ORIGINAL ARTICLE

Child Abuse in a Disciplinary Context: A Typology of Violent Family Environments

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Abstract The objectives of this study were to identify and validate types of violent family environments based on child abuse in a disciplinary context. The study is original in that it simultaneously takes into account the cognitive and behavioral dimensions of the parental role as it relates to the degree of family violence in a child's life. Cluster analyses were performed on a representative sample of 3,148 families. The Abusive profile applied to families who reported at least one severe assault on a child within the past year. This profile also had the highest levels of domestic violence, psychological aggression, and corporal punishment. The Harsh profile is nevertheless similar to the Abusive profile, despite the fact that these families reported no severe assault. The key difference is the lower score levels: the attributes are the same, but less intense. The Nonabusive profile accounted for the families with the lowest rates of domestic and parental violence, together with a negative attitude towards corporal punishment and a heightened awareness of the consequences of violence. Although the families who matched the Paradoxical profile reported very little violence, they are the least aware of the consequences of violence and the most in favor of corporal punishment. The four profiles were replicated with another cluster analysis performed on an independent representative sample of 2,465 families. Then the profiles were compared with regard to the variables used to create the clusters and other variables theoretically associated with the appearance of maltreatment. These validation methods enhance the credibility of the proposed typology.

The exercise of discipline and authority, a central component of parenting (Lamb 2000; Wissow 2002), involves both a cognitive and a behavioral aspect. Parents' beliefs, attitudes, and values constitute the cognitive aspect. In terms of behavior, parents can use nonviolent strategies, like explanations, but other disciplinary strategies may involve physical or psychological violence (Lenton 1990; Strauss, Hamby, Finkelhor, Moore, & Runyan 1998). Like psychological violence, physical violence occurs along a continuum of severity (Chamberland 2003; Dufour 2009), running from corporal punishment, termed "minor assault," to "severe assault," such as throwing a child against a wall (Clément 2009). Although there is a clinical and scientific consensus as to the consequences of severe abuse on children's safety and development (Cicchetti and Toth 1995; Clément and Dufour 2009; Miller-Perrin and Perrin 2007), a lively debate is still going on about the possible effects of corporal punishment (Baumrind et al. 2002; Gershoff 2002; Grogan-Kaylor and Otis 2007; Larzelere 2000; Straus 2001).

Examining the profiles of nonabusive parents and what those profiles mean for their children has helped us gain a better understanding of family dynamics and improve family casework practices. Nevertheless, although parental violence is increasingly being studied, little attention has

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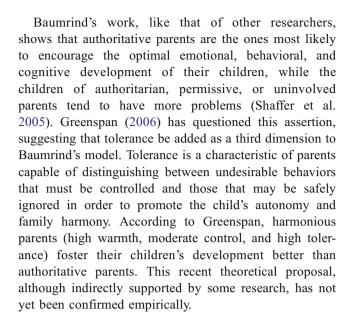Montreal, Québec, Canada

 Springer

been paid to family typologies based on cognition and violent discipline. Yet the central role of cognitive processes in the appearance and maintenance of violent parental behavior is increasingly recognized. A parent with "several problematic cognitions combined—belief in authoritarian child rearing, underestimation of adverse impacts of coercion on the child, and perception of concrete gains after exercising it"—is more likely to resort to violence (Chamberland 2003, p. 236). In short, a simultaneous investigation of the degree to which parental cognitions are favorable toward violence and the forms of violence experienced by a child at home has the potential to inform social work practice. A typology that looks at subsets of families who share similar features provides an analytic structure so that services can be aimed at promoting parenting skills, and preventing and dealing with child abuse. The two cycles of the Quebec population study of violence in the lives of children (Clément et al. 2000, 2005) contain original data that can be used to explore this angle of analysis.

Background

Unlike the variable-oriented approach, which focuses on the relations between variables *across* individuals, the person-oriented approach focuses on the relations between variables *within* individuals (Magnusson 1998). It leads to a general understanding of the experience and needs of each system, whether an individual or an environment. The significance of each variable thus emerges from the combination of variables concerning a given situation or person—the individual pattern. In keeping with this holistic vision, several family typologies have been developed. We will first present those based on warmth, control, and tolerance; then we will look at the ones based on abusive behavior.

Parental Types by Warmth, Control, and Tolerance

There are several population-based parenting typologies, but Baumrind's classification (1967), devised 40 years ago, is still the best known and most widely used in psychosocial research and services. According to Baumrind, parental authority can be characterized by two independent dimensions: warmth and control. Based on a parent's position with respect to each of these dimensions, three types of parenting styles can be distinguished: permissive (very warm and not very controlling), authoritarian (not very warm and very controlling), and authoritative (very warm and very controlling). Maccoby and Martin (1983) later added a fourth type: uninvolved, or rejecting-neglectful, parents, who are neither very warm and nor very controlling.

Baumrind's work, like that of other researchers, shows that authoritative parents are the ones most likely to encourage the optimal emotional, behavioral, and cognitive development of their children, while the children of authoritarian, permissive, or uninvolved parents tend to have more problems (Shaffer et al. 2005). Greenspan (2006) has questioned this assertion, suggesting that tolerance be added as a third dimension to Baumrind's model. Tolerance is a characteristic of parents capable of distinguishing between undesirable behaviors that must be controlled and those that may be safely ignored in order to promote the child's autonomy and family harmony. According to Greenspan, harmonious parents (high warmth, moderate control, and high tolerance) foster their children's development better than authoritative parents. This recent theoretical proposal, although indirectly supported by some research, has not yet been confirmed empirically.

Parental and Family Types by Abusive Behavior

While the Baumrind typology concerns normal, non-abusive parenting practices in families in the general population, other typologies have been developed specifically for abusive families. A few rare studies have suggested classifications of families in which serious abuse occurs. Alexander and Schaeffer (1994), for instance, have identified three types of incestuous families distinguished mainly by the severity of the abuse and the degree of family dysfunction. Based on the nature of the psychological maltreatment suffered, as well as the child's and parents' characteristics, Gagné and Bouchard (2004) have identified four types of family dynamics in which psychologically violent parenting is likely to occur. Last, according to a study by Higgins (2004), it is the degree (frequency and intensity) of abuse, not its type, that provides the basis for distinguishing among abused children.

Closer to the subject of this paper, two studies have identified profiles of parents from the general population based on abusive disciplinary practices. First, a population study of parents of children 17 and under distinguished three parenting styles on the basis of attitudes toward children and disciplinary methods (Thompson et al. 1999). In that study, similar to the survey used for our secondary analyses, each parenting type was associated with a different degree of risk to the children. The riskiest type scored high on the use of physical discipline, neglect, verbal abuse, and attitudes that devalue children: in short, it is a strict, authoritarian style. The moderate-risk type used both violent and nonviolent disciplinary techniques and has more positive attitudes toward children. The low-risk, nondirective, type is conversely characterized by little use

of any form of discipline, and a healthy marital and personal history.

Through a population study of parents of children under the age of 3, Wissow (2001) identified four parenting types that have contrasting degrees of stimulating or comforting interaction with their child and use of disciplinary strategies, whether physical or not. As in the study by Thompson et al. (1999), the types highlight different settings for parent–child interactions in which corporal punishment is used. For example, an average frequency of physical punishment is seen where there is extensive use of other disciplinary strategies and many stimulating/comforting interactions, while above-average use is accompanied by very few other forms of interaction, suggesting that these parents have a more limited repertoire of child-rearing strategies.

The above-mentioned studies confirm that studying parental profiles can be useful to better understand the degree of risk to which a child can be exposed to. However, until now, these studies have not taken into account simultaneously the cognitive and behavioral dimensions of the parental role as it relates to the degree of family violence in the child's life. Consistent with a holistic-interactionistic perspective (Bergman et al. 2003) and in order to fully understand the relations between pro-violence parental cognitions and actual abuse suffered by children at the hands of their parents, researchers cannot view parental attitudes and the various forms of abuse experienced by children as isolated variables. They need to consider those dimensions as integrated patterns that contribute to family violence as a whole. According to Hughes et al. (2005), multivariate data analyses, such as cluster analyses, are promising ways to explore comprehensive models of interpersonal violence and to provide clearer ways to intervene and to prevent violence with individualized approaches.

Objectives

The first objective was to identify, in a representative sample of Quebec families in 2004, profiles of violent family environments on the basis of disciplinary strategies, attitudes toward corporal punishment, perceived consequences of violence, and intensity of domestic violence. The second was to validate the typology in three ways: (a) replicating the same violent family profiles with an independent representative sample of Quebec families questioned on similar variables in 1999 (internal validation); comparing the profiles to ensure that they are distinguishable (b) with regard to the variables used to create clusters (internal validation); and (c) on the basis of the child's, parents', and family's characteristics associated both theoretically and empirically with family violence (external validation).

Method

Survey Samples

Our study is based on data taken from a large population survey on family violence conducted by the Quebec Statistics Institute (QSI) in 2004 (Clément et al. 2005). This representative survey looked at 3,148 children under 18 years old residing in private homes in Quebec and living at least 50% of the time with a mother figure (i.e., biological or adoptive mother, stepmother, father's new partner, or female legal guardian). Consistent with other similar surveys, one child in a multichild household was chosen at random and identified as the "target child" in the questionnaire (Clément et al. 2005; Straus et al. 1998). Table 1 shows the sample characteristics. The 2,621 children for whom we had complete data on the internal variables selected for cluster analysis were taken as the sample to meet our first objective.

For our second objective, cluster validation, the results were first compared with a sample obtained from a similar QSI population survey conducted in 1999 (Clément et al. 2000). The characteristics and participation rate of the 1999 sample are also given in Table 1. This survey encompassed 2,465 children, who, as in 2004, were under 18 years old, residing in private homes, and living at least 50% of the time with a mother figure. The 2,018 children for whom we had complete data on the cluster variables served as the cluster-validation sample.

Table 1 Characteristics of survey samples

	1999 (N=2,465)	2004 (N=3,148)
Response rate	76.7%	57.6%
Family type		
Two parents	78%	74%
Single parent (mother)	14%	14%
Blended family	8%	12%
Number of children	1–8	1–7
Mean (SD)	1.8 (0.9)	1.8 (0.8)
Target child's sex		
Girl/boy	49%/51%	49%/51%
Target child's age		
Mean (SD)	9 (5.3)	8.9 (5.2)
Range	0–17 years	0–17 years
Mother's age		
Mean (SD)	36.7 (7.2)	38.6 (7.4)
Range	18–70 years	18–70 years
Perceived income		
Sufficient	63%	57%
Poor	12%	9%
College/University ed.	47%	67%

Overall, the sample characteristics for both surveys are comparable to those of Quebec families as found in census data. The rates of missing data (18.3% in 1999 and 16.7% in 2004) are comparable (χ^2 (1.5617) = 2.24; $p=.13$). Statistical comparison of variance and means of the "missing data" and "no missing data" groups on the variables used in the cluster analysis indicates, however, that the groups are not equivalent with regard to a number of variables, which are not the same in 1999 and 2004. While the missing data were not random, the underlying reasons for them did not seem to be the same from 1 year to the next. The analyses were performed on children for whom we had complete data on the cluster variables. The robustness of the solution with respect to nonresponse will be studied by comparing the 1999 and 2004 solutions. It should be noted that there were two sources of nonresponse: (a) the rate of nonresponse to the survey and (b) the fact that only complete data sets were used. Since no information was available on survey nonrespondents, there was no way for us to examine the nonresponse reasons at this level.

Procedure

In both surveys, the sample frame was selected using the random digit dial procedure, which covered about 95% of the target population. Data were collected from mothers by trained professional female interviewers using a computer-assisted telephone interview system. The QSI's research ethics board approved the surveys. The interviews lasted an average of 15 min.

Variables

Both surveys included about 70 questions, but only the variables used in this study are described below. These are either internal (when used to create clusters) or external (when used to compare clusters). The lowest alpha coefficients may, in part, be a reflection of the high occurrence of certain responses, such as "never" to very severe physical violence items, and of the low number of items per scale. They are similar to the results reported by other authors.

Internal Variables

The internal variables measured (a) actual cognitions of the respondent parent with respect to violence against children: attitudes toward corporal punishment and perception of impact of violence, and (b) violence experienced by the child in a disciplinary context within the past year, whether on the part of the respondent or another adult in the household: psychological aggression, minor assault, severe

or very severe assault. Exposure to domestic violence and nonviolent discipline were also assessed.

Attitudes Toward Corporal Punishment In the 2004 survey, three questions dealt with the mother's general attitude toward corporal punishment (e.g., "Some children need to be slapped so that they will learn a lesson"). For each question, the choice of answers ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). These items were adapted from the Adult-Adolescent Parenting Inventory (Bavoleck 1984). The next four questions helped determine the extent to which the mother cited the child and the child's behavior as justification for using physical violence (e.g., "It would be acceptable for a parent to slap a child who is being disobedient"). They were drawn from the *Mesure de la justification de la violence envers l'enfant* (the justification of parental violence scale), an instrument whose psychometric properties have already been validated within a Quebec population (Fortin and Lachance 1996). The same range of answers (1 to 4) was used for these questions. As those four questions were added to the 2004 survey, there were no comparable items on the 1999 survey. Therefore, the "pro corporal punishment" variable cannot be compared between 1999 and 2004. Two mean scores were calculated and used in the analyses (variable called "pro corporal punishment"): mean score of 7 questions in 2004 (alpha = 0.82) and mean score of 3 questions in 1999 (alpha = 0.59).

Perception of Impact of Violence The mother's awareness of the impact of psychological aggression and minor physical assault on children was assessed in both surveys with two items developed by Daro and Gelles (1992; Daro 1999) (e.g., "How often do you think children are physically injured after their parents administer physical punishment to discipline them?"). The response scale was a 4-point Likert scale, ranging from *very often* to *never*. These two items were used independently in this study because of their low correlation in the 2004 survey (see Clément and Chamberland 2009). They are labeled later as "unaware (physical consequences)" and "unaware (psychological consequences)".

Disciplinary Strategies In both surveys, five disciplinary strategies used with the target child were assessed by means of the Parent–child Conflict Tactics Scales (PCCTS; Straus et al. 1998): nonviolent discipline (4 questions, e.g. "When < child's name > does something wrong, how many times has an adult in your household given him/her something else to do, to distract him/her?"; 1999's alpha 0.73; 2004's alpha = 0.77), psychological aggression (4 questions, e.g., "called the child "stupid" or "dumb" or other names like that"; 1999's alpha = 0.62; 2004's alpha = 0.61), minor assault (also called corporal punishment) (4 questions, e.g.,

"spanked the child on the bottom with bare hands"; 1999's alpha = 0.69; 2004's alpha = 0.66), severe assault (5 questions, e.g., "thrown or knocked the child down"; 1999's alpha = 0.40; 2004's alpha = 0.46) and very severe assault (3 questions, e.g., "grabbed around the neck and choked the child"; 1999's alpha = 0.34; 2004's alpha = 0.47). For each disciplinary strategy, mothers had to rate the frequency of the behavior on the part of any adults living in the household in the 12 months preceding the survey on a scale of 1 (*never happened*) to 4 (*happened 6 or more times*). A mean score was calculated for each disciplinary strategy. To allow us to interpret nonviolent discipline in the same way as the other constructs—the higher the score, the more pro violence—the item was actually reversed and scored as "little nonviolent discipline." For our purposes, the PCCTS items from the 2004 survey were submitted to a factorial analysis that confirmed the presence of the five factors that explained 51% of overall variance. These subscales are similar to the findings of Straus et al. (1998).

Exposure to Domestic Violence Exposure to domestic violence is the last form of violence against children documented; it was measured as the intensity of domestic violence in the household. Experts agree that children suffer adverse effects from living in a home in which spousal violence occurs, whether or not they witness it directly, and that it is a form of child abuse (Côté et al. 2009). For the 2004 study, the mean of four items concerning the occurrence of domestic violence committed and suffered in two-parent families in the 12 months preceding the survey was calculated. These questions (e.g., "In the last 12 months, did your husband/partner ever use physical force with you in order to solve a problem?"), developed for the purposes of the study, were rated on a scale of 1 (*never*) to 4 (*very often*) (alpha = 0.63). Factorial analysis confirmed that there was only one dimension to the scale, as one factor explained 54% of variance. The 1999 survey had only one item not comparable to that of the later survey ("In general, would you say that your relationship as a couple is rather harmonious, tense or difficult, hostile, or violent?"). Therefore, the "domestic violence" variable cannot be compared between 1999 and 2004.

External Variables

External variables are used for a posteriori comparison of clusters on a set of characteristics that have proven to be theoretically, clinically, or empirically relevant to the appearance and maintenance of family violence against children.

Parents' Characteristics In both surveys, the following information was collected about the mother and her partner:

age when child was born, employment status, and number of years of schooling completed.

Parental Stress as Perceived by Mother In the 2004 survey only, five questions evaluated the current level of parental stress created by the demands that a difficult child might represent (e.g., "There are some things the child does that really bother me"). The choice of answers ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). These questions came from the Child Demandingness subscale of the abridged French version of the Parenting Stress Index (Abidin 1995). A mean score was calculated (alpha = 0.74).

Social Isolation as Perceived by Mother Social support was assessed in the 2004 survey only on the basis of six questions drawn from the French version of the Social Provision Scales (Cutrona 1984). This tool measured the respondent's current perceived support (e. g., "I have a trustworthy person to turn to if I have a problem," "There are people I can count on in an emergency"). The choice of answers ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). It was validated in a Quebec population survey conducted by Caron (1996). A mean score was calculated (alpha = 0.77).

Child's and Family's Characteristics The child's sex and age, household size, family structure, gross household income, and mother's perception of poverty level were also documented. Perception of poverty was assessed by the question "How do you perceive your financial situation compared to that of other people your age?", which was answered on a scale of 1 (*you perceive yourself as being financially comfortable, secure*) to 4 (*you perceive yourself as being very poor*).

Mother's Experience of Violence as a Child In both surveys, five questions (e.g., "Would you say that you were threatened, humiliated, or ridiculed by your parents when you were a child?") asked whether the mother had experienced different forms of violence as a child: psychological aggression, corporal punishment, severe assault, and witnessing physical and psychological violence between parents. They were developed specifically for the surveys (Clément et al. 2000) and have been used in similar studies (Gagné et al. 2007). For each question, the mother rated the frequency of her experience of violence as a child on a scale of 1 (*never*) to 4 (*very often*).
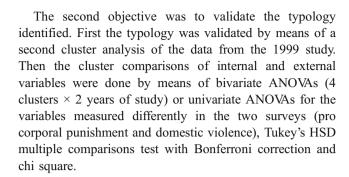
Analyses

Cluster analysis was done on the data from the 2004 study in order to meet our first objective: determine profiles of

violent family environments. With this exploratory analytical method, we were able to group a sample of cases into homogeneous classes based on their similarity with respect to an array of variables (Bailey 1994). These internal variables concern disciplinary strategies reported (nonviolent discipline, psychological aggression, and minor, severe, and very severe assault), attitude toward corporal punishment, perceived impact of physical and psychological violence, and intensity of domestic violence.

There was little variation in the answers to questions on severe and very severe assault since for each separate question on those scales, at least 97% of respondents stated that it never happened. Although not particularly discriminating in a cluster analysis, these situations are nevertheless theoretically and clinically highly relevant. These uncommon family situations speak of serious violence, similar to the abuse covered by child protection laws and liable to jeopardize the development or safety of the children who are its victims. Had they not been included in the study, an exhaustive understanding of all forms of family violence involving children, from the least to most severe, would have been impossible. Therefore, rather than eliminate them from the analysis, we relied on the scales to construct a first profile called *Abusive* family environment (*n*=227). To be included in this group, a family had to report at least one occurrence of severe or very severe assault on the PCCTS.

The 2,394 other families were then submitted to a cluster analysis on the basis of their similarities with regard to the 7 external variables listed above (excluding the variables severe and very severe assault): little nonviolent discipline, psychological aggression, minor assault, unaware of physical consequences, unaware of psychological consequences, pro corporal punishment, domestic violence. A divisive strategy called iterative partitioning was used (Aldenderfer and Blashfield 1984; Bailey 1994). The analysis was done using the SPSS package's quick clustering (*K*-means method). With this method, the analyst specifies a priori a limited number of clusters. In our analysis, two-, three- and four-cluster solutions were compared in two ways: (a) cluster comparison by means of ANOVAs of internal variables and (b) examination of the theoretical and clinical relevance of suggested patterns. To date, there are no recognized statistical criteria to determine the number of natural groups in a sample, but such comparisons enhance confidence in the selected solution. We ultimately decided to go with the three-cluster solution, which enabled us to identify a limited number of significantly different clusters that were interpretable both clinically and theoretically (economy and relevance of selected solution). In total, the results therefore show four clusters: the *Abusive* profile, identified by abusive or very abusive behavior, and the other three profiles identified by cluster analysis.

The second objective was to validate the typology identified. First the typology was validated by means of a second cluster analysis of the data from the 1999 study. Then the cluster comparisons of internal and external variables were done by means of bivariate ANOVAs (4 clusters × 2 years of study) or univariate ANOVAs for the variables measured differently in the two surveys (pro corporal punishment and domestic violence), Tukey's HSD multiple comparisons test with Bonferroni correction and chi square.

Results

Description of Profiles

A typology of four profiles of violent family environments was determined from the 2004 survey data (see Table 2). As explained above, the *Abusive* profile (A) applied to parents who reported at least one severe or very severe assault on the child in the past year, hence the name. Those parents also reported the highest levels of psychological aggression, minor assault, and domestic violence. This cluster accounted for 9% of the sample (*n*=227). The *Harsh* profile (H) is very similar to the *Abusive* profile, except that the families in this cluster reported no severe assault, hence their name. The key difference is the lower score levels: the attributes are the same, but less intense (e.g., psychological aggression, minor assault, etc.). Interestingly, the parents in this group are the ones who most often used nonviolent disciplinary techniques. In short, these families claim to use a number of disciplinary strategies, whether violent or not. This cluster comprised 37% of the sample (*n*=979). The parents with the *Paradoxical* profile (P) reported significantly fewer psychological aggressions and minor assaults, yet just as many favorable attitudes toward corporal punishment as the *Abusive* parents in the first cluster. These parents were also the least aware of all of the physical and psychological consequences of violence. The "paradox" of the profile name refers to the apparent inconsistency or dissonance between reported behaviors, nonviolent, and cognitions, which are pro violence and minimize its consequences. This cluster made up 23% (*n*=609). Last, the *Nonabusive* profile (N) scored very low on all variables, even the use of nonviolent discipline. The name comes from the fact that these families report little violence against their children and their cognitions are nonviolent. This profile accounted for 31% of the sample in 2004 (*n*=806).

Typology Validation

Internal Validation The first step in validation was to perform another cluster analysis on the 1999 independent

Table 2 Comparison of internal variables (means and standard deviation), by cluster and survey year

	Abusive (A)		Nonabusive (N)		Paradoxical (P)		Harsh (H)		df	F	Cluster comparison**	
	1999 (n=175)	2004 (n=227)	1999 (n=562)	2004 (n=806)	1999 (n=609)	2004 (n=609)	1999 (n=672)	2004 (n=979)			1999	2004
Little nonviolent discipline	1.88 (0.73)	1.90 (0.75)	2.89 (0,55)	2.91 (0.52)	2.25 (0.82)	2.36 (0.80)	1.53 (0.41)	1.45 (0.40)	7.4631	619***	H < A < P < N	H < A < P < N
Psychological aggression	2.01 (0.66)	2.02 (0.62)	1.27 (0.35)	1.27 (0.33)	1.52 (0.48)	1.51 (0.46)	1.66 (0.50)	1.74 (0.54)	7.4631	159***	N < P < H < A	N < P < H < A
Minor assault	1.96 (0.74)	1.72 (0.66)	1.09 (0.20)	1.05 (0.14)	1.35 (0.48)	1.26 (0.39)	1.47 (0.49)	1.43 (0.51)	7.4630	169***	N < P < H < A	N < P < H < A
Unaware (physical cons.)	3 (0.91)	2.87 (0.94)	2.25 (0.79)	2.25 (0.75)	3.74 (0.69)	3.64 (0.68)	2.57 (0.84)	2.54 (0.81)	7.4619	348***	N < H < A < P	N < H < A < P
Unaware (psych. cons.)	2.13 (0.93)	2.1 (0.94)	1.59 (0.62)	1.57 (0.61)	2.91 (0.82)	2.97 (0.81)	1.59 (0.60)	1.65 (0.63)	7.4625	447***	(N = H) < A < P	(N = H) < A < P
Pro corporal punishment	2.80 (0.68)	–	2.18 (0.69)	–	2.66 (0.62)	–	2.43 (0.63)	–	3.2013	69***	N < H < (A = P)	–
Pro corporal punishment	–	2.17 (0.61)	–	1.7 (0.55)	–	2.12 (0.60)	–	1.8 (0.56)	3.2616	87***	–	N < H < (A = P)
Domestic violence	1.18 (0.42)	–	1.05 (0.22)	–	1.04 (0.21)	–	1.06 (1.06)	–	3.1974	11***	(N = P = H) < A	–
Domestic violence	–	1.19 (0.17)	–	1.06 (0.16)	–	1.07 (0.19)	–	1.1 (0.23)	3.2577	23***	–	(N = P) < H < A

**p<.01; ***p<.001

representative sample, then compare the clusters on the internal variables used in the cluster analyses (Table 2). The overall results for the bivariate ANOVAs for each internal variable used to create clusters are presented in Table 2 (4 clusters x 2 surveys). The last two columns show that the comparisons by internal variable between the clusters identified within a single survey give the same results in 1999 and 2004. The means for most internal variables are the same for the clusters in both surveys, as well. For example, families with the *Abusive* profile reported just as much psychological aggression in 1999 (mean = 2.01) as in 2004 (mean = 2.02). Only three differences are significant in this regard (p≤.001): the *Paradoxical* profile reports more nonviolent discipline and less minor assault in 2004 than in 1999, and the *Abusive* profile also reports less minor assault in 2004 than in 1999. As the 1999 and 2004 items are not comparable with regard to attitudes toward corporal punishment and domestic violence, these two variables were compared independently for each of the surveys by means of univariate ANOVAs; the results of the comparisons between profiles are still similar in the two surveys. In short, the four clusters from the 2004 sample and the four clusters from the 1999 sample are similar enough that we can affirm that the 2004 typology was successfully replicated with the 1999 independent sample. We can also affirm that the clusters are significantly different on the internal variables as a whole.

External Validation We then compared the four clusters with respect to the child's, parents', and family's characteristics. As we said earlier, the external variables are relevant because they are associated both theoretically and empirically with family violence. Significant differences between clusters on such variables therefore enhance the credibility of the typology. First, let us look at **parental characteristics** (Table 3). There is no difference between the clusters in terms of parents' age at child's birth or father's education. On the other hand, the mothers in the *Harsh* group were better educated than the others. Overall, mothers and fathers alike were older at the child's birth and better educated in 2004 than in 1999 (p≤.001). Last, the *Abusive* parents experienced greater stress and isolation than the others (information available only in 2004). Regarding mothers' childhood characteristics, in both surveys, mothers in the *Abusive* group reported experiencing more psychological aggression, corporal punishment, physical assault, and exposure to domestic violence as children than the others (Table 4).

A number of differences **in family and children's characteristics** can be observed in the two surveys. First, in both surveys, the families in the *Nonabusive* cluster have fewer children than the others (Table 3), while the *Abusive* cluster includes a greater proportion of single-parent families, families with a household income under $25,000 per year, and families that perceive themselves as

Table 3 Comparison of parents', children's and family's characteristics (means and standard deviation), by cluster and survey year (continuous variables)

	Abusive (A)		Nonabusive (N)		Paradoxical (P)		Harsh (H)		df	F	Cluster comparison*	
	1999 (n=175)	2004 (n=227)	1999 (n=562)	2004 (n=806)	1999 (n=609)	2004 (n=609)	1999 (n=672)	2004 (n=979)			1999	2004
Age at child's birth (yr)												
Mother	28.56 (6.53)	29.90 (5.79)	28.60 (5.34)	29.98 (5.34)	28.02 (5.07)	29.62 (4.80)	28.43 (5.44)	29.21 (5.26)	7.4563	11***	A = N = P = H	A = N = P = H
Father	30.79 (5.70)	33.24 (6.37)	30.86 (5.66)	32.35 (6.23)	30.65 (5.47)	32.58 (5.98)	30.82 (5.78)	31.83 (5.90)	7.4433	12***	A = N = P = H	A = N = P = H
Education (yr)												
Mother	12.29 (2.90)	12.84 (3.07)	12.53 (2.78)	12.88 (2.81)	12.28 (2.79)	13.12 (2.78)	12.87 (2.60)	13.48 (2.68)	7.4608	14***	(A = N = P) < H	(A = N = P) < H
Father	11.98 (3.02)	12.85 (3.13)	12.67 (3.20)	12.81 (2.84)	12.20 (2.93)	12.86 (2.91)	12.68 (2.83)	12.86 (2.84)	7.4447	4***	A = N = P = H	A = N = P = H
Parenting stress	–	2.33 (0.70)	–	1.70 (0.55)	–	1.87 (0.60)	–	2.10 (0.62)	3.2610	103***	–	N < P < H < A
Social isolation	–	1.40 (0.50)	–	1.25 (0.40)	–	1.31 (0.46)	–	1.25 (0.42)	3.2615	10***	–	(N = H) < P < A
No. of children	1.92 (1.05)	1.97 (0.89)	1.67 (0.80)	1.67 (0.81)	1.92 (0.85)	1.90 (0.83)	1.94 (0.85)	1.89 (0.83)	7.4631	12***	N < (A = P = H)	N < (A = P = H)
Target child's age (yr)	8.90 (4.60)	10.08 (4.42)	9.10 (6.32)	9.9a (5.98)	8.46 (5.21)	8.75 (5.42)	7.40 (4.36)	7.41 (4.38)	7.4631	23***	H < P < (A = N)	H < P < (A = N)

*p<.05; ***p<.001

poor (Table 5). Last, in both surveys, the target children in both the *Abusive* and *Nonabusive* groups were the same age or older than the others (Table 3). Overall, target children were younger in 1999 than in 2004 (p≤.001). No gender-related differences could be seen in 2004, but in 1999, the *Abusive* and *Harsh* groups had larger percentages of girls (Table 5).

Discussion

The goal of the study was to develop and validate a typology of violent family environments on the basis of internal variables such as disciplinary strategies, parental attitudes toward corporal punishment, and domestic violence. Our results show that the four-cluster solution is the

Table 4 Comparison of mothers' childhood characteristics (percentages), by cluster and survey year

	1999					2004				
	Abusive (n=175)	Nonabusive (n=562)	Paradoxical (n=609)	Harsh (n=672)	χ², df	Abusive (n=227)	Nonabusive (n=806)	Paradoxical (n=609)	Harsh (n=979)	χ², df
Psych. aggression										
Yes	50	26.9	28.3	37.2	43.47,	45.6	29.0	27.7	37.0	36.75,
No	50	73.1	71.7	62.8	3***	54.4	71.0	72.3	63.0	3***
Corporal punishment										
Yes	78.3	54	63.7	67.4	42.73,	76.0	57.6	64.0	67.1	32.03,
No	21.7	46	36.3	32.6	3***	24.0	42.4	36.0	32.9	3***
Physical abuse										
Yes	32.9	14.4	14	18.2	37.94,	31.9	15.0	15.7	17.7	37.01,
No	67.1	85.6	86.0	81.8	3***	68.1	85.0	84.3	82.3	3***
Exposure to domestic violence										
Yes	41.4	22.5	21.6	29.5	35.20,	45.0	33.2	30.5	36.4	35.20,
No	58.6	77.5	78.4	70.5	3***	55.0	66.8	69.5	63.6	3***

*** p<.001

Table 5 Comparison of family's and children's characteristics (percentages), by cluster and survey year (dichotomous variables)

	1999					2004				
	Abusive (n=175)	Nonabusive (n=562)	Paradoxical (n=609)	Harsh (n=672)	χ², df	Abusive (n=227)	Nonabusive (n=806)	Paradoxical (n=609)	Harsh (n=979)	χ², df
Single parent					218, 3***					243, 3***
Yes	20.2	1.4	1.2	0.7		16.9	0.6	0.8	1.0	
No	79.8	98.6	98.8	99.3		83.1	99.4	99.2	99.0	
Less than $25,000/yr					49, 3**					13, 3**
Yes	32.3	14.1	14.9	10.4		8.4	3.4	3.9	3.4	
No	67.7	85.9	85.1	89.6		91.6	96.6	96.1	96.6	
Perceived poverty					43, 3***					44, 3***
Yes	22.5	5.9	9.9	8.7		15.9	4.3	6.1	5.3	
No	77.5	94.1	90.1	91.3		84.1	95.8	93.9	94.7	
Child's sex					23, 3***					7, 3
Girls	60.6	46.1	46.6	56.0		46.7	51.6	50.7	46.0	
Boys	39.4	53.9	53.4	44.0		53.3	48.4	49.3	54.0	

**p<.01; ***p<.001

best one for classifying families on the basis of these variables and that the profiles obtained differ significantly when they are compared on the basis of external individual and family variables. Furthermore, the profiles were validated with similar breakdowns for internal and external variables in 1999 and 2004. This finding is important, because, as far as we know, no study to date has validated a typology by cluster analysis using two independent population samples. Several authors believe that comparing groups on the basis of external variables is one of the best ways to validate clusters (Aldenderfer and Blashfield 1984; Bailey 1994). The overall results also show that the profiles are conceptually valid when compared with respect to external variables; the characteristics associated with each profile are in line with the observations of earlier studies of the connections between the seriousness of various family situations and the factors that increase the probability of child abuse (Thompson et al. 1999; Ward, Wynn, MacDonald, & Skuse 2004; Wissow 2001).

Implications for Practice

The families in the *Abusive* profile cluster are by definition the only ones to report severe or very severe assault on a child in the year preceding the study. But they are also the ones who report the most psychological aggression, corporal punishment, and domestic violence. They also have the proportionately highest number of risk factors: parenting stress, isolation, violence in childhood, single-parent household, and perceived poverty. The seriousness

of the family situations for this profile is similar to cases of co-occurrence of domestic violence and physical child abuse described in many population studies (Cox et al. 2003; Shipman et al. 1999; Tajima 2004). This picture suggests that a responsive approach directed toward those families is essential. In order to foster children's development and safety, intervention should aim to reduce the recurrence of violence against children and its aftereffects.

With regard to internal variables, the *Harsh* profile has a similar but less intense risk profile than the *Violent* profile. Although the families in this cluster report no severe or very severe assaults on their children, their scores on psychological aggression, corporal punishment, and domestic violence are significantly higher than those of the families in *Nonabusive* and *Paradoxical* profiles. These families are also the ones that most often state that they use nonviolent disciplinary strategies. Use of a combination of violent and nonviolent disciplinary methods suggests that the parents in this group are very proactive with their children, whom they also perceive to be especially difficult, as evidenced by the degree of parenting stress reported. These parents closely fit the *high interacter* profile described by Wissow (2001). Moreover, as in that study, which examined a representative sample, this profile accounted for the largest percentage of families, for both the 1999 and 2004 studies. Last, it should be mentioned that parents in this group reported more violence in their own childhood, greater parenting stress, and younger children than those in the *Nonabusive* and *Paradoxical* profiles. In short, this cluster, like the first one, is

worrisome. Indicated prevention strategies—behavior management, for instance—might keep abuse problems from occurring in these high-risk families (Lundahl et al. 2006; Nelson et al. 2001). When combined with cognitive approaches, these strategies might also be a good way to work on parenting models learned in childhood.

The *Paradoxical* profile, while reporting less violent behavior than the other profiles, tends to be more favorable to it. These families are just as much in favor of corporal punishment as those in the *Abusive* cluster and the most unaware of the consequences of violence. They report greater parenting stress than *Nonabusive* families, and have more and younger children. Are those families really exhibiting less violent behavior, are they underreporting it, or are they simply unaware of their violent behavior? In their case, services should be directed toward changing their attitudes by making them aware of the nature, extent, and consequences of family violence.

Last, the families in the *Nonabusive* profile are those whose reported attitudes and behaviors are the least violent of all the profiles. They also have fewer risk factors. These are the families in which the parents are least likely to report that they employ nonviolent disciplinary strategies. These findings suggest that the parents in this group, although not violent, are more passive with regard to discipline than those in the other three groups. Intervention with families in the *Nonabusive* profile should focus on promoting healthy parenting habits, such as parent–child communication skills.

Strengths and Limitations

Our study has some definite strengths. The two surveys, which were independent and representative of the general population, document many variables associated with family violence, often by means of standardized instruments. Use of large representative samples and the person-oriented approach to analyses are assets. Using the data from the surveys, we were able to validate the cluster solution chosen, first, by replicating it on the 1999 data, and second, by comparing the clusters on the basis of theoretically relevant external variables. Like the large size of both samples, this validation enhances the credibility of the proposed typology (Aldenderfer and Blashfield 1984).

Some limitations must nevertheless be considered. First we should point out that all the data came from two cross-sectional surveys involving only self-reported measurements, both current measurements (e.g., parental violence in past year) and retrospective measurements (e.g., violence experienced in childhood) more susceptible to memory bias. The cross-sectional designs do not allow causal

inferences to be drawn as to relations between the variables. Furthermore, despite all the conditions imposed on the telephone interviews to try to ensure a good response rate and high-quality self-reported data, the nature of the questions means that the surveys are still subject to social desirability bias. Even if the replication of the cluster solution increases confidence in its robustness, it is impossible to determine the impact on the surveys of nonrespondents or the withdrawal of respondents based on their missing data. Caution must therefore be exercised in generalizing the typology to the general population. There are also some measurement limitations, such as the fact that some items were developed for the purposes of the surveys. The low internal consistency of some scales is an indication of a large measurement error, which increases the observed variability and therefore makes the statistical analysis less powerful for those scales. It should also be pointed out that due to their limitations, cluster analyses are exploratory. For example, "it is possible to obtain different solutions with the same database, depending on the mathematical algorithms used (…) and there are no recognized statistical criteria for identifying the optimal classification of the sample" (Morizot and Tremblay 2002, p. 270). Last, there is an unfortunate lack of other variables that would make it possible to better target and understand the disciplinary context, such as ethnic origin, child's behavioral problems, parents' character traits, father's view of the situation, and parental warmth or neglect. In other studies, such variables have proven to be extremely useful in determining the dynamics of parental discipline and contexts of violence by means of cluster analysis (Haskett et al. 2004; Ward et al. 2004; Wissow 2001).

Conclusion

Our study confirms the importance of research and practice in a context of family violence along a promotion-prevention-cure continuum. Like the authors of other studies who have performed similar analyses, we have found that it would be a better idea to approach the issue of family violence first in terms of degree of severity rather than by looking at specific types of abuse (Higgins 2004; Thompson et al. 1999). This is in line with earlier studies showing that an analysis of forms of maltreatment or parental violence in isolation cannot, in itself, account for the complexity of family situations (Clément et al. 2009; Dattalo 1995; Ward et al. 2004). In short, our results call for a scientific and clinical approach focusing on the severity and chronicity of family situations and of associated characteristics, rather than on specific forms of violence and risk factors (Ward & Haskett 2008).

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