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Longitudinal Predictors of Online Dating Aggression: Similarities and Differences Between Control and Intrusiveness

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Abstract

Technological advances have led to dating aggression being perpetrated online, with online control and online intrusiveness (repeated attempts to gain access to one's partner after an argument) being two of the most prevalent forms. Previous studies have made headway in terms of identifying the correlates of online control, but longitudinal studies are still scarce. Furthermore, the predictors of online intrusiveness are yet unknown. The present study aimed to explore the cognitive and emotional predictors of these two types of online dating aggression. The role of moral disengagement (MD), anger dysregulation and online jealousy were analysed. A total of 467 Spanish adolescents aged between 12 and 19 years (M = 14.03, SD = 1.41, 57.2% girls) with recent romantic experience participated in a longitudinal study with two time points (W1, W2) separated by a four-month interval. The results revealed that, although all variables were correlated, predictors varied in accordance with the specific form of online aggression analysed. Online control aggression at W2 was predicted by previous involvement in online control and online intrusiveness aggression, high levels of anger dysregulation (W1) and online jealousy (W1). In contrast, online intrusiveness aggression at W2 was predicted by prior involvement in the same form of online aggression and poor anger regulation (W1). Moral disengagement lost its predictive value when emotional variables were incorporated. The results highlight the multidimensional nature of online dating aggression in adolescent couples and suggest that, although the strong link between online control and intrusiveness should be taken into consideration, the two forms of aggression should be explored independently.

Keywords: online dating aggression; online control; online intrusiveness; adolescent; longitudinal analysis; risk factors

Introduction

The technological advances of recent years have led to aggression in the intimacy of romantic relationships being perpetrated not only face-to-face, but online as well (Zweig et al., 2013). Being a victim of online dating aggression has serious mental, physical, and social consequences from an early age. Although the evidence is still insufficient, initial studies suggest that being a victim of online dating aggression has consequences similar to those caused by face-to-face dating aggression (Exner-Cortens et al., 2013; Nahapetyan et al., 2014; Taquette & Monteiro, 2019), including an increase in substance abuse, criminal behaviour, risky sexual behaviours, loss of self-esteem,

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Editor in charge: Fabio Sticca depressive symptoms, feelings of loneliness and loss of social and family support (Cava, Tomás, et al., 2020; Dick et al., 2014; Ortega-Barón et al., 2020; Zweig et al., 2014). This would make online dating aggression a public health problem that must be addressed.

Studies indicate that online dating aggression occurs from early adolescence onwards, with prevalence rates varying in accordance with the specific form analysed (Cava, Martínez-Ferrer, et al., 2020; Stonard, 2019). In this respect, online control has been identified as one of the most prominent and representative dimensions of this aggressive phenomenon, as evident in its inclusion in most measurement instruments and the high prevalence rates found (Rodríguez-deArriba et al., 2021). Online control aggression refers to the abusive use of technological devices and applications to invade one's partner's privacy and monitor, control and make decisions regarding their online activity (Martínez-Soto & Ibabe, 2022; Rodríguez-deArriba et al., 2021). In terms of the specific type of conduct encompassed by this form of online dating aggression, available measures include behaviours ranging from monitoring personal account activities and information or pressuring one's partner to disclose their private passwords (Reed et al., 2017), to directly manipulating their online movements by deleting some of their contacts, for example (Cava & Buelga, 2018). Repeated attempts to contact one's partner through calls, messages or even third parties, until he or she feels upset or insecure, is another behaviour commonly included in measures of online control (e.g., Reed et al., 2017), although some authors view it as a separate form of aggression. Indeed, Sánchez-Jiménez et al. (2015) refer to this type of online dating aggression as online intrusiveness and consider it a specific dimension with unique characteristics. According to these authors, what makes online intrusiveness a differential form of control in adolescence is the fact that these behaviours occur in specific contexts, such as after an argument with a partner who then refuses to maintain contact (e.g., by not responding to or by blocking the other party), and are motivated by a desire to maintain intimacy or reconcile using aggressive conflict resolution strategies (Sánchez-Jiménez et al., 2014; Spitzberg & Rhea, 1999). This characteristic would make online intrusiveness a more contextual and less planned type of aggression than online monitoring or control. The present study aims to advance our understanding of this form of online dating aggression by determining, through an analysis of common and differential predictors of both types of aggression (online control and online intrusiveness), whether or not we are dealing with an independent form of online control.

In terms of prevalence, studies suggest that online control aggression is common among adolescent dating couples, with involvement rates of around 50% (Cava, Martínez-Ferrer, et al., 2020), or even 80% and over in some cases (Sánchez-Jiménez et al., 2015). For its part, online intrusiveness aggression has been less studied and is identified only in the 'Cyberdating Q_A' instrument (Sánchez-Jiménez et al., 2015). Prevalence rates are similar to those reported for online control, i.e., between 50% and 70% depending on the country (Sánchez-Jiménez et al., 2014), although the lack of previous evidence precludes any conclusions being drawn in this sense, and further research is required.

Regarding gender, the evidence seems to indicate that girls are more commonly involved as aggressors in online control than boys (Cava, Martínez-Ferrer, et al., 2020; Rodríguez-deArriba et al., 2023), whereas boys tend to perpetrate more online intrusiveness than girls (Sánchez-Jiménez et al., 2014, 2015). According to these studies, girls tend to perpetrate online dating aggression in a more premeditated and even indirect way, as is the case with online control and monitoring, whereas boys tend to have more explosive aggressive reactions. This may be the result of the traditional differential socialisation of men and women (Ferrer & Bosch, 2013), which prompts boys and girls, first, to understand romantic relationships differently and, second, to solve conflicts or those aspects of their relationship that they do not like using different strategies. For example, a study by Cava, Martínez-Ferrer, et al. (2020) posits that the myth of romantic love has more weight in the explanation of online control among girls than among boys. Also, girls display higher levels of jealousy in the online context (Rodríguez-deArriba et al., 2023), as well as greater fear of infidelity (Reed, Ward, et al., 2021), whereas boys tend to justify dating violence more (Rubio-Garay et al., 2019). These results and the limited evidence available invite us to continue exploring possible differences between boys and girls in terms of their involvement in online dating aggression, and to include gender as a moderating factor of the variables that prompt adolescents to perpetrate online dating aggression in their romantic relationships.

Cognitive and Emotional Predictors of Online Dating Aggression

Knowledge about the risk factors associated with online dating aggression is, to date, limited and inconsistent and most of it comes from cross-sectional studies (Caridade & Braga, 2020).

From a cognitive perspective, one of the most promising factors in the explanation of aggressive behaviour refers to the norms that young people internalise regarding the use of violence in specific circumstances. One of the most relevant advances in this field was the identification of a process referred to by Bandura as moral disengagement. According to Bandura et al. (1996), moral disengagement is the cognitive process by which people convince themselves that moral norms do not apply under specific assumptions. To achieve this, individuals use different mechanisms, (called moral disengagement mechanisms), including moral justification, euphemistic labelling, advantageous comparison, shifting of responsibility, distortion of consequences, dehumanisation of the victim, and attribution of blame.

This temporary deactivation of the self-regulatory process of moral behaviour has been extensively linked to the explanation of aggressiveness in adolescence (Paciello et al., 2008), including different forms of face-to-face and online peer aggression, such as bullying and cyberbullying (Killer et al., 2019; Lo Cricchio et al., 2021).

Studies on the link between moral disengagement and dating violence are, in contrast, scarce. Rubio-Garay et al. (2019) found that perpetrators blamed their partners for their aggression, whereas Sánchez-Jiménez and Muñoz-Fernández (2021) found that teenage boys (although not teenage girls) with high moral disengagement scores were at risk of engaging in psychological and physical aggression in their dating relationships. In relation to online dating aggression, a study focused on the adult population (Maftei & Dănilă, 2023) found that high levels of moral disengagement were associated with high levels of online dating aggression. Moreover, another study with adolescents (Rodríguez-deArriba et al., 2023) found that moral disengagement moderated the association between online jealousy and involvement in online control aggression. In other words, boys and girls who were jealous of their partner's online behaviour were more likely to control them online, especially if they had high levels of moral disengagement. However, contrary to that reported by Maftei and Dănilă (2023), Rodríguez-deArriba et al. (2023) did not find that moral disengagement directly predicted online control. Existing evidence is insufficient to allow us to draw conclusions regarding the role of this cognitive process in online dating aggression, and more research and longitudinal studies are required (Caridade & Braga, 2020).

The ability to manage one's emotions is another aspect that needs to be addressed in the explanation of online dating aggression. In this respect, jealousy and anger regulation have received most attention from researchers. Online jealousy can be described as an emotional reaction to viewing one's partner's online content, and concerns and suspicions about their interest in someone else (Utz & Beukeboom, 2011) triggered by their conversations and contact with certain people or friends on the social media. Feelings of online jealousy have been associated with low levels of relationship satisfaction (Elphinston & Noller, 2011), and involvement in face-to-face (Strawhun et al., 2013) and online aggression in adult couples. For example, Watkins et al. (2018) found that jealousy was strongly associated with online dating aggression, particularly spying and surveillance behaviours. Studies conducted with the adolescent population have reported findings that are consistent with these results, observing that teenagers with higher levels of online jealousy are more likely to control and limit their partner's social media activity. For instance, Rodríguez-deArriba et al. (2023) observed that online jealousy had a direct impact on involvement in online control aggression among boys and girls. However, we are not aware of any previous study focusing on online jealousy and its association with online intrusiveness aggression.

Poor anger regulation has been associated with an increase in face-to-face dating aggression (e.g., Farrell & Vaillancourt, 2019; Muñoz-Fernández & Sánchez-Jiménez, 2020; Nocentini et al., 2021; Sullivan et al., 2017), as well as with online dating victimisation (Caridade & Braga, 2020). However, few studies to date have focused specifically on analysing the association between anger and online aggression among adolescents and young couples (Watkins et al., 2018; Zweig et al., 2013). Watkins et al. (2018) found weak correlations between trait anger and cyberstalking (using a measure that included online control and online intrusiveness in the same scale), and another study with young adults concluded that those who tended to lose control more easily when experiencing very intense emotions also tended to exercise more online control over their partners (Linares et al., 2021). For their part, Rodríguez-deArriba et al. (2023) reported that girls with good socio-emotional competence (including anger regulation skills) were less likely to control their partners online. In sum, the few available studies on this topic suggest that the role of anger regulation in online control aggression is clear, although its contribution to online intrusiveness is inconclusive. In other words, we have yet to determine whether the effect of anger on online control and online intrusiveness would be the same if these two forms of online dating aggression were analysed independently.

The Present Study

The present study aims to advance our understanding of online dating aggression in adolescents. The available evidence on the predictors of online dating aggression highlights the need for further exploration in this area through longitudinal studies, in order to confirm or complement cross-sectional results. Similarly, it is important to study the two forms of online dating aggression separately, creating specific predictor models for each one.

Specifically, the aim was to examine the cognitive and emotional predictors of online dating aggression during adolescence, in two of its forms: online control and online intrusiveness. Moving on from the cross-sectional approach, in this study we analysed longitudinally the effect of moral disengagement, anger dysregulation and online jealousy on online control aggression and online intrusiveness aggression, as well as possible differences in the explanation of the two phenomena. We also controlled for the possible effect of gender, sexual orientation, age and prior perpetration of online control and online intrusiveness.

Based on the information provided by previous studies, we hypothesised that online control aggression would be predicted by those variables that foster dishonest behaviour, such as moral disengagement and feelings of online jealousy (Rodríguez-deArriba et al., 2023). In accordance with the definition of online intrusiveness aggression as a maladaptive response after an argument, we hypothesised that poor anger regulation would carry significant weight in its explanation. In contrast, since online control can occur in an asynchronous and planned manner, we hypothesised that the effect of intense emotions (such as anger) would be weaker than in the case of more contextualised and reactive aggression, such as online intrusiveness. However, no previous studies have been carried out to support these hypotheses.

In relation to control variables, we decided to analyse the role of gender in an exploratory manner, given that previous meta-analyses have failed to report clear results due to a lack of data (Caridade & Braga, 2020). Similarly, due to the wide age range covered by the adolescent period, age was included as a control variable but without expecting a significant effect (Caridade & Braga, 2020), since both younger and older adolescents engage in these aggressive behaviours. Sexual orientation has been linked to online dating victimisation, but not to aggression (Caridade & Braga, 2020; Caridade et al., 2019; Dank et al., 2014), with young boys and girls with a sexual orientation other than heterosexual scoring higher for online dating victimisation. A study by Dank et al. (2014) analysed the involvement of this population group in online dating aggression in their romantic relationships. In light of the available evidence, in the present study we did not expect to find differences in accordance with sexual orientation. Lastly, we expected prior perpetration to predict future involvement as an aggressor, as indeed reported in previous longitudinal studies (Temple et al., 2016).

Methods

Participants

A total of 1,676 Spanish adolescents from nine High Schools in Andalusia, southern Spain, participated in two waves of data collection (W1 and W2), separated by an interval of four months. All schools were located in catchment areas with a medium economic, social and cultural level (ISC Index). So as not to overlap the information collected about online aggression in each wave, only those participants who reported having or having had a romantic relationship in W1 and having dated someone in the past two months in W2 were selected. The final sample therefore comprised 467 adolescents (57.2% girls, 42.8% boys). Participants were aged between 12 and 19 years (M = 14.03, SD = 1.41) and were equally distributed across the four academic years that make up compulsory secondary education in Spain (1st year = 29%, 2nd year = 22.2%, 3rd year = 25.6%, 4th year = 23.2%). Regarding sexual orientation, most participants defined themselves as heterosexual (90.6%), followed by bisexual (6.1%) and homosexual (2.2%); 1.1% said they had yet to define their sexual orientation.

Measures

Romantic Experience

An adaptation of the Dating Questionnaire (Connolly et al., 2004) was used. Participants were asked about their romantic experience, selecting one of the following options: 1) *I am currently dating someone;* 2) *I have dated someone in the last two months;* 3) *I have been dating someone but not in the last two months;* and 4) *I have never dated anyone.*

Sexual Orientation

To measure sexual orientation, participants were asked to state towards whom they normally felt romantic and/or sexual attraction, with several response options: *always boys; most of the time boys and sometimes girls; boys and girls alike; always girls; most of the time girls and sometimes boys; I'm not sure; people in general, regardless of their sex or gender.*

Online Control Aggression, Online Intrusiveness Aggression, and Online Jealousy

The online control aggression (6 items; e.g., *I have attempted to gain access to my partner's social media account*), online intrusiveness aggression (4 items; e.g., *When I am angry and my partner does not respond to me, I leave many messages on their social media*), and online jealousy (4 items; e.g., *I get jealous when my partner posts provocative photos on their social media profile*) subscales of the Cyberdating Q_A (Sánchez-Jiménez et al., 2015) were used. This instrument was developed and validated in the Spanish adolescent population and measures both types of online dating aggression (online control and online intrusiveness) and the negative quality of adolescent dating relationships (online jealousy). Answers are given on a 5-point Likert-type scale ranging from 0 = *Never* to 4 = Always. The fit indices of the confirmatory factor analysis with the study sample were good: $\chi^2(74) = 180.98$; RMSEA = .05; CFI = .90. Internal consistency values were also good: .75 (W1) and .74 (W2) for online control aggression; .81 (W1) and .79 (W2) for online intrusiveness aggression; and .75 (W1) and .74 (W2) for online jealousy.

Moral Disengagement

The Spanish version of the Bandura Moral Disengagement Scale was used (Bandura et al., 1996; Sánchez-Jiménez & Muñoz-Fernández, 2021). This instrument asks participants to rate, on a 5-point Likert-type scale ranging from 1 = *Strongly disagree* to 5 = *Strongly agree*, the extent to which they agree with 32 justifications for immoral behaviour (e.g., *It's OK to insult a classmate, because hitting them is worse*). Internal consistency values were good: .88 (W1) and .91 (W2).

Anger Dysregulation

The Spanish version of the Stress Management subscale (Bar-On & Parker, 2000) was used. The scale comprises 8 items that assess participants' ability to regulate and manage their anger (e.g., *When I get angry, I act without thinking*), with answers given on a 5-point Likert-type scale ranging from 1 = *Never* to 5 = *Always*. Higher scores indicate poorer anger regulation. Internal consistency values were good: .85 (for both W1 and W2).

Procedure

After contacting a number of public schools in the region, those that expressed an interest were informed of the purpose and conditions of the study, and informed consent was obtained from students' families. Authorised students completed the self-reports on paper during school hours in February 2019. Before starting the survey, participants received oral and written information about the purpose of the study and the content of the questionnaire. They were also told that their participation was strictly voluntary and that they were free to leave the study at any time. At the beginning of the questionnaire, they were asked to indicate their willingness to participate in the study. Four months later (June 2019), the second wave was carried out. To facilitate anonymisation and data matching between the two waves, each participant was assigned their own alphanumeric

code that they completed with their date of birth and initials. The study was approved by the Andalucía Ethical Coordination Committee for Biomedical Research (code: 1223-N-18).

Analysis Plan

To respond to the study aims, various statistical analyses were carried out using the SPSS 26 software package. In order to get the sexual orientation variable, the original gender variable was crossed with the different response options of the sexual orientation question, resulting in the following categories: heterosexual, bisexuals, homosexuals, and questioning. Due to the large number of participants in the heterosexual category, the variable was dichotomised, with 90.6% of participants being classed as heterosexual and 9.4% as LGBQ. As a preliminary step, descriptive analyses and *t*-test mean comparisons were performed to test for gender (boys and girls) and sexual orientation (heterosexual and LGBQ) differences. Next, a correlation analysis was run to determine the relationship between the variables, including age. Subsequently, two multiple linear regressions were performed, one for online control aggression and one for online intrusiveness aggression in W2. The following five-stepwise model was tested: 1) sociodemographic variables (gender, sexual orientation and age); 2) baseline control for previous involvement in online dating aggression (online control and online intrusiveness in W1); 3) cognitive variable (moral disengagement in W1); 4) emotional variables (anger dysregulation and online jealousy in W1); and 5) interaction between gender and the predictive variables in W1.

The independent variables included in the model were those found to have a significant correlation with the dependent variables. Also, due to the non-normal distribution of the online dating aggression variables (online control and online intrusiveness aggression), we performed a log10 transformation of these variables in W1 and W2 to attenuate the bias after transforming the original scale score and avoiding 0 values. Finally, to reduce collinearity problems, multiple linear regressions were performed with the centred values of the continuous independent variables (moral disengagement W1, anger dysregulation W1, online jealousy W1 and the log10 transformation of online control aggression W1 and online intrusiveness aggression W1).

Results

Preliminary Analyses

The descriptive analysis revealed that more than half of the participants had perpetrated online control or online intrusion at least once in their last romantic relationship in W1, and in the last two months in W2. Specifically, the percentage of online control aggression was around 56% (W1: 56.8%, W2: 56.2%) and that of online intrusiveness was between 50.7% in W1 and 46.7% in W2. However, involvement in this particular type of aggression was occasional, as evident in the means values (between 0 and 1, see Table 1).

Table 1. Descriptive Information.									
	<i>f</i> (I)	М	Boys	Girls	Heterosexual	LGBQ			
	n	(SD)	M (SD)	M (SD)	M (SD)	M (SD)			
1. Online control aggression W1	56.8% 256	0.39 (0.59)	0.29 (0.50)	0.46 (0.64)	0.39 (0.56)	0.37 (0.84)			
2. Online control aggression W2	56.2% 258	0.57 (0.89)	0.27 (0.50)	0.42 (0.65)	0.36 (0.58)	0.43 (0.79)			
3. Online intrusiveness aggression W1	50.7% 228	0.36 (0.59)	0.50 (0.80)	0.62 (0.94)	0.58 (0.90)	0.43 (0.79)			
4. Online intrusiveness aggression W2	46.7% 214	0.52 (0.82)	0.48 (0.80)	0.54 (0.83)	0.52 (0.81)	0.51 (0.95)			
5. Moral disengagement W1		1.83 (0.59)	1.94 (0.57)	1.75 (0.58)	1.83 (0.60)	1.80 (0.51)			
6. Anger dysregulation W1		2.59 (0.90)	2.45 (0.86)	2.69 (0.91)	2.58 (0.89)	2.68 (0.94)			
7. Online jealousy W1		0.62 (0.85)	0.53 (0.75)	0.70 (0.91)	0.63 (0.83)	0.52 (0.88)			
8. Age		14.03 (1.41)	13.95 (1.37)	14.09 (1.43)	13.96 (1.40)	14.53 (1.39)			

Note. f(I) = Frequency of adolescents' involvement in online control and online intrusiveness aggression.

The *t*-test comparisons for gender (see means in Table 1) revealed that boys and girls did not have similar scores for all variables. Specifically, girls were more involved in online control aggression in both W1, t(448.70) = -3.16, p = .002, d = 0.29, 95% CI [0.104, 0.479], and W2, t(456.85) = -2.86, p = .004, d = 0.25, 95% CI [0.069, 0.44], had poorer anger regulation, t(438) = -2.82, p = .005, d = 0.27, 95% CI [0.08, 0.46], and higher levels of online jealousy in W1, t(447) = -2.18, p = .030, d = 0.20, 95% CI [0.02, 0.39], whereas boys had higher levels of moral disengagement in W1, t(461) = 3.56, p < .001, d = 0.33, 95% CI [-0.52, -0.15]. No differences were found in relation to either age or online intrusiveness aggression. The t-test comparisons for sexual orientation revealed that LGBQ adolescents were older than heterosexual ones, t(454) = -2.56, p = .011, d = 0.41, 95% CI [0.09, 0.72]. No other significant differences were found regarding sexual orientation (Table 1).

Correlations between the study variables (Table 2) were positive and significant, except for age, which correlated only weakly with online jealousy.

1	2	3	4	5	6	7	8
-							
.63**	-						
.56**	.47**	-					
.34**	.47**	.55**	-				
.16**	.21**	.17**	.21**	-			
.22**	.23**	.17**	.23**	.37**	-		
.75**	.55**	.52**	.31**	.16**	.25**	-	
03	.07	03	06	03	07	.10*	-
	.56** .34** .16** .22** .75**	- .56 ^{**} .47 ^{**} .34 ^{**} .47 ^{**} .16 ^{**} .21 ^{**} .22 ^{**} .23 ^{**} .75 ^{**} .55 ^{**}	- .63** - .56** .47** - .34** .47** .55** .16** .21** .17** .22** .23** .17** .75** .55** .52**	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

Table 2 Correlations Potwaan the Study Variables

Note. **p* < .05, ***p* < .01.

Predictors of Online Control and Online Intrusiveness Aggression

Table 3 shows the results of the regression models for online control and online intrusiveness aggression. Age was not included in the multiple regression analyses as it was not found to correlate with most of the variables, whereas gender was included in interaction with all the predictor variables, since differences were observed between boys and girls in the study variables. Gender was therefore included in the first and fifth models (interaction). Sexual orientation was included in the first one, but not as an interaction, since no differences were found between the two groups.

Online Control Aggression in W2

The change in the F statistic in the first (gender), second (adding previous involvement), third (adding moral disengagement), and fourth models (adding emotional variables) was significant (p < .05), whereas in the fifth model (adding the interaction with gender) it was not (p = .082). Consequently, the fourth model was chosen, F(7,411) = 36.88, p < .001. According to this fourth model (Table 3), online control aggression in W2 was predicted by previous involvement in online control (p < .001) and online intrusiveness aggression (p = .022), as well as by high levels of anger dysregulation (p = .013) and online jealousy (p = .008) in W1. This model accounted for 39% of the variance observed in online control aggression. As shown in Table 3, when the emotional variables were included, moral disengagement lost its predictive power (see Models 3 and 4). Lastly, when gender interactions were added (Model 5), none of the independent variables were significant, except for previous involvement in online control and online intrusiveness aggression.

Online Intrusiveness Aggression in W2

Again, the change in the F statistic from the first to the fourth models was significant (p < .05). The change in the F statistic in the fifth model was not significant (p = .159), so the fourth step was chosen, F(7,410) = 25.68, p < .001. As shown in Table 3, according to this fourth model, online intrusiveness aggression in W2 was predicted by previous engagement in online intrusiveness aggression (p < .001) and by poor anger regulation (p = .001) in W1. This model accounted for 31% of the variance observed in online intrusiveness aggression. Similar to that found in relation to online control aggression, when the emotional variables were added, moral disengagement ceased to be significant (see Models 3 and 4). When gender interactions were added (Model 5), the effect of emotional dysregulation disappeared and a significant effect of online jealousy emerged, both directly and in interaction with gender (see Table 3). However, the fifth model was not chosen as it did not imply a significant increase in the F statistic.

Regarding collinearity for the two dependent variables, tolerance values ranged from 0.38 to 0.99 and VIF values ranged from 1.01 to 2.61; consequently, collinearity among the independent variables was controlled for with the transformations performed on the variables.

Discussion

The aim of the present study was to analyse the cognitive and emotional predictors of two common but currently under-explored forms of online teen dating aggression: online control (Reed et al., 2017) and online intrusiveness (Sánchez-Jiménez et al., 2015). These two types of aggression include abusive behaviours (e.g., constant sending of messages or surveillance) that are less explicit and, therefore, more tolerated by young people, who may sometimes interpret them as a sign of love and a demonstration of jealousy (Ameral et al., 2020). Focusing on their predictors is crucial if we hope to design effective prevention policies.

The *t*-test comparison indicated that online control aggression was significantly higher among girls, whereas no gender differences were observed for online intrusiveness aggression. These findings are consistent with those reported by previous studies (e.g., Cava, Martínez-Ferrer, et al., 2020), which also found greater control among girls than among boys, and also add new information to our current body of knowledge on online intrusiveness aggression, for which previous studies had found greater involvement among boys (Sánchez-Jiménez et al., 2015). The cross-sectional and temporal associations between these two forms of online dating aggression confirm some overlap between them, but also indicate that not all adolescents engage in both types of aggression at the same time.

The regression analyses provided further information on the differential nature of these two forms of online dating aggression. Although all variables were positively correlated both cross-sectionally and longitudinally, the results of the regression models suggest differences in their predictors. Online control was predicted by prior involvement in online control and online intrusiveness, but also by online jealousy and, to a lesser extent, by emotional dysregulation. These findings provide greater insight into the nature of and the motives behind this form of online aggression. Boys and girls who control their partners have previously felt jealous, particularly in the online context. This may prompt them to try and control their partner's behaviour via the social media, using both direct (restricting or manipulating their contacts and activity on social networking sites) and covert tactics (monitoring and surveillance; Brem et al., 2015; Reed, Lawlar, et al., 2021; Watkins et al., 2018). Insecurity and discomfort with their partner's online behaviour, together with difficulty controlling negative emotions, may prompt adolescents to let themselves be carried away by their impulses and negative emotions, resulting in attempts to restrict and control their partner's social media and online activity.

The results of the regression model for online intrusiveness indicate that this behaviour is a more impulsive and emotional type of aggression than online control, triggered by poor emotion regulation in response to situations of conflict and arguments with one's romantic partner (Linares et al., 2021). We can therefore speculate that boys and girls who engage in online intrusiveness aggression also have high levels of rumination, as well as recurrent and persistent thoughts about what has happened (Wang et al., 2018), which may, over time, lead to the use of more aggressive control tactics, both direct and covert. This would explain the results found in our study, i.e., the temporal influence of intrusiveness on control, but not vice versa. However, since our study did not measure rumination, this hypothesis cannot be confirmed. Future studies may wish to pursue this avenue of research in order to explore, in more depth, the joint contribution of anger and rumination to explaining online intrusiveness and control.

The results revealed that previous involvement in online intrusiveness predicted both forms of online dating aggression (control and intrusiveness), whereas online control only acted as a predictor of itself. It therefore seems that the use of intrusive and impulsive strategies in a situation of conflict may lead to the use of other coercive tactics, not just during an argument, but in a more general manner. This finding highlights the importance of learning healthy conflict resolution strategies in romantic relationships from a young age.

<i> </i>	ntrusiveness	Aggression					
	Online control aggression W2			Online intrusiveness aggression W2			
	В	β	SE	В	β	SE	
Model 1							
Gender ^a	.04**	.14	.01	.01	.02	.02	
Sexual orientation ^b	01	02	.02	02	03	.03	
R ²	.02			.001			
$\triangle R^2$							
Model 2							
Gender ^a	.02	.06	.01	01	02	.02	
Sexual orientation ^b	.004	.01	.02	004	01	.03	
Online control aggression W1	.49***	.49	.05	.07	.06	.06	
Online intrusiveness aggression W1	.11**	.15	.04	.47***	.48	.05	
<i>R</i> ²	.36			.27			
$\triangle R^2$.34			.27			
Model 3							
Gender ^a	.02	.08	.01	.01	.003	.02	
Sexual orientation ^b	.01	.01	.02	003	01	.03	
Online control aggression W1	.47***	.48	.05	.05	.04	.06	
Online intrusiveness aggression W1	.11**	.14	.04	.47***	.48	.05	
Moral disengagement W1	.001**	.11	<.001	.001**	.13	<.001	
R ²	.37			.29			
$\triangle R^2$.01			.02			
Model 4							
Gender ^a	.02	.06	.01	01	03	.02	
Sexual orientation ^b	.003	.01	.02	01	01	.03	
Online control aggression W1	.35***	.36	.06	.02	.02	.09	
Online intrusiveness aggression W1	.08*	.11	.04	.45***	.47	.05	
Moral disengagement W1	<.001	.06	<.001	.001	.07	<.001	
Anger dysregulation W1	.002*	.11	.001	.004***	.16	.001	
Online jealousy W1	.01**	.16	.003	<.001	.01	.004	
<i>R</i> ²	.39			.31			
$\triangle R^2$.02			.02			
Model 5							
Gender ^a	.01	.04	.01	01	03	.02	
Sexual orientation ^b	002	01	.02	01	01	.03	
Online control aggression W1	.54*	.55	.24	45	35	.33	
Online intrusiveness aggression W1	.31*	.41	.13	.66***	.69	.17	
Moral disengagement W1	001	18	.001	<.001	.05	.002	
Anger dysregulation W1	.01	.25	.003	.004	.16	.004	
Online jealousy W1	002	05	.01	.03*	.49	.01	
Online control aggression W1 * Gender ^a	12	21	.14	13	22	.10	
Online intrusiveness aggression W1 * Gender ^a	14	31	.07	.28	.38	.10	
Moral disengagement W1 * Gender ^a	.001	.25	.007	.20 <.001	.02	.001	
Anger dysregulation W1 * Gender ^a	002	.25 15	.001	<.001 <.001	.02	.001	
Online jealousy W1 * Gender ^a <i>R</i> ²	.006	.23	.01	02*	50	.01	
	.41			.32			
$\triangle R^2$.02			.01			

 Table 3. Regression Coefficients for Prior Online Dating Aggression and Cognitive and Emotional Variables on Online Control and
Intrusiveness Aggression.

△*R*² .02 *Note.* ^a Boys = 1, girls = 2. ^b Heterosexual = 1, LGBQ = 2. **p* < .05, ***p* < .01, ****p* < .001.

Another interesting result returned by the regression analysis is linked to the role played by moral disengagement. Although it predicted online control and online intrusiveness aggression in the third step, moral disengagement ceased to be significant when the emotional variables were added, a finding that confirms the contextual and emotional nature of these types of violence. This result is consistent with that reported in cross-sectional studies in the adolescent population in relation to face-to-face and online dating aggression (Rodríguez-deArriba et al., 2023; Rubio-Garay et al., 2019). One of the hypotheses in this regard is based on the aggressor-victim relationship. Unlike with peer violence, in dating violence there is a sentimental bond between aggressor and victim that protects against the use of certain moral disengagement mechanisms, such as dehumanising the victim (Rubio-Garay et al., 2019). However, the romantic bond fosters other mechanisms, such as blaming the victim (Rubio-Garay et al., 2019) when, for example, the victim does something that the aggressor considers a threat to the relationship (a feeling that may be interpreted as jealousy) and it could be identified as the trigger of the aggression. Another hypothesis posits that moral disengagement is a mediating or moderating variable, rather than a direct one. As the correlations and regressions show, moral disengagement is indeed linked to the two forms of online dating aggression under study here and predicts them when no other variable is included in the equation. It is therefore important to study the interaction between moral disengagement and emotional variables (which have greater weight in the explanation of online control and online intrusiveness).

Taken together, initial studies on the role of moral disengagement in online dating aggression indicate that moral disengagement is related to the perpetration of dating aggression in the online context, but in a very specific way, perhaps moderating certain relationships with emotional factors (Rodríguez-deArriba et al., 2023) or acting through specific mechanisms (Rubio-Garay et al., 2019). Future studies should continue this line of research, incorporating multidimensional measures of moral disengagement and even developing specific measures of this variable in online dating violence, which make it possible to identify the assumptions under which the use of online control and intrusiveness are accepted.

Regarding gender, neither model was gender-dependent, which indicates that the same factors underlie the online dating aggression perpetrated by both boys and girls, despite mean differences in the study variables. The role of gender in explaining aggressive behaviour in couples is still unclear, mainly due to the diversity of methodology designs and results found in the literature, and because this variable is not always included in the analyses (Muñoz-Fernández & Sánchez-Jiménez, 2020). Our results are consistent with those reported by some previous studies that argue that gender is not a decisive variable in involvement in online dating aggression (Caridade & Braga, 2020). However, they contradict those reported by other authors, who found that girls, especially those with high levels of jealousy or fear of infidelity (Reed, Ward, et al., 2021), are more likely to perpetrate online control than boys (Van Ouytsel et al., 2020), and that being a boy increases the likelihood of sexually assaulting a partner (Smith-Darden et al., 2017). These conclusions, however, should be viewed with caution due to the lack of longitudinal studies. The results of our study would suggest that being a boy or a girl does not predispose one to greater involvement as an online dating aggressor and that the factors underlying different forms of violence, or at least those underlying online control and online intrusiveness aggression, are common to both gender groups. Future studies should seek to confirm the results found here and explore other populations and forms of online dating aggression, such as online sexual violence, for example, in relation to which boys and girls seem to differ in their interpretation of the phenomenon, based on traditional stereotypes (Reed, Ward, et al., 2021). Also, in the fifth model, the direct effects of the independent variables found in the fourth model were lost and a predictive effect of jealousy in interaction with gender appeared for online intrusiveness. Although this fifth model was not chosen, the results seem to indicate that gender may indeed have a mediating effect in specific cases, and this should be explored in future studies.

Finally, sexual orientation was not a relevant variable in the explanation of online control and online intrusiveness aggression. This result is consistent with that found in previous studies focusing on face-to-face dating aggression (Langhinrichsen-Rohling et al., 2012) and online dating aggression among adolescents (Dank et al., 2014), indicating that dating aggression occurs equally in heterosexual and LGB population groups and that sexual orientation it is not a predictor of dating violence.

The present study is not without its limitations. The temporal relationships were only measured in the short term, specifically over the course of four months, which prevents us from drawing conclusions over a longer period of time. However, although future studies should consider extending the interval between data collection waves, this study is one of the first to analyse the impact of certain personal characteristics on previous involvement in online teen dating aggression. In this sense, future studies should consider expanding the sample in terms of diversity (e.g., ethnic or sexual diversity). Finally, although the present study covered cognitive, emotional and some online

context-specific variables, future research may wish to include other measures from other contexts, such as the family, peer group, or those with a prior history of involvement in bullying, cyberbullying or sexual harassment (Muñoz-Fernández et al., 2023), as well as other personal variables linked to face-to-face dating aggression, such as rumination and love myths.

Despite these limitations, however, the research presented here makes an initial contribution to the study of online control and online intrusiveness aggression and their predictors. The results suggest that these two types of online dating aggression are related yet different, and although emotional factors are at the base of both, one is more emotional and impulsive in nature (online intrusiveness aggression), whereas the other involves, in addition to poor emotion regulation, feelings of lack of control over the relationship and a distrust of the partner (online control). Based on this information, we can deduce that online control is a step beyond online intrusiveness, occurring after it and being more serious and indicative of greater risk factors (such as online jealousy and prior involvement in online control and online intrusiveness aggression). However, the present study does not enable us to draw any firm conclusions in this regard, since long-term longitudinal research designs are required to analyse involvement profiles and their evolution from early adolescence to emerging adulthood.

The present study also has important implications for interventions. First, the results highlight the importance of developing specific psychoeducational programmes that address online dating violence, identifying its specific forms, including online intrusiveness, a construct that is not included in most interventions, but which affects the quality of romantic relationships when used as a means of conflict resolution and which can lead to more planned aggression, such as online control. These programmes should be applied preventively at an early age, before individuals start establishing romantic relationships, with the aim of teaching youngsters to identify which behaviours are acceptable and which are not in such relationships. This recommendation is based on the high percentage of adolescents who have already engaged in some kind of technology-mediated dating aggression (over half of the participants in our study admitted to having controlled and/or intruded on their partners through the social media despite their young age). Second, this study provides information regarding some of the content that should be included in the programmes, which should address the emotional component of online dating aggression. Adolescents must learn how to correctly manage their angry emotions and impulses when they have arguments and disagreements with their partners, and, in the same way, they must also learn to manage any feelings of jealousy generated by their partner's online activity. However, the cognitive component of moral disengagement should not be ignored, although future studies should seek to determine exactly how this variable interacts with emotional factors.

Conflict of Interest

The authors have no conflicts of interest to declare.

Authors' Contribution

María-Luisa Rodríguez-deArriba: conceptualization, data curation, formal analysis, investigation, methodology, visualization, writing—original draft, writing—review & editing. **Sónia Caridade:** funding acquisition, supervision, writing—review & editing. **Rosario Del Rey:** funding acquisition, investigation, project administration, resources, supervision, writing—review & editing. **Virginia Sánchez-Jiménez:** conceptualization, funding acquisition, investigation, methodology, project administration, resources, supervision, visualization, writing—review & editing.

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