

Severity of Psychological Maltreatment and Accumulative Risk for Psychopathology in Children of Mothers Exposed to Intimate Partner Violence

**Ariadna de la Vega, Nuria de la Osa,
Roser Granero & Lourdes Ezpeleta**

Journal of Family Violence

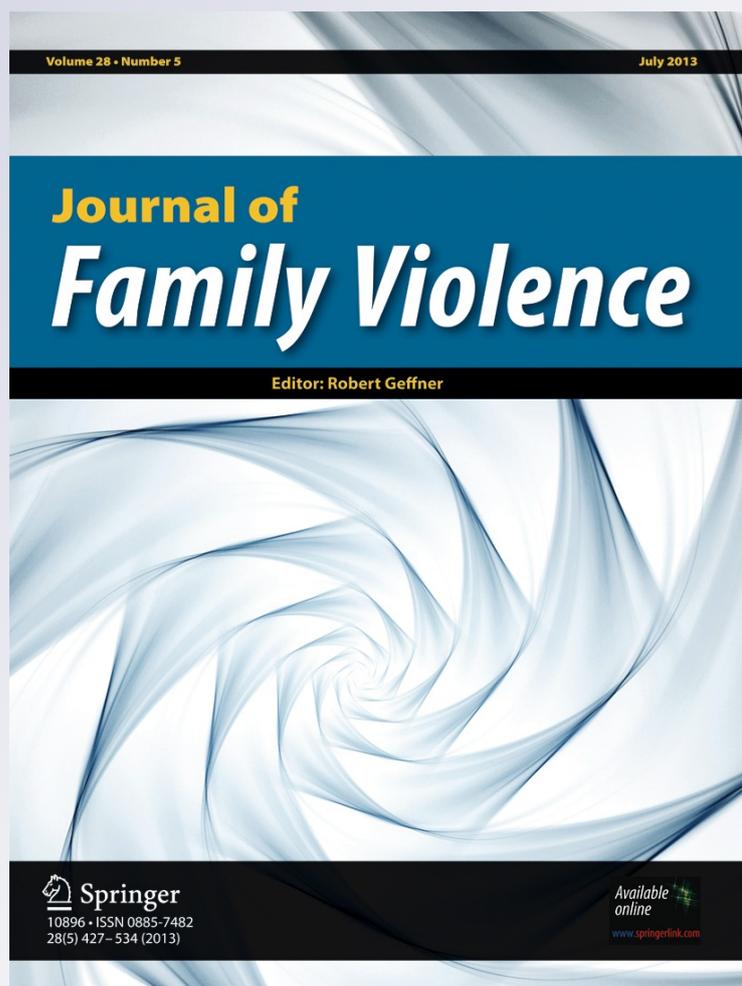
ISSN 0885-7482

Volume 28

Number 5

J Fam Viol (2013) 28:427-434

DOI 10.1007/s10896-013-9521-1



Your article is protected by copyright and all rights are held exclusively by Springer Science +Business Media New York. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your article, please use the accepted manuscript version for posting on your own website. You may further deposit the accepted manuscript version in any repository, provided it is only made publicly available 12 months after official publication or later and provided acknowledgement is given to the original source of publication and a link is inserted to the published article on Springer's website. The link must be accompanied by the following text: "The final publication is available at link.springer.com".

Severity of Psychological Maltreatment and Accumulative Risk for Psychopathology in Children of Mothers Exposed to Intimate Partner Violence

Ariadna de la Vega · Nuria de la Osa · Roser Granero · Lourdes Ezpeleta

Published online: 1 June 2013
© Springer Science+Business Media New York 2013

Abstract Psychological maltreatment (PM) is an extremely heterogeneous phenomenon that includes several subtypes. The aim of this work is to explore whether the accumulation of different subtypes of PM has a greater impact on the child's psychopathology and functional impairment. One hundred and sixty-eight children and adolescents aged between 4 and 17 whose mothers had been exposed to intimate partner violence (IPV) participated. Psychopathology was assessed through a rating scale and a diagnostic interview. Polynomial contrasts by means of Generalized Estimated Equations explored linear and quadratic trends. The greater the number of PM subtypes suffered by children, the greater the adverse effects in psychopathology and functioning. When a child suffers four PM subtypes, the number of DSM disorders is, on average, twice as high compared with children who are suffering only one PM subtype. Linear trends were mainly found in internalizing problems. The

importance of accurately assessing characteristics and severity of PM, and design efficient programs of prevention and treatment, is highlighted.

Keywords Accumulative risk · Children · Intimate partner violence · Psychological maltreatment

The American Professional Society on the Abuse of Children guidelines (APSAC 1995, page 2) state that psychological maltreatment (PM) involves “a repeated pattern of caregiver behavior or a serious incident which transmits to the child that he/she is worthless, flawed, unloved, unwanted, endangered, or only of value in meeting another's needs”. PM has also been conceptualized and proposed as the core component of all forms of child abuse and neglect (Garbarino et al. 1986). This perspective is supported by the facts that: (a) PM is present in nearly all other acts of abuse and neglect since those acts have a negative psychological meaning (b) it appears to be the strongest predictor of the impact of child maltreatment; and (c) PM may have the longest-lasting and strongest negative effects on survivors of child abuse and neglect (Binggeli et al. 2001). PM is an extremely heterogeneous phenomenon, occurring in a wide variety of contexts. No two cases of PM will contain exactly the same elements, and many will be quite different from one another (Binggeli et al. 2001).

The APSAC (1995) proposes six PM subtypes: *spurning*, *terrorizing*, *exploiting or corrupting*, *denying emotional responsiveness*, *isolation* and *neglect*. Several studies have found that different forms of PM lead to different outcomes. For instance, *spurning* has been related to negative outcomes such as an angry and non-compliant behavior, negative emotion, lack of impulse control, hyperactivity and distractibility, difficulties in learning and solving problems, lack of enthusiasm and persistence, and low creativity (Egeland and Erikson 1987), and also predicted features of borderline personality

A. de la Vega (✉) · N. de la Osa · L. Ezpeleta
Unitat d' Epidemiologia i Diagnòstic en Psicopatologia del
Desenvolupament, Departament de Psicologia Clínica i de la Salut,
Universitat Autònoma de Barcelona, Edifici B,
08193, Bellaterra, Barcelona, Spain
e-mail: ariadnadelavega@hotmail.com

A. de la Vega
email: Ariadna.DeLaVega@campus.uab.es

N. de la Osa
e-mail: nuria.delaosa@uab.cat

L. Ezpeleta
e-mail: lourdes.ezpeleta@uab.cat

R. Granero
Unitat d' Epidemiologia i Diagnòstic en Psicopatologia del
Desenvolupament, Departament de Psicobiologia i Metodologia
de les Ciències de la Salut, Universitat Autònoma de Barcelona,
Edifici B, 08193, Bellaterra, Barcelona, Spain
e-mail: roser.granero@uab.cat

disorder (Allen 2008). *Denying emotional responsiveness* has been considered the most devastating subtype, and can lead to anxious avoidant attachment, non-compliance, lack of impulse control, decline in competence from infancy through preschool years, low self-esteem, negative emotion, lack of enthusiasm, high dependence, self-abusive behavior, serious psychopathology (Egeland and Erikson 1987), depression and borderline personality disorder features (Allen 2008). *Terrorizing* significantly predicted somatic complaints and anxiety in early adulthood (Allen 2008). A high rate of co-occurrence among various forms of maltreatment is observed (Dong et al. 2004; Knutson et al. 2005), which results in multiplicative effects between the number of different maltreatments and developmental consequences in the child.

Furthermore, experiences of PM are likely to increase the effect of other types of abuse or neglect, as proposed by Hart (1992). A revision of the second Canadian Incidence Study found that cases of co-occurrence of maltreatment present more negative effect, and more risk factors are observed (e.g., emotional harm, alcohol abuse, housing problems, chronicity, and referral to other services) when substantiated psychological maltreatment is also observed (Chamberland et al. 2012). This idea is in line with the classic model of additive main effects proposed by Rutter (1985, 2006); according to which, it is important to take into account the accumulated risk factors, given that the sum of the number of different types of maltreatment has poorer outcomes than each factor individually. Hahm et al. (2010) reported that experiencing different kinds of maltreatment during childhood led to an extensive range of risky behaviors in domains such as sexual risk behavior, [sexual transmission disorder (STD) diagnosis, regret getting into a sexual situation after alcohol use, multiple sex partner in the past 12 months, sex for money or sex before age 15], delinquency and suicidality. Boxer and Terranova (2008) found an association between the number of different types of maltreatment and high psychopathology. Furthermore, some combinations of PM subtypes have poorer outcomes than others; for instance, the combination of *spurning* and *denying emotional responsiveness* frequently appeared in the combinations of abuse that tended to produce the most devastating outcomes such as negative effects on feelings and perspectives about enjoyment of living, purpose in life, prospects for future life and chance of having a happy marriage (Loeber and Strouthamer-Loeber 1986; Ney et al. 1994).

The APSAC (1995) indicates that the number of subtypes suffered by the child is an indicator of the severity of the PM. Previous research has not focused on the multiplicative effects that different forms of PM might have in a risky population, such as that of children exposed to interpersonal violence (IPV). The study of this topic in this population is especially important, because PM of children and IPV are a closely related phenomena (Appel and Holden 1998; Osofsky 1999). IPV is a feature of many families in which emotional abuse co-

occurs (Butler-Sloss 2001). The current trend is to consider exposure to IPV as a form of abuse, because witnessing an assault can terrify children and significantly alter their socialization (McGee and Wolfe 1991). As defined in the APSAC (1995), 'witnessing IPV' is a form of '*Corrupting*'. Given the high prevalence of children exposed to IPV, it is relevant to study the accumulative effect of suffering different types of maltreatment in this population.

Little research has been carried out on children exposed to IPV. *Spurning* has been the PM subtype with the greatest global effect on the children exposed to domestic violence, as it was significantly associated with internalizing and externalizing problems; and *denying emotional responsiveness* specifically increased the risk of internalizing psychopathology and impairment in the emotional area (de la Vega et al. 2011). The aim of this study is to assess the accumulative risk of the different types of PM in the mental health and functioning of children exposed to IPV. In accordance with the evidence from research carried out in different populations, the hypothesis of this work is that suffering a larger number of PM types will increase the negative consequences for the psychopathology and functioning of children living in an IPV context. Studying the relationships between the number of PM subtypes and the risk for psychopathology has relevant clinical applications for the prevention of appearance of different PM subtypes and the detection and treatment of populations at risk.

The present study is an original contribution to the field beyond previous knowledge. Unlike previous research, which is focused in the accumulation of risk factors or types of maltreatments, the present study focuses in the accumulation of a specific type of maltreatment: PM. It also contributes to the modeling of trends of the accumulation of PM (linear, quadratic or cubic) and to report on the different associations of each trend. These objectives pretend to fill the gap that exists in the study of a high risk population such as children exposed to IPV, which is poorly studied in regards to psychological maltreatment.

Method

Participants

One hundred sixty-eight children and adolescents aged between 4 and 17 years whose mothers were battered women attending an outpatient Gender Violence Centre for Women in the Barcelona area participated in the study. The inclusion criterion was that both, mothers and children, were exposed to intimate partner violence, at least, in the last year. Of the 131 mothers invited to participate, 116 accepted. No statistical differences emerged for the comparison between participants and refusals by children's sex ($p=.944$), age ($p=.777$), ethnicity ($p=.070$) or socioeconomic status ($p=.133$) (Hollingshead

Table 1 Sample characteristics

	Number of PMs suffered				
	TOTAL (N=168)	One N=64	Two N=54	Three N=34	Four N=16
Child's age (years); Mean (SD)	8.5 (3.5)	8.0 (3.4)	8.0 (3.0)	9.8 (4.1)	9.8 (3.5)
Years of exposure to IPV; mean (SD)	6.0 (3.4)	6.0 (2.8)	6.9 (7.1)	8.1 (4.5)	8.0 (4.1)
SES (%)					
<i>High/medium-high</i>	22.7	25.8	18.9	23.5	21.4
<i>Medium/Medium-Low</i>	50.9	46.8	52.9	52.9	57.1
<i>Low</i>	26.4	27.4	28.3	23.5	21.4
Sex: male (%)	60.7	57.8	53.7	70.6	75.0
Other forms of maltreatment (%) ^a	25.0	3.1	24.1	44.1	75.0

SES socio-economic status (Hollingshead 1975), SD standard deviation

^aPhysical, sexual maltreatment or neglect

1975). Mothers' mean scores on the physical and non-physical scales in the Index of Spouse Abuse (Hudson and Rau 1981) were also similar for participant and non-participants ($p=.115$ and $p=.817$).

Different groups were created according to the number of PM types suffered by the child. Numbers of participants in each group and socio-demographic characteristics are shown in Table 1. The ethnic distribution was predominantly Caucasian (85.1 %), followed by American-Hispanic (9.5 %) and other groups (5.4 %). At the moment of the interview, 15.5 % of the women had already abandoned the house as a result of the violence. Mothers of the sample were aged 24 to 51. The average age of the mothers was 36.8 (SD 5.3). The number of mono-parental families was 8.93 % ($N=15$). The average time of exposure to violence was six years (SD 3.4). The 60.7 % of the children were males.

Measures

Schedule for the Assessment of Intimate Partner Violence Exposure in Children (SAIPVEC) (Developmental Psychopathology Epidemiological and Diagnostic Unit, unpublished). The different types of PM suffered by children were assessed using this instrument, created ad hoc for this study and based on Holden (2003). The SAIPVEC is a rating scale with interview format for collecting information. For this kind of assessment, the clinician working at the Gender Violence Center, asked mothers and rated the information. This measure has five sections: 1) child's degree of exposure to IPV; 2) type and degree of aggression against the mother; 3) characteristics of the aggressor; 4) The role of the mother in the aggression and 5) the types of child maltreatment. The degree of exposure to IPV (section 1) was assessed dichotomously (yes/no) through 11 non-exclusive items (prenatal exposure, victim, participation, eyewitness, auditory/not visual witness, seeing the initial effects, experiencing the consequences, hearing about it, unaware of the situation, provided with some explanation about what happens). The type of aggression against the mother (section 2), was assessed dichotomously (yes/no) through 3

non-exclusive items (sexual, psychological, and physical), the degree (1 = slight, 2 = moderate, 3 = severe) of the exposure; and child age at the beginning of each kind of violence were assessed also on section 2. The characteristics of the aggressor (section 3), as reported by the mother, were assessed dichotomously (yes/no) (aggressive only in the family environment, antisocial, dysphoric/limit, substance abuse, impulsive, extremely jealous, inhibited/explosive, male chauvinist/dominant, psychopathic, other). The aggressor's age and the relationship of the aggressor with the child were also assessed on section 3. The role of the mother in the aggression (0 = passive, 1 = Mother defends himself by attacking the aggressor, 2 = mother calms the aggressor, 3 = escape, 4 = assertive behavior), and the resolution (mother says sorry, aggressor is sorry, denial of conflict, minimization of conflict, acceptance, conflict goes on, submission/compliance, mother leaves family home) were assessed on section 4. The last section, which is the mainly used in this study, registers the types of child maltreatment with 8 dichotomous items (physical maltreatment, sexual maltreatment, physical neglect, and the APSAC subtypes of PM: terrorizing, corrupting/bad socialization, spurning, lack of emotional responsiveness and isolation). Each type of child maltreatment has a definition that the clinician must follow in order to assess if this condition is present or absent: 1) *Terrorizing*, meaning behavior such as threatening to injure, kill or abandon the child or someone he/she cares about, or his/her pets; 2) *Corrupting*, that is, allowing or encouraging antisocial or inappropriate behavior, misogyny, violent behavior, verbal or physical aggression or substance abuse; 3) *Spurning*, including rejecting, scolding, ridiculing or criticizing the child; 4) *Denying emotional responsiveness*, ignoring the emotional needs of the child and his/her attempts to interact, or not showing positive emotions towards the child, being detached and uninvolved or being unable to display affection; 5) *Isolation*, described as unreasonably restricting contact with other children, not providing opportunities for socialization; and 6) *Physical Neglect*, which is lack of attention to the physical and educational needs of the child. Children from the sample could be simultaneously exposed to more than one subtype of PM. Physical Neglect was

included in the analyses as a control variable, since it is not a form of PM. This instrument showed good internal consistency (Cronbach's alpha equal to 0.70 in the section used for this study, in his case the last section of the instrument) and convergent validity with other standardized instruments (Ezpeleta et al. 2007).

Child Behavior Checklists (CBCL/1½–5; CBCL/6–18) (Achenbach and Rescorla 2001) were used as dimensional measures of psychopathology answered by mothers. There are two different instruments: CBCL/1½–5, used for mothers of children aged from a year and a half to five years old and CBCL/6–18, used for mothers of children and adolescents aged 6 to 18 years old. They contain 100 and 113 items, respectively, with three response options (0 “Not True”, 1 “Somewhat or Sometimes True” and 2 “Very True or Often True”), and cover a wide range of emotional and behavioral problems in children and adolescents (such as Anxiety-Depression, Withdrawal, Somatic complaints, Attention Problems and Aggressive Behaviour). These two instruments have eight scales in common: Anxiety-Depression, Withdrawal, Somatic Complaints, Attention Problems, Aggressive Behavior, Internalizing Problems, Externalizing Problems and Total Score. There are 3 scales specific for the 6-18 version: Social Problems, Thought Problems, Breaking Rules Behavior; and 2 scales are specific for the 1½-5 version: Emotional Problems and Sleep Problems. Standardized T-scores were analyzed in order to include in the analysis the common scales for young (4 and 5 years) and older (6 to 17) children. T-scores are chosen since they allow comparison by sex and age. Specific scales of the CBCL/6-18 version were analyzed separately (but not of the CBCL/1½-5, because of the small sample size for this range of ages). The reliability coefficients (Cronbach's alpha) of the CBCL scales in this sample are good, the lower alpha is 0.647 corresponding to the CBCL 1½-5 somatic complaints scale 0.647 and the higher is 0.936 corresponding to the CBCL ½-5 total scale.

Diagnostic Interview for Children and Adolescents-IV (DICA-IV) (Reich 2000). The DICA-IV, a semi-structured diagnostic interview that covers the most common DSM-IV (American Psychiatric Association 1994) diagnostic categories in children and adolescents, was used to assess child psychopathology. It was adapted and validated for the Spanish population with satisfactory psychometric properties (Ezpeleta et al. 1997a). Agreement obtained between interviewers was good to excellent (kappa values of between 0.65 and 1) (Ezpeleta et al. 1997b). There are three versions of this interview DICA-IV: One for children aged 8 to 12, one for adolescents aged 13 to 17, and one for parents (assessing children aged 8 to 17). Also the *Diagnostic Interview for Children and Adolescents for Parents of Preschool and Young Children* (DICA-PPYC) was answered by mothers of children aged 4 to 7. It was considered as a different instrument, rather than a version of

the DICA, and has good statistical properties (Ezpeleta et al. 2011). The interview was carried out by trained psychologists. DSM diagnoses were derived, where applicable, by combining the information from the mothers and the children. Different psychologists interviewed the mother and the child separately. A symptom was considered to be present if any of the two informants reported it as present. For children aged 4 to 7, the information was obtained from the mothers only.

Children's Global Assessment Scale (CGAS; Shaffer et al. 1983). The CGAS, adapted for Spanish population (Ezpeleta et al. 1999), was used to measure functional impairment during the last year. Scale scores were in a range between 1 (maximum impairment) and 100 (best performance). The lowest score combining the information from the child and the mother was chosen.

Procedure

The study was approved by the Ethics Review Board of the authors' institution. Women attending to a center for battered women, whose children had been exposed to IPV at least during the last year, were informed and invited to participate in the research. Informed written consent to participate was obtained from the mother and oral consent from the children. Confidentiality was guaranteed.

The SAIPVEC was completed by a trained clinical psychologist at intake of women to the Gender Violence Centre. After an interview with the mother, the clinician handling her case rated whether or not the child met each type of abuse. The age-corresponding version of the DICA-IV interview, which lasts approximately 1 hour, was carried out by trained personnel, simultaneously and separately with mothers and children able. After the interviews, clinicians rated the degree of impairment (CGAS) associated with the psychological symptoms identified through a semi-structured diagnostic interview (DICA). Lastly, mothers completed the CBCL questionnaire version adequate for the children's age. After their participation, women received an oral report about the mental state of their children. The return of information was done with care and sensitivity, supporting and guiding mothers on the best intervention options, in order to avoid distress in this sensitive group.

Statistical Analysis

The statistical analysis was carried out with SPSS 19 for Windows. All PM subtypes proposed by APSAC were assessed, but one subtype was excluded from the analysis: *isolation*, because of the low prevalence in the sample (4.8%). This research refers to nested structure data (some siblings had the same mother), but a low level of hierarchy was observed

(58 % of mothers included only one child, 38 % two children and 4 % three children: mean number of children per family was 1.47), so that multi-level models were inadequate because they did not permit satisfactory adjustment (Hox 2002). To account for data dependency at the lower data level and prevent some estimation bias, the random factor “family” was included in multiple mixed models through Generalized Estimating Equations (GEE). Family was considered as a random factor in the GEE models because our study includes children pertaining to different families, and its aim was to generalize the results to all the families of the larger population of families exposed to domestic violence.

Linear, quadratic and cubic trends of number of maltreatments in the impact on psychopathology and functioning were explored through polynomial contrasts in GEE analysis. Number of PMs was the independent variable, and mean scores of the CBCL/1½–5 and CBCL/6–18, CGAS scores and diagnosis derived from the interview were the dependent variables. Linear trends rated the global increase–decrease of mean scores, quadratic trends explored whether the change comparing children with 1 and 2 PMs was statistically equal to the change comparing children with 2 and 3 PMs, and cubic trends did the same for changes between 2–3 PMs and 3–4 PMs.

All the analyses were adjusted for the covariates children's sex and age, duration of exposure to IPV, presence of other forms of maltreatment (physical, sexual abuse or physical neglect), and type and severity of IPV suffered by the mother. Given the multiple comparisons in the study, the Bonferroni-Finner correction (Finner 1993) was used to control type-I error and to avoid spurious results. Bonferroni's corrections were applied to adjust to .05 the level of significance for the set of comparisons.

Results

Regarding the prevalence of PM in the sample, 38.1 % ($N=64$) of the children were exposed to *terrorizing*, 27.4 % ($N=46$) to *spurning*, and 35.7 % ($N=60$) to *denying emotional responsiveness*. All the children in the sample were exposed to PM subtype *corrupting* because they all were exposed to IPV. In 38.1 %, *corrupting* was the only type of PM suffered. Those suffering only *corrupting* (38.1 %; $N=64$) are the group of number of PM =1. A total of 32.1 % ($N=54$) of the children suffered two types of PM ($N=54$), 20.2 % ($N=34$) suffered three types (group of number of PM=3) and 9.5 % four types (*terrorizing*, *spurning* and *denying emotional responsiveness*, plus *corrupting*).

Dimensional Psychopathology (CBCL) Table 2 shows the results of GEE rating the association between the number of PMs and mean scores on the CBCL/1½–5 and CBCL/6–18 scales. A positive linear trend was found for anxiety-

depression, withdrawal, attention problems, aggressive behavior, social problems, internalizing problems, and total problems; indicating that the greater the number of PMs, the higher the mean scores (more psychopathology). There were no significant squared or cubic trends on any of the CBCL scales, indicating that increases were statistically constant across the different numbers of PMs.

Functional Impairment and DSM Variables Table 3 shows the GEE models for the functional impairment score (CGAS) and the results obtained in the diagnostic interview. A negative linear trend was found for the CGAS score: the increase in number of PMs was associated with the decrease in CGAS means (that is, the greater the number of PMs, the higher the impairment score). A positive linear trend was also found for the number of internalizing and total symptoms, as well as for the total number of DSM disorders: children with greater numbers of PMs attained the highest means for symptoms/disorders. No significant trends emerged for the number of externalizing symptoms.

Discussion

According to the hypothesis, a larger number of PMs suffered by a child exposed to IPV increases linearly the severity of psychopathology and functional impairment. These results are in agreement with those of previous models indicating that accumulated risk factors, such as the different forms of PM, lead to poorer outcomes (Boxer and Terranova 2008; Hahm et al. 2010; Hart 1992; Rutter 1985). These results are especially relevant given the high prevalence of children exposed to IPV (Queen Sofia Center for the Study of Violence 2007) and the multiple exposures to maltreatment that they suffer (Appel and Holden 1998; Cawson et al. 2000; Mitchell 2005; Mullender and Morley 1994; Osofsky 1999). These results indicate that each form of psychological maltreatment is relevant, and allow to identify children exposed to IPV as a target group for risk reduction.

Although the area of problems in which this increase mostly occurs is internalizing (anxiety-depression, withdrawal), accumulative risk of different forms of PM affects different areas of psychopathology, and also increases the likelihood of attention and social problems, as well as externalizing problems (aggressive behavior). Different forms of PM have an unspecific effect (Binggeli et al. 2001; Brassard and Donovan 2006; Iwaniec 2006), so that the prevention of PM in IPV must include components directed towards emotion, mood, and also behavior. Accumulative risk of PM also affected global functioning in daily life. As the number of PM increases, the level of functioning of children exposed to IPV is increasingly poorer. Briere (2004) also reported in an abused population that more

Table 2 Linear, quadratic, and cubic trends of number of forms of psychological maltreatment and CBCL psychopathology

CBCL Scales	CBCL Means					Trends ^a (p)		
	Total	One	Two	Three	Four	Linear	Quadratic	Cubic
	N=168	N=64	N=54	N=34	N=16			
Anxiety- Depression	67.9	59.2	61.6	73.4	77.4	0.003*	0.873	0.345
Withdrawal	65.0	56.6	59.2	64.9	79.7	<0.001*	0.637	0.670
Somatic Complaints	63.4	59.7	60.7	64.3	69.8	0.142	0.813	0.947
Attention Problems	61.4	54.4	57.8	65.9	67.6	<0.001*	0.873	0.345
Aggressive Behavior	65.3	59.8	61.3	70.5	69.6	0.039*	0.873	0.309
Internalizing	70.1	60.4	62.7	73.6	83.9	<0.001*	0.770	0.654
Externalizing	64.0	58.7	60.3	70.1	67.0	0.051	0.786	0.309
Total Score	67.1	59.3	62.1	73.1	74.0	0.003*	0.873	0.309
Only CBC6-18 scales	Total	One	Two	Three	Four			
	N=134	N=48	N=44	N=27	N=15			
Social Problems	59.7	55.5	54.7	63.8	64.9	0.004*	0.873	0.654
Thought Problems	60.9	58.3	58.7	63.6	63.3	0.396	0.919	0.657
Breaking Rules Behavior	58.8	55.0	56.1	66.2	58.0	0.238	0.637	0.172

PM psychological maltreatments

^a Comparison adjusted by sex, age, time of exposure, other forms of maltreatment and type and degree of IPV

* $p > .05$ significant difference including Bonferroni-Finner’s correction

severe and prolonged abuse increases subsequent mental health impairment. Glaser (2002) linked emotional abuse and neglect to impairment of the child’s development in all domains of functioning.

The fact that all the significant trends were linear implies that, as the child is exposed to an increasing number of maltreatments, child’s psychopathology also increases and child’s functioning decreases. Therefore, prevention programs for children exposed to domestic violence must be addressed to decrease the number of psychological maltreatments they suffer. This research has important clinical applications for the design of prevention and treatment programs, and also for the

assessment of children living in circumstances of IPV. IPV and child PM are closely associated. This is the first approach to assessing the accumulative risk of PM in a Spanish population exposed to IPV. However some limitations must be considered on interpreting the results of the study. The size of some maltreatment groups (*isolation*) made it impossible to include this form of PM in the analysis. The voices of children under 8 years of age are missing from this study and the data from mothers speaking for these younger children under eight could be subjective and may not mirror what the children think or feel; however, interview schedules are not appropriate for children under age 8 (Ezpeleta 2001). Also, the results can

Table 3 Linear, squared, and cubic trends of number of psychological maltreatments and functional impairment, and DSM symptoms and disorders

	Means for different number of PM					Trends ^a (p)		
	Total	One	Two	Three	Four	Linear	Quadratic	Cubic
	N=168	N=64	N=54	N=34	N=16			
CGAS (mean score)	61.9	67.0	65.3	61.4	53.9	<0.001*	0.099	0.862
N of Externalized Symptoms	9.71	8.93	9.56	12.7	7.61	0.909	0.104	0.188
N of Internalized Symptoms	18.9	12.0	15.9	18.6	28.9	<0.001*	0.197	0.402
N of Total Symptoms	28.6	20.95	25.4	31.3	36.5	0.001*	0.903	0.846
N of DSM Disorders	2.78	1.81	2.33	3.18	3.81	0.015*	0.908	0.747

PM psychological maltreatments

^a Comparison adjusted by sex, age, time of exposure, other forms of maltreatment and type and degree of IPV

* $p > .05$ significant difference including Bonferroni-Finner’s correction

be generalized only to children of mothers exposed to IPV seeking help.

In conclusion, the results show that the more abuse suffered, the greater the adverse effects. This paper highlights the relevance of taking into account the different forms of PM, given that each type is important in considerations of child psychopathology and functioning. Each PM that clinicians might prevent will mean a significantly smaller number of DSM symptoms and disorders. It is important to assess the presence of the different components of PM and to use instruments that enable us to do so. The careful assessment of PM in IPV will permit the accurate identification of exposed cases and the application of prevention programs that help to avoid the appearance of new PM subtypes.

Acknowledgments This work was supported by grant SEJ2005-01786 and by a grant from the Research Training Program (Spanish Ministry of Education and Science). University Training Program (Formación del Profesorado Universitario, FPU) reference AP2007-01614.

And grant y the Science and Education Ministry of Spain for the project "Effects of Domestic Violence i Children" (Efectos de la exposición a violencia doméstica en niños) reference SEJ2005-01786.

References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms & profiles*. Burlington: University of Vermont, Research Center for Children, Youth & Families.
- Allen, B. (2008). An analysis of the impact of diverse forms of childhood psychological maltreatment on emotional adjustment in early adulthood. *Child Maltreatment*, 13, 307–312. doi:10.1177/1077559508318394.
- American Professional Society on the Abuse of Children (APSAC). (1995). *Psychosocial evaluation of suspected psychological maltreatment in children and adolescents*. Chicago: Author.
- American Psychiatric Association. (1994). *DSM-IV diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Appel, A. E., & Holden, G. W. (1998). The co-occurrence of spouse and physical child abuse: a review and appraisal. *Journal of Family Psychology*, 12, 578–599. doi:10.1037/0893-3200.12.4.578.
- Binggeli, N. J., Hart, S. N., & Brassard, M. R. (2001). *Psychological maltreatment of children. The APSAC study guides 4*. Thousand Oaks: Sage Publications.
- Boxer, P., & Terranova, A. (2008). Effects of multiple maltreatment experiences among psychiatrically hospitalized youth. *Child Abuse & Neglect*, 32, 637–647. doi:10.1016/j.chiabu.2008.02.003.
- Brassard, M. R., & Donovan, K. L. (2006). Defining psychological maltreatment. In M. M. Feerick, J. F. Knutson, P. K. Trickett, & S. M. Flanzer (Eds.), *Child abuse and neglect: Definitions, classifications, and a framework for research* (pp. 151–197). Baltimore: Paul H. Brookes.
- Briere, J. (2004). Psychological assessment of child abuse effects in adults. In T. M. Wilson & J. P. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 538–564). New York: Guilford Press.
- Butler-Sloss, E. (2001). Contact and domestic violence. *Family Law*, 31, 355–358.
- Cawson, P., Wattam, C., Brooker, S., & Kelley, G. (2000). *Child maltreatment in the United Kingdom: A study of the prevalence of child abuse and neglect*. London: National Society for the Prevention of Cruelty to Children.
- Chamberland, C., Fallon, B., Black, T., Trocmé, N., & Chabot, M. (2012). Correlates of substantiated emotional maltreatment in the second Canadian incidence study. *Journal of Family Violence*, 27(3), 201–213. doi:10.1007/s10896-012-9414-8.
- de la Vega, A., de la Osa, N., Ezpeleta, L., Granero, R., & Domènech, J. (2011). Differential effects of psychological maltreatment on children of mothers exposed to intimate partner violence. *Child Abuse & Neglect*, 35, 524–531. doi:10.1016/j.chiabu.2011.03.006.
- Dong, M., Anda, R. F., Felitti, V. J., Dube, S. R., Williamson, D. F., & Thompson, T. J. (2004). The interrelatedness of multiple forms of childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, 28, 771–784. doi:10.1016/j.chiabu.2004.01.008.
- Egeland, B., & Erikson, M. (1987). Psychological unavailable caregiving. In M. R. Brassard, R. Germanin, & S. N. Hart (Eds.), *Psychological maltreatment of children and youth* (pp. 110–120). New York: Pergamon.
- Ezpeleta, L. (2001). *La entrevista diagnóstica con niños y adolescentes [The diagnostic interview with children and adolescents]*. Madrid: Síntesis.
- Ezpeleta, L., de la Osa, N., Domènech, J. M., Navarro, J. M., & Losilla, J. M. (1997a). Fiabilidad test-retest de la adaptación española de la diagnostic interview for children and adolescents- DICA-R [Test-retest reliability of the Spanish adaptation of the Diagnostic Interview for Children and Adolescents-DICA-R]. *Psicothema*, 9, 529–539.
- Ezpeleta, L., de la Osa, N., Júdez, J., Domènech, J. M., Navarro, J. B., & Losilla, J. M. (1997b). Diagnostic agreement between clinician and the diagnostic interview for children and adolescents – DICA-R in a Spanish outpatient sample. *Journal of Child Psychology and Psychiatry*, 38, 431–440.
- Ezpeleta, L., Granero, R., & de la Osa, N. (1999). Evaluación del deterioro en niños y adolescentes a través de la children's global assessment scale (CGAS) [Assessment of impairment in children and adolescents through the children's Global Assessment] Scale. *Revista de Psiquiatría Infanto-Juvenil*, 1, 18–26.
- Ezpeleta, L., de la Osa, N., Tarragona, M. J., Granero, R., Olaya, B., & Domènech, J. M. (2007, May). Domestic violence exposure profiles and risk of psychopathology in children. In N. de la Osa (Chair), *Psychological Assessment of Domestic Violence*. Symposium conducted at the 9 European Conference on Psychological Assessment, of the European Association on Psychological Assessment, Thessaloniki, Grecia.
- Ezpeleta, L., de la Osa, N., Granero, R., Domènech, J. M., & Reich, W. (2011). The diagnostic interview for children and adolescents for parents of preschool children: psychometric properties in the general population. *Psychiatry Research*, 190, 137–144. doi:10.1016/j.psychres.2011.04.034.
- Finner, H. (1993). On a monotonicity problem in step-down multiple test procedures. *Journal of the American Statistical Association*, 88, 920–923.
- Garbarino, J., Guttman, E., & Seeley, J. W. (1986). *The psychologically battered child: Strategies for identification, assessment, and intervention*. San Francisco: Jossey-Bass, Inc.
- Glaser, D. (2002). Emotional abuse and neglect (psychological maltreatment): a conceptual framework. *Child Abuse & Neglect*, 26, 697–714. doi:10.1016/S0145-2134(02)00342-3.
- Hahm, H., Lee, Y., Ozonoff, A., & Wert, M. (2010). The impact of multiple types of child maltreatment on subsequent risk behaviors among women during the transition from adolescence to young adulthood. *Journal of Youth and Adolescence*, 39, 528–540. doi:10.1007/s10964-009-9490-0.
- Hart, S. N. (1992). *Psychological meaning and maltreatment factors relevant to consequences and treatment*. Indianapolis: Indiana University-Purdue University at Indianapolis, Office of the Study of the Psychological Rights of the Child (Letter to the Subpanel on Consequences and Treatment, Panel on Research on Child

- Abuse and Neglect, National Research Panel, National Academy of Sciences, Washington, DC).
- Holden, G. W. (2003). Children exposed to domestic violence and child abuse: Terminology and taxonomy. *Clinical Child and Family Psychology Review*, 6, 151–160. doi:10.1023/A:1024906315255.
- Hollingshead, A. B. (1975). *Four factor index of social status*. Unpublished manuscript. website: http://www.yale-university.com/sociology/faculty/docs/hollingshead_socStat4factor.pdf
- Hox, J. J. (2002). *Multilevel analysis, techniques and applications*. Mahwah: Erlbaum.
- Hudson, W., & Rau, S. (1981). The assessment of spouse abuse: two quantifiable dimensions. *Journal of Marriage and the Family*, 43, 883–885. doi:10.2307/351344.
- Iwaniec, D. (2006). Research review: risk and resilience in cases of emotional abuse. *Child and Family Social Work*, 11, 73–82. doi:10.1111/j.1365-2206.2006.00398.x.
- Knutson, J. F., DeGarmo, D. S., Koepl, G., & Reid, J. B. (2005). Care neglect, supervisory neglect and harsh parenting in the development of children's aggression: a replication and extension. *Child Maltreatment*, 10, 92–107. doi:10.1177/1077559504273684.
- Loeber, R., & Strouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M. Tonry & N. Morris (Eds.), *Crime and justice. An annual review of the research* (pp. 29–149). Chicago: University of Chicago Press.
- McGee, R. A., & Wolfe, D. A. (1991). Psychological maltreatment: toward an operational definition. *Development and Psychopathology*, 3, 3–18. doi:10.1017/S0954579400005034.
- Mitchell, G. (2005). Emotional abuse and neglect: an overview. Part II. *Representing Children*, 17, 252–262.
- Mullender, A., & Morley, R. (1994). Context and content of a new agenda. In A. Mullender & R. Morley (Eds.), *Children living with domestic violence*. London: Whiting and Birch.
- Ney, P. G., Fung, T., & Wickert, A. R. (1994). The worst combinations of child abuse and neglect. *Child Abuse & Neglect*, 18, 705–714. doi:10.1016/0145-2134(94)00037-9.
- Osofsky, J. D. (1999). The impact of violence on children. *The Future of Children*, 9, 33–49. doi:10.2307/1602780.
- Queen Sofia Center for the Study of Violence. (2007). *Menores víctimas de violencia en el ámbito familiar* [Child victims of violence in the family] Retrieved from Centro Reina Sofia website: <http://www.centroreinasofia.es/paneldecontrol/est/pdf/EST009-3270.pdf>
- Reich, W. (2000). Diagnostic interview for children and adolescents (DICA). *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 59–66.
- Rutter, M. (1985). Resilience in the face of adversity: protective factors and resistance to psychiatric disorders. *The British Journal of Psychiatry*, 147, 598–611. doi:10.1192/bjp.147.6.598.
- Rutter, M. (2006). In A. Clarke-Stewart & J. Dunn (Eds.), *Families count: Effects on child and adolescent development*. New York: Cambridge University Press.
- Shaffer, D., Gould, M. S., Brasic, J., Ambrosini, P., Fisher, P., Bird, H., et al. (1983). A Children's global assessment scale (CGAS). *Archives of General Psychiatry*, 40, 1228–1231.