



# Longitudinal Risk Profiles for Physical, Psychological, and Sexual Dating Aggression: a Latent Profile Analysis with Spanish Adolescents

Annalaura Nocentini<sup>1</sup> · Noelia Muñoz-Fernández<sup>2</sup> · Ersilia Menesini<sup>3</sup> · Virginia Sánchez-Jiménez<sup>4</sup>

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## Abstract

**Introduction** Understanding the specific risk profile for distinct forms of dating aggression (DA) is very informative to define cross-cutting interventions. The study aims to evaluate whether specific profiles of risk defined using a person-oriented approach predicted physical, sexual, and psychological DA after 6 months.

**Methods** Eight hundred sixty-six Spanish adolescents were interviewed at two time points (50.5% male; average age = 15.04). Latent profile analysis at T1 was used to delineate profiles of individual and relational risk.

**Results** A three-class model best represents the data: a “normative” class ( $N = 768$ ; 88%); a “highly aggressive” class characterized by acceptance of violent norms, bullying behaviors, and anger dysregulation ( $N = 13$ , 1.5%); a “jealous-conflictual” class characterized by cognitive and emotional jealousy, negative couple quality, and anger dysregulation ( $N = 85$ , 10%). Controlling for age, sex, and longitudinal stability, physical DA was predicted significantly by the “highly aggressive” profile ( $\beta = .11$ ;  $p < .05$ ), psychological DA by the “jealous-conflictual” profile ( $\beta = .16$ ;  $p < .01$ ), and sexual DA by the “jealous-conflictual” ( $\beta = .20$ ;  $p < .001$ ) and “highly aggressive” profile as a trend ( $\beta = .08$ ;  $p = .071$ ).

**Conclusions** Specific risk profiles differentially predict risk for physical, sexual, and psychological DA perpetration. A general aggressive pattern predicts physical DA and sexual DA weakly, whereas psychological and sexual DA are associated with a couple of risks, where the dimension of jealousy, control, and conflict characterizes the dynamic between partners.

**Policy Implications** Findings suggested that physical DA, and at a lower level sexual DA, should be prevented using cross-cutting strategies on general aggression. Psychological and sexual DA might require more contextually based interventions.

**Keywords** Dating aggression · Latent profile analysis · Risk profile · Prospective study · Adolescents

✉ Annalaura Nocentini  
annalaura.nocentini@unifi.it

Noelia Muñoz-Fernández  
nmunoz@uloyola.es

Ersilia Menesini  
menesini@unifi.it

Virginia Sánchez-Jiménez  
virsan@us.es

<sup>1</sup> Department of Education, Languages, Intercultures, Literatures and Psychology, University of Florence, Via San Salvi, 12, 50135 Florence, Italy

<sup>2</sup> Department of Psychology, Universidad Loyola Andalucía, 41704 Seville, Spain

<sup>3</sup> Department of Education, Languages, Intercultures, Literatures and Psychology, University of Florence, 50135 Florence, Italy

<sup>4</sup> Department of Developmental and Educational Psychology, Universidad de Sevilla, 41018 Seville, Spain

## Introduction

Negative romantic relationships characterized by dating aggression (DA) may constitute a relevant risk for the developmental trajectory of adolescents (Capaldi et al., 2005). Dating aggression is considered a specific type of intimate partner violence (Capaldi & Langhinrichsen-Rohling, 2012) and can be defined as those aggressive behaviors that occur in the context of a dating relationship or a romantic relationship, including physical, psychological, and sexual aggressive behaviors. According to studies conducted in the USA and in Europe, adolescents involved in different forms of partner violence are 20–30% (Haynie et al., 2013; Nocentini et al., 2013; Viejo et al., 2014). In Spain, studies report prevalence rates near 70% (Graña & Cuenca, 2014; Muñoz-Fernández & Sánchez-Jiménez, 2020) for psychological aggression, whereas for physical aggression rates vary from 10.9% (Graña & Cuenca, 2014) to 21% (Viejo, et al., 2014). Studies on

sexual aggression are less frequent in Spain and the estimations depend on the specific behavior under study (Fernández-Fuertes et al., 2018; Ortega et al., 2008). The most frequent forms are pressures to engage in sexual relations without partner's consent, with rates reaching 25%, whereas threats and the use of physical force to engage in non-consensual sexual relations are the less frequent, around 2% (Muñoz-Rivas et al., 2017; Sánchez-Jiménez et al., 2018). Overall, Spanish studies reveal prevalence rates similar to other countries (Lara, 2020) for psychological aggression but higher than international studies for physical and sexual aggression (Fernández-González et al., 2014; Muñoz-Rivas et al., 2017). Although the use of different measures and behaviors across studies might explain this finding, according to these studies, these elevated levels of DA stem from a higher tolerance of violence among Spanish adolescents than in other countries (Fernández-Fuertes et al., 2018). This is supported by the widespread acceptance of sexist attitudes (Cava et al., 2020) and the myths of romantic love (Nardi-Rodríguez et al., 2018; Sánchez-Jiménez et al., 2018), which are overrepresented in Spanish culture (Yela, 2003).

### Dating Aggression: Risk Predictors

Dating aggression during adolescence can be understood within a developmental-contextual perspective (Capaldi et al., 2005). This model focuses on an individual-contextual interaction framework where the presence and the persistence of individual behavior are the results of the combination of prior individual dispositions and the influences of various key proximal social systems (i.e., peer, couple) across developmental stages.

Individual characteristics related to emotion regulation, such as anger (dys)regulation, are associated with the quality of romantic relationships and the involvement in dating aggression (Nocentini et al., 2013; Vagi et al., 2013). Longitudinal studies reported that early adolescents who presented poor inhibitory control, reflecting (dis)regulation problems, presented higher dating aggression 7 years later (Farrel & Vaillancourt, 2019). Looking at the peer context, adolescents who are aggressive with their peers are likely to be aggressive in their romantic relationships compared to non-aggressive adolescents (Espelage et al., 2018; Nocentini et al., 2010). Peer bullying is considered a risk factor for peer sexual harassment and dating aggression during adolescence when youth become sensitive to sexual and intimate dimensions of relationships. Several studies reported that adolescents who bully others are more likely to sexually harass their peers and to be aggressive toward a dating partner (i.e., Cutbush et al., 2016; Josephson & Pepler, 2012; McMaster et al., 2002). In particular, direct physical bullying during late childhood predicted physical dating violence perpetration (Foshee et al., 2014) and sexual dating violence perpetration in adolescence

(Wincentak et al., 2017). Finally, considering the couple context, adolescents involved in dating relationships with high levels of conflict, jealousy, and controlling behaviors show higher levels of dating aggression (Muñoz-Fernández & Sánchez-Jiménez, 2020; Nocentini et al., 2013). Victims of dating aggression, particularly of psychological dating aggression, reported insecure dating relationships, with high levels of distrust and jealousy in their intimate relationships (Ellis et al., 2009; Capaldi et al., 2012; Sanchez-Jimenez et al., 2014).

Overall, these studies indicate that DA is a complex phenomenon which needs to be addressed through the interplay of these factors. Shared and common risk factors between different forms of DA have been demonstrated by basic and translated research using this approach. Basic research demonstrated that poor conflict management skills, acceptance of TDV, low maternal responsiveness, association with antisocial peers, and poor mother-adolescent communication were the most important shared risk factors across bullying, sexual harassment, and physical TDV (Foshee et al., 2016). The findings related to psychological DA and sexual DA are less evident (DeGue et al., 2021; McNaughton-Reyes & Foshee, 2013; Muñoz-Fernández et al., 2019; Ngo et al., 2018). However, literature on DA predictors has usually used a variable-oriented approach where the unique, additive, or interactive role of the predictors was analyzed. What is missing in the literature is an examination of classes of youth based upon their individual and relational risk factors, and the evaluation of how allocation in these classes predicts dating abuse. Identifying specific risk profiles that differentially predict risk for physical, sexual, and psychological DA perpetration might offer insights into specific components to be considered within crossing intervention strategies where single programs can prevent multiple problem behaviors (Flay et al., 2005).

Translational research showed that the effects of DA interventions are not the same for all the different forms of dating violence. In particular, there is more evidence for interventions in reducing severe forms of DA, such as physical DA and sexual DA (Foshee et al., 2004, 2012; Muñoz-Fernández et al., 2019; Taylor et al., 2013; Wolfe et al., 2003), whereas only few intervention programs reported a reduction in less severe forms such as psychological DA (Foshee et al., 2004, 2005). Although cross-cutting strategies are an efficient approach to prevention, research has yet to demonstrate how multiple aggressive behaviors share risk factors that can be changed within the same program. This information is very relevant for interventions aimed at preventing DA. If physical and sexual DA share a common risk profile, close to severe forms of peer violence, program efforts should focus on the design of cross-cutting interventions (Vivolo-Kantor et al., 2019). However, this approach may not be true for other types of DA, such as psychological DA, which is resistant to change in cross-cutting programs.

A possible response to this demand may be to identify which specific risk profiles that characterize these types of aggression should be covered by the programs.

In Spain, there is a limited tradition on evidence-based dating violence prevention programs (Sánchez-Jiménez, 2019). Moreover, the majority of the programs have been focused on changing attitudes and beliefs about violence, and only recent programs are incorporating the assessment of the change in violent behavior. Regarding the specific outcomes, sexual dating aggression has been marginally addressed and studied. Although the National and Regional Policy stated that all the schools from preschool to secondary education must develop a school plan for equality (where topics related to sex education and gender violence should be included), there are many obstacles to develop these plans efficiently. Lack of school interest, lack of trained teachers, and standard models specifically focused on risk behaviors (such as risk sexual intercourses) are some of these barriers (Martínez et al., 2012). Just in the last decade, few programs specifically focused on romantic relationship and dating violence in adolescence have been developed, and their efficacy seems to be in line with international programs. However, these results should be considered with caution not only because of the scarce number (Carrascosa et al., 2019; Muñoz-Rivas et al., 2019; Sánchez-Jiménez et al., 2018) but also because only few of them focused on the different forms of DA, including sexual DA (Fuertes-Martin et al., 2012; Muñoz-Fernández et al., 2019). There is a need to deepen our knowledge of the nature of specific typologies of DA in order to advance the design of better and more accurate intervention programs that could be incorporated into the school plans for equality.

The aim of this study was to identify different risk profiles of DA in Spanish adolescents, considering individual characteristics, romantic relationship factors, peer relationships, and to investigate whether these groups can explain different forms of dating aggression over time. Starting

from the available literature, we hypothesize that physical and sexual forms of DA should be predicted by the same typology of risk, centered on individual variables related to aggressiveness. Another risk combination could define the psychological DA form. Specifically, we expected that couple-related factors, such as couple quality, jealousy, and control, would account more for psychological DA than for physical or sexual DA.

## Method

### Participants

Eight hundred sixty-six ( $n = 866$ ) adolescents with romantic experience participated in the study (50.5% male; average age = 15.04). The sample includes participants of the control group of the Dat-e Adolescence program, a Spanish DA prevention program implemented in 2018 (see Muñoz-Fernández et al., 2019). For the current study, the first data collection has been considered. As for nationality, 96% were Spanish, 2.8% from Latin America, 0.6% European, 0.2% from Asia, and 0.4% did not disclose their nationality. In terms of romantic experience (that is, those adolescents who had a partner currently or in the last 6 months), 31.4% of participants were in an ongoing romantic relationship; the length of which was on average 27.79 weeks ( $SD = 36.08$ ), while the length of the previous relationship was 11.29 weeks ( $SD = 15.38$ ). Table 1 provides descriptive information on participants.

### Procedure

A prospective study (6 months between the first and second wave) was conducted. Participants were students from Andalucía (southern Spain), and all of them followed compulsory

**Table 1** Sample descriptive statistics

	Category	Descriptive statistics
Age, $M$ ( $SD$ )		15.04 (1.45)
Gender, $n$ (%)	Male	435 (50.55%)
	Female	427 (49.5%)
Education level, $n$ (%)	1st and 2nd course of secondary school	431 (49.8%)
	3rd and 4th course of secondary school	435 (50.2%)
Sexual orientation, $n$ (%)	Heterosexual	828 (95.8%)
	Lesbian or gay	11 (1.3%)
	Bisexual	8 (0.9%)
	Pansexual	2 (0.2%)
	Demisexual	1 (0.1%)
Number of previous romantic relationships, $M$ ( $SD$ )	I do not know	14 (1.6%)
		3.77 (4.07)

secondary education. The regional government recruited seven schools according to a cluster sampling procedure (each school was a cluster). Selection criteria for schools were:

1. They must be located in a medium socio-economic level area, estimated from ISC Index in Spain.
2. They must be of medium size (at least two hundred students).
3. Located in Seville or Cordoba (Spain).
4. The type of school must be public.

Once the study was approved by the Research Ethics Committee of the Autonomous Region of Andalucía (code: 0575-N-14), researchers contacted and informed the schools about the purposes of the research. Six schools agreed to participate and approved their participation in the school council. The families and children were then informed. Data collection was carried out during school hours using paper and pencil questionnaires. The duration of the questionnaire was about 30 min. Participation was voluntary, and no reward was offered for participation in the study. Each student was matched with a code to maintain the participants' anonymity and identify them in the second wave. Schools received a report about the results of the study. The dropout rate was between 1.9 and 4.4% in five of the six participating schools, but in one school, it was 8%.

## Measures

Variables included to perform risk profiles using latent profile analysis at wave 1 were:

*Cognitive Jealousy (Multidimensional Jealousy Scale*, Elphinston et al., 2011; Muñoz-Fernández & Sánchez-Jiménez, 2020). The scale composed of five items analyzed how often participants experience certain thoughts about their partner (e.g., “I suspect that my partner may be attracted to someone else”). Items were rated on a scale from 0 (never) to 6 (all the time). The model showed an adequate fit in wave 1 [ $X^2(4)=20.74$ ; RMSEA = .07; CFI = .97] and internal consistency was good ( $\alpha = .90$ ).

*Emotional Jealousy (Multidimensional Jealousy Scale*, Elphinston et al., 2011;  $\alpha = .94$ ). The scale composed of seven items analyzed how often participants worry about their partner's behavior toward other people (e.g., “Your partner is flirting with someone”). Items were rated on a scale from 0 (It does not bother me) to 6 (It bothers me a lot). The model showed a good fit in wave 1 [ $X^2(11)=78.34$ ; RMSEA = .07; CFI = .98] and internal consistency was adequate ( $\alpha = .94$ ).

*Couple intimacy (Triangular Love Scale*, Overbeek et al., 2007). The scale composed of seven items analyzed

the degree of agreement with statements related to sharing information, thoughts, and feelings with the partner (e.g., “I can tell everything to my partner”). Items were rated on a scale from 0 (strongly disagree) to 6 (strongly agree). The model fitted the data well in wave 1 [ $X^2(12)=68.63$ ; RMSEA = .07; CFI = .96] and internal consistency was good ( $\alpha = .86$ ).

*Negative couple quality (Network of Relationships Inventory*, Furman & Burhmester, 2009). The scale composed of nine items assessed how often participants argue, criticize, or annoy with each other (e.g., “How much do you and your romantic partner argue with each other”). Items were rated on a scale from 0 (never) to 4 (all the time). The model showed an adequate fit in wave 1 [ $X^2(24)=144.34$ ; RMSEA = .07; CFI = .95] and internal consistency was good ( $\alpha = .91$ ).

*Bullying (European Bullying Intervention Project Questionnaire*, Del Rey et al., 2012). The scale composed of seven items assessed how often participants assaulted their peer physically or psychologically in the last two months (e.g., “I hit, kicked or pushed someone”). Items were rated on a scale from 0 (never) to 4 (more than once a week). The model fitted the data well in wave 1 [ $X^2(11)=64.74$ ; RMSEA = .07; CFI = .92] and internal consistency was good ( $\alpha = .80$ ).

*Anger (dis)regulation (“Stress Management” subscale of the Emotional Quotient Inventory*, Oliva et al., 2011). The scale composed of eight items assessed how often participants experienced anger and had difficulty managing it (e.g., “I find it difficult to manage my anger”). Items were rated on a scale from 0 (never) to 4 (all the time). The model showed an adequate fit in wave 1 [ $X^2(20)=123.91$ ; RMSEA = .08; CFI = .93] and internal consistency was good ( $\alpha = .83$ ).

*Acceptance of violent norms (Four Social Norms*, Foshee et al., 2001). The scale composed of eight items assessed attitudes toward dating violence under certain circumstances (e.g., “Sometimes boys have to hit their girlfriends to get then back under control” or “Boys sometimes deserve to be hit by the girls they date”). Items were rated on a scale from 0 (strongly disagree) to 3 (strongly agree). The model showed a good fit in wave 1 [ $X^2(19)=45.82$ ; RMSEA = .04; CFI = .99] and reliability index was adequate ( $\alpha = .85$ ).

The outcomes at waves 1 and 2 were:

*Psychological dating aggression (Psychological Dating Abuse Scale*, adapted into Spanish by Sánchez-Jiménez et al., 2018;  $\alpha = .80$ ). The scale composed of fourteen items analyzed how often participants insulted, controlled, threatened, or belittled their partners in the last 6 months (e.g., “would not let him/her

do things with other people”). Items were rated on a scale from 0 (never) to 4 (all the time). Model fitted the data well in wave 1 [ $X^2(77) = 300.37$ ; RMSEA = .06; CFI = .94] and in wave 2 [ $X^2(76) = 333.31$ ; RMSEA = .07; CFI = .91]. Internal consistency of the scale was acceptable in both waves ( $\alpha_{t1} = .81$ ;  $\alpha_{t2} = .82$ ).

*Physical dating aggression (Conflict Tactics Scale (CTS2) adapted into Spanish by Viejo et al., 2014).* The scale composed of nine items assessed how often participants made physical attacks on their partners in the last six months (e.g., “Hitting”). Items were rated on a scale from 0 (never) to 4 (all the time). Model showed a good fit in wave 1 [ $X^2(27) = 73.34$ ; RMSEA = .05; CFI = .97] and in wave 2 [ $X^2(27) = 34.47$ ; RMSEA = .021; CFI = .99]. Internal consistency of the scale was acceptable in both waves ( $\alpha_{t1} = .73$ ;  $\alpha_{t2} = .91$ ).

*Sexual dating aggression (Muñoz-Fernández et al., 2019).* The scale composed of four items assessed how often, in the last 6 months, participants made sexual comments to their partners or tried to have sex when the partner did not want to (e.g., “To pressure or force the other to have sex”). Items were rated on a scale from 0 (never) to 4 (all the time). Model showed a good fit in wave 1 [ $X^2(2) = 7.10$ ; RMSEA = .06; CFI = .96] and in wave 2 [ $X^2(2) = 1.39$ ; RMSEA = .00; CFI = 1.00]. Internal consistency of the scale was adequate in both waves ( $\alpha_{t1} = .68$ ;  $\alpha_{t2} = .84$ ).

In order to answer the items on dating aggression, participants had to indicate how often these behaviors occurred in their current relationship. Whether they did not have a current partner, they answered with their last relationship in mind.

## Data Analysis

A series of latent profile analyses (LPAs) were performed in MPLUS 7. Through this analysis, participants’ profiles are obtained according to their responses in different subscales: cognitive and emotional jealousy, couple intimacy, negative couple quality, bullying perpetrated, anger (dys)regulation, and acceptance of violent norms.

The optimal number of classes resulted from the interpretability of the classes and the following criteria: Bayesian information criterion (BIC), Lo–Mendell–Rubin-adjusted likelihood ratio test (LMR-A), and Entropy. Five models were estimated, from 1 class to 5. The model with lower values in BIC (Nylund et al., 2007), an entropy value greater than 0.80 and closer to 1 (Clark & Muthén, 2009), and that one before the  $p$ -value was non-significant (Lo et al., 2001) is considered the best solution.

## Results

A latent profile analysis (LPA) was conducted to identify distinct groups of adolescents related to their responses about the individual variables (acceptance of violent norms and anger dysregulation), couple context variables (emotional and cognitive jealousy, negative couple quality, and couple intimacy), and peer context (bullying) related to dating aggression. Fit indices are presented in Table 2. AIC and BIC values decreased from the one-profile solution to the five-profile solution, but the four-profile and the five-profile solutions caused a marginal fall of AIC and BIC. Considering LMR-A, the solutions with two and three profiles showed a significant  $p$ -value, but the four-profile and the five-profile solutions showed no significant  $p$ -value. The three-profile solution showed the best entropy value (0.97), which suggests that this solution reached the best degree of classification. For the sake of parsimonious, we decided that the best is the three-profile solution.

According to the three profiles, 1.5% of participants belongs to a “highly aggressive” class ( $N = 13$ ), 88% of participants belong to a “normative” class ( $N = 768$ ), and finally 10% to a “conflictual and jealous” class ( $N = 85$ ).

The highly aggressive (HA) class is characterized by high levels of bullying behaviors and high levels of acceptance of violence norms. The average means in these variables were significantly different from the other two profiles (normative and conflictual and jealousy). This group also showed high values in anger dysregulation in comparison to the normative group (see Table 3).

The conflictual and jealousy class (CJ) is characterized by high levels of cognitive and emotional jealousy and high levels of negative couple quality. The average means in these variables were significantly different from the other two profiles (normative and highly aggressive). This group also showed higher anger dysregulation and lower couple intimacy in comparison to the normative group (see Table 3).

A multinomial logistic regression was computed to analyze the association of profile membership with sex and age. To do that, age was recodified into two groups (Steinberg, 2014): early adolescents (12–13 years old; 29.1%,  $n = 251$ )

**Table 2** Fit indices for the LPA solutions

# of profiles	AIC	BIC	LMR-A ( $p$ )	Entropy
1	14,808.637	14,875.332		
2	14,138.642	14,243.447	673.548 ( $p = .002$ )	0.956
3	13,639.495	13,782.412	505.799 ( $p = .023$ )	0.971
4	13,383.099	13,564.126	267.454 ( $p = .865$ )	0.947
5	13,145.672	13,364.811	232.816 ( $p = .540$ )	0.950

**Table 3** Mean differences in the factors related to dating aggression between the three profiles

	Profiles			Differences	
	Highly aggressive	Normative	Conflictual and jealousy	F-value	$\eta^2$
Cognitive jealousy	.77 (1.01) <sub>a</sub>	.29 (.46) <sub>b</sub>	3.17 (1.15) <sub>c</sub>	953.40***	.69
Emotional jealousy	2.93 (2.69) <sub>a</sub>	3.00 (2.08) <sub>a,b</sub>	4.33 (1.59) <sub>c</sub>	15.83***	.04
Couple intimacy	3.91 (1.80) <sub>a</sub>	4.12 (1.30) <sub>a,b</sub>	3.40 (1.44) <sub>a,c</sub>	11.20***	.03
Negative couple quality	1.01 (.72) <sub>a</sub>	.94 (.71) <sub>a,b</sub>	1.65 (.93) <sub>c</sub>	35.15***	.08
Bullying	1.13 (1.15) <sub>a</sub>	.37 (.51) <sub>b</sub>	.68 (.74) <sub>c</sub>	23.03***	.05
Anger (dys)regulation	2.99 (1.03) <sub>a</sub>	2.29 (.79) <sub>b</sub>	2.98 (.80) <sub>a</sub>	31.07***	.07
Acceptance of violence norms	1.86 (.67) <sub>a</sub>	.10 (.18) <sub>b</sub>	.16 (.24) <sub>c</sub>	472.03***	.53

Means with a different subscript differed significantly. Standard deviations are in brackets

\*\*\*  $p < .001$

and middle adolescents (14–18 years old; 70.9%,  $n = 613$ ). The results indicate that age was not associated with profile membership (see Table 4) (for a descriptive level, HA: 5 early and 8 middle adolescents; CJ: 26 early and 59 middle adolescents). On the contrary, sex was associated with the conflictual and jealousy group and, at a lower level, also with the highly aggressive group. Females were more likely to be members of conflictual and jealousy group than males (respectively 56 and 27) and less likely to be members of the highly aggressive group (respectively 3 and 10).

Regression analyses were computed in order to test whether physical, psychological, and sexual dating aggression (in wave 2) were predicted by the HA class or the CJ class, checking for age, sex, and baseline levels of dating abuse involvement (Table 5). Considering that sex was significantly associated with the CJ group, an interaction effect between sex and the probability of being part of the CJ group was also tested.

Regarding psychological dating aggression, it was significantly predicted by the baseline levels of psychological aggression ( $\beta = .41$ ;  $p < .001$ ), age ( $\beta = .11$ ;  $p < .05$ ), and sex ( $\beta = .15$ ;  $p < .01$ ), and by the probability of being part of the CJ group in step 1 ( $\beta = .16$ ;  $p < .01$ ). Being middle adolescents and female increased the likelihood of being involved in psychological aggression in comparison to being early adolescents and males. No significant effect of being a member of the HA group on psychological dating aggression was found, whereas being part of the CJ

group significantly predicts psychological DA involvement. In step 2, an interaction effect between sex and the probability of being part of the CJ group on psychological dating aggression was found ( $\beta = -.29$ ;  $p < .01$ ). Being male and being a member of the CJ group increased the likelihood of being involved in psychological dating aggression ( $t = 3.38$ ,  $p = .001$ ). However, being female and being part of the CJ group were not related to psychological aggression ( $t = 1.01$ ,  $p = .313$ ).

As for physical dating aggression, it was predicted significantly by the baseline levels of physical aggression ( $\beta = .35$ ;  $p < .001$ ) and by the probability of being part of the HA group in step 1 ( $\beta = .11$ ;  $p < .05$ ). No significant effect of age, sex, and classification in the CJ group was found on physical dating aggression. No interaction effect was found between the sex and the CJ group on physical dating aggression in step 2.

Concerning sexual dating aggression, it was predicted significantly by the baseline levels of sexual aggression ( $\beta = .38$ ;  $p < .001$ ), sex ( $\beta = -.22$ ;  $p < .01$ ) and by the probability of being part of the CJ group in step 1 ( $\beta = .20$ ;  $p < .001$ ). Being female decreased the likelihood of being involved in sexual aggression in comparison to being male. The probability of being part of the HA group was associated with sexual aggression as a trend ( $\beta = .08$ ;  $p = .07$ ). No interaction effect was found between the sex and the CJ group on sexual dating aggression in step 2.

**Table 4** Sex and age as predictors of membership in latent analysis

	Highly aggressive					Conflictual and jealousy				
	B	SE	OR	Wald	p	B	SE	OR	Wald	p
Sex (male)	1.14	0.66	3.13	2.96	.086	-0.81	0.25	0.446	10.82	.001
Age (early)	0.48	0.58	1.61	0.68	.410	0.04	0.25	1.045	0.03	.861
Constant	-4.98	0.63		63.19	.000	-1.894	0.16		134.07	.000

OR, odds ratio. For sex and age as predictors, female and middle adolescents are the category of reference. The normative group was set as the reference group

**Table 5** Regression analyses on physical DA, psychological DA, and sexual DA by LCA classes

	Psychological aggression T2					Physical aggression T2					Sexual aggression T2				
	$\beta$	SE	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup>	$\beta$	SE	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup>	$\beta$	SE	<i>t</i>	<i>p</i>	<i>R</i> <sup>2</sup>
<b>Step 1</b>															
Baseline levels	.41	.04	10.44	.000	.28	.35	.05	6.52	.000	.14	.38	.04	8.56	.000	.27
Age (1 = middle adolescents)	.11	.05	2.29	.022		.08	.07	1.08	.278		.09	.09	0.98	.329	
Sex (1 = female)	.15	.05	3.08	.002		.02	.07	0.32	.746		-.22	.08	-2.57	.010	
HA group	.06	.05	1.28	.200		.11	.05	2.29	.021		.08	.05	1.81	.071	
CJ group	.16	.12	2.98	.003		.02	.07	0.26	.794		.20	.06	3.30	.001	
<b>Step 2</b>															
Baseline levels	.41	.04	10.47	.000	.31	.35	.05	7.15	.000	.15	.38	.04	8.53	.000	.29
Age (1 = middle adolescents)	.11	.05	2.26	.024		.07	.07	1.03	.302		.09	.09	0.98	.326	
Sex (1 = female)	.12	.05	2.30	.021		.02	.07	0.34	.736		-.21	.09	-2.54	.011	
HA group	.07	.05	1.36	.173		.11	.05	2.38	.017		.08	.05	1.79	.073	
CJ group	.43	.12	3.58	.000		.10	.11	0.90	.369		.19	.10	1.92	.055	
Sex*CJ group	-.29	.11	-2.59	.010		-.10	.12	-0.82	.410		.01	.10	0.14	.892	

$\beta$  = standardized beta coefficient

## Discussion

The current study portrayed three distinct risk profiles—a “normative” profile, a “highly aggressive” profile, and a “conflictual-jealous” profile—that differentially predict risk for physical, sexual, and psychological DA perpetration and that, consequently, give insight into specific components to be considered within crossing intervention strategies targeting different forms of DA.

Particularly interesting is the definition of the two risk profiles, one characterized by the generalized pattern of “being aggressive” regardless of context (higher levels of bullying and of acceptance of violent norms) and the other characterized by a couple of quality risk profiles, with high levels of cognitive and emotional jealousy and high levels of couple conflict. Higher levels of anger dysregulation characterize both profiles, compared to the normative one.

These two different profiles seem to predict physical, psychological, and sexual DA differently. In particular, and according to the literature (Foshee et al., 2014; Wincentak et al., 2017), the highly aggressive profile predicts the most severe forms of physical DA and, at a lower level, sexual DA.

The conflictual and jealous profile predicts psychological DA and sexual DA. Poor competence in anger regulation, higher levels of negative couple quality, and jealousy predict psychological aggression. These results indicate that proximal factors related to couple context, together with individual characteristics, predict psychological aggression, in line with developmental models of DA (Capaldi et al., 2005). In this respect, the high levels of cognitive and emotional jealousy between partners have strong associations with the conception of dominance and control, well

represented by the construct of psychological DA (Kar & O’Leary, 2013). The interaction effect of sex and the CJ group also indicates that males and females manifest their feelings of jealousy in different ways. According to a social interactionist perspective of jealousy, although both males and females respond with jealousy when they perceive a threat for their partner’s affection (Felson & Outlaw, 2007), males tend to use psychological DA while female use other strategies (Kar & O’Leary, 2013). Probably, in the case of women, other related variables count for psychological DA. Future research will delve deeper into this aspect.

Sexual DA is predicted by the probability of being in the “conflictual and jealous” group and, at a lower level, by the “highly aggressive” group. The trend observed in sexual DA can be explained by referring to the double nature of sexual DA. In terms of behavior, sexual DA includes sexual contact tactics (i.e., from non-consensual and unwanted touching to forced sexual acts) and non-physical acts (unwanted sexual comments, sexual insults, or sexual coercion) (DeGue et al., 2010). In an integrative way, these two components can be referred to as psychological DA, considering verbal sexual aggression and sexual coercion, but also to physical DA, regarding physical-sexual acts. Previous studies have identified this double nature of sexual DA and shared specific predictors for each form in male adults (DeGue et al., 2010). The two risk profiles identified in our study and their contribution to sexual DA yield evidence of this view of sexual DA in adolescent couples.

Gender affected only the likelihood to perpetrate psychological DA and sexual DA, not physical DA. This data is completely in accord with the literature. Males were likely to be involved in sexual comments and attempt to have sexual

intercourses when the partner did not want to in comparison to females (McNaughton et al., 2018). Girls were more likely to be involved in frequent threatening and insulting behaviors toward the partner, in line with previous results on psychological DA (Muñoz-Fernández & Sánchez-Jiménez, 2020; Temple et al., 2013).

In relation to physical DA, although sex was not directly associated with being physically aggressive toward a partner, in line with the literature reporting gender equality for physical DA (Woodin et al., 2013), we need to specify that males are more represented in the Highly aggressive profile, which in turn is associated with involvement in physical DA involvement.

The final point is related to the role of anger dysregulation in both risk profiles and thus in predicting all the different forms of DA. The role of anger dysregulation in physical DA is strongly supported by the literature (see Birkley & Eckhardt, 2015 for review). Besides, anger reactivity has been found to be a shared risk factor for different types of aggression (bullying, sexual harassment, and dating violence) (Foshee et al., 2016), and more general emotion regulation difficulties resulted to be associated with bullying and dating aggression (Farrell & Vaillancourt, 2019).

Overall, the current study extends the literature on risk profiles of different DA forms in two ways. Firstly, according to a person-oriented approach, the study confirms the existence of subgroups of the population which are respondents to a specific risk configuration. One profile, the highly aggressive, is a general aggressive profile, with cognitive (attitudes and acceptance of violent norms), emotional (anger dysregulation), and behavioral patterns of risk (bullying). The other profile, “conflictual and jealous,” is a couple-based risk typology. Secondly, these two profiles predict the physical and the psychological form of DA differently, whereas sexual DA seems to be predicted by both profiles. Translating these findings into policy implications, prevention programs aimed to tackle all the different forms of DA need to address the two risk profiles defining a component on “general aggression” but also a component on “romantic competence and dating management” (Davila et al., 2009).

## Policy Implications

Dating violence is a public health problem with significant consequences for the adolescents involved (Vagi et al., 2013), including mental health problems and a higher likelihood of establishing a future violent romantic relationship (Exner-Cortens et al., 2013). Since 2009, Spain has increased its investment in preventing this form of violence up to 5 times (Cepeda & Pérez, 2019). In this respect, the Spanish State Pact against Gender Violence approved in 2017 included the following lines of action: the need to carry out activities to raise awareness and prevent

dating violence, the need to improve the training of the stakeholders (police, teachers, or health staff), and the need to improve the knowledge about gender violence in different developmental periods (including its nature, causes, and consequences). This study offers results that can enhance the understanding of physical, sexual, and psychological DA's nature and guide future prevention programs in Spain.

Findings of the current study suggest that cross-intervention strategies aimed at reducing aggressive behaviors might be able to change physical DA as well, and sexual DA partially, but not psychological DA, which requires more couple-based interventions. Physical DA, and at lower level sexual DA, was predicted by a group of adolescents who behave aggressively in different contexts, presenting a generally aggressive pattern that would benefit from general aggression prevention programs. In line with this finding, implementing a single effective cross-cutting prevention program on general aggression can prevent physical DA, bullying, peer aggression, and the most severe physical forms of sexual DA. Consistently, effective research on youth violence prevention programs showed evidence for the decrease in physical dating violence (for example, see Crooks et al., 2011; Wolfe et al., 2009). An early universal prevention focusing on altering the school culture, promoting respect, changing positive attitudes toward aggression, and social and emotional learning could prevent peer aggressive behaviors and peer bullying but could also prevent the onset of physical dating violence.

However, our findings suggested that these cross-cutting strategies generally focused on youth violence could be less effective for the prevention of psychological DA. These results could explain why the majority of teen dating violence prevention programs in Spain, as well as at the international level, appears to reduce severe and less frequent forms of violence, such as physical and sexual violence (De la Rue, 2017; Foshee et al., 2012; Muñoz-Fernández et al., 2019; Taylor et al., 2013; Wolfe et al., 2003), whereas results are less consistent for psychological violence (Foshee et al., 2005). This study has shown that psychological DA seems to be more couple context dependent since it was predicted by a risk profile characterized by poor emotion regulation skills, high levels of insecurity, and low levels of couple quality. These forms of DA might be tackled by prevention programs focused on increasing couple quality, conflict management, and emotion regulation skills. Specific universal components focused on helping students to recognize the difference between caring and be supportive, with a controlling, manipulative, or abusive behavior toward the partner, are necessary in order to prevent psychological DA (Foshee et al., 2014; Muñoz-Fernández et al., 2019). Jealousy seems to be a relevant mechanism that must be addressed in the prevention of psychological and sexual DA. Controlling, possessive, and jealous behaviors preceding psychological and sexual pressure toward a partner might be perceived as an



expression of love by adolescents (Levy, 1990). The design of specific intervention components aimed to promote the adolescents' regulation of jealousy together with other negative emotions should be the target of psychological and sexual dating violence prevention efforts.

As mentioned, the development of dating violence prevention programs in Spain remains a challenge. Up to date, there are few dating violence prevention programs evaluated (Carrascosa et al., 2019; Muñoz-Rivas et al., 2019; Sánchez-Jiménez et al., 2018) and only two of them have included sexual DA (Fuertes-Martín et al., 2012; Muñoz-Fernández et al., 2019). In addition, all these programs have been focused on modifying some cognitive risk factors, such as beliefs and attitudes about violence, romantic myths, or knowledge about violence, probably because of the heritage bullying and cyberbullying programs. According to the results of this study, although this content related to violent attitudes could be appropriated for the reduction of physical DA, programs could benefit from incorporating specific skill-building components on couple and dating management in order to increase its efficacy on reducing psychological but also sexual DA. In the future, these components could be integrated into school plans for equality and guide stakeholders about how to improve dating violence prevention.

### Limitations and Future Studies

The study presents some limitations mainly related to the use of self-report measures and to the prospective nature of the longitudinal design. A longitudinal design through adolescence able to capture the development across time of these risk profiles could add a deeper understanding of their predicting value in relation to different forms of DA. The HA group is composed of a low number of adolescents and caution about the interpretation of the results should be paid. Future studies might support the current study. Finally, the length of the survey (30 min) might have affected the data quality. Trained psychologists during the administration controlled the speeding, and if someone turned in the questionnaire too early, that questionnaire was marked and not entered into the database. However, the individual response time as a screening technique was not registered, and thus, it was not possible to control for this variable. Future studies might systematically control in a rigorous way the speeding.

On the other side, the longitudinal design of the study, the consideration of several predictors referred to the individual and to the dating relationship context, the big sample, constitutes the strengths of the current study. Future studies could test our hypotheses using translational research where the effectiveness of specific components based on risk profiles can be evaluated in relation to different forms of DA.

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### Declarations

**Conflict of Interest** The authors declare no competing interests.

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