?</i> - <i>Were the findings related to study quality?</i> - <i>Was missing information sought from the original study investigators?</i> - <i>Was the impact of missing information assessed for its possible impact on the findings?</i> 					
Performance bias (systematic differences in measurement of exposure)					
<p>5. Was the quality of definition of child maltreatment used in the included studies investigated, assessed and discussed?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Did the reviewer(s) investigate, assess and discuss the different <u>definitions</u> of child maltreatment used in the included studies?</i> - <i>Were the definitions comparable within the review?</i> 					
Detection bias (systematic differences in outcome assessment)					
<p>6. Was the quality of the diagnostic assessments used in the included studies investigated, assessed and discussed?</p> <p><i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Did the reviewers' clearly describe the <u>definition</u> of mental health difficulties used in the reviewed studies?</i> - <i>Did the included reviews' investigate, assess and discuss the <u>measurement</u> of mental health</i> 					

<p><i>difficulties used in the studies?</i></p> <ul style="list-style-type: none"> - <i>Were the instruments used reliable and standardised?</i> 					
<p>7. Were the results of the review combined? If so, was it reasonable to do so? <i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Were the results similar from study to study? If not, was the heterogeneity of effect investigated, assessed and discussed?</i> - <i>Were the results of all the included studies clearly displayed in the review?</i> 					
<p>8. What are the overall results of the review? <i>Considering:</i></p> <ul style="list-style-type: none"> - <i>Were the overall findings examined and discussed in relation to the authors' inclusion and exclusion criteria and the possibility of publication bias?</i> - <i>Were the review's 'bottom line' results clear?</i> - <i>Were these supported statistically?</i> <p><i>HINT:</i></p> <p><i>How were the results expressed (effect sizes etc)</i></p> <p><i>Were effect sizes and null findings investigated, assessed and discussed?</i></p>					
<p>9. Was the result precise? <i>HINT:</i></p> <p><i>Evaluate the confidence limits</i></p>					

<p>10. Were the results applicable to the community population?</p> <p><i>HINT:</i></p> <p><i>Did the populations covered by the review differ sufficiently to your population (i.e. the community population) to cause concern?</i></p>					
<p>11. Were all of the important results taken into account?</p>					
<p>12. Were the recommendations based firmly on the quality of the evidence demonstrated?</p>					

Appendix D

Quality Assessment of Cohort/Case-control/Cross-sectional studies

1a. Quality assessment criteria for cohort studies

Question	Y	N	U	Comments
<i>Selection bias</i>				
Was the population studied representative to the community population?				
Is the definition of child maltreatment clear?				
Is the definition of child maltreatment comparable to other studies?				
Is the description of the groups (abused vs. non-abused) and distribution of demographic/background factors sufficient?				
Were the groups comparable in all important confounding variables (e.g. age, gender, family environment)?				
Was there any control/adjustment for the effects of these confounding variables?				
<i>Performance and detection bias</i>				
Was the outcome assessment blind to all participants?				
Was the outcome (child pathology) assessed in the same way across groups?				
Was the outcome (child pathology) validated?				
Were the assessment(s) (i.e., psychometrics/questionnaire) standardised?				
<i>Attribution bias</i>				
Was the follow-up long enough for the outcomes to occur?				
Were those who did not agree to participate the same as those who did?				
Were those who completed the assessment the same as those who didn't?				
What proportion of the cohort was followed-up?				
Were drop-out rates and reasons for drop-out similar across repeatedly maltreated and maltreated on one occasion?				

1b. Quality assessment criteria for case control studies

Question	Y	N	U	Comments
<i>Selection bias</i>				
Was the population studied representative to the community population?				
Is the case definition (of childhood maltreatment) explicit?				
Has the classification of cases been reliably assessed and validated?				
Has the classification of comparison/control been reliably assessed and validated?				
Was the description of background/demographic factors clear and comprehensive? (NB: these factors may be matched in some studies)				
Was the comparison/control group(s) randomly selected from the source of the population and cases?				
How comparable are the cases and controls with respect to demographic/potential confounding factors?				
Were potential confounding variables (if any) statistically controlled				
<i>Performance and detection bias</i>				
Was the outcome assessment blind to all participants?				
Was the outcome assessor(s) blind?				
Was the outcome (child pathology) assessed in the same way for cases and controls?				
Were the assessment(s) standardised?				
Were exposures to factors which may affect participant's response evaluated?				
<i>Attribution bias</i>				
Were drop-out rates and reasons for drop-out similar across groups?				
Was an appropriate statistical analysis used (matched or unmatched?)				

1c. Quality assessment criteria for cross-sectional studies

Question	Y	N	U	Comments
<i>Selection bias</i>				
Was the population studied representative?				
Is the definition of child maltreatment clear?				
Is the definition of child maltreatment comparable to other studies?				
Is the description of the groups (abused vs. non-abused) and distribution of demographic/background sufficient?				
Were the groups comparable in all important confounding variables?				
Was there any control/adjustment for the effects of these confounding variables?				
<i>Performance and detection bias</i>				
Was the outcome assessment blind to all participants?				
Was the outcome (child pathology) assessed in the same way across groups?				
Was the outcome (child pathology) validated?				
Were the assessment(s)(i.e., psychometrics/questionnaire) standardised?				
Were the assessment(s) comparable to instruments used in other studies?				
<i>Attrition bias</i>				
Were those who completed the assessment the same as those who didn't?				
Were drop-out rates and reasons for drop-out similar across groups?				

Appendix E

Data Extraction Sheet

General information

Date of data extraction

Author:

Article title:

Type of media studied

Source (e.g. journal, conference):

Year:

Country of origin:

Identification of the reviewer

Notes

Specific information

Study characteristics

Re-verification of study eligibility

Correct population:

Intervention:

Outcome:

Study design:

Population characteristics and exposure conditions

1. Target population (describe):
2. Inclusion criteria:
3. Exclusion criteria
4. Recruitment procedures (participation rates if available)
5. Characteristics of participants before measure

Age:

Ethnicity:

SES

Gender

Geographical region

Other information

6. Number of participants in each group

1)

2)

7. Were exposure and less/non-exposure groups comparable?

Methodological quality of the study

1. Design of the study
2. Unit of allocation (e.g. school, class)
3. Blinding and debriefing
4. Quality assessment'

Intervention

1. Type of maltreatment
2. Definition/Classification system used to distinguish (abused/nonabused children)
3. Focus of exposure (e.g. abused/nonabused children)
4. Number of conditions (including control conditions)
5. What mediating variables were investigated (if any)
6. Outcome measured (e.g. behaviour/emotions)

Outcomes and outcome measures

1. What was measured at baseline?
 - a)
 - b)
 - c)
 - d)
 - e)
2. What was measured after exposure (or at the follow-up)?
 - a)
 - b)
 - c)
 - d)
3. Who carried out the measurement?

Was the assessor blinded?
4. What was the measurement tool? Was/were the tool(s) validated? If so, how?
5. How was the validity of self-reported behaviour maximised?
6. Time interval between first and second measurement:
7. Time interval between first and last measurement

8. Drop-out rates (plus proportion of those who did not agree to participate, if possible) and reasons for drop-out
9. Notes

Analysis

1. Stats used
2. Does the stats adjust for confounding?
3. Missing data
4. Discrete data (events, total numbers, p-value):
5. Continuous data (mean, SE, SD, numbers, p-value)
6. Survival data (observed and expected number of events, survival plots, p-value)
7. Effect measures
8. Quality assessment score
9. Number of 'unclear' or answered quality assessment items
10. Notes

Appendix F

Consent Sheet (School Study)

CONSENT SHEET: *RESILIENCE AND VULNERABILITY*

Caregivers of children in year 2-5 are asked to give their consent. This means in cases of joint custody, both caregivers give their consent to participation in the study. In cases of joint custody but different mailing addresses, this letter is sent to both of the addresses for consent. All mailing addresses will be treated with confidentiality.

As caregiver(s), I/we have read through the information sheet. I/we understand that I/we can ask for further information regarding the study at any time and I/we understand that we may withdraw our participation at any stage (please refer to the assigned code number).

Furthermore, I/we understand that that at every stage the data will be dealt with in accordance to the Swedish law (e.g. 'the law concerning confidentiality', Personal Data Act, socialtjänstlagen etc), as well as the corresponding United Kingdom Data Protection Act. I/We also understand that we have the right to know what and how the information is being processed (Personal Data Act, 1998: 204)

As the caregiver, I/we would like to...

☐

Say **YES** to participation in the study. I/We are aware that a participation includes that I as a caregiver (in cases of joint custody, only one of the caregivers will be asked to fill in the questionnaires) and that our children will answer some questionnaires and that accessible information concerning our child from the school health care files may be used for research purposes. This will include:

- Details concerning the children's health, development and adverse early experiences
- Presence of mental health referral(s), i.e. if the child has been referred to the child and adolescent psychiatry clinic
- Any diagnosis of emotional and behavioural difficulties that may have been reported

I/We wish to be informed of the results in terms of

_____ (e.g. paper, e-mail)

☐

Say **NO** to participation in the study.

Please complete following information. If more than four of your children are currently in year 2-5, please write their name and date of birth on the back of this sheet.

Child's name Date of Birth.....

Child's name Date of Birth.....

Child's name Date of Birth.....

Child's name Date of Birth.....

Signature of the caregiver.....Date.....

Signature of the caregiverDate.....
(in cases of joint custody and same mailing address)

Appendix G

Internal reliability (School Study)

Cronbach's alphas for caregiver and child measures in the school study

<u>Measures</u>	<u>No items</u>	<u>N</u>	<u>alpha</u>
CATS Total	40	114	.97
Physical Threat	10	114	.90
Social Threat	10	114	.92
Personal Failure	10	114	.90
Hostility	10	114	.85
ERC Total	23	99	.88
Negativity/Lability	15	99	.85
Emotion Regulation	8	99	.76
MMCPG Total	24	113	.79
Perceived Internal Control	8	113	.74
Powerful Others Control	8	113	.75
Unknown Control	8	113	.75
External Control	16	113	.81
SDQ			
Parent Form Total	25	96	.76
Emotional Problems	5	98	.70
Conduct Problems	5	99	.55
Hyperactivity	5	99	.83
Peer Problems	5	99	.52
Total Difficulties	20	96	.85
Prosocial Behaviour	5	100	.69
Child Form Total	25	60	.69
Emotional Problems	5	63	.78
Conduct Problems	5	63	.55
Hyperactivity	5	62	.60
Peer Problems	5	62	.34
Total Difficulties	20	61	.79
Prosocial Behaviour	5	62	.73

TSCYC	Total	90	101	.95
	Anxiety	9	101	.75
	Depression	9	101	.75
	Anger	9	101	.87
	Posttraumatic Stress-Intrusion	9	101	.78
	Posttraumatic Stress-Avoidance	9	101	.60
	Posttraumatic Stress-Arousal	9	101	.84
	Posttraumatic Stress-Total	27	101	.87
	Dissociation	9	101	.83
	Sexual Concern	9	101	.37
	Response Level	9	101	.81
	Atypical Response	9	101	.27

Note: Scales in bold present those included in the analysis

Appendix H

Inter-correlations between subscales (School Study)

Inter-correlations between subscales for each measure included in the school study

CATS

Child Self-Report	1	2	3	4
1. Physical Threat	---			
2. Social Threat	.851**	---		
3. Personal Failure	.853**	.838**	---	
4. Hostility	.698**	.733**	.611**	---

** Significant to $p < .01$

ERC

Caregiver Form	1	2
1. Lability/Negativity	---	
2. Emotion Regulation	.606**	---

** Significant to $p < .01$

MMCPC

Child Self-Report	1	2	3
1. Perceived Internal Control	---		
2. Powerful Other Control	.056	---	
3. Unknown Control	-.105	.362**	---

** Significant to $p < .01$

MMCPC

Child Self-Report		
1. Perceived Internal control	---	
2. Perceived External control	-.093	---

SDQ questionnaire

Caregiver rating	1	2	3	4	5
1. Emotional Problems	---				
2. Conduct Problems	.480**	---			
3. Hyperactivity	.548**	.601**	---		
4. Peer Problems	.456**	.284**	.304**	---	
5. Prosocial Behaviour	-.298**	-.254**	-.357**	-.308**	---

** Significant to $p < .01$

SDQ questionnaire

Child Self-Report

1. Emotional Problems	---					
2. Conduct Problems	.342*	---				
3. Hyperactivity	.466**	.449**	---			
4. Peer Problems	.314*	.415**	.251	---		
5. Prosocial Behaviour	-.097	-.309**	-.397**	.028	---	

*Significant to $p < .05$

** Significant to $p < .01$

Appendix I

Correlations between raw scores for child self-report SDQ and parent rating SDQ in the school study

Correlations between raw scores for child self-report SDQ and parent rating SDQ in the
school study

<u>Parent rating SDQ</u>	<u>Child self-report SDQ</u>					
	Emotional Problems	Conduct Problems	Hyperactivity Problems	Peer Problems	Total Difficulties	Prosocial Behaviour
Emotional Problems	.160					
Conduct Problems		.279*				
Hyperactivity Problems			.305*			
Peer Problems				.354**		
Total Difficulties					.297*	
Prosocial Behaviour						.276*

Note. The child self-report SDQ were matched with their parent rating SDQ (n=52), excluding 45 parent rating SDQ only

* Significant to $p < .05$, ** Significant to $p < .01$

Appendix J

Frequencies of adverse life events (LITE) reported by caregivers in relation to negative adaptation

Adverse life events (LITE) reported by caregivers (N=85) in relation to adaptation

Adverse Life Events	<u>W.IPV/CM group</u>		<u>Non-maltreated group</u>	
	Resilient (n=8)	Non-resilient (n=9)	Competent (n=64)	Vulnerable (n=7)
Threatened	1/6	5/6	4/5	1/5
Exposure to other type of threatening or emotionally upsetting situations	1/6	5/6	5/5	0/5
Locked into an confinement	0/1	1/1	0/2	2/2
Car accident	3/4	1/4	6/6	0/6
Injured in other type of accident or hospitalised	2/4	2/4	16/19	3/19
Witnessed somebody getting injured	2/3	1/3	11/11	0/11
Family Member Hospitalised	5/10	5/10	30/33	3/33
Family Bereavement	3/7	4/7	20/21	1/21
Peer Friend Injured Severely	2/3	1/3	4/4	0/4
Parents Divorced or Separation	3/8	5/8	15/17	2/17
Fire	0/2	2/2	0/1	1/1
Robbed	---	---	1/0	0/1
Bullied	1/5	4/5	2/3	1/3

Appendix K

Proforma

Copies of the proforma may be obtained from Tanja Hillberg
via e-mail: tanjahillberg@gmail.com

Appendix L

Coding Dictionary

Coding Dictionary

The following variables were coded as present if they were present during the period of treatment to the referred child. If variables only occurred after this period do not record their present.

Family maltreatment

Intimate partner violence. Any violence between current and former partners in an intimate relationship wherever the maltreatment occurs. The violence can include physical, emotional, sexual and financial abuse (Home Office, 2003). In this paper, financial abuse was excluded from the definition.

Child maltreatment. Include child physical abuse, child emotional abuse, child sexual abuse and/or child neglect. This violence may have been perpetrated by family as well as non-family member/s. In addition, child maltreatment was considered to be maltreatment of children and adolescents up to the age of 17 years.

Type of child and partner maltreatment (definitions were taken from Browne and Herbert, 1997)

Physical abuse. An act of commission that results or have the potential to result including physical harm, such as hitting, shaking, kicking, punching, scalding, suffocating and other ways of inflicting pain or physical injury (scratches, bruising, burns, welts, fractures, dislocations and/or damage to internal organs) to a partner and/or a child.

Sexual abuse. An act of commission in which the partner and/or the childr/en are used to provide sexual gratification for the perpetrator/s including inappropriate sexual touching, invitations and/or exhibitionism, inappropriate non-penetrative sexual interaction (digital penetration, fondling, and/or masturbation), attempted or actual anal and/or vaginal penetration, incest, coerced or forced penetration.

Emotional abuse . Verbal assault, denigration, humiliation, scapegoating, confusing atmosphere, rejection, withholding of food and drink, enforced isolation and restriction of movement. This type of maltreatment also includes the child's exposure to violence in which one of the caregivers is the perpetrator or to bidirectional acts of violence between caregivers.

Neglect (child only). An act of omission by a caregiver/s which involves refusal or delay in providing health care, failure to provide basic needs and attention, withholding love and affection, non-organic failure to gain weight/thrive, inadequate supervision or abandonment, and frequent unavailability of caregiver.

On-going victimisation. Record as present if it was stated in the professional reports that the victimised caregiver or referred child had disclosed post-separation abuse including physical abuse, sexual abuse, emotional abuse and/or neglect.

Severity of Family Maltreatment

Minor

Emotional abuse. Emerging pattern of intentional berating disparaging and/or occasional incidents involving verbal abuses, denigration, humiliation, scapegoating, confusing atmosphere towards the child and/or other family members. This form of emotional abuse is characterised by the child's experience of minor incidents of intentional berating derogatory and/or exposure to verbal and/or emotional intimate partner violence.

Physical abuse. Minor incidents involving minimal use of non-accidental physical force causing injuries confined in area and limited to superficial tissues. Physical injuries resulting in light scratch marks, small slight bruising, minute burns and small welts.

Sexual abuse. Non-consensual, non-contact inappropriate sexual touching of self but not other, invitations and/or exhibitions

Moderate

Emotional abuse. Pattern of intentional berating disparaging or recurring acts of verbal abuse, denigration, humiliation, scapegoating, isolating, or threatening behaviour. This form of emotional abuse is characterised by more frequent incidents of intentional berating derogatory and/or of a more serious nature and/or the child's exposure of physical intimate partner violence.

Physical abuse. More frequent incidents involving use of non-accidental physical force and/or causing surface injuries of an extensive or more serious nature and small haematomas described below. Physical injuries resulting in cases of extensive bruising,

large welts, lacerations, small haematomas and minor burns, but unlikely to cause long-term physical injuries.

Sexual abuse. Non-consensual, *non-penetrative inappropriate sexual interaction.*

Severe

Emotional abuse. *Significant pattern* of intentional berating disparaging or *chronic recurring acts* of isolating, insulting, ignoring, rejecting, and/or threatening behaviour.

This form of emotional abuse is characterised by the child being in persistent or imminent fear of his/her own or other family members' physical safety through threats and/or intimidation.

Physical abuse. *Recurring and on-going* physical abuse and/or *less frequent* incidents, involving *significant use* of non-accidental physical force causing physical injuries of *more serious nature* described below. Physical injury indicating medical attention/treatment is warranted (regardless whether the victim actually receives medical care) such as all long and deep tissue injuries (including fractures, dislocations, subdural haematomas, serious burns and damage to internal organs) and loss of consciousness.

Sexual abuse. Non-consensual *sexual interaction of a more serious nature.*

Very severe

Emotional abuse. Same type of *significant pattern* of intentional berating disparaging or *chronic recurring acts* of isolating, insulting, ignoring, rejecting, and/or threatening behaviour as severe form of emotional abuse, but includes more extreme and persistent behaviour. This form of emotional abuse is characterised by the child's being in persistent or imminent fear of their life.

Life-threatening, permanent or fatal injury

Physical abuse. *Recurring and on-going* physical abuse and/or *less frequent* incidents, involving *severe and potentially life-threatening use* of non-accidental physical force. Physical injuries resulting in loss of consciousness leading to permanent disability, permanent disability, scarring, disfigurement or death of the child. Major and/or life

threatening injury warranting medical attention/treatment (more than one occurrence of serious injury requiring medical intervention within a year).

Sexual abuse. Non-consensual *very severe sexual interaction* with the potential of causing *permanent* physical injuries to the child and/or *life-threatening* injuries or even *death* due to sexual abusive behaviour.

Type of Victimisation (Definitions taken from Hamilton and Browne, 1998)

Single victimisation. A single incident of maltreatment involving only one perpetrator. This may be intra- or extrafamilial.

Multiple victimisation. A single incident of maltreatment involving more than one perpetrator. The abusers may be family and/or non-family members.

Repeated victimisation. Maltreatment on more than one occasion by the same perpetrator/s. This may be either intra- or extrafamilial.

Revictimisation. Maltreatment on more than one occasion by different perpetrators. The initial perpetrator may be either a family or non-family member, as may subsequent abusers. Incidents of revictimisation may also move from intra- to extrafamilial abusers, and vice versa.

Intrafamilial victimisation. The perpetrator/s was the index child's father, mother, step-father, step-mother, co-habitant, extended family member/s, boyfriend or girlfriend.

Extrafamilial victimisation. The perpetrator/s was a peer friend, person in trust of the family or stranger by the index child himself or herself. A person in trust of the family was defined as an acquaintance to the family, the index child's manager at work or the index child's foster parents.

Familial risk factors (Definitions taken from Dixon, Hamilton-Giachritsis, Browne and Ostapuik, 2007)

Adult Criminal History. *Convictions for non-violent criminal offence and/or general violent/sexual offence.* Record as present if a caregiver disclosed during interview and/or professional reports stated that the caregiver has received one or more criminal convictions for theft, fraud or driving offences and/or a violent and/or sexual offence and/or partner femicide.

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

Parental mental health difficulties. Record as present if a caregiver disclosed during interview and/or professional reports stated that they or their partner had a history or were currently being treated for psychiatric disorder and/or attempted/ruminated about committing suicide in the past, or whilst their child are receiving treatment.

Parental unemployment. Record as present if a caregiver disclosed/stated in professional reports that they or their partner had a history or were currently unemployed.

Serious financial and housing problems. Record as present if a caregiver disclosed/stated in professional reports that they experienced serious financial difficulties such as not being able to make payments for basic needs such as food or rent or parenting equipment.

Repeated residential relocation. Record as present if a caregiver disclosed/stated in professional reports that they had on more than one occasion move house after terminating abusive relationship.

History of being a refugee. Record as present if a caregiver disclosed or during interview and/or professional reports stated that one or both of the caregivers has owed a well-founded fear of being persecuted for reasons of ethnicity, religion, nationality, membership of a particular social group or political opinion, is outside the country of their nationality and is unable to or is unwilling because of owing such fear to avail him/herself of the protection of that country.

Mental health difficulties. Definitions taken from the diagnostic and statistical manual of mental disorders [DSM-IV] (American Psychiatric Association, 2000) or the international classification of diseases and health related problems [ICD-10] (World Health Organization, 1990).

Mental disorder. Defined as being within the clinical range on DSM-IV or ICD-10 criteria of the psychological sequelae of abuse. Includes anxiety disorder, attention deficit hyperactivity disorder, communication disorder, conduct disorder, developmental coordination disorder, dissociation, eating disorder, encopres, enuresis, learning

difficulties, mood disorder, obsessive compulsive disorder, oppositional defiant disorder, post-traumatic stress disorder, sexual and gender identity disorder, sleep disorder, somatoform disorder, substance abuse, suicidal ideation, tics and tourette.

Modest symptoms. Record as present if the informant/clinician indicated that the children had displayed sub-clinical symptoms (e.g. meeting only two out five of the diagnostic criteria) and subsequently as being within the non-clinical range of the clinicians' rating of the psychological sequelae of abuse.

Asymptomatic. Record as present if the informant/clinician indicated that the children had not has not exhibited psychological symptoms following witnessing intimate partner violence and/or experienced other types of child maltreatment.

Appendix M

Consent Sheet (Clinical Study)

CONSENT SHEET: RESILIENCE AND VULNERABILITY

Caregivers of children and adolescents who have been referred to CAPS are asked to give their consent. This means in cases of joint custody, both caregivers give their consent to participation in the study. In cases of joint custody but different mailing addresses, this letter is sent to both of the addresses for consent. All mailing addresses will be treated with confidentiality.

As a caregiver, I have read the information sheet and I understand that I can ask for further information regarding the study at any time and I understand that a decision not to take part or to withdraw will not affect our family in any negative way (please refer to the assigned code number).

Furthermore, I understand that the records of my child(-ren) at CAPS will be coded and treated with confidentiality by a numbering system and, that all personal information will be kept in a locked filing cabinet at CAPS in accordance to the Data Protection Act (1998:2004). I also understand that I have the right to know what and how the information is being processed (Personal Data Act, 1998: 204) (Personuppgiftslagen, 1998: 204).

As caregiver, I would like...

☐

Say **YES** to participation in the study. I agree that files of my child (-ren) at Bågen, Child- and Adolescent Psychiatric Clinic, Stockholm, will be used for research purposes. I understand that all information will be kept in accordance with the Data Protection Act.

I wish to be informed of the results in terms of _____
(e.g. paper, e-mail)

☐

Say **NO** to participate in the study.

Please complete following information. If you have more than three children and/or adolescents referred to the clinic, please indicate this on the back of this sheet (state their name and date of birth).

.....
Child's name

.....
Date of Birth

.....
Child's name

.....
Date of Birth

.....
Child's name

.....
Date of Birth

.....
Signature of caregiver

.....
Date

.....
Signature of caregiver

.....
Date

(if appropriate and in cases of joint custody and same mailing address)

Appendix N

Global Assessment of Functioning (GAF)

Global Assessment of Functioning scale (GAF; American Psychiatric Association, 2000)

- Total score 91-100: Superior functioning in a wide range of activities, life's problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.
- Total score 81-90: Absent or minimal symptoms (e.g. mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g. an occasional argument with family members).
- Total score 71-80: If symptoms are present, they are transient and expectable reactions to psychosocial stressors (eg, difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (eg, temporarily falling behind in schoolwork).
- Total score 61-70: Some mild symptoms (e.g. depressed mood or mild insomnia); some difficulty in social, occupational or school functioning (e.g. occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.
- Total score 51-60: Moderate symptoms (e.g. flat affect and circumstantial speech, occasional panic attacks); or moderate difficulty in social, occupational or school functioning (e.g. few friends, conflicts with co-workers).
- Total score 41-50: Serious symptoms (e.g. suicidal ideation, severe obsessional rituals, frequent shoplifting) or any serious impairment in social, occupational or school functioning (e.g. no friends, unable to keep a job).

- Total score 31 – 40: Some impairment in reality testing or communication (e.g. speech is at time illogical, obscure or irrelevant); or major impairment in several areas; such as work or school, family, relations, judgement, relations, or mood (e.g. depressed man avoids friend, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home and is failing in school).
- Total score 21 – 30: Behaviour is considerably influenced by delusions or hallucinations; or serious impairment in communication or judgement (e.g. sometimes incoherent, acts grossly inappropriately, suicidal preoccupation; or inability to function in almost all areas (e.g. stays in bed all day, no job, home or friends).
- Total score 11 – 20: Some danger of hurting self or others (e.g. suicide attempts without clear expectation of death; frequently violent; manic excitement; or gross impairment in communication (e.g. largely incoherent or mute); or occasionally fails to maintain minimal personal hygiene (e.g. smears feces).

Total score 0 – 10: Persistent danger of severely hurting self or others (e.g. recurrent violence); or serious suicidal act with clear expectation of death; or persistent inability to maintain minimal personal hygiene (APA, 2000, p.32).