Parenting styles and bullying. The mediating role of parental psychological aggression and physical punishment

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Abstract

Studies concerning parenting styles and disciplinary practices have shown a relationship between both factors and bullying involvement in adolescence. The scarce available evidence suggests that abusive disciplinary practices increase teenagers' vulnerability to abuse in school or the likelihood of them becoming abusers of their peers in the same context. However, there is a lack of knowledge about the indirect effect of parenting styles in adolescents' bullying involvement through disciplinary practices, although a relationship between parenting styles and disciplinary practices has been shown. The aim of this research was to determine the mediating role of punitive parental discipline (physical punishment and psychological aggression) between the dimensions of parents' parenting styles and their children's involvement in bullying victimization and aggression. We used a sample comprising 2060 Spanish high school students (47.9% girls; mean age = 14.34). Structural equation modeling was performed to analyze the data. The results confirmed the mediating role of parental discipline between the parenting practices analyzed and students' aggression and victimization. Significant gender-related differences were found for aggression involvement, where boys were for the most part linked to psychological aggression disciplinary practices and girls to physical punishment. Victimization directly correlated with parental psychological aggression discipline behavior across both sexes. In conclusion, the results seem to suggest that non-democratic parenting styles favor the use of punitive discipline, which increases the risk of adolescents' bullying involvement. Therefore, intervention programs must involve parents to make them aware about the important role they play in this process and to improve their parenting styles.

Keywords: Bullying; victimization; parenting styles; disciplinary practices; family; adolescence

The phenomenon of bullying has attracted much scientific interest over the last four decades. Developments in this field have allowed us to obtain a far more accurate picture of the underlying characteristics of this type of interpersonal violence, the involvement roles at play, prevalence data on an international level, and the consequences such violence may have for the school-goers involved (Zych, Ortega-Ruiz, & Del Rey, 2015). Several studies have also highlighted the relevance of certain individual factors which can behave as a protective or risk factors of bullying involvement, such as personality (Book, Volk, & Hosker, 2012), empathy (Jolliffe & Farrington, 2011), self-esteem (Kokkinos & Kipritsi, 2012), and emotional intelligence (Elipe, Ortega, Hunter, & del Rey, 2012). Moreover, the factors which emerge from the immediate social context, such as the school climate, peer relations and dynamics (Casas, Del Rey, & Ortega, 2013), and, to a lesser extent, the family environment (Yubero, Larrañaga, & Martínez, 2013), have also been shown to be related with the bullying phenomenon.

The analysis of family influence on bullying involvement begins with the impact that the basic primary attachment process has on the child's sociability (Ireland & Power, 2004; Walden & Beran, 2010), the emotional climate in the home (Boel-Studt & Renner, 2013; Cava, Musitu, Buelga, & Murgui, 2010), and the social support that children are likely to find in this context (Holt & Espelage, 2007). In addition, most family-oriented studies have mainly focused on analyzing parenting styles (Nickerson, Mele, & Osborne-Oliver, 2010), defined by Darling and Steinberg (1993) as the attitudes that the mother and father exhibit – together or separately – and which create the socio-emotional climate in which the children find themselves immersed. Thus, it

has been reported that a high perception of parental support, acceptance, and dedication is associated with less bullying involvement in general (Baldry & Farrington, 2005) and victimization in particular (Lereya, Samara, & Wolke, 2013), whereas negative communication with the father increases the likelihood of involvement in school violence (Estévez, Murgui, Moreno, & Musitu, 2007).

The effects of parental control, however, are not so readily identifiable. While some authors point to a lack of parental supervision as a risk factor (Espelage, Bosworth, & Simon, 2000), others find no correlation between control and bullying involvement, with psychological control deemed the only parental practice that appears to be linked to this kind of violence (Gómez-Ortiz, Del Rey, Casas, & Ortega-Ruiz, 2014; Kawabata, Alink, Tsen, Van Ijzendoorn, & Crick, 2011). These results may be explained on the basis of gender differences, with recent evidence suggesting that parental monitoring could involve a risk effect only in girls (Boel-Studt & Renner, 2013)

In addition to affection and control, other parental attitudes such as humor and the promotion of autonomy appear to be related to bullying involvement. Specifically, most non-involved school-goers often describe their parents as using positive humor and displaying a greater tendency towards encouraging the promotion of autonomy. Moreover, these students were significantly more likely to voluntarily reveal information about their lives to their parents (Gómez-Ortiz et al., 2014). Other studies carried out from a categorical perspective have linked key parenting styles (authoritarian, neglectful, democratic, and permissive) to bullying involvement (Baumrind, 1968; Maccoby & Martin, 1983). In this regard, authoritarian, permissive, and indifferent styles seem to be much more common in parents whose children show aggressive behavior towards their peers or are the victims of such aggression, whereas

the democratic style would be more characteristic of parents whose children are not involved in bullying (Baldry & Farrington, 2000; Kawabata et al., 2011; Lereya et al., 2013).

Despite the limited available research, some studies suggest that discipline, understood as a parenting practice aimed at correcting a child's behavior (Calvete, Gámez-Guadix, & Orue, 2010), also has an impact on bullying involvement; most notably physical discipline. This approach is represented by behavioral displays such as shaking, pushing, slapping, punching, and using objects like belts, brooms, and sticks to beat the child. This practice, especially by mothers, has been linked to peer-led aggression and victimization (Duong, Schwartz, Chang, Kelly, & Tom, 2009; Espelage et al., 2000; Lereya et al., 2013). Parental psychological aggression, characterized by the use of manipulation techniques such as withholding affection, blaming, yelling, and throwing insults, have also been shown to be related to peer aggression in sons and daughters (Rogers, Buchanan, & Winchel, 2003; Zottis, Salum, Isolan, Manfro, & Heldt, 2014). To a lesser extent, other parental disciplinary practices, including compensation and taking away privileges, seem to be associated with peer aggression. This evidence suggests that discipline, and specifically punitive discipline, could be an important factor related to bullying. In this regard, it seems that to have been physically or psychologically victimized at home would increase the likelihood of becoming a bully or a victim of bullying in school. Determining what leads parents to exercise this kind of discipline would help to prevent its use and hence bullying.

Darling and Steinberg (1993) proposed an interactive model of parenting, in which some aspect of parenting would influence or moderate other aspects in their association with or prediction of child adjustment outcomes. Their theory posits that parenting styles (global or specific parental attitudes grounded in their own behavior or

parental practices) determine parenting practices (behaviors defined by a specific content and based on socialization goals, such as attending children's sports events and school functions or using certain disciplinary procedures, such as reasoning with children so that they understand the inappropriateness of their conduct) that directly influence the child's development. Therefore, parenting styles would exert an indirect effect in children and adolescent adjustment through parenting practices. Several studies have examined some of the assumptions of this theory, showing how parenting styles can determine certain parental practices, such as disciplinary practices and their effects on children or adolescent psychosocial adjustment. Wade and Kendler (2001), for example, found an inverse relationship between parental warmth and physical discipline, with less warm parents using this type of discipline more frequently. In another study, Gaertner et al. (2010) checked the validity of the complete model by analyzing the relationship between different sources of parental control and children peer aggression. The authors found that parental solicitation (questioning and conversation with the goal of obtaining information about the child's free time and activities) moderated the association between parental psychological control and peer relational aggression. They reported that at high levels of parental solicitation, psychological control and relational aggression were positively related, whereas these two dimensions were unrelated at low levels of parental solicitation. Moreover, Rikhye et al. (2008) showed that adults who had suffered some kind of family maltreatment in their childhood described the parenting styles of their parents as authoritarian, indifferent, or low in affection and are more likely to develop anxiety or depression.

Although these studies suggest the validity of Darling and Steinberg's theory in establishing the influence of parenting styles on children and adolescents' adjustment, to the best of our knowledge there are no studies which have attempted to apply the

theory to explain bullying involvement using punitive disciplinary practices as parenting styles. Therefore, it would be interesting to develop a model to explain bullying involvement in adolescence based only on family factors and specifically on parenting styles and practices.

The aim of this study was to identify whether parenting styles can influence punitive parental discipline, and whether both can predict bullying in a coordinated fashion. Specifically, we sought to identify the direct influence of the parenting styles of both mothers and fathers on the peer aggression and victimization behaviors of their sons and daughters, as well as the indirect influence of parenting styles through disciplinary practices involving psychological aggression and physical punishment. To this end, three hypotheses were proposed:

H1: The dimensions of paternal and maternal parenting styles will significantly predict maternal and paternal discipline used on sons and daughters. Both variables will have an impact on aggressive behavior towards peers, which will be directly explained by parental psychological aggression and parental physical punishment (Espelage et al., 2000; Zottis et al., 2014).

H2: The dimensions of paternal and maternal parenting styles will significantly predict maternal and paternal discipline used on sons and daughters. Both variables will have an impact on victimization, where parental psychological aggression as a parental disciplinary practice is directly related to victimization (Duong et al., 2009; Kawabata et al., 2011).

H3: The gender variable (fathers/mothers and sons/daughters) will be relevant (Gryczkowski, Jordan, & Mercer, 2010; Tur-Porcar, Mestre, Samper, & Malonda, 2012). Specifically, parenting styles, as well as specific forms of discipline, will play a

more determinant role in bullying involvement among girls (Boel-Studt & Renner, 2013; Estévez et al., 2007; Moreno, Estévez, Murgui, & Musitu, 2009).

Method

Sample

The study was carried out in accordance with the Declaration of Helsinki. The reference population used to conduct this study comprised all male and female students (368.838 in total) enrolled in compulsory secondary education (ESO; *Educación Secundaria Obligatoria* in Spanish) from the region of Andalusia (an autonomous community located in southern Spain). The sampling units were the high schools imparting said education and the units of analysis were the students themselves. Prior to the data collection, informed consent was obtained from the parents to allow the children to participate in the study. In order to select the participants, random, stratified, cluster-based, probabilistic, monoetapic sampling with proportional allocation was performed. The strata were identified as geographical area (eastern or western part of Andalusia), type of school (public or private) and municipal population (less than 10,000 inhabitants, between 10,001 and 100,000 inhabitants and more than 100,000 inhabitants). All of the categories of the strata are relevant indices in Spain.

The study applied a 95.5% confidence level, a sampling error of 2.5%, and assumed greater variability ($p = q = 0.5$) (Cea D'Ancona, 1996).

The final sample comprised 2,060 ESO students, of which 52.1% were male and 47.9% female. The students were aged between 12 and 19 years ($M = 14.34$; $SD = 1.34$). 28.4% were in their first year of ESO, 28.4% in their second year, 22.1% in their third year, and 21.1% in their fourth year.

Measures

Bullying involvement was assessed using the *European Bullying Intervention Project Questionnaire* (EBIPQ; Brigui et al., 2012). The survey comprises 14 Likert-type items, each with 5 possible responses related to involvement frequency (*never*; *once or twice*; *once or twice a month*; *about once a week*; *more than once a week*). Seven questions correspond to the perception of victimization (e.g., "Someone has hit, kicked, or pushed me"), while the remaining seven refer to direct or indirect verbal, physical and relational aggression (e.g., "I threatened someone"). McDonald's omega internal consistency indices yielded appropriate reliability (Ωvictimization = .86; Ωaggression = .86; and Ωtotal = .89).

Parenting styles were evaluated using the *Escala para la evaluación del estilo educativo de padres y madres de adolescentes* (*Parenting Style Scale for Fathers and Mothers of Adolescents*; Oliva, Parra, Sánchez-Queija, & López, 2007). The scale contains 82 Likert-type items with six possible responses, where respondents are asked to rate their level of agreement (41 for paternal parenting style and 41 for maternal parenting style). Six parenting style dimensions are assessed in the scale: affection and communication (D1; e.g., "I feel that my father or mother support and understand me"); behavioral control (D2; e.g., "My father or mother places a curfew on me"); psychological control (D3; e.g., "My father or mother is cold and distant with me if I do something he or she does not like"); promotion of autonomy (D4; e.g., "My father or mother encourages me to tell him/her what I think even if he/she disagrees"); humor (D5; e.g., "It's fun to do things with my father or mother"); and children's disclosure to parents (D6; e.g., "I tell my father or mother what I do in my free time"). The internal consistency of this study, assessed using McDonald's omega coefficient, was adequate on a general level (Ωtotal = .95) and across the different subscales (ΩD1 mother = .93;

ΩD1 father = .94; ΩD2 mother = .85; ΩD2 father = .87; ΩD3 mother = .87; ΩD3 father = .87; ΩD4 mother = .89; ΩD4 father = .90; ΩD5 mother = .90; ΩD5 father = .91; ΩD6 mother = .87; ΩD6 father = .88).

The disciplinary practices related to psychological aggression (e.g., "How often did your parents shout or yell at you?") and physical punishment (e.g., "How often did your parents spank, slap, smack, or swat you?") were taken from the *Discipline Dimensions Inventory* (DDI; Straus & Fauchier, 2007; Spanish version validated by Calvete, Gámez-Guadix, & Orue, 2010). Although this scale assesses four types of disciplinary procedures (physical and psychological punishment, supervision, inductive discipline, and response cost), we chose only the first practices relative to punitive discipline as previous studies suggest that these procedures are the most relevant for examining the risk factors of bullying involvement and maladjustment in general. Each scale is made up of 8 items (4 assessing maternal disciplinary behaviors and 4 assessing paternal ones) scored on a 0–9 Likert scale measuring the frequency with which such practices are applied (0 = *never*; 9 = *two or more times a day*). The psychometric properties of both scales were analyzed.

Data analysis

The Mann-Whitney rank sum U test was conducted to determine whether there were any significant gender-related differences in the variables used, and hence the need to create explanatory models independently for boys and girls. This analysis was performed using SPSS version 18.0.

A structural equation model (SEM) was developed for each hypothesis, differentiating between boys and girls and applying the variables corresponding to parenting style and paternal and maternal discipline. These models were calculated using LISREL 9.1 software. Taking into account the categorical nature of the

questionnaire variables and the descriptive results of the items, where the absence of normality was evident when some variables reached values well over 0 in asymmetry and values of kurtosis greater than 2 (Bollen & Long, 1994), the weighted least squares estimation method was used. The significance of the chi-square value was tested to evaluate the fit of the model (values above .01 indicate a good fit). The value of this index is subject to other variables such as sample size (Byrne, 2014); hence, other indicators were incorporated: a X^2S-B quotient and its degrees of freedom (values below 5 indicate a good fit; Carmines & McIver, 1981), the comparative fit index (CFI), the non-normed fit index (NNFI), the goodness-of-fit index (GFI; values equal to or above .95 indicate a good fit) and the root mean square error of approximation (RMSEA; values below .08 indicate a good fit; Byrne, 2014; Hu & Bentler, 1999).

Confirmatory factor analysis (CFA) was conducted using the weighted least squares estimation method in order to verify the factorial structure of the parental psychological aggression and physical punishment scale.

The reliability analysis was based on McDonald's omega results owing to the absence of multivariate normality (Elosua, Oliden, & Zumbo, 2008). Calculations were performed using the Factor 9.3. program (Lorenzo-Seva & Ferrando, 2006).

Results

The results of the Mann-Whitney U test regarding the mean difference between boys and girls for the parenting style and parental discipline variables are shown in Table 1. Both sexes reported significantly different perceptions of maternal and paternal affection and communication, behavioral control, and promotion of autonomy. Additionally, differences in boys' and girls' perceptions of humor in both parents, disclosure to the mother, and disciplinary behaviors in both parents were found. These

results highlight the need to develop explanatory models for aggression and victimization according to parenting styles and parental disciplinary practices for boys and girls separately.

Insert Table 1 here

The results concerning the validation of the psychological aggression (PA) and physical punishment (PP) discipline dimensions in two independent and correlated factors demonstrated a good fit for both the father scale (X^2S-B = 156.01; p = .00; NNFI = .97; CFI = .98; GFI = .99; RMSEA = .067) and the mother scale (X^2S-B = 192.29; p = .00; NNFI = .96; CFI = .97; GFI = .99; RMSEA = .076). Adequate internal consistency indices were obtained for each subscale: ΩPP Mother = .92; ΩPP Father = .92; ΩPA Mother = .81; ΩPA Father = .82.

To answer Hypothesis 1 and to confirm the predictive value of the maternal and paternal parenting styles and the discipline administered by mothers and fathers in terms of aggression, several SEMs were developed for boys and girls separately and for parenting style and mother- and father-driven discipline.

The first model shown applies solely to girls and only includes the variables pertaining to maternal parenting style and mother-led discipline (see Figure 1). In this model, the maternal parenting style variable that directly influenced aggression was promotion of autonomy (β = -.21; p < .05). Affection and communication had an indirect effect on aggression (β = -.70; p < .05) via the relationship with the physical punishment disciplinary practice, which presented a significant and direct relation with aggression (β = .64; p < .05). The model showed a good fit: X^2 = 1471.94; p = .00; X^2/G.L. = 4.59; NNFI = .96; CFI = .96; GFI = .97; RMSEA = .073. The direct and indirect effects of the variables explained 62% of the variance of bullying aggression in girls and 49% of the variance of physical punishment.

Insert Figure 1 here

The following model corresponds to Hypothesis 1; it is specific to boys and uses parenting style and maternal discipline as independent variables (see Figure 2). In this case, affection and communication (β = -.28; p < .05), classed as a parenting style dimension, and physical aggression (β = .33; p < .05), which is classed as a disciplinary procedure, were the only variables that correlated directly with aggression, explaining 30% of its variance. The results also revealed an indirect effect of promotion of autonomy on aggression via the relationship between this variable and psychological aggression (β = -.67; p < .05), explaining 46% of the variance of the latter. The model showed a good fit: X^2S-B = 981.29; p = .00; X^2/G.L. = 3.06; NNFI = .95; CFI = .96; GFI = .97; RMSEA = .057.

Insert Figure 2 here

The following models used the paternal discipline and parenting style dimensions as independent variables.

The first hypothesized model, which is specific to girls (see Figure 3), showed a good fit: X^2S-B = 1166.23; p = .00; X^2/G.L. = 3.64; NNFI = .97; CFI = .97; GFI = .97; RMSEA = .064. The results of this model revealed a significant direct effect of promotion of autonomy (β = -.27; p < .05) and physical punishment (β = .60; p < .05) on aggression. Affection and communication showed a significant indirect effect on aggression via its relationship with physical punishment (β = -.66; p < .05), thus explaining 44% of the variance of physical punishment. The model presented explained 63% of the variance of aggression in girls.

Insert Figure 3 here

The results of the second structural model, which is specific to boys (see Figure 4), found the aggression variable to be affected by affection and communication (β = -.29; p < .05) as a parenting style dimension, and by psychological aggression as a disciplinary behavior (β = .43; p < .05). These direct effects, together with the indirect effect of humor (β = -.63; p <.05) via its relationship with psychological aggression (39% of the explained variance of psychological aggression), explained 41% of the variance of aggression in boys. The model showed a good fit: X^2S-B = 795.95; p = .00; X^2/G.L. = 2.93; NNFI = .96; CFI = .97; GFI = .97; RMSEA = .057.

Insert Figure 4 here

In response to the second hypothesis, four models were also developed to analyze the predictive value of parenting style and maternal and paternal discipline relative to victimization in girls and boys.

The first model is specific to girls and only includes the mother-led parenting style and discipline dimensions (see Figure 5). The model, which showed a good fit (X^2S-B = 1675.16; p = .00; X^2/G.L. = 4.20; NNFI = .96; CFI = .96; GFI = .97; RMSEA = .071), explained 27% of the variance of victimization. Direct relationships were established with the disclosure parenting style dimension (β = -.13; p < .05) and with the psychological aggression disciplinary practice (β = .42; p < .05). Moreover, indirect relationships were found between affection and communication (β = -.90; p < .05) and behavioral control (β = .18; p < .05) with bullying victimization by way of parental psychological aggression (63% of the variance of psychological aggression is explained by its relationship with the parenting styles included in the model).

Insert Figure 5 here

The second model focuses on boys and uses mother-led discipline and parenting dimensions as independent variables (see Figure 6). In this case, humor (β = -.08; p < .05) and psychological aggression (β = .49; p < .05) were the variables that directly correlated with peer-to-peer victimization. Additionally, an indirect relationship was observed between affection and communication (β = -.94; p < .05) and behavioral control (β = .38; p < .05) and victimization via the relationship between the first variables and maternal psychological aggression (57% of the variance of psychological aggression is explained by these relationships). All of these relationships managed to explain 30% of the variance of victimization. The results revealed that the model had an acceptable fit: X^2S-B = 1937.60; p = .00; X^2/ G.L. = 4.53; NNFI = .95; CFI = .95; GFI = .96; RMSEA = .075.

Insert Figure 6 here

Using father-led discipline and the behavioral dimensions of paternal parenting style as independent variables, the results of the model specific to girls (see Figure 7) showed a good fit (X^2S-B = 1546.36; p = .00; X^2/ G.L. = 3.88; NNFI = .97; CFI = .97; GFI = .97; RMSEA = .067), and found the school victimization variable to be directly and significantly affected by disclosure to the father (β = -.075; p < .05) and parental psychological aggression (β = .54; p < .05). Additionally, the parenting style dimensions of affection and communication (β = -.88; p < .05) and behavioral control (β = .17; p < .05) correlated indirectly with victimization by way of their influence on psychological aggression. Considered together, all of these relations managed to explain 35% of the variance of victimization in girls and 57% of the psychological aggression administered by the father.

Insert Figure 7 here

The results of the model specific to boys (see Figure 8) found affection and communication to be the only paternal parenting style dimension that directly influenced bullying victimization (β = -.27; p < .05), alongside psychological aggression disciplinary practices (β = .16; p < .05). Humor showed an indirect yet significant relationship with victimization by way of its relationship with psychological aggression administered by the father (β = -.60; p < .05). Considered together, these relationships explained 15% of victimization in boys and 36% of psychological aggression. The model showed a good fit: X^2S-B = 772.43; p = .00; X^2/ G.L. = 2.85; NNFI = .97; CFI = .97; GFI = .98; RMSEA = .054.

Insert Figure 8 here

Discussion

The aim of this study was to ascertain whether the dimensions of parenting styles and parental punitive discipline, always from the child's perspective, can predict bullying aggression and victimization.

Regarding the first hypothesis, the results corresponding to the peer aggression models for girls revealed a direct effect of physical punishment administered by both parents, as well as a lack of parental promotion of autonomy. Physical punishment disciplinary behavior is explained by the negative perception of affection and communication in both parents, who therefore play a mediating role between the parental practice of affection and communication and bullying aggression. The study brings to the forefront the protective effect of affection and communication and promotion of autonomy, as well as the negative effect of physical punishment.

As for the boys, affection and communication shared with both parents and parental psychological aggression directly predicted bullying aggression. Parental

psychological aggression was explained by maternal promotion of autonomy and the perception of paternal humor, which indirectly correlated with bullying aggression. The positive perception of affection and communication, promotion of autonomy and parental humor acted as protective factors in the context of involvement in this violent dynamic, taking on a bullying role, whereas psychological aggression administered by both parents was identified as a practice involving risk.

These findings match with those of previous studies that highlight the protective role of affection and communication (Baldry & Farrington, 2005; Estévez et al., 2007), humor, and the promotion of autonomy (Gómez-Ortiz et al., 2014) on peer-directed aggressive behavior and on bullying involvement in general, as well as the risk involved in disciplinary practices based on physical punishment or psychological aggression (Espelage et al., 2000; Zottis et al., 2014).

The negative impact of physical punishment on child and youth psychosocial adjustment has been widely demonstrated, especially for girls (DeVet, 1997; Harper, Brown, Arias, & Brody, 2006). In this case, poor adjustment translates into aggressive behavior towards one's peers, which could be acquired and maintained through social learning and the justification and normalization of violence due to habituation. As such, children who are physically punished may believe that violence is a lawful way to interact and that it helps exert control over others (Orue & Calvete, 2012). This would favor the first step of the control-submission schema and hence the development of the bullying phenomenon (Ortega & Mora-Merchán, 2008). However, it is necessary to delve deeper into the role of both processes (habituation and social learning) as precursors of bullying in children who have been physically punished.

From the social learning perspective, the use of parental psychological aggression may also lead to the use of peer-directed violence when learning how to

employ insults, manipulation, and humiliation as interaction and control tools. Soenens, Vansteenkiste, Goossens, Duriez, and Niemiec (2008) class this as an aversive technique that produces feelings of hostility and insecurity in the child. Feelings and emotions accompanied by ineffective and inappropriate parenting patterns, such as a lack of affection and communication, could encourage the development of externalizing behaviors, which notably include aggression by bullies. Thus, from the child's stance, peer-directed aggression could be seen as an effective tool to prevent an attack or harm of any kind that impacts on his or her emotional health. In this context, other authors (Rathert, Fite, Gaertner, & Vitulano, 2011) also found that parental psychological aggression especially encouraged the development of proactive – more so than reactive – aggressive behaviors towards peers in early adolescence. Although the findings from the current study do not exactly show this, social learning could be examined in future research as an underlying process that may lead to peer aggression in psychologically maltreated children.

In terms of the second hypothesis relative to victimization, the results in girls revealed a direct effect of parental psychological aggression and disclosure to both parents, and an indirect effect of affection and communication and of behavioral control perceived by both parental figures. Specifically, behavioral control is positively associated with parental psychological aggression, which in turn directly favors victimization. This is a situation that appears to be prevented by the positive perception of parental affection and communication, as well as the voluntary disclosure of information by the child.

Peer-led victimization in boys was found to be linked to the perception of affection and communication and humor by both parents, as well as maternal behavioral control and paternal and maternal psychological aggression. The positive perception of

affection and communication and parental humor seemed to act as protective factors, whereas increased use of behavioral control was seen as a negative factor that favors the introduction of psychological aggression techniques directly associated with victimization.

Previous research stresses the importance of affection and communication, behavioral control, disclosure, and humor as protective parenting style dimensions in victimization scenarios (Baldry & Farrington, 2005; Gómez-Ortiz et al., 2014; Kawabata et al., 2011; Lereya et al., 2013). The protective effect of the voluntary disclosure of information on victimization is worth highlighting. This information seems to help raise parents' awareness about the difficult situations their children find themselves in, which makes it possible for them to intervene and guide their sons and daughters to a successful outcome if they are being harassed by their peers (Cava et al., 2010). Furthermore, studies also point to how a boy or girl who is psychologically bullied at home via insults, humiliation, and yelling could develop feelings of anxiety and low self-esteem (Taillieu & Brownridge, 2013), making it difficult for these children to effectively defend themselves against and thwart peer-led aggression, which in turn would lead to the emergence of the role of victim and thus the establishment of the perverse schema that maintains this violent dynamic (Egan & Perry, 1998). In short, these results are in line with those of Widom, Czaja, and Dutton (2008), who indicated that family victimization in childhood increases the risk of being re-victimized at a later stage.

As we outlined in the third hypothesis, the percentage of the explained variance obtained in the girl models as opposed to the boy models seems to indicate that the family-based variables analyzed here have a greater explanatory power with respect to aggressive behavior in girls. In the case of boys, however, non-controlled, different

social and individual variables may, for the most part, explain involvement in this phenomenon (Estévez et al., 2007; Moreno et al., 2009). Furthermore, the variables involved in most of the models vary according to the sex of the parent and child. From this perspective, several studies have shown that mothers and fathers raise their sons and daughters in different ways, and that the impact of parenting styles on behavioral problems and aggressive behavior also varies depending on the child's gender and the involved parent (Gryczkowski et al., 2010; Tur-Porcar et al., 2012). Our results reveal an especially interesting finding in that the disciplinary practices associated with the development of aggressive behaviors among peers are two different practices dependent on the child's gender: parental psychological aggression in boys and physical punishment in girls. Coinciding with our results, Xing, Wang, Zhang, He, and Zhang (2011) reported a relationship between parental practices based on physical punishment and the development of externalizing behaviors, though only in the case of girls. Moreover, Loukas, Paulos, and Robinson (2005) found that the damaging effect of maternal psychological control on the development of aggressive behaviors tends to be greater in boys than in girls.

Lansford et al. (2005) turned to cultural standards concerning the acceptance and assessment of disciplinary practices in a specific reference group to explain the greater or lesser harmful effects of punitive disciplinary practices relative to a child's adjustment, where less regulations and acceptance equate to a greater negative impact. Different studies support the utility of applying this theory to our results, as they shed light on the differences in terms of acceptance and frequency of use regarding parenting practices relative to the child's gender. Thus, the use of physical punishment among boys produces greater acceptance than among girls, whereas the parental use of psychological aggression is more pronounced in girls (Barnett & Scaramella, 2013; Tur-

Porcar et al., 2012). This fact may enhance awareness of psychological aggression in boys and physical punishment in girls given their less frequent use, and hence greater adjustment problems, which in this case would translate into the development of unwarranted aggressive behavior towards one's peers.

Finally, it is necessary to highlight the fact that our study has confirmed a correlation between the behavioral dimensions of different parenting styles and the specific behaviors pertaining to parental discipline perceived by sons and daughters (Gaertner et al., 2010; Wade & Kendler, 2001), as well as the indirect effect of parenting style on youth adjustment, as reported by Darling and Steinberg (1993). Specifically, the use of parental psychological aggression as a disciplinary method seems to be determined by the amount of affection and communication, behavioral control, and humor that both parents express towards their children, as well as by their tendency to promote child autonomy. In contrast, physical punishment practices have been shown to be conditioned only by the expression of affection and the quality of the communication that sons and daughters perceive. These findings reflect a relational trend between parenting style dimensions associated with the traditional parenting style categories and the disciplinary practices analyzed here. Thus, it seems that the dimensions most closely related to democratic and permissive styles, such as the promotion of autonomy, humor, affection, and communication, are seen to be inversely related to the these disciplinary practices, yet still maintain a direct relationship with dimensions more typical of authoritarian styles, such as behavioral control (Baumrind, 1968; Maccoby & Martin, 1983; Oliva et al., 2007). These results are in line with the findings of Rikhye et al. (2008), who demonstrated that adults who had suffered child abuse described their experiences of parental bonding as being very close to an authoritarian or negligent style.

In conclusion, this study confirms the important role that the family, and particularly the parenting styles of both parents and the parenting practices that characterize them, play in bullying involvement among boys and especially the development of aggressive behavior among girls during the high school years. The results suggest that abusive parental practices, such as physical punishment and psychological aggression, increase the vulnerability of teenagers to abuse in school or the likelihood of them becoming abusers of their peers, where the lack of affection and communication, lower promotion of autonomy, bad humor, and greater behavioral control are the dimensions of parenting styles which favor these negative disciplinary practices. Therefore, when designing an effective intervention program to tackle bullying and other externalizing behaviors and prevent victimization, it is important to consider re-educating family members in the interest of fostering positive parental parenting styles which include affection, good humor, and the establishment of two-way communication, as well as the promotion of autonomy and moderate supervision, but always in accordance with the developmental levels of both sons and daughters. These styles lead to the avoidance of psychological control and violent and punitive disciplinary practices, such as physical punishment and psychological aggression, and the substitution of these practices for others that focus on the learning of restoration and compensation as life values and reinforcement (Miller Brotman et al., 2009; Wiggins, Sofronoff, & Sanders, 2009).

This study does, however, present some limitations. First, the use of self-report measures to gather information by offering the subjective perceptions of the respondents urges caution when making statements, as we are not talking about family behaviors but rather filial perceptions about parenting styles and discipline. However, adolescents seem to be the most reliable source of information, since they are less influenced by

biases when describing the parenting style of their parents, unlike their parents who often show greater social desirability (Oliva et al., 2007). The cross-sectional design of our study also limits our ability to draw firm conclusions concerning the precise relationship between parenting styles and disciplinary practices and adolescents' bullying involvement. Furthermore, the fact that we have only addressed variables that belong to such a specific context as the family environment to explain such a vast and complex phenomenon as school-based bullying may reduce the explanatory power of the models. It is also important to note that, based on previous research on risk factors of bullying involvement, our models only include punitive disciplinary methods because our aim is to determine the parental practices and styles which favor adolescent bullying involvement and not non-involvement. For this reason, future lines of research should be aimed at developing and verifying explanatory models using variables corresponding to other contexts such as the school or community setting, as well as those of a personal nature, which address, for example, self-esteem or personality. In future research it would also be interesting to include non-punitive disciplinary methods in the models, such as inductive disciplinary practices and positive parenting styles, to test the opposite aim: to explain non-bullying involvement.

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Tables

Table 1: Mann-Whitney rank sum U test to determine the differences in bullying involvement, perception of parenting styles and parental discipline by sex

	Sex	N	Average range	Rank sum	Mann-Whitney U	Wilcoxon W	Z	Sig.
Affection & Communication M	Boys	978	905.89	885958.50	407227.50	407227.50	-3.914	.000***
	Girls	928	1003.68	931412.50				
Affection & communication P	Boys	949	939.19	891294.50	393651.50	780411.50	-2.083	.037**
	Girls	879	887.84	780411.50				
Behavioural control M	Boys	952	867.49	825848.50	372220.50	825848.50	-5.340	.000***
	Girls	912	1000.36	912331.50				
Behavioural Control P	Boys	921	834.22	768320.50	343739.50	768320.50	-5.170	.000***
	Girls	869	960.44	834624.50				
Psychological Control M	Boys	943	970.79	915456.00	379283.00	785634.00	-3.986	.000***
	Girls	901	871.96	785634.00				
Psychological control P	Boys	908	930.08	844516.00	343602.00	708687.00	-4.135	.000***
	Girls	854	829.84	708687.00				
Promotion of autonomy M	Boys	945	859.41	812146.00	365161.00	812146.00	-5.701	.000***
	Girls	912	1001.10	913007.00				
Promotion of autonomy P	Boys	910	845.31	769230.50	354725.50	769230.50	-3.798	.000***
	Girls	870	937.77	815859.50				
Humour M	Boys	934	869.14	811774.00	375129.00	811774.00	-4.487	.000***
	Girls	913	980.12	894854.00				
Humour P	Boys	934	869.14	811774.00	375129.00	811774.00	-4.487	.000***
	Girls	913	980.12	894854.00				
Disclosure M	Boys	892	784.62	699884.00	301606.00	699884.00	-8.763	.000***
	Girls	889	997.74	886987.00				
Disclosure P	Boys	861	832.74	716986.50	345895.50	716986.50	-1.840	.066
	Girls	847	876.62	742499.50				
Physical punishment M	Boys	908	972.40	882940.00	345130.00	748781.00	-5.995	.000***
	Girls	898	833.83	748781.00				
Physical punishment P	Boys	867	944.57	818944.50	288214.50	643960.50	-7.991	.000***
	Girls	843	763.89	643960.50				
Psychological aggression M	Boys	903	968.50	874556.00	342688.00	744544.00	-5.624	.000***
	Girls	896	830.96	744544.00				
Psychological aggression P	Boys	870	932.10	810923.00	300502.00	655405.00	-6.445	.000***
	Girls	842	778.39	655405.00				

Figures

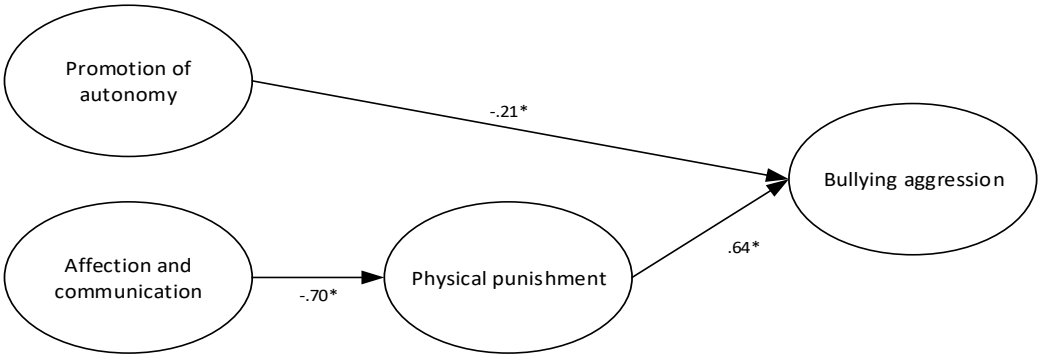

Figure 1: Explanatory model of aggression in girls on the basis of maternal discipline and parenting styles

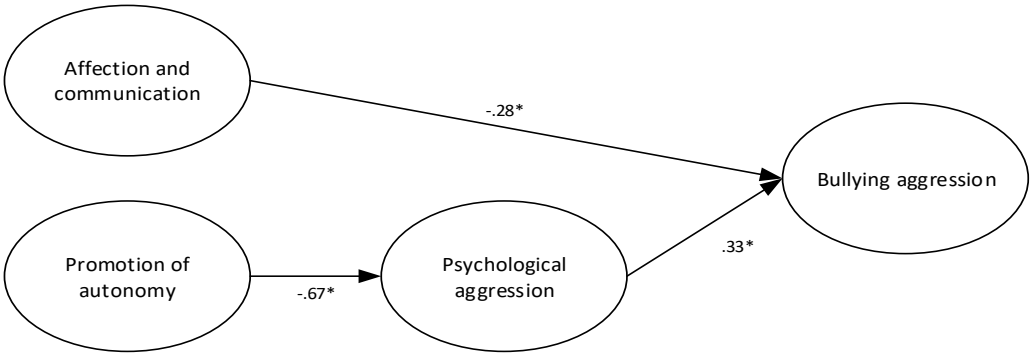

Figure 2: Explanatory model of aggression in boys on the basis of maternal discipline and parenting styles

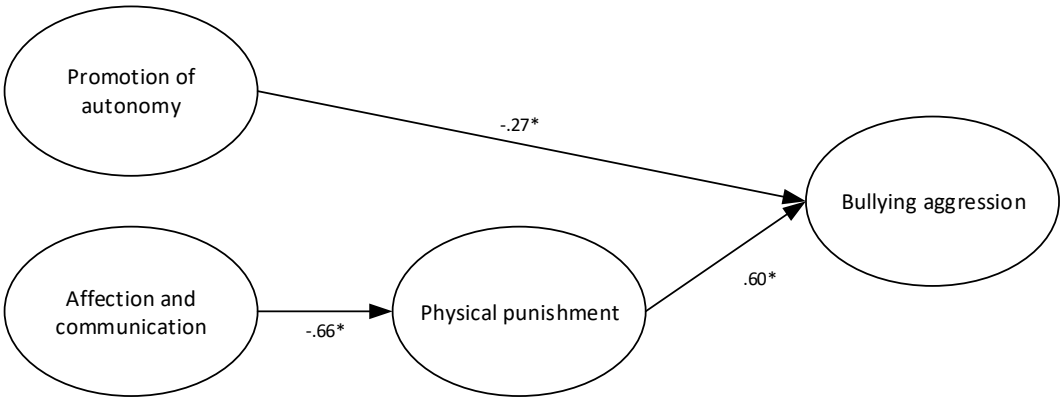

Figure 3: Explanatory model of aggression in girls on the basis of paternal discipline and parenting styles

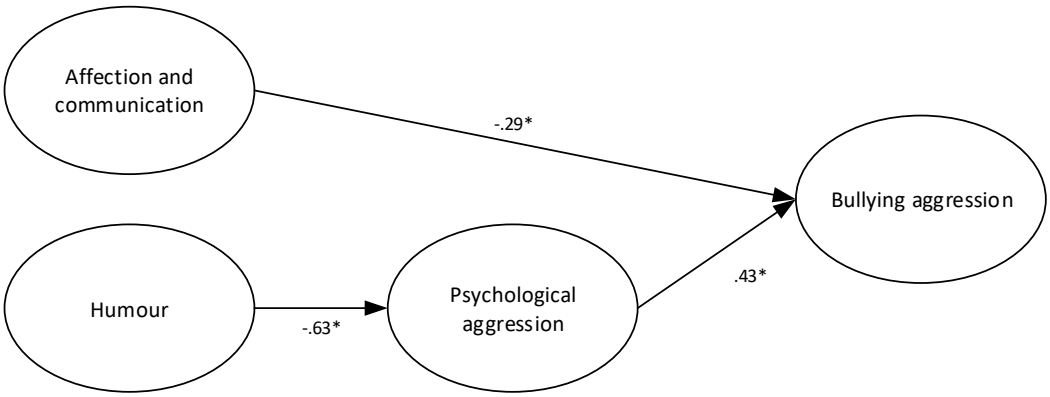

Figure 4: Explanatory model of aggression in boys on the basis of paternal discipline and parenting styles

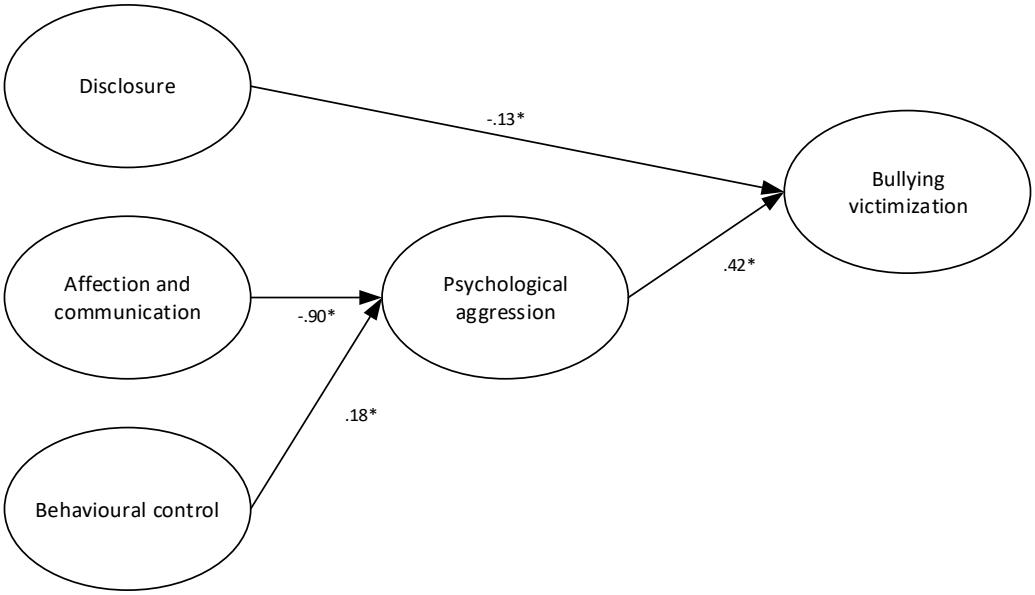

Figure 5: Explanatory model of victimization in girls on the basis of maternal discipline and parenting styles

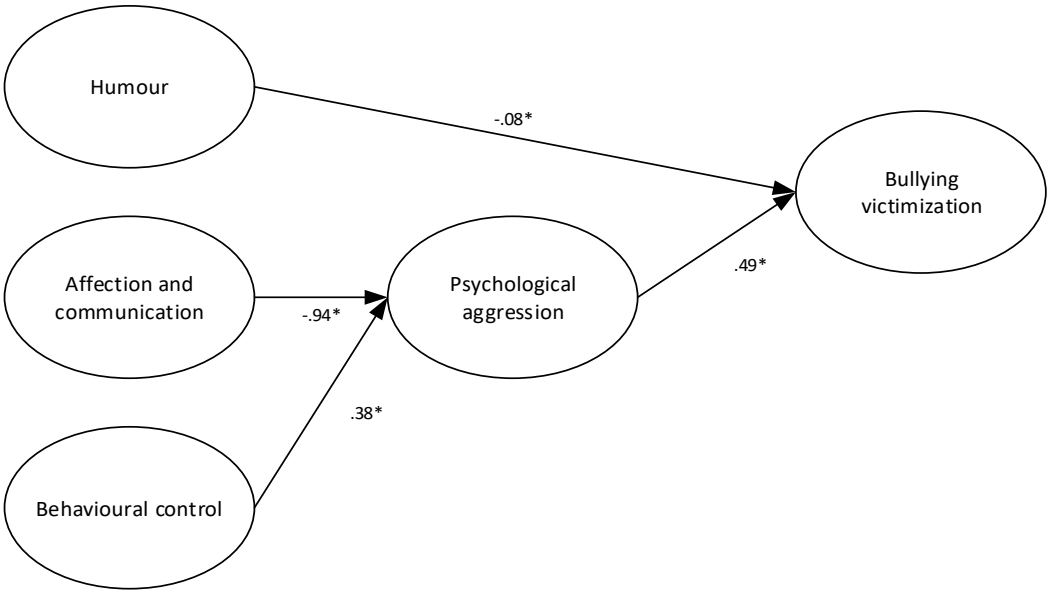

Figure 6: Explanatory model of victimization in boys on the basis of maternal discipline and parenting styles

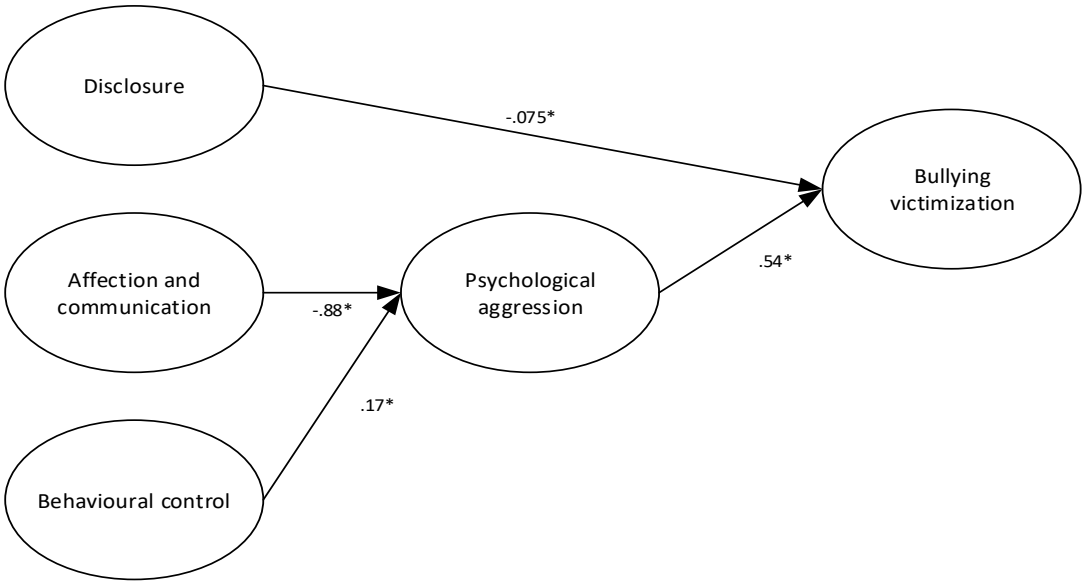

Figure 7: Explanatory model of victimization in girls on the basis of paternal discipline and parenting styles

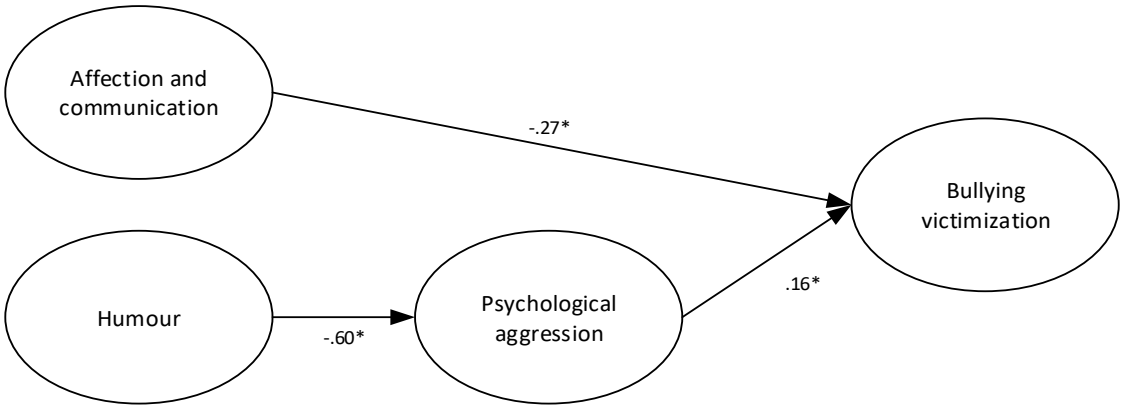

Figure 8: Explanatory model of victimization in boys on the basis of paternal discipline and parenting styles