

## Relative effects of the different types and subtypes of child maltreatment on aggressive and withdrawn behaviour

### Summary

*The range and gravity of the problems which maltreated children present may, at least partly, be attributed to the type and intensity of the maltreatment suffered. The objective of the present investigation was to analyze the role played by child abuse in two very common types of problem behavior in maltreated children, namely those of aggression and withdrawal. The subjects were 174 children and adolescents, institutionalized due to the maltreatment they had received in their homes, fundamentally that of physical neglect. The results of the analyses of regression show that aggressive behavior is found to be strongly associated with psychological maltreatment and, more specifically, with rejection/degradation and corruption. The effects of physical maltreatment or of physical neglect on aggressive behaviour disappeared when psychological maltreatment was taken into account. Nevertheless, no type of abuse allowed the prediction of withdrawn behaviour to a statistically significant level.*

### Introduction

According to the U.S. Advisory Board on Child Abuse and Neglect, child maltreatment and family violence are now an epidemic in America (National Research Council, 1993). In 1992, 2,856,973 children were reported to be abused or neglected (U.S. Department of Health and Human Services, USDHHS, 1994). In the past decade, the number of reports of suspected child abuse and neglect in the United States has increased from 1.9 million in 1985 to more than 3.1 million in 1994, a 63% increase (National Committee to Prevent Child Abuse, 1995). With an average of 33% of all reports filed being substantiated, the National Committee to Prevent Child Abuse (NCPA) estimates that over a million children were confirmed as victims of child maltreatment in 1994.

In general, it is accepted that only a small percentage of child maltreatment cases come to the attention of authorities, and this is particularly true for psychological maltreatment. Unless it co-occurs with other forms of severe abuse, cases of psychological maltreatment are likely to be unreported. If reported, they are less likely to be screened into the Child Protection Service, less likely to go to court, and less likely to receive serious interventions (Brassard, Hart & Hardy, 1993; Hart, Brassard & Karlson, 1996). Nevertheless, psychological maltreatment has been recognized as the primary abuse in approximately 7% of the nearly 3 million cases reported for 1992 to the National Committee for the Prevention of Child Abuse. The National Incidence Study from the National Center on Child Abuse and Neglect (NCCAN) (1988) collected data concerning cases of child maltreatment recognized and reported by community professionals in a national study of 29 counties throughout the United States. There were 211,100 cases of emotional abuse and 223,100 cases of emotional neglect reported in 1986.

Studies analyzing the gravity of this problem have recently been conducted in Spain. For example, Saldaña, Jiménez, and Oliva (1995) carried out a national study using case records from the child protection services between 1991 and 1992. The investigators found 8,565 cases of abuse, that of neglect being the most frequent (79.1%), followed by emotional abuse (42.5%) and physical abuse (30.1%). 55.2% of these children were subjected to more than one type of maltreatment, although most of these combinations included neglect. The studies, carried out separately in each autonomous community in Spain, obtained very similar results with regard to the estimate of incidence and proportion in which each one of the main categories of child maltreatment is represented (e.g. De Paul, Arruabarrena, Torres & Muñoz, 1995; Inglés, 1995; Jiménez, Moreno, Oliva, Palacios & Saldaña, 1995; Moreno, Jiménez, Oliva, Palaciones & Saldaña, 1995).

An increase in the level of concern for the welfare of maltreated children has led to a substantial growth in the number of research studies documenting negative developmental consequences of abuse and neglect (National Research Council, 1993). Although several factors may explain these research developments, for us a very practical reason is the urgent need to design appropriate strategies to remedy the sequelae of the victims' life experiences. As attachment theorists (including Elikier, Englund & Sroufe, 1992) have stressed, when early environments are rejecting and unresponsive, children become mistrusting, are negative and dismissive of others, and reason in defensive and simplistic ways about social situations. In line with such views, considerable recent research indicates that abused children are both more aggressive and more withdrawn in peer interactions than are non-abused children (for reviews see Berliner & Elliott, 1996; Erickson & Egeland, 1996; Hart, Brassard & Karlson, 1996; Kolko, 1996; Trickett & McBride-Chang, 1995).

Most previous studies of the development of maltreated children, including longitudinal ones, focused primarily on infants and pre-school children. Less is known about the peer adjustment of school-age and adolescent maltreated children. Although peer relationships are of concern at every age and early problems in adjustment with peers are likely to persist, peer relationships are especially salient to children during and after middle-childhood (Parker & Herrera, 1996). Studies that have included older children and early adolescents have also found that maltreated youths, compared with non-maltreated controls, show lower levels of

self-esteem, are rated by peers as more aggressive, and have fewer friends (e.g., Crittenden, Claussen & Sugarman, 1994; Salzinger, Feldman, Muriel & Rosario, 1993; Wolfe & McGee, 1994). These findings suggest a continuity of disadvantage for maltreated children with regard to the negotiation of age-appropriate developmental tasks.

Early studies of the developmental consequences of maltreatment tended either to examine aggregate groups of children experiencing multiple forms of maltreatment or to focus on one specific type of maltreatment, typically physical abuse. As concerns with issues of definition and classification have become more prevalent (e.g., Barnett, Manly & Cicchetti, 1993), a number of studies have demonstrated significant variation in cognitive and behavioral outcomes across types of maltreatment. Physically abused children have been described as aggressive, whereas neglected children have been described as passive, apathetic and withdrawn (e.g., Prino & Peyrot, 1994).

Another issue of classification that is generally overlooked is the presence of multiple types of maltreatment for a given child. Studies focusing on single types of maltreatment have rarely addressed the co-occurrence of other forms of maltreatment, leaving it unclear if the sample is made up of *pure* or *mixed* cases. This problem exists despite some studies that have demonstrated substantial co-occurrence among types of maltreatment. Recent research has shown that psychological maltreatment is present in almost all cases of physical maltreatment and that psychological maltreatment is more related to detrimental outcomes for children than severity of injury. For example, Claussen & Crittenden (1991) reported that 89% of their sample of physically abused children also experienced psychological maltreatment. Moreover, although there is some evidence that different types of maltreatment are associated with different sequelae, most studies of maltreated children do not differentiate adequately among types of maltreatment. Even when such differentiation occurs, it usually does not treat the co-occurrence of several types of maltreatment separately. This is particularly true when one of the types of maltreatment is psychological; its presence or absence is rarely assessed or reported in studies of physical abuse or neglect.

Many researchers have proposed that the term 'psychological maltreatment' be used to refer to the underlying destructive elements that connect all forms of abuse and neglect. There is growing consensus that psychological maltreatment is at the core of negative developmental outcomes to children; it is seen as the concept that unifies and connects the cognitive, affective, and interpersonal problems that are related to sexual abuse, physical abuse, and all forms of neglect (Brassard, Hart & Hardy, 1993; Hart, Brassard & Karlson, 1996; Lesnik-Oberstein, Koers & Cohen, 1995; Sanders & Becker-Lausen, 1995). Based on theories of child development and child psychopathology, psychological maltreatment is likely to produce maladaptive deviancy in intra- and interpersonal characteristics, retard and distort development and functioning, and lead to withdrawal and aggression. A small, yet compelling body of research has been developing that ties psychological maltreatment to deficits in child competence and supports claims for its pre-eminence and centrality as the core element in all forms of abuse and neglect. As Brassard, Hart & Hardy (1993) noted, the destructive power of psychological maltreatment is apparent in the mounting evidence that it is the psychological concomitants, more than the severity of the acts themselves, that constitute the real trauma and are responsible for

the damaging consequences of physical maltreatment (e.g., Claussen & Crittenden, 1991; Vissing, Strauss, Gelles & Harrop, 1991). In cases of neglect, it is not simply the parents' failure to provide adequate care, but the pervasive psychological unavailability and the lost opportunities for healthy interpersonal involvement and intellectual stimulation that place a child at risk for severe developmental disorders. There is still much to be learned about the developmental mechanisms through which diverse forms of maltreatment produce their psychological effects. However, it is already clear that various forms of maltreatment do not occur independently, nor are they independent in their effects (Sanders & Becker-Lausen, 1995).

The present study poses several objectives. Firstly, based on a conceptual and operational definition of the different categories and subcategories of child maltreatment, we endeavoured to assess the level of maltreatment (intensity and frequency) to which a sample of institutionalized children were subjected in their homes. Although all the children were classified as maltreated, it may be assumed that not all of them suffered the same forms of maltreatment nor with the same intensity. The gravity and frequency of the maltreatment should help to explain part of the variance in the behavioral problems which these children presented. Moreover, the relation between the maltreatment and the child's behavioral problems may depend on the nature of both variables, i.e. that a specific type of child abuse will tend to be related to specific types of behavioral problems.

We also assume that the different types of maltreatment form part of a continuum of child rearing practices and that, to a larger or lesser extent, the children have experienced each one of these types of abuse. In view of this, another objective of the present investigation is to study the relative effects of each type of maltreatment in aggressive and withdrawn behaviour, analyzing how the different types of maltreatment combine to result in the presence of a specific behavioral problem.

Nevertheless, we understand that the score obtained in each main category of maltreatment is insufficient, with predictive objectives possibly proving to be much more effective in assessing the children in the different subtypes of abuse which make up each main category. The reason is that it may be only some components of the category which have a direct relation to the problem in question, so that the use of the general category reduces predictive value if components are present which are not associated with the behavioral problem being assessed. In short, the predictive value of child abuse should increase with the analysis of the differential effects of each subtype of physical neglect or psychological maltreatment. The scores obtained in each type of maltreatment should be related significantly to the level of aggressive and/or withdrawn behavior that the children present, although this association varies as a function of the nature of the abuse and of the behavioral problem.

Finally, we assume that the basic nuclei of all forms of child abuse are psychological maltreatment and/or emotional neglect and that, furthermore, it is these types which have more serious negative effects on the adjustment of maltreated children. Consequently, it is a basic objective of our study to investigate the presence of psychological maltreatment and the role played by this in the development of aggressive and withdrawn behavior. Our assumptions being correct, the association between abuse and physical neglect on the one hand and children's adjustment on the other would be explained by the concurrent presence of different

forms of psychological maltreatment. Another important aim is to determine exactly which types of psychological abuses are related to the two problems of the behavior assessed.

## Method

### Subjects

The sample consisted of 174 Spanish children and adolescents (97 male and 77 female) committed to different juvenile care centres of the Department of Social Welfare of the Diputación Provincial of Jaén, aged from 6 to 18. In all of these cases the legal cause for institutionalization was parental physical neglect, so that at the time of assessment parental rights had been withdrawn in 136 cases and custody in 38. The subjects' age on admission varied considerably, ranging between 1 month and 15 years, the mean age on entry being seven years.

### Procedure

Firstly, the Child Behavior Checklist/4-18 (CBCL) was used to assess the behavioral problems of the children and adolescents. The list was filled in by the professionals (principal and carers) responsible for the minors in each one of the centers. At the same time, a detailed study of the case histories of these minors allowed us to make an initial approximation to the type of abuse suffered by each one of these children and adolescents. The professional in charge of carrying out the case history, normally a social worker, usually stated the reasons which had led to recommending the institutionalization. Nevertheless, although these descriptions usually clearly reflect the gravity of the situation and the necessity for intervention, they were too general to be used for the purposes of the investigation. Often they only stated the parents' incapacity to socialize the children or the situation of neglect in the home environment, using expressions such as 'parents incapable of providing an adequate upbringing for the children' or 'lack of affection and interest in the child's well-being'. In order to achieve a more detailed assessment of the specific forms of maltreatment received by each child, as well as the gravity and frequency, we prepared a Survey Questionnaire of Child Abuse, which was completed by the principals and the carers of the centers about four months after the first assessment.

### Measures

#### *Survey questionnaire of child abuse*

The questionnaire designed to assess child abuse and following theoretical and methodological discussions published recently (Barnett, Manly & Cicchetti, 1993; McGee & Wolfe, 1991; Zuravin, 1991), is composed of five main sections, each one coinciding with a main category of abuse: physical maltreatment, physical neglect, emotional neglect, psychological maltreatment and sexual abuse. In this study only the first four categories are used, excluding two females who had been victims of sexual abuse. In each section a conceptual definition of the type of maltreatment is presented, followed by a question concerning whether the child had or had not suffered this form of abuse in his/her home and who the perpetrator(s) had been. An ope-

rational definition is then given, describing parental behavior specific to that category or to its different component sub-categories, where the professional has to assess its frequency or presence on a five-point scale. Finally, at the end of each section, the professional is asked to make a general assessment of the type of maltreatment received (from lesser to greater significance), as well as of the physical and/or emotional support that the child has received from another person or whether the perpetrator of the maltreatment was also affectionate with the child.

Physical maltreatment is defined as any physical aggression on the part of the parents (biological, adoptive, or de facto partners) or any person to whom the parents have delegated responsibility, which could put the physical, social or emotional development of the child in danger. Depending on its nature and immediate physical effects, physically abusive behavior may be considered more or less serious (e.g. burning, suffocating, stabbing) or less so (e.g. hitting with a belt, slapping or shaking). The professional is asked to indicate if the child had been subjected to any serious type of physical maltreatment on any occasion, and assess on a five-point scale (from 'never' to 'very often') the frequency with which another nine categories of less serious physical abuses usually took place monthly. Only two cases of serious physical abuses were found, these being excluded from the data analysis.

Our definition of physical neglect refers to different types of omission behavior with regard to physical care on the part of the parents or the child's permanent carer, which may provoke physical, cognitive, emotional or social impairments to the child, or harm to others or to their property, as a result of the child's behavior. We differentiated between eight sub-types of physical neglect, the professional having to assess on a five-point scale: (i) the level of physical and mental health care neglect (failing to obtain or delaying medical attention when mental and physical health problems present themselves), (ii) supervision neglect (lack of or inadequate supervision of the child's activities, both inside and outside the home), (iii) desertion/abandonment (leaving the child alone, leaving the child to fend for him/herself without the ability to do so due to his/her age), (iv) expulsion/custody refusal (turning the child out of the home or refusing to accept him/her on his/her return), (v) nutrition neglect (not providing regular meals with the necessary basic nutrition or an adequate diet for the child's health problems), (vi) personal hygiene neglect (constant lack of attention to personal hygiene), (vii) household sanitation neglect (dirt, rubbish, odors, domestic animals without hygiene care), and (viii) education neglect (lack of attention to the educational necessities of the child). Each sub-type is followed by operational behaviors, the person filling in the questionnaire having to both indicate the presence or absence of these behaviours in each case and make a general assessment of the sub-type on a five-point scale. The children received a score on each sub-category of physical neglect, as well as a general score, being the total of the sub-category scores.

Psychological maltreatment is parent-child communication, verbal and non-verbal, that may potentially damage the child psychologically, given his/her special vulnerabilities (particularly developmental level). Psychological maltreatment is operationalized in the parental behaviors of rejecting/degrading, terrorizing, isolating, corrupting (also called mis-socializing) and exploiting. Rejecting/degrading is a type of verbal maltreatment, a mixture of rejection and hostile degradation on the part of the child's carers (e.g. ignoring the child's requests for help or publicly insulting and humiliating him/her). Terrorizing consists of threatening to

hit, to kill or to abandon the child; exposing the child to violence or to threats against a loved one or holding unreal expectations of the child and punishing him/her for not achieving them. Isolating are those acts of the carer which deprive the child of the opportunities to establish relationships (e.g. locking the child in a room for long periods of time or not allowing him/her to relate with other peers or adults). Corrupting (also called mis-socializing) implies modelling anti-social acts or encouraging deviant standards or beliefs (such as teaching or exposing the child to delinquent behavior or encouraging the child to participate in the production of pornography). Exploiting consists of giving the child work to do, either domestic or not, which should be carried out by adults and which clearly interferes with the child's social and/or academic activities and needs (e.g. forcing the child to beg or to undertake household or agricultural work which interferes with its school activities and social needs). On a five-point scale, the professionals assessed the presence of each one of the five sub-types, also obtaining a general score on psychological maltreatment by adding the five previous scores.

Emotional neglect is defined as the persistent lack of response on the part of the carer to signs (crying, smiling), emotional expressions and behaviors expressed by the child to seek closeness and interaction with the carer. The carer shows a lack of attachment and involvement and interacts with the child only when it is absolutely necessary, showing no signs of happiness or satisfaction when interacting with him/her. Lack of interest in the child and lack of emotional availability is manifested by ignoring the child's attempts to interact and responding in a mechanical way to the child without caressing, kissing or talking to him/her. The level of emotional neglect is obtained from a global score on a five-point scale.

#### *Child behavioral problems*

The Child Behavior Checklist/4-18 (CBCL; Achenbach, 1991) was used in the present study to assess the behavioral problems presented by the institutionalized children and adolescents. This instrument has been used extensively in research and has been found to have excellent psychometric properties. The CBCL was completed by the principals and the carers living with the children. The CBCL provides descriptions of 119 problem behaviors that can occur in children aged between 4-18. Each behavioral item is scored 0 (not applicable in past year), 1 (somewhat or sometimes applicable) or 2 (very or often applicable). The CBCL produces a total behavior problems score, separate summary scores for externalizing and internalizing symptomatology, and several other narrow-band symptom scales. Only the social withdrawal scale and aggressive behavior scale were examined in this study. The social withdrawal scale contained nine items, such as 'Would rather be alone than with others' and 'Secretive, keeps things to self'. The aggression behavior scale contained twenty items, such as 'Gets into many fights', 'Physically attacks people', and 'Screams a lot'.

## Results

### *Relationship between the different forms of maltreatment*

A fundamental question in the study of child abuse is whether its different forms take place independently or whether, on the contrary, when a child suffers physical neglect it is probable that he/she is also subjected to physical and/or psychological maltreatment. The Pearson correlations obtained demonstrate that the four main categories of maltreatment are significantly intercorrelated. However, the high correlations between psychological maltreatment and physical neglect ( $r=.53$ ;  $p<.000$ ), physical maltreatment ( $r=.60$ ;  $p<.000$ ), and emotional neglect ( $r=.59$ ;  $p<.000$ ) stand out. Although the correlations were not so high, emotional neglect was also found to be strongly associated to physical maltreatment ( $r=.34$ ;  $p<.000$ ) and physical neglect ( $r=.34$ ;  $p<.000$ ). The lowest correlation was that obtained between physical neglect and physical maltreatment ( $r=.25$ ;  $p<.001$ ).

The next step was to investigate whether there are some specific forms or sub-categories of psychological maltreatment that tend to correlate with physical maltreatment, physical neglect or emotional neglect, whereas possibly there are others which have no relation. The Pearson correlations obtained demonstrate the existence of a strong association between physical maltreatment and three forms of psychological maltreatment: terrorizing ( $r=.67$ ;  $p<.000$ ), rejecting/degrading ( $r=.48$ ;  $p<.000$ ) and isolating ( $r=.46$ ;  $p<.000$ ).

Physical maltreatment was also related to child exploiting ( $r=.19$ ;  $p<.02$ ), while no relation was found with corrupting ( $r=.13$ ;  $p<.10$ ). Physical neglect related significantly to the five sub-types of psychological maltreatment, especially to rejecting/degrading ( $r=.41$ ;  $p<.000$ ), exploiting ( $r=.39$ ;  $p<.000$ ) and isolating ( $r=.34$ ;  $p<.000$ ). Finally, emotional neglect was found to be strongly associated to rejecting/degrading ( $r=.63$ ;  $p<.000$ ), isolating ( $r=.44$ ;  $p<.000$ ), with a significant relation also to exploiting ( $r=.23$ ;  $p<.005$ ). No relation was found between emotional neglect and corrupting.

### *Gender, developmental level and behavioral problems*

The Pearson correlation obtained demonstrated that the aggressive and withdrawn behaviors among the children were positively and significantly related ( $r=.22$ ;  $p<.004$ ). In the variance analysis carried out to verify the possible existence of differences in aggressive behavior as a function of gender or age (6-11 *versus* 12-18 years), a significant interactive effect was found for both variables ( $p<.05$ ). Adolescent males presented scores in aggressive behavior ( $M=13.05$ ;  $SE=1.19$ ) significantly higher than those of boys ( $M=8.71$ ;  $SE=1.28$ ), of girls ( $M=9.78$ ;  $SE=1.52$ ) and of female adolescents ( $M=9.02$ ;  $SE=1.28$ ). Finally, with respect to withdrawn behavior, the results of the variance analysis only showed a significant effect for developmental level ( $p<.0001$ ). That is, the scores obtained for withdrawal by adolescents of both sexes ( $M=3.86$ ;  $SE=.28$ ) were significantly higher than those of boys and girls ( $M=2.32$ ;  $SE=.32$ ).



**Maltreatment and behavioral problems**

In order to verify the hypothesized relation between child maltreatment and aggressive and withdrawn behavior, Pearson correlations were first obtained between the four main categories of abuse and the two behavioral problems. One notable result (see Table 1) is the existence of a clear positive relation of aggressive behavior with the four types of maltreatment, whereas no significant correlation was found in the case of withdrawal. Moreover, the highest correlations corresponded to psychological maltreatment ( $r=.48$ ;  $p<.000$ ) and emotional neglect ( $r=.43$ ;  $p<.000$ ), followed by physical neglect ( $r=.31$ ;  $p<.000$ ) and, finally, physical maltreatment ( $r=.24$ ;  $p<.002$ ).

**Table 1.** *Pearson correlation coefficients among types of maltreatment and aggressive and withdrawn behavior*

	MAFIS	ABANFIS	MPSICO	ABANEMO
Aggressive	0.248*	0.311**	0.480**	0.433**
Withdrawn	0.038	0.064	0.135	0.041

\*  $p < .002$ . \*\*  $p < .000$ .

Pearson correlations were then found between the sub-types of physical neglect and psychological maltreatment with aggressive and withdrawn behavior (see Tables 2 and 3) in order to verify whether the strength of the relation increased in this way. We started from the assumption that, whereas some specific forms of physical neglect or psychological maltreatment are strongly associated with the presence of aggressive or withdrawn behavior, other sub-types will show no such relation. As hypothesized, aggressive behavior only related to three of the four sub-types of physical neglect: Neglect of supervision ( $r=.34$ ;  $p<.000$ ), expulsion/custody refusal ( $r=.30$ ;  $p<.000$ ) and desertion/abandonment ( $r=.29$ ;  $p<.000$ ). Moreover, whereas withdrawal had not been significantly related to any of the categories of abuse, there was one sub-type of physical neglect, desertion/abandonment, which related to this behavioral problem ( $r=.22$ ;  $p<.006$ ).

Exploiting was the only form of psychological maltreatment which was not related to aggressive behavior, whereas significant correlations were obtained in the other cases, particularly notable being the strong positive association between rejecting/degrading and aggressive behavior ( $r=.45$ ;  $p<.000$ ). On the other hand, there was only one form of psychological maltreatment, that of terrorizing, which was related to withdrawn behavior ( $r=.17$ ;  $p<.04$ ).

**Table 2.** *Pearson correlation coefficients among sub-types of physical neglect and aggressive and withdrawn behavior*

	PMHCN	SN	D/A	E/CR	NN
Aggressive	0.140	0.339**	0.289**	0.297**	0.126
Withdrawn	0.128	-0.020	0.222*	0.102	-0.029
	PHN	HSN	EN		
Aggressive	0.116	-0.066	0.083		
Withdrawn	-0.066	0.026	0.040		

\*  $p < .006$ . \*\*  $p < .000$ .

Note: Physical and mental health care neglect=PMHCN; supervision neglect=SN; desertion/abandonment=D/A; expulsion/custody refusal=E/CR; nutrition neglect=NN; personal hygiene neglect=PHN; household sanitation neglect=HSN; education neglect=EN.

**Table 3.** *Pearson correlation coefficients among sub-types of psychological maltreatment and aggressive and withdrawn behavior*

	Rejecting	Terrorizing	Isolating	Corrupting	Exploiting
Aggressive	0.453***	0.286***	0.201**	0.295***	0.119
Withdrawn	0.088	0.166*	0.015	0.097	-0.009

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .000$ .

### **Relative effects of the different types and sub-types of child abuse**

Various analyses of regression were carried out in order to assess the specific role played by each one of the categories and sub-types of child abuse in the presence of aggressive and withdrawn behavior. The subjects' gender and developmental level were introduced as predictor variables in all the analyses. The objective of a first analysis was to investigate which category or categories of maltreatment allowed the prediction of aggressive behavior, as well as its relative importance, once the effects of the other categories are allowed for. To this end, physical maltreatment, physical neglect, psychological maltreatment and emotional neglect were introduced, in this order, as predictor variables. The results of the regression analysis demonstrated that the only two predictor variables for aggressive behavior at a statistically significant level were psychological maltreatment ( $t=3.948$ ;  $p<.000$ ) and emotional neglect ( $t=2.613$ ;  $p<.01$ ). Between both variables, 26% of the scores for aggressive behavior ( $R^2=.264$ ) were explained.

A regression analysis was then conducted using the various sub-types of physical neglect as predictor variables. Neglect of supervision and expulsion/custody refusal proved to be the only predictor variables of aggressive behavior ( $t=2.938$ ;  $p<.000$  and  $t=2.763$ ;  $p<.006$ , respectively), with a value of  $R^2=.197$ . Using the sub-types of psychological maltreatment, the results of the regression analysis clearly demonstrate that rejecting/degrading ( $t=6.996$ ;  $p<.000$ ) and corrupting ( $t=4.825$ ;  $p<.000$ ) were the only sub-types of psychological maltreatment that predicted a statistically significant level of aggressive behavior ( $R^2=.313$ ).

**Table 4.** Results of regression analyses: Gender, developmental level, and main types and sub-types of maltreatment on aggressive behavior and social withdrawal.

Predictor variables	Aggressive behavior		Social withdrawal	
	STD. COEF.	t	STD. COEF.	t
Developmental level			0.219	2.747**
Desertion/Abandonment			0.159	1.992*
Rejecting/Degrading	0.376	4.281***		
Corrupting	0.305	4.430***		
Emotional neglect	0.157	1.786		
$R^2$		0.327		0.114
p		0.000		0.000

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .000$

Finally, in order to analyze the relative role played by each one of the child maltreatment variables assessed, we conducted a regression analysis using as predictor variables the four general categories of maltreatment and the sub-types of physical neglect and psychological maltreatment (see Table 4). The results of this analysis showed that, of all the child abuse variables assessed, rejecting/degrading ( $t=4.281$ ;  $p<.000$ ) and corrupting ( $t=4.430$ ;  $p<.000$ ) were the only variables that allowed the prediction of aggressive behavior in maltreated children, although emotional neglect approximated a statistically significant level ( $t=1.786$ ;  $p<.076$ ) ( $R^2=.327$ ).

With respect to withdrawn behavior, the results of the regression show that none of the four categories of maltreatment was a significant predictor variable. Only the subjects' developmental level was related to their withdrawn behavior ( $t=3.557$ ;  $p<.000$ ), although the part of the variance explained was low ( $R^2=.069$ ). In the regression analysis using the sub-types of physical neglect the proportion of variance explained increased slightly ( $R^2=.130$ ), the significant predictor variables being developmental level and desertion/abandonment ( $t=2.249$ ;  $p<.026$ ). In the regression analysis carried out with the sub-types of psychological maltreatment, once again the only predictor variable was developmental level. The results of the regression analysis in which all the variables were introduced (see Table 4) showed that the

only significant predictors of withdrawn behavior were those of developmental level ( $t=2.747$ ;  $p<.007$ ) and desertion/ abandonment ( $t=1.992$ ;  $p<.048$ ), although the value of  $R^2$  was only .114.

## Discussion

Although children have been abused and neglected for centuries, the recognition of maltreatment as a social problem is relatively recent. There is now an extensive body of literature demonstrating the harmful effects of child abuse (for reviews see Briere et al., 1996; Cicchetti & Carlson, 1989; Starr & Wolfe, 1991; Trickett & McBride-Chang, 1995). Nevertheless, it should be emphasized that children and adolescents classified as 'maltreated' do not all present the same problems nor with the same gravity. Although there are different causes which may be argued, we are convinced that many of these differences may be explained on the basis of the nature and degree of the maltreatment received. However, most studies have focused on the consequences of physical maltreatment and, to a lesser extent, on physical neglect. Psychological maltreatment and emotional neglect have been given less attention, both publicly and professionally. Unless co-occurring with other forms of severe abuse, cases of psychological maltreatment are likely to remain unreported. If reported, they are less likely to provoke serious intervention.

In order to effect legal follow-up procedure for psychological maltreatment, as in the case for physical maltreatment and neglect, it is essential to clarify its nature and specific consequences. In a recent review, Hart, Brassard and Karlson (1996) suggested as a priority for a research agenda on psychological maltreatment the study of interactions, relationships with, and contributions of psychological maltreatment to other forms of child abuse and neglect. According to these authors, it is necessary to study the unique effects of psychological maltreatment when it co-exists with other forms of abuse and neglect. Therefore, psychological maltreatment data should be gathered for cases that primarily involve other forms of child abuse and neglect.

The main objective of our investigation was to analyze the role played by maltreatment in explaining aggressive and withdrawn behavior. To this effect, the study was guided by two basic assumptions. The first is that children are rarely subjected to only one type of abuse, the usual pattern being the simultaneous presence of different forms of maltreatment. Moreover, understanding maltreatment as the extreme on a continuum of child rearing behavior, children may have been exposed to each one of these types of abuses to a greater or lesser extent. That is, children may have suffered different forms of maltreatment at different levels of intensity. Our second assumption is that, while the relationship between physical maltreatment and physical neglect on the one hand and aggressive and withdrawn behavior on the other has been amply demonstrated, the cause of these two behavioral problems is essentially psychological maltreatment.

The results of the present study, obtained from a sample of children institutionalized due to maltreatment, confirmed that psychological maltreatment is the core construct and key to understanding the dynamics of all child maltreatment. The correlations obtained showed the

existence of a strong relationship between the psychological maltreatment category and other types of abuse. Moreover, the results of the regression analyses fully support the affirmation of Hart et al. (1996) that psychological maltreatment appears to be the strongest influence and best predictor of developmental consequences. The correlations obtained between physical maltreatment, and to a greater extent physical neglect, and aggressive behavior were significant. Nevertheless, the regression analyses clearly indicated that it was neither physical maltreatment nor physical neglect which finally allowed an explanation for the aggressive behavior of maltreated children, but rather the psychological maltreatment of which they had been victims (more specifically that of rejecting/degrading and corrupting). The probability of aggressive behavior in children rises with increased severity of psychological violence, but does not markedly increase with the severity of physical abuse and neglect. The results suggest that psychological violence has a more predominant and destructive effect than physical violence, and that the negative impact of physical violence and physical neglect is largely due to the co-occurrence of psychological violence. In short, although physical abuse and neglect are commonly treated as the best indicators of the need to protect children, our data suggest that essentially all maltreated children and adolescents experience psychological maltreatment and that this, more than physical maltreatment and neglect, accounts for their aggressive behavior. This result confirms the findings in previous studies (e.g., Crittenden, Claussen & Sugarman, 1994; Vissing, Straus & Gelles, 1991; Wolfe & McGee, 1994).

Nevertheless, the results of the present investigation also indicated that in order to study the consequences, and with an objective of intervention, the assessment of certain forms of psychological maltreatment may prove to be more effective than the use of a general category. In this respect, we also support the universality of the use of the sub-types proposed by Hart and colleagues. These forms of psychological maltreatment, or at least two of them, demonstrated a strong predictive value with respect to the aggressive behavior presented by the maltreated children in our sample. In fact, when we introduced all the independent variables into the regression analysis, those of rejecting/degrading and corrupting were the only ones capable of predicting aggressive behavior in the children, while the effects of physical maltreatment or physical neglect and their sub-types disappeared.

We consider this to be an important finding, and one that should be applied in correction and prevention programs, as well as in legislation on the psychologically abusive behavior of parents. Standards of evidence used in decisions on specific cases, particularly from a legal perspective, require that cause-and-effect relationships between acts and consequences be established based on previous research that has confirmed that connection. To this effect, using different sources of information, the analysis of this relationship with other behavioral problems, apart from that of aggression, should also be a concern for future investigation. It would prove interesting to verify if psychological maltreatment, and specifically that of rejecting/degrading and corrupting, continues to be the variable best predicting other problems of adjustment presented by maltreated children. As Fortin & Chamberland (1995) recently pointed out, more information is necessary regarding the complete scope of psychological maltreatment as well as the specificity of its consequences, since in the absence of such epidemiological data the necessity of intervention can not be properly demonstrated.

Finally, with respect to withdrawn behavior, our results indicate that maltreatment does not seem to play an important role, at least not directly. It is therefore necessary to look for other causes which may help to explain the development of this type of behavior in maltreated children. It should not be overlooked that these children usually live in multi-problem homes in which, concurrently with maltreatment, other negative circumstances exist relative to the family context itself (e.g., matrimonial conflict) or to the parents (e.g., alcoholism). The roles played by these other variables in the withdrawn behavior of maltreated children should be investigated. Another explication may be the existence of a possible indirect effect of maltreatment through peer rejection due to the aggressive behavior of the maltreated child. Child abuse, principally through its component of psychological maltreatment, may be directly responsible for the development of aggressive behavior in children. The aggressive behavior of the maltreated child may provoke rejection by others which, in turn, may give rise to an attitude of withdrawal and avoidance of social interaction with peers.

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