



## Interparental violence and development of antisocial behaviors in Portuguese adolescents<sup>☆</sup>

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### ABSTRACT

Juvenile delinquency is one of the main problems of adolescents. The objective of the present investigation was to verify the relationship between antisocial behaviors, measured by the Antisocial Conduct Questionnaire (CCA) and witnessing interparental violence assessed through the Conflict Tactics Scales (CTS). The sample consisted of 671 adolescents (12 and 20 years old) from the northern region of Portugal. The results indicated that female adolescents revealed to have witnessed higher levels of psychological aggression, perpetrated by both father and mother, compared to males. The results suggest a positive association between emotional and physical violence perpetrated by parents and the different types of antisocial behaviors. Overall, it was found that the more exposed to interparental violence, the more likely they are to develop conduct problems. The results stressed the importance of developing more intervention programs towards violence domestic to prevent violence in that context.

### 1. Introduction

Adolescence, a period marked by the passage between childhood and adulthood, beginning with puberty between 10–12 years, presents itself as one of the most important stages in the development of the human. In the period of adolescence, we can consider the existence of approaches based on strengths, such as the perspective of positive youth development and approaches based on adolescent deficits. The perspective of positive youth development shows a vision of adolescence based on its strengths and the emphasis given to neuronal plasticity which has been

seen as a primary force in human development, enabling adolescents to adapt flexibly to new environmental situations (Cantor et al., 2018; Lerner et al., 2019).

Approaches based on adolescent deficits understand that adolescence is a marked period of great agitation, and nonconformity (Matos, 2019). At this stage, adolescents develop a series of socio-emotional knowledge and skills that allow them in the future to assume adult tasks and roles and make their contribution to society, so it is crucial to improve mental health conditions for an adjusted development (World Health Organization [WHO], 2020). Half (50 %) of all the mental health

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conditions begin before the age of 14, and the existence of poor mental health of adolescents may be associated with high-risk behaviors (e.g., delinquency, consumption of drugs, tobacco, alcohol, risky sexual behaviors, exposure to violence, self-harm), the effects of which can be prolonged over time and have serious implications for their development (WHO, 2020).

Deviant behaviors may reflect the individual's experiences in different contexts of the individual, considering risk and protective factors (Laranjeira, 2007), as suggested by different theories. According to Sutherland's Differential Association Theory, delinquent behavior results from learning and interaction with peers, which occur mostly within the group of pairs in direct communication (Ferro, 2008). On the other hand, Burgess and Akers (1966) argued, based on the Social Theory of Learning and Reinforcement, that delinquent behavior is conditioned according to the situations in which individuals are involved, especially by imitation. In contrast, the Theory of Social Control developed by Hirschi (1969) presents a different perspective on the relationship between behaviors and peer groups, arguing that delinquency is the result of weak conventional bonds (attachment, commitment, involvement, and internalized beliefs). Durkheim's theory of social cohesion argues that delinquency develops from the bonds established with conventional figures such as family and school (Mekoa and Busari, 2018). In turn, Travis Hirschi's theory of social control postulates that juvenile delinquency is associated with the failure to develop strong social ties with the family and peer group and the lack of participation at school and in the social community (Costello and Laub, 2020). When conduct problems occur, this may indicate that institutions have failed at some point, because when there are strong social ties, these constitute social controls capable of overcoming the "impulse" or "motivation" for deviance (Costello and Laub, 2020; Ferreira, 2000).

Studies have demonstrate that these behaviors are reflected earlier and earlier around 10–14 years, with crimes of various severity, increasing their incidence around 16–17 years, developing antisocial behaviors and violent transgressions (Ferreira, 2000). A recent longitudinal study conducted by Otto et al. (2021) with 1145 participants with ages ranging 11 to 17 year-olds found that stronger antisocial behaviour was associate. to older age. The concept of antisocial behavior alludes to a series of acts that violate social rules or norms and/or are an action against others, regardless of their severity or the consequences that may occur at the legal level (Peña and Graña, 2006). Regarding the typologies of the most frequent behaviors in adolescents, these are distributed in six categories: vandalism (reprehensible public acts, damage of property, destruction of real estate) or behavior of aggression towards the physical environment (breaking, burning, rubbish on the floor) (Felippe et al., 2012); conduct against the norms (offences such as smoking or drinking before the age of self); theft (directed specifically against property); aggressions (aggressive reactions, injuries, corporal blows) and substance use (possession, consumption, and drug trafficking) (Martins, 2005).

Regarding adolescent development, parents have a fundamental role, influencing education, socialization, care, the transmission of values, the establishment of limits, and the construction of identity and social conduct (Almeida et al., 2008; Charity et al., 2021; Matos, 2019; Silva and Santos, 2018). Studies further reveal that negative life experiences in the family context, such as divorce conflicts (Lin et al., 2020; Sandler et al., 2008; Torrente and Rodríguez, 2004), exposure to mental health problems of caregivers (Lantos et al., 2019; Lopes et al., 2021) and experience of domestic violence (Evans et al., 2008; Lantos et al., 2019; Low et al., 2020; Sani and Cunha, 2011; Sani and Pereira, 2020; Stiller et al., 2022) have negative implications for the future development of adolescents (Almeida et al., 2022; Bourassa, 2007; Lantos et al., 2019; Sani, 2017).

According to the United Nations Children's Fund [UNICEF] (2017) it is in the family that probably occurs the first exposure of the child to violence. This experience may arise from the infliction of corporal punishment, psychological abuse, verbal violence directed at the child,

adolescent or adult or the experience of domestic violence among their primary care-givers (Evans et al., 2008), usually one or both parents, also called interparental violence (Sani, 2017). Exposure to interparental violence still needs some research, despite being increasingly present in the daily lives of families (Rodrigues et al., 2021; Vieira-Pinto and Sani, 2022). It is estimated that each year in Europe, about 55 million children are victims of some type of violence (ONU, 2020).

From an Ecological Systems Theory (Bronfenbrenner, 2000) the risk factors associated with interparental violence are not limited to individual characteristics but also include broader social and community factors. These factors may include poverty, unemployment, neighborhood violence, and lack of community resources, all of which can contribute to increased stress and strain on relationships, leading to a heightened risk for interparental violence and child abuse (Kim et al., 2013; Kopystynska et al., 2022; Martins et al., 2023; Nieuwenhuis et al., 2023).

The experience of interparental violence tends to be associated with disruptions in key developmental domains such as caring, bonding, communication, the promotion of autonomy and a positive perception of self (Sturge-Apple et al., 2012). The negative impact on children or adolescents from the experience of interparental violence can manifest itself in a variable way through physiological, emotional, behavioral, and cognitive indicators (Artz et al., 2014; Kimball, 2016). These changes may be revealed in the short, medium, or long term, in the form of subtle or expressive signs and symptoms of internalization or externalization (Esfandiyari et al., 2009; Haj-Yahia et al., 2019; Moretti et al., 2006; Sternberg et al., 2006; Zarling et al., 2013) to which individual, situational and/or contextual mediating variables can contribute (Simpson, 2020).

A study conducted by Sternberg et al. (2006) with a sample of 110 children aged approximately 11 to 16 years, concluded that when exposed to interparental violence, they presented internalized and externalized negative results. The impact of this experience of violence among parents can be differentiated according to age and may be more pronounced in younger children (Almeida et al., 2022; Mueller and Tronick, 2019).

The results of the studies regarding the youth/child's gender are not very consistent, and some consider that the differences to exist will not be so much in terms of impact, but more in the form of expression. Boys are often described as being disruptive, aggressive, exhibiting a difficult temperament, while girls would have more somatic complaints, isolation behaviors, passivity, and dependence (Jaffe et al., 1990; Maldonado and Williams, 2005; Meltzer et al., 2009; Shelton and Harold, 2008; Sobral et al., 2020). Girls appear to be more vulnerable to fluctuations in parental behavior (i.e., alternating between warmth and hostility) than boys, potentially due to girls' greater relational orientation (Lippold et al., 2018). According to Evans et al. (2008), exposure to interparental violence affects both genders, however males tend to show more externalizing behaviors and females more internalizing behaviors.

Studies indicate that young people who may have been exposed to interparental violence are more likely to develop antisocial behaviors (Bradford et al., 2008; Holt et al., 2008; Jouriles et al., 2000; Low et al., 2020), to deal with family problems (Formiga, 2005). Adolescents from violent families tend to legitimize and exhibit higher levels of aggression (Almeida et al., 2008), hostility, oppositional behavior, drug use, and risk of future involvement in violent intimate relationships (Sani et al., 2017).

In 2015, Cénat et al., conducted a study in Canada in 34 schools, aiming to verify the relationship between exposure to interparental violence and involvement in antisocial behaviors, with a sample of 8194 adolescents aged between 14 and 20 years. The results indicated that 62 % of the adolescents had been exposed to episodes of interparental violence and that approximately 51 % of the participants had perpetrated at least one form of delinquent behavior.

Regarding the scarce literature in Portugal that highlights the impact of interparental violence on adolescents and the development of

delinquency, the present study was carried out to investigate the possible relationship between physical violence and psychological aggression perpetrated by the father and mother and witnessed by adolescents and the development of antisocial behaviors in adolescents of both genders between 12 and 20 years of age. Thus, the following specific objectives were outlined: (1) to explore the differences in relation to the physical and psychological violence observed as a function of gender and age, as well as in the different antisocial behaviors; (2) to determine the relationship between interparental violence, in both the physical and psychological dimensions, and the relationship with various types of antisocial conduct regarding group age; and (3) to verify the predictive role of gender and physical and psychological aggression perpetrated by parents in the development of antisocial behaviors.

## 2. Methods

### 2.1. Procedures

The first step towards the operationalization of the research began with the request for authorization to the ethics committee of the University of Trás-os-Montes and Alto Douro, approved in 28/02/2018. Data collection occurs between April and June of 2018, using convenience sampling. Subsequently, the request for authorization was submitted to the directors of the six schools. Once this authorization was granted by the principals of the schools, the informed consent was given to the class directors for the students to deliver to their legal representatives, for participation in the study, and only when they had returned the respective signed authorization, the questionnaires were applied. It should be noted that in the informed consent to the parents, the objectives of the study were presented, as well as the conditions of participation. Approximately 5 % of the parents don't return the informed consent signed. Its completion was voluntary and without recourse to any kind of external incentive. To each group of students was explained the objectives of the study, as well as the voluntary, anonymous, and confidential nature of the study.

The time of administration of the questionnaires was agreed with the teachers who made themselves available to give part of the class for this purpose, with an estimated average time for the completion of the questionnaires of 30 min.

### 2.2. Participants

The participant sample included 671 adolescents aged between 12 and 20 years ( $M = 15.42$ ;  $SD = 1.859$ ), 323 were female (48 %) and 348 male (52 %), recruited from schools in the North of Portugal. Regarding the marital status of the parents, in 148 (22 %) participants the parents were divorced and in 518 (77 %) the parents were married/living together. Considering the educational qualifications regarding the father, about 22 (3.3 %) answered that the father was illiterate, 320 (47 %) with elementary school, 238 (35 %) with high school and 59 (8 %) higher education. As for the mother, 47 (7 %) answered that the mother was illiterate, 359 (53.5 %) with elementary school, 197 (29.4 %) high school and 45 (6.7 %) higher education.

### 2.3. Instruments

A sociodemographic questionnaire was administered, with the aim of obtaining personal data of the study participants such as: age and gender, marital status of the parents and education qualifications of parents.

The Antisocial Conduct Questionnaire (CCA) of Mirón (1990) consisting of 82 items, that aims to evaluate the different antisocial behaviors of adolescents. For the present investigation, we used the version used by Martins (2005), with 51 items of the questionnaire, constituting the most appropriate items for the Portuguese population. Thus, the items are divided into 5 dimensions: conduct against the norms (14

items), vandalism (7 items), theft (13 items), aggression against people (10 items) and drug use (7 items). The answer is presented on a Likert scale where options range from 0 (Never) to 4 (Frequently). Regarding the reliability values, and for the present sample, the Antisocial Conduct Questionnaire (CCA) presented an alpha of 0.98 for the total scale, showing a very good internal consistency. For the vandalism dimension it presents an alpha of 0.88, in the aggression dimension 0.90, conduct against the norms 0.92, drug use 0.87 and in the dimension theft 0.95, presenting a good internal consistency in all dimensions.

Regarding the confirmatory factor analysis of the Antisocial Conduct Questionnaire, the results indicated adequate adjustment values ( $X^2 = 7.585$ ,  $gl = 154$ ,  $p = 0.00$ ), Comparative Fit Index (CFI) = 0.92, Goodness of Fit Index (GFI) = 0.85, Root Mean – Square Error of Approximation (RMSEA) = .09 and confidence interval a 90 % (IC 90 % RMSEA) = (0.09).

The Conflict Tactics Scale (CTS) from Straus (1979), translated to Portuguese by Martins (2005), it is intended to evaluate the witnessing of interparental violence by adolescents and has the following alphas 0.70 and 0.79 for psychological aggression, respectively for the mother and father; 0.79 and 0.92 for physical violence, respectively for the mother and father. It is a scale consisting of 18 items ordered by hierarchical order of social acceptability, starting with the items considered desirable, including the 3 non-violent problem-solving strategies, 7 items related to the psychological aggression witnessed and 9 to the physical violence witnessed. For the present investigation, only 12 items of the original instrument were used, being chosen according to the behaviors that could be witnessed and reported by the adolescents, and the scale presented was composed of: 3 items related to non-violent problem-solving strategies, 5 for psychological aggression and 4 for physical violence. Only the subscales of physical and psychological aggression perpetrated by the father and mother were used in this study. Regarding the reliability values, the scale for the father's version, in the psychological aggression dimension presents an alpha of 0.77 and for physical violence 0.91. As for the mother's version in the psychological aggression dimension, it presented an alpha of 0.67 and for the physical violence dimension 0.79, thus presenting a satisfactory internal consistency (Marôco, 2007).

Regarding the confirmatory factor analysis of CTS for the mother version, this proved to be adequate ( $X^2 = 5.819$ ,  $gl = 47$ ,  $p = 0.00$ ), CFI = 0.90, GFI = 0.94, RMSEA = 0.08 and confidence interval 90 % (IC.90 % RMSEA = 0.075). Father's version also presents good adjustment values ( $X^2 = 3.791$ ,  $gl = 47$ ,  $p = 0.00$ ), CFI = 0.96, GFI = 0.97, RMSEA = 0.07 and confidence interval 90 % (IC.90 % RMSEA = 0.05).

### 2.4. Data analyses

For the statistical treatment of the data, the Statistic Package for the Social Science (SPSS) version 25.0 was used and Amos 25 Graphics. Initially, descriptive analyses were performed regarding the items of the scales, as well as the variables under analysis, from the mean ( $M$ ) and standard deviation ( $SD$ ). The internal consistency of the scales was calculated through Cronbach's alpha. Regarding the preparatory procedures for confirmatory analyses, the basic requirements were verified regarding the number of analysis observations (5 per item). When the sample exceeds 30 subjects, the normal distribution of a sample is accepted and parametric tests can be used (Marôco, 2014).

The analyses related to the factorial structures were also performed through the CFA through the maximum likelihood estimation method, in order to verify the adequacy of the model, using the different adjustment measures (Ratio chi square statics/ degrees of freedom ( $X^2/gl$ ), Comparative fit index (CFI), Goodness of fit index (GFI), Root mean square error of approximation (RMSEA) (Marôco, 2014), taking into account the nature of the study, based on the already existing theory of the instruments used in the research.

In order to verify the differences between males and females, they were evaluated through the  $t$ -student test for the comparison of means of

independent samples (Mároco, 2007; Pallant, 2005), verifying the partial effect estimate, through the partial eta-squared ( $\eta^2p$ ), which allowed the measurement of the effect size according to the values suggested by Cohen (1988) for a small ( $>.01$ ), moderate ( $>.06$ ) and high effect ( $>.14$ ).

A Pearson’s correlations were also performed to verify the association between physical and psychological aggression perpetrated by parents and different antisocial behaviors (vandalism, theft, aggression, conduct against norms and drug use), according to the values suggested by Cohen (1988) for a small correlation ( $r = 0.10$  to  $0.29$ ), a moderate correlation ( $r = 0.30$  to  $0.49$ ) and a large correlation ( $r = 0.50$  to  $1$ ).

A hierarchical multiple regression was also performed to evaluate the predictive capacity of conflict resolution tactics (witnessed physical and psychological aggression by the mother and father) in the involvement of different antisocial behavior in which the independent variables are inserted into blocks, in which each independent variable is evaluated in terms of what it adds to the prediction of the dependent variable (Pallant, 2005). Block 1 corresponded to the dummy variable gender (0 male and 1 female) and block 2 corresponded to the variables of the CTS.

### 3. Results

#### 3.1. Differential analysis of antisocial behaviors and conflict resolution tactics witnessed by gender

To verify the differences in involvement in the different antisocial behaviors according to the gender of the adolescents, a *t* test was performed. There are statistically.

significant differences between genders in all dimensions, and the male gender presents higher means in the different conducts (Table 1). Exhibiting a moderate effect magnitude ( $\eta^2p = 0.077$ ) for the vandalism dimension, aggression ( $\eta^2p = 0.077$ ), theft ( $\eta^2p = 0.070$ ) and a small magnitude for the drug use dimension ( $\eta^2p = 0.032$ ).

Regarding the dimensions related to conflict resolution tactics regarding the physical violence used by the mother and witnessed by the adolescent, there are no significant differences regarding gender, however regarding the psychological aggression witnessed there are already significant differences [ $t(6,282) = -2,457; p = .015$ ], and females have a higher mean ( $M = 0.663; SD = 0.549$ ), presenting a small effect magnitude ( $\eta^2p = 0.009$ ). The same is true in relation to the father, regarding the perpetration of physical violence observed, in which significant differences are not verified, but significant differences are verified in psychological aggression [ $t(3,434) = -2,358; p = .019$ ], in which females have a higher mean ( $M = 0.663; SD = 0.790$ ), with a

**Table 1**  
Antisocial Behaviors and Resolution Tactics of Conflicts Used by Parents by Adolescent’s Gender.

	Gender	M/DP	p	$\eta^2p$
Vandalism	Male	0.508/.756	0.000	0.077
	Female	0.143/.459		
Aggression	Male	0.604/.718	0.000	0.077
	Female	0.246/.495		
Conduct against the norms	Male	0.700/.809	0.000	0.058
	Female	0.346/.596		
Drug use	Male	0.431/.789	0.000	0.032
	Female	0.173/.550		
Theft	Male	0.474/.827	0.000	0.070
	Female	0.106/.454		
Physical violence from mother	Male	0.116/.379	0.781	0.000
	Female	0.124/.381		
Psychological aggression from mother	Male	0.395/.549	0.014	0.009
	Female	0.507/.634		
Physical violence from father	Male	0.265/.686	0.474	0.008
	Female	0.305/.755		
Psychological aggression from father	Male	0.524/.731	0.019	0.001
	Female	0.662/.790		

Note:  $\eta^2p$  = partial eta-squared;  $p \leq 0.05$ .

small effect magnitude ( $\eta^2p = 0.001$ ), compared to males ( $M = 0.524; SD = 0.731$ ).

#### 3.1.1. Differential analysis of antisocial behaviors and conflict resolution tactics witnessed by adolescent age

Regarding age, the results suggest significant differences in the antisocial behaviors. Adolescents between 16–20 years old presents a higher mean when compared with adolescents with 12–15 years explained by an effect of small magnitude in the dimensions vandalism ( $\eta^2p = 0.012$ ), aggression ( $\eta^2p = 0.023$ ), theft ( $\eta^2p = 0.032$ ) and an effect of moderate magnitude on drug use ( $\eta^2p = 0.077$ ) and conduct against norms ( $\eta^2p = 0.061$ ) (Table 2). The age group was based taking in count the age of civil majority that is 16 years old (cf. Law n. ° 4/2015).

Analyzing the physical violence perpetrated by the mother to resolve a conflict with the father, there are no statistically significant differences in terms of adolescent’s age, but at the level of psychological aggression perpetrated by the mother there are significant differences [ $t(6,720) = -3,741; p < 0.001$ ] and once again adolescents between 16–20 years of age present a higher average ( $M = 0.529; SD = 0.617$ ), with an effect of small magnitude ( $\eta^2p = 0.018$ ), compared to adolescents aged 12–15 years ( $M = 0.371; SD = 0.560$ ). As for the physical violence perpetrated by the father [ $t(28,352) = -3,289; p < .001$ ] and psychological aggression [ $t(5,918) = -3,540; p < .001$ ] as a way of resolving a conflict with the mother, there are also statistically significant differences, and adolescents between 16–20 have a higher average ( $M = 0.377; SD = 0.843$ ), explained by an effect of small magnitude ( $\eta^2p = 0.016$ ) and ( $\eta^2p = 0.018$ ) respectively, than adolescents aged 12–15 years ( $M = 0.195; SD = 0.563$ ).

#### 3.2. Association between observed conflict resolution tactics and antisocial behaviors

The correlations between the various variables (Table 3), regarding group, there are statistically significant positive correlations ( $p < 0.01$ ) between all the dimensions evaluated. Regarding the age group between age between 12–15 years old specifically, the perception of physical violence by the father has a significant positive association with aggression by the youth ( $r = 0.248; p < 0.01$ ), with conduct against the norms ( $r = 0.249; p < 0.01$ ) and with drug use ( $r = 0.246; p < 0.01$ ). Also, there was a significant positive association between the perception of mothers physical aggression and conduct against the norms ( $r = 0.339; p < 0.01$ ) and vandalism by the youth ( $r = 0.335; p < 0.01$ ).

**Table 2**  
Differential Analysis of the Antisocial Behaviors and the Conflict Tactics Scales According to Age.

	Age	M/SD	p	$\eta^2p$
Vandalism	12–15	0.262/.577	0.005	0.012
	16–20	0.406/.723		
Aggression	12–15	0.337/.513	0.000	0.023
	16–20	0.530/.747		
	12–15	0.351/.556		
Conduct against the norms	16–20	0.714/.847	0.000	0.032
	12–15	0.117/.365		
Drug use	16–20	0.504/.879	0.000	0.077
	12–15	0.174/.520		
Theft	16–20	0.423/.825	0.000	0.061
	12–15	0.099/.361		
Psychological aggression from mother	16–20	0.141/.397	0.153	0.003
	12–15	0.371/.560		
Psychological aggression from mother	16–20	0.529/.617	0.001	0.018
	12–15	0.195/.563		
	16–20	0.377/.843		
Physical violence from father	12–15	0.195/.563	0.001	0.016
	16–20	0.489/.721		
Psychological aggression from father	12–15	0.489/.721	0.000	0.018
	16–20	0.696/.791		

Note:  $\eta^2p$  = partial eta-squared;  $p \leq 0.05$ .

**Table 3**  
Correlations Between the Dimensions of CTS and AntiSocial Behaviors Regarding Group Age.

CTS/CCA Age 12–15	Vandalism	Agression	Theft	Conducts against the norms	Drug use	M /SD
Psychological aggression from mother	0.262**	0.244**	. 279**	. 331**	. 227**	0.371/.56
Physical violence from mother	0.335**	0.345**	. 304**	. 339**	. 318**	0.10/.361
Psychological aggression from father	0.196**	0.224**	. 233**	. 287**	. 265**	0.49/.721
Physical violence from father	0.195**	0.248**	. 185**	0.249**	. 246**	0.195/.563
M /SD	0.262/.577	0.337/.513	0.174/.52	0.351/.556	0.117/.365	
CTS/CCA Age 16–20	Vandalism	Agression	Theft	Conducts against the norms	Drug use	M /SD
Psychological aggression from mother	. 243**	. 253**	. 186**	. 288**	. 313**	0.53/.617
Physical violence from mother	. 234**	. 261**	. 228**	. 268**	. 269**	0.141/.397
Psychological aggression from father	. 249**	. 268**	. 174**	. 303**	. 274**	0.696/.791
Physical violence from father	. 309**	. 345**	. 279**	. 359**	. 322**	0.377/.843
M /SD	0.406/.723	0.53/.747	0.423/.825	0.714/.847	0.504/.879	

Note: CTS – Conflict Tactics Scales; CCA – Antisocial Conduct Questionnaire; \*\* $p < 0.01$ .

**3.2.1. Predictive role of adolescent’s gender, emotional and physical violence perpetrated by the father and mother in the development of adolescent antisocial behaviors**

A multiple hierarchical regression was performed to evaluate the predictive capacity of conflict resolution tactics (witnessed physical and psychological aggression by the mother and father) in the involvement of different antisocial behaviors (Table 4).

Regarding vandalism, four of the independent variables present a significant contribution ( $p \leq 0.05$ ) and positively predict the

development of vandalism by adolescents: psychological aggression of the mother ( $\beta=.182$ ), physical violence from mother ( $\beta=.114$ ), physical violence of the father ( $\beta=.161$ ), as well being male ( $\beta =-0.278$ ).

Regarding aggression four of the independent variables present a significant contribution ( $p \leq 0.05$ ) and positively predict the development of aggression by adolescents: the perception of psychological aggression of the mother ( $\beta=.155$ ), the perception of physical violence from mother ( $\beta=.133$ ), the perception of physical violence of the father ( $\beta=.228$ ) and being male ( $\beta=-0.278$ ).

**Table 4**  
Predictive Role of Gender and Conflict Tactics Scale in Development of Antisocial Behaviors.

		R <sup>2</sup>	R <sup>2</sup> Change	S. Error	β	t	p
<b>Vandalism</b>							
Block 1	Gender ( <i>dummy</i> )	0.077	0.077		-0.278		
Block 2	CTS	0.199	0.121				
	Psychological aggression from mother			0.062	0.182	3.262	0.001
	Physical violence from mother			0.081	0.114	2.449	0.015
	Psychological aggression from father			0.058	-0.035	-0.517	0.606
	Physical violence from father			0.053	0.161	2.742	0.006
<b>Aggression</b>							
Block 1	Gender ( <i>dummy</i> )	0.077	0.077		-0.278		
Block 2	CTS	0.219	0.142				
	Psychological aggression from mother			0.060	0.155	2.827	0.005
	Physical violence from mother			0.078	0.103	2.236	0.026
	Psychological aggression from father			0.057	-0.034	-0.502	0.616
	Physical violence from father			0.052	0.228	3.933	0.000
<b>Theft</b>							
Block 1	Gender ( <i>dummy</i> )	0.070	0.070		-0.264		
Block 2	CTS	0.175	0.105				
	Psychological aggression from mother			0.066	0.175	3.104	0.002
	Physical violence from mother			0.087	0.092	1.937	0.053
	Psychological aggression from father			0.063	-0.068	-0.981	0.327
	Physical violence from father			0.058	0.189	3.178	0.002
<b>Conduct against the norms</b>							
Block 1	Gender ( <i>dummy</i> )	0.058	0.058		-0.241		
Block 2	CTS	0.226	0.168				
	Psychological aggression from mother			0.068	0.213	3.889	0.000
	Physical violence from mother			0.089	0.067	1.456	0.146
	Psychological aggression from father			0.064	0.002	0.024	0.981
	Physical violence from father			0.059	0.212	3.670	0.000
<b>Drug use</b>							
Block 1	Gender ( <i>dummy</i> )	0.034	0.034		-0.185		
Block 2	CTS	0.176	0.142				
	Psychological aggression from mother			0.066	0.216	3.827	0.000
	Physical violence from mother			0.087	0.050	1.055	0.292
	Psychological aggression from father			0.063	-0.046	-0.673	0.501
	Physical violence from father			0.057	0.230	3.867	0.000

Note: CTS – Conflict Tactics Scales; B, SE and β for a significance level of  $p \leq 0.05$ .

For the variable theft three of the independent variables of the blocks positively predict its development by adolescents: the perception of psychological aggression of the mother ( $\beta=.175$ ), the perception of physical violence of the father ( $\beta=.189$ ) and being male ( $\beta=.264$ ).

In the variable conducts against the norms, it was verified that three independent variables present a significant contribution ( $p \leq 0.05$ ) and predict the behaviors against the norms: the perception of psychological aggression of the mother ( $\beta=.213$ ), the perception of physical violence of the father ( $\beta=.212$ ) and being male ( $\beta = -0.241$ ).

Finally, in the variable drug use, it was verified that three independent variables present a significant contribution ( $p \leq 0.05$ ) and predict drug use: the perception of psychological aggression of the mother ( $\beta=.216$ ), the perception of physical violence of the father ( $\beta=.230$ ) and being male ( $\beta=-0.185$ ).

#### 4. Discussion

In the present investigation it was intended to verify if the conflict resolution tactics used by parents (physical violence and psychological aggression perpetrated by the father and mother) and observed by adolescents, are associated with antisocial behaviors in adolescents of both genders between 12 and 20 years of age.

The results are in line with the study carried out by Cénat et al. (2015) with male students presenting a higher average in all the dimensions evaluated compared with female students. In turn, Sobral et al. (2000) found that the effect of several factors (e.g., parental support, attachment to parents) on antisocial behavior is different in males and in females. These results may be related to factors involved in the socialization process, and it is expected that the female educational model will be directed to dialogue, while males to action (Matos, 2019; Vasconcelos et al., 2008). In the research of Moreira and Mirón (2013) boys perform more antisocial behaviour's than girls, probably because boys have, to a greater extent, assumed as part of their identity the characteristics that define masculinity, especially those associated with carrying out behaviors that harm other people.

Regarding the possible differences according to age, there were statistically significant differences regarding the antisocial behaviors analyzed (vandalism, aggression, conduct against the norms, drug use, and theft), and adolescents between 16 and 20 years of age have a higher mean when compared to the youngest group. Young people between 16 and 20 years old are in a phase of high insecurity, turbulence, rupture with family traits, search for autonomy, which can lead to less appropriate behaviors (Vasconcelos et al., 2008).

Regarding the conflict resolution tactics adopted by the parents, it was observed that female adolescents report having witnessed more psychological aggression in both parents, results that are consistent with other studies (Bourassa, 2007). The remaining family variables do not establish differences between females and male. Contrary to some studies have also verified that males present a tendency to externalize more behaviors while females adopt more internalizing responses (Evans et al., 2008; Jaffe et al., 1990; Meltzer et al., 2009; Shelton and Harold, 2008).

The data also indicated that adolescents between 16 and 20 years old present higher levels of witnessed physical violence perpetrated by the mother, as well as the physical and psychological aggression of the father. While for Rhoades (2008) there is no specific age group, particularly vulnerable to interparental violence, since the reactions change with age. However, Bradford et al. (2008) consider that the impact of family conflict on delinquency is considered consistent independently of adolescent age.

The results of this study indicate a significant relationship between the perception of parental physical violence, particularly from fathers, and increased aggression, deviant behavior, and substance use in adolescents aged 12–15. This aligns with the Social Theory of Learning and Reinforcement, which proposes that individuals learn and imitate behavior, especially from their parents (Burgess and Akers, 1996).

Additionally, the perception of physical aggression by mothers is also associated with deviant behavior and vandalism in youth, further supporting the idea of parental modeling of behavior. According to the Social Theory of Learning and Reinforcement (Burgess and Akers, 1996), individuals learn behaviors through observation and imitation, and are more likely to repeat behaviors that are reinforced.

In this context, exposure to interparental violence can serve as a form of modeling behavior for children (Almeida et al., 2022; Lantos et al., 2019), leading to the perpetuation of violent and antisocial behaviors in the next generation. This negative impact of interparental violence can be more pronounced in younger children (Almeida et al., 2022; Mueller and Tronick, 2019), perhaps this is why our results are expressed in the younger age group.

Positive associations were found between observed conflict resolution tactics and antisocial behaviors, suggesting that witnessing aggressive behavior in the home can contribute to the development of violent and delinquent tendencies in youth (Cénat et al., 2015; Holt et al., 2008) such as vandalism (Felippe et al., 2012), conduct against the norms or substance use (Martins, 2005). In the context of exposure to interparental violence, children may be less likely to form strong bonds with family members and society in general, leading to a breakdown of social control mechanisms and an increased likelihood of engaging in antisocial behaviors. Hirschi's Theory of Social Control emphasizes the importance of social bonds and attachment to conventional society in preventing delinquent behavior (Costello and Laub, 2020; Hirschi, 1969). However, exposure to interparental violence can undermine these elements of social control, leading to a breakdown of internal and external constraints that would otherwise prevent individuals from engaging in antisocial behaviors. Durkheim's Theory of Social Integration also applies, as exposure to violence in the home can disrupt social bonds essential for maintaining social order (Mekoa and Busari, 2018). These findings underscore the necessity of early intervention and support for families experiencing conflict and violence to prevent the transmission of antisocial behaviors across generations.

It was also found that the perception of emotional and physical violence of the mother and the physical violence of the father perpetrated during a conflict positively predicts the involvement in behaviors such as vandalism, aggression, conduct, drug consumption, and conduct against the norms (Sani et al., 2016; Soares et al., 2021). Previous studies, such as those conducted by Fergusson and Horwood (1998) also found that adolescents who witnessed physical violence perpetrated by their father had a higher probability of problems related to conduct against the norms, while psychological aggression perpetrated by the mother had problems such as consumption.

Our results suggest that male adolescents who witnesses interparental violence positively predicts involvement in different antisocial behaviors. Maldonado and Williams (2005) also found that exposure to domestic violence and the development of aggressive behaviors is higher in males than in females, concluding that the aggressive behaviors of these young people can be considered as a warning for family experience. While Bourassa (2007) found difficult to establish whether females and males are affected differently by exposure to interparental violence, with similar results between both genders. Thus, from the results of the present investigation, there seems to be a positive association between exposure to interparental violence (both physical and psychological aggression) and the involvement in vandalism, theft, aggression, drug use and conduct against the norms.

According to studies carried out (Bourassa, 2007; Evans, 2008; Kernic et al., 2002; Low et al., 2020; Sani, 2006; Sternberg et al., 2006), the presence of interparental violence has direct or indirect effects on the life of adolescents, putting their healthy development at risk. Adolescents who experience interparental violence are more prone to the development of externalization problems (anger, aggressiveness, delinquency, behaviors against the norms) or internalization (alcohol and drug consumption) and point out that these adolescents often use aggression as a response to conflict in their personal and family

relationships, starting to assume as their way of acting naturally (Moreti et al., 2006; Sani, 2006; Sani et al., 2016; Soares et al., 2021). A possible explanation for the results presented, according to Formiga (2005), maybe that adolescents who witness interparental violence adopt transgressive behaviors such as how to react to their conflicts and frustrations, for example through theft, or as an attempt to draw attention or seek help.

The literature has verified that children and adolescents do not need to experience violence to be affected by it. However, the family involvement and the conduct of the children should not be carried out according to certain actions of the parents, but rather according to a set of factors that may influence the deviation of the children (Martins, 2005). The child witnesses the aggressive behavior of their parents and may learn to replicate it (Burgess and Akers, 1966). This supports the idea that witnessing violence in the family environment can lead to the perpetration of aggression later in life. This means that the family environment, where the child witnesses the aggression, plays a significant role in shaping their behavior (Bronfenbrenner, 2000). Future studies should investigate whether the high levels of psychological aggression witnessed by female adolescents can be influenced by factors in their specific ecology, such as gender roles and cultural norms. Our findings highlight the interplay between social learning and ecological factors in influencing conflict resolution tactics and aggression witnessed by the child. This may influence future relationships and in line with the ecological system theory is also important to consider the different systems or environments that individuals are exposed to, including the school (Costello and Laub, 2020; Hirschi, 1969; Meko and Busari, 2018) or community (Kim et al., 2013; Nieuwenhuis et al., 2023).

#### 4.1. Limitations, proposals for future studies and practical implications

The results should be analyzed considering some limitations. One of the limitations is related to the size of the sample, not being representative of the Portuguese population, but only from one region of the country. Due to the cross-sectional nature of the research, it does not allow to confer the stability of the results and made it impossible to analyze casual relationships which would be verified in a longitudinal study. Another limitation it was the use of self-reported data that it's prone to recall bias and social desirability bias, and finally, the fact that parents and peers' violence against young people has not been measured.

Considering the results, for future investigations it would be relevant to expand the sample, and evaluate issues related to other types of violence, to better understand their impact on the lives of adolescents. Additionally, the role of gender as predictor should be explored. It should be a concern and a duty of all citizens, to communicate to the competent entities if they are aware of this type of exposure, to seek prevention and intervention programs for these young people. Additionally, the study could benefit from the inclusion of cultural and socioeconomic variables that might influence the phenomena under study as well investigate whether the high levels of psychological aggression witnessed by female adolescents can be influenced by factors in their specific ecology, such as gender roles, cultural norms, poverty, lack of community resources and community violence.

Our results may indicate the need to review existing policies in relation to preventing and combating domestic violence, trying to understand whether it might not be important and necessary to develop specific prevention strategies and programs aimed at fathers and mothers in order to reduce violence perpetrated by both. Policies may need to address gender differences in adolescent delinquency and consider interventions that take these differences into account. This may mean that in practical terms professionals working with young people should be sensitive to these gender differences when dealing with cases of domestic violence. It is important that they are aware of the specific realities faced by young people in terms of violence perpetrated by their

parents and adapt their interventions accordingly. This may involve identifying specific resources and supports for young people who witness violence perpetrated by the father as well as the mother.

The present study has presented new data related to the problem, which enhance the interest in the scope of research and intervention in interparental violence. Contributing to a study that should be disseminated, to remedying the problem or intervene as early as possible with adolescents and avoid future episodes of victimization and conduct behaviors.

## 5. Conclusions

Adolescence is a crucial phase for the development of the individual's personality, and several behavioral problems are present in adolescence. The family has come to be considered as one of the main risk factors, for being the strong responsible for the initial socialization and conception of the identity of the adolescent, assuming itself as its point of greatest reference, influencing the future. Also, Malonda et al. (2019) in a longitudinal study corroborate the influence that parents have on prosocial attitude and aggression during adolescence, despite the increasingly important role of friends in the transition from childhood to adolescence, since the development of positive peer relationships can combat negative parental experiences.

The results demonstrated that interparental violence is positively correlated with the antisocial behaviors of adolescents, which has also been confirmed by the literature. Exposure to interparental violence, that is, when adolescents become witnesses of violence between parents, also becomes a form of mistreatment of young people. Not presenting itself as a new problem, but which has been arousing the attention of society, it is important to understand how interparental violence can compromise the adolescent development and increase the behavioral problems.

The results obtained stress the importance of the family and the interactions that take place within it, since it is considered the psychosocial matrix where the individual learns to relate to others and to be influenced by the cultural and social context.

Pointing out that these results open new ways to explore in future works, providing elements of comprehensive approximation of the impact on interparental violence in the involvement of antisocial behaviors in adolescents.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

The authors do not have permission to share data.

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