

**Online violence in adolescent and young adult couples:  
the role of anxious attachment and hostile sexism in a dyadic analysis**

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### **Abstract**

This study explores how anxious attachment moderates the relationship between hostile sexism and online violence in adolescent and young adults' partners. 230 heterosexual couples (total n=460) participated in a dyadic design study. Both partners answered a questionnaire about online violence, hostile sexism, and anxious attachment. Results show that both members' hostile sexism positively correlates with the perpetration and victimization of online violence in boys and girls, but not in all the dimensions. However, actor hostile sexism has a greater effect on both perpetration and victimization for both members than partner hostile sexism, except for control perpetration and victimization of girls. Results also show that the actor-anxious attachment positively moderated the relationship between their hostile sexism and perpetration and victimization for both members, only when it was higher than average, and negatively when it was lower. In girls, when the anxious attachment is high, the relationship between the boys' hostile sexism and the girls' direct aggression perpetration becomes weaker. The opposite occurs between the boys' hostile sexism and boys' direct aggression perpetrated when their girlfriends' anxious attachment increases. In sum, anxious attachment and hostile actor- and partner-sexism play an important role in online violence in adolescent couples. Therefore, the protective effect of low levels of anxious attachment should be studied among other psychosocial factors and online violence.

**Keywords:** Adolescents, Anxious attachment, Hostile sexism, Online Violence, Young adults.

## Introduction

Violence in intimate partner relationships (intimate partner violence; IPV) often begins in courtship. Thus, in recent years, attention has grown to adolescent violence as a risk factor for later adult experiences (Ross et al., 2022). At the same time, there is a debate among researchers as to whether this violence is symmetrical or asymmetrical (Eisner, 2021). The studies show that violence in adolescent couples occurs in a bidirectional way between boys and girls (i.e. Cava et al., 2015; Daff et al., 2021) and they have their own characteristics, not applicable to married couples (Bringas-Molleda et al., 2015; De la Villa et al., 2017). Evolutionary and generational aspects differ between both groups such as shared responsibilities, level of commitment, duration of the relationship, relational styles and communication channels that make these relationships not comparable with each other (Zamora-Damián et al., 2017). Moreover, mutual aggression is likely to be related to adolescents' greater inexperience in relationships and to their lack of awareness of certain behaviors as aggression (Viejo, 2014). Most studies still focus on traditional ways of partner relations, and they consider online violence as an extension of offline violence, as a context in which violence is perpetrated. However, recent findings suggest that online violence is a new form of violence with its own manifestations and implications (Fernet et al., 2019). Thus, there is a need to investigate further how technology reinforces acts and forms of early violence in boys and girls.

In this violence modality, two types of aggression are possible: direct aggression and control (Borrajo et al., 2015; Cava et al., 2020). Direct aggression behaviors refer to acts that try to harm the partner, whereas controlling behaviors include monitoring or controlling his/her partner's behaviors (Cava et al., 2020). In this regard, the scoping review by Afrouz (2023) concluded that the sense of omnipresence led victims to feel that abusers controlled every aspect of their lives, and adds to the traditional IPV forms.

The prevalence of perpetration and victimization of online violence in adolescent couples vary across studies depending on the terminology used, the instrument, and so forth (Touple-Demirtas et al., 2020). For example, Borrajo et al. (2015) found that the 75% of the participants considered themselves victims of cyber-control and the 14% of cyber-aggression, whereas Cava et al. (2020) also found higher percentages of victimization in their study (44.1% cyber-control and 11.6% cyber-aggression). Victimization and perpetration of online violence in dating relationships have been highly correlated with each other, suggesting that these behaviors are bidirectional (Doucette et al., 2018; VÍllora et al., 2019a). Specifically, percentages around 35.8% in young women reporting bidirectional controlling behaviors and direct aggressions; and 26% of young men

reporting being involved in a dating relationship with bidirectional online violence (Daff et al., 2021; Villora et al., 2019a, 2019b).

Despite the interest in this form of IPV, knowledge about the psychosocial factors involved is limited (Villora et al., 2019b). For example, Wright (2015) emphasised the importance of understanding the factors that influence online violence, focusing on *anxious attachment*. Valor-Segura et al. (2009) described anxious attachment as a deep longing for intimacy, a strong agitation for the other person's feelings, and an excessive fear of rejection or abandonment by the partner. Furthermore, it has been argued that people with high anxious attachment experience discomfort when their needs for closeness to their partner are not satisfied, expressing hyper vigilant, controlling and intrusive behaviors, which would be oriented towards achieving closeness, care and attention from their partner (Simpson & Rholes, 2015). Anxious attachment has been related to online violence in relationships as it implies the need to control partners and ex-partners' behavior, also triggering to a direct cyberdating abuse (Villora, et al., 2021). Findings show that there is a significant association between online perpetration and high levels of anxious attachment (Laforte et al., 2023; Reed et al., 2015; Wright, 2015, 2017). Moreover, recent research showed that anxious attachment is a significant mediator between cyber dating abuse and family environment (Strickland & Mosley, 2022).

Another factor that has been of great interest in offline violence in young couples is *sexism*. Studies show that adolescents have sexist attitudes (Carrera-Fernández et al., 2013; Ramiro-Sánchez, 2018). In fact, hostile sexism is higher in adolescence and young adulthood, lower in middle adulthood, and again higher in older age in both men and women (Barreto & Doyle, 2023). Some research on the young and adolescents indicates that men and women with more traditional beliefs of sexism are more accepting of the use of aggression in couple relationships (Ulloa et al., 2004) both offline and online. It seems that having sexist beliefs could lead to minimization of the aggression exhibited (from the aggressor's perspective), as well as the aggression received (from the victim's perspective) (Fernández-Antelo et al., 2020), but few studies examine sexism in online violence in adolescent couples (see review by Ramiro-Sanchez, 2018). In sum, the studies found a positive relationship between hostile sexism and cyberaggression and cybercontrol in the context of intimate partner relationships (Cava et al., 2020; Martínez-Pecino & Durán, 2019; Ramirez-Carrasco et al., 2023; Rodríguez-Domínguez et al., 2018). Moreover, sexist thoughts associated with high levels of victimization and perpetration in both control and direct aggression in online violence (Linares et al., 2021; Rodríguez-Castro et al., 2021).

In this context, few studies analyse *anxious attachment and sexism* together. The literature shows that individuals with an anxious attachment to their partner, cannot imagine their existence without their partner (Alcalá et al., 2021) and therefore, they can establish asymmetrical relationships by engaging in aggressive and sexist behavior, in particular the hostile sexism could appear as a reaction to dependency needs in adolescents (Arbinaga et al., 2021). Specifically, Garaigordobil (2013) found that benevolent, hostile and ambivalent sexism were positively correlated with anxious attachment to a partner for both adult men and women. In adolescents, Padras and Perles (2012) showed a positive correlation between sexism and dependency, a concept that included anxious attachment to a partner. Similarly, Cañete and Díaz (2019) found significant differences in hostile sexism as a function of dependency. These results may suggest that differences in sexism, depending on the dependence of the individuals, could also affect their IPV relationship. However, this is an issue to be tested and we try to fill this gap in this study.

As mentioned above, despite the bidirectionality of online dating violence has been addressed (i.e. Caridade et al., 2019; Durán & Martínez-Pecino, 2015); most studies only consider one partner, whereas the consideration of the two partners could contribute to a higher extent to the understanding of this phenomenon. The fact that these variables are associated with both perpetration and victimization of violence for both members involved in a romantic relationship could have implications at the dyadic level. Their interaction in a non-independent way and exert mutual influence on each other's thoughts, emotions, and behaviors. Many relationship theories recognize that one partner's characteristics may influence the other partner's outcomes (Sommer et al., 2017), but do not study this with both members in the same study. Thus, there is a dearth of studies analysing couples and actor/partner results, which we try to overcome in this study.

In this study we include the Actor-Partner Interdependence Model (APIM; Kenny 1996) to examine both members of adolescent couples. This method allows to separate single and independent effects (actor effects), and effects that depend on the other member of the dyad (partner effects). This method is well-known in couple research because it treats the dyad as the unit of analysis. Few studies have included this approach. For example, Schnurr et al. (2013) found that there were no differences between actor-partner effects in dominance and cyberaggression for IPV in men. However, in women, the dominance was a stronger indicative of their psychological and physical IPV, but they were also highly influenced by their boyfriends' partner use of cyber aggression. Along the same lines, the research of Goncy and Dulmen (2016) found that actor and partner attachment anxiety are related to female use of emotional abuse in dating relationships, although, for males only

their own level of attachment anxiety is related to emotional dating abuse. Furthermore, Sommer et al. (2017) found that partner attachment anxiety predicted actor psychological aggression perpetration.

In sum, this research aims to acknowledge how the hostile sexism and anxious attachment of both members in a couple influence the perpetration and victimization of online violence. These psychosocial factors have been studied especially in offline violence and focusing on an individual level. However, we contribute to have a better understanding by considering the interaction of both partners (members of the dyad).

### **Hypotheses**

The following hypotheses are examined: (1) Actor/Partner's higher levels of hostile sexism, will be positively associated with greater perpetration and victimization of online violence by both partners; (2) Actor hostile sexism will have a greater effect on both perpetration and victimization for both members of the dyad than partner sexism; (3) The higher the levels of anxious attachment in boys' and girl's, the stronger positive relationship between actor hostile sexism and the perpetration and victimization of actor and their partner; (4) The relationship between hostile partner sexism and actor perpetration and victimization is positively increased when the latter exhibit anxious attachment; (5) The anxious attachment of young people will negatively moderate the relationship between their partner's hostile sexism and their partner's perpetration and victimization.

### **Method**

#### **Participants and Procedure**

Two hundred forty-six heterosexual couples completed this study. Sixteen couples were eliminated due to incomplete questionnaires or failing to meet the requirements by one of the members of the dyad (final number of couples= 230; total n= 460). Their average age was 19.27 for women ( $SD= 1.73$ ; range 15-24) and 20.51 for men ( $SD= 2.83$ ; range 16-28). The 97.4% of the participants were of Spanish nationality and the other 2.6% were engaged with a Spanish partner.

The inclusion criteria were that one of the partners had to be a student between 15 and 22 years old and couples had to be involved in a heterosexual relationship for at least one month. The researchers visited sixteen secondary school centres, and contacted university students who met the inclusion criteria. Once they volunteer, students under 18 years of age, handed a consent form signed by their legal guardians, after which they

completed online questionnaires. For students over 18 years of age, the informed consent was included in the questionnaire. The protocol was approved by the Ethics Committee of the authors' university (Ref. NOV.17/6.TES). They accepted to voluntarily and anonymously participate in the study, and to sincerely respond without commenting with their partners. The questionnaires were associated by a unique common password by couple.

### **Instruments**

***Sociodemographic variables.*** Information about sex, age, as well as information concerning couple relationships (i.e. duration of their relation) were included.

***Cyber dating abuse questionnaire (CDAQ; Borrajo, Gámez-Guadix et al., 2015).*** This instrument is composed of 20 items for perpetration and 20 items for victimization (total 40 items). Additionally, each component is divided into two factors: Direct aggression (eleven items each; e.g.; "I threatened my partner using new technologies to physically hurt him/her"); and Control (nine items each; e.g.; "Using mobile applications, I controlled the hour of the last connection with my partner or my former partner). The reliability for this sample was  $\alpha = .88$  for perpetration and  $\alpha = .90$  for the victimization of direct aggression; and  $\alpha = .91$  for perpetration and  $\alpha = .93$  for the victimization of control. The response Likert scale used ranged from 1 point (*never*) to 6 points (*more than 20 times*).

***Anxious attachment subscale of couple-specific dependency scale (CSDS; Lorente-Anguis & Lopez-Zafra., 2022).*** This instrument is derived from the Spouse-Specific dependency scale (SSDS; Valor-Segura et al., 2009), but adapted to not married young people. The subscale is composed of 5 items (e.g.; "I look for signs that my partner still loves me"). The items are presented in a format of 6-point alternatives ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). The Cronbach alpha was .79.

***Hostile sexism subscale of adolescent sexism screening scale (DSA; Recio et al., 2007).*** This factor is composed of sixteen items (e.g.; "Men should make the most important decisions in a couple's life"). The items are presented in a format of 6-point alternatives ranging from 1 point (*strongly disagree*) to 6 points (*strongly agree*). The reliability for this sample was .92.

### **Data Analysis**

The software used in this study was Rstudio 4.1.3. and different package (SemTools, Lavaan) and AMOS 25 version. First of all, **descriptive statistics** (means, standard deviations, and correlations) among study variables

were examined. Then, a confirmatory factor analysis was performed using maximum likelihood estimation. Due to the limitations of chi-square ( $\chi^2$ ), we have used the comparative fit index (CFI) in which value equal to or higher than 0,90 are considered acceptable (García-Ael et al., 2018). In addition, we computed the root mean square error of approximation with the 90% CI (RMSEA) as a parsimony adjustment index and standardized root mean square residual (SRMR). In this case, the model is considered to fit properly when values between 0,05 and 0,08 are obtained, with values below 0,05 being considered to be indicative of excellent fit (García-Ael et al., 2018). To examine the dyadic associations between hostile sexism, anxious attachment and their behaviors of direct aggression and control we follow an APIM-based approach. In essence, APIM approach to the study of couples considers that the effects observed in a member depend not only on their own characteristics and actions, but also on those of their couple. The APIM estimates “actor” and “partner” effects, considering all dependent variables and the correlation of their errors at the same time. Actor effect refers to the influence of a feature over him/herself outcome variable, and partner effect is the impact of a characteristic of the other member of the couple on the actor’s outcome variable (Cook & Kenny, 2005). These analyses consider that dyads are distinguishable, because each dyad is compound by a woman and man (Gambles, et al., 2006). Furthermore, dependent variables (online violence) are mixed, indicating that they vary between and intra-dyads. Therefore, we can also acknowledge the actor effects by controlling the partner effects and vice versa. There are two methods to conduct an analysis of dyadic data under the APIM approach; multilevel modeling (MLM; Woltman, et al., 2012) and structural equation modelling (SEM). In this study, SEM method is used because it allows to include several dependent variables in the same model, impose constrains, and correlated error, which is of interest in dyadic studies. All constructs were transformed in a composite measure which was obtained from the average of items of each scale or assessment tool. To examine differences between sexes in parameter estimates and to reduce the models’ complexity, we consecutively constrained boys and girl’s actor and partner effects to be equal. This is part of the process to apply APIM models (Kenny, 2020). The APIM model, including interaction elements results in a saturated model. Due to dyads being distinguishable, the main goal of this analysis is to test the fit of the simplest models using constrains of actor and partner effects (Peugh et al., 2013). Furthermore, unstandardized path coefficients are used to compare them to avoid problems related to differences in the variances of the variables and the errors. Otherwise, failure in doing this could cause problems when comparing coefficients. (Kenny et al., 2020). We evaluated the overall basis of model fit following the same criteria as for confirmatory factor analysis.

## Results

### Descriptive statistics and bivariate Pearson correlations.

Following Kenny et al. (2006), when studying distinguishable dyads, the no independence between scores of each member of couples should be tested by bivariate correlation (Pearson product-moment correlation coefficient). In this venue, a preliminary analysis was planned to include descriptive statistics for all continuous variables and bivariate correlations between men and women were conducted for Hostile Sexism, Anxious Attachment, Control and Direct Aggression (see table 1). All variables have a significant correlation between them ( $p < .01$ ,  $p < .05$ ). Due to the several strong correlations between these variables, collinearity was tested. Results show that all independent variables (Hostile Sexism and Anxious Attachment) and outcomes have a suitable value in FIV (Variance Inflation Factor, less than 3) and Tolerance (above .10). All this information supports our preliminary hypothesis about relationship or nonindependence between these variables, but not collinearity. The high correlation between perpetration and victimization in the scale of CDAQ is due to parallel items (perpetration/victimization) that are related, and their errors correlates, despite belonging to different factors (Borrajó et al., 2015). This has been observed in previous CDAQ validation studies (Hidalgo-Rasmussen et al., 2022; Reed et al., 2016; Stonard, 2018).

### Measurement Model

In relation to the Measurement Model of each scale, all constructs were assessed through CFA to confirm their psychometric properties. Considering modification indexes, loadings, and residuals standardized correlations, some changes were introduced in the initial model (see table 2 for all indexes and parameters). Normality analysis for each variable and the majority didn't match a skewness less or equal to 3, and a kurtosis less or equal to 10 (Kline, 2016). Maximum Likelihood estimation with robust standard errors was used for this analysis. The main reason to use this estimator is that it is a good estimator when normality is violated and there are continuous variables (in this case all scales have at least 5 points in Likert Scale).

As shown in table 2, nearly all constructs have a good reliability (Alfa and Omega above to 0.7), which demonstrates a good internal consistency of them all. Only girls control perpetration has an Omega slightly below 0.7. However, most of the items are reliable as demonstrated by the internal consistency of the instrument through the standardized factor loadings of items, which in its majority are between 0.5 and 0.9. At the same time, all factorial loadings are significant supporting a good construct validity. These indicators assure a good

local fit of the dimensions in their measurement model. The result of CFAs of each construct shows that majority of index are adequate.

### **Structural Model Analysis: APIM model with interaction elements**

First, the model was tested by estimating a full saturated model (with all paths freely estimated). To do so, we investigated whether more constrained models in which we sequentially fixed each path to be equal across gender, worsened the fit of the fully saturated model where all paths are free. If the model fit did not degrade significantly, the paths remained constrained, and we kept the more parsimonious model. All models were statistically significant, which means that null hypothesis (equality constrains) can be rejected and thus, effects are significantly different demonstrating dyads are distinguishable. As shown in table 3, the two best models are the last two which have the smallest Chi Squared ( $\chi^2=18,859$ ;  $\chi^2=16,250$ ). Despite there is not a significant difference between them regarding Chi- Squared ( $\Delta\chi^2<3,84$ ; Hair et al., 2004), the penultimate model has the best indexes of fit. Subsequently, the hypotheses are tested comparing unstandardized estimates in the chosen model.

### **Hostile Sexism on Online violence**

One purpose of the study was to examine the effect of hostile sexism on online direct aggression and online control. The results show that the higher the level of hostile sexism (Actor/Partner), the greater the perpetration and victimization of online violence by both members, partially confirming hypothesis 1 (see supplementary material for all the effects). **In the case of actor effects, this hypothesis is fulfilled except in four of the relationships. No significant relationship was found between boys' hostile sexism and the perpetration and victimization of self-control behaviors. The same result is found in the case of the girls, there was no significant relationship between their hostile sexism and the perpetration and victimization of controlling behaviors by themselves.** In the case of the partner effects, this hypothesis is fulfilled except for the relationship between boys' hostile sexism with girls' direct aggression victimization and control victimization. **There was also no significant effect between girls' hostile sexism – boys' direct aggression perpetration and boys' control victimization/perpetration.**

**Regarding hypothesis 2**, which considered that the actor hostile sexism has a greater effect on both perpetration and victimization for both members than partner sexism, is confirmed in the constrained model “equals actor

and partner effects of hostile sexism," as  $p < 0.05$ . Furthermore, estimates of actor hostile sexism effects are mostly higher than partner effects (see supplementary material). However, this hypothesis is not fulfilled for girls' hostile sexism actor effect on girls' control perpetration ( $\beta = -.033, p \geq 0.05$ ), which is lower than boys' hostile sexism partner effect on girls' control perpetration ( $\beta = .205, p < 0.05$ ). The same is true for girls' control victimization, but neither is significant.

### **Analysis of the interaction between Anxious Attachment and Hostile Sexism on Direct Aggression and Control**

The possible interaction between Anxious Attachment and Hostile Sexism on Direct Aggression and Control is also addressed in this study. Following Jaccard & Wan (1996), the fit of the base model, and then the model including interaction terms were calculated. All variables in the second model were centered to avoid collinearity. To estimate all parameters and indexes we used the estimator Maximum likelihood (ML). All indexes improved except for SRMR due to the complicated model resulting when adding interaction terms ( $\chi^2/df=1.255$ ; CFI=1.000; RMSEA=0.033; SRMR=0.084). Further, R<sup>2</sup> (Squared Multiple Correlations) of these models improves by an average of 21%. In addition, paths of interaction terms are mostly significant (17 of 32, level of confidence of 0.05).

To further test this possible interaction with other tests, Wald test of simple slopes and the graphical representation of the variables were performed. Results show that there are different interactions. Specifically, the moderated variable (in this case, anxious attachment, both for boys and girls) scores between -1 and 1 standard deviations. It means that when the moderator is high, the impact of Hostile Sexism on the Dependent Variable (Direct Aggression or Control) is higher, and this relation is weaker if moderator is low.

Hypothesis 3 predicted that boys' and girls' anxious attachment would positively moderate the relationship between their hostile sexism and the perpetration and victimization of themselves and their partner. The results indicate that, when values of boys' anxious attachment are higher the relationship between boys' hostile sexism and direct aggression perpetration is intensified ( $\beta = .227, p < .01$ ), and victimization ( $\beta = .190, p < .01$ ) of themselves. The same results were found in the relationship between boys' hostile sexism and their girlfriends' control perpetration ( $\beta = .094, p < .05$ ), when the level of boys' anxious attachment increases. On the other hand, when male anxious attachment is over the average, the relationship between boys' hostile sexism and boys' control perpetration ( $\beta = .187, p < .01$ ) positively increases, but when it is below the average, the direction of the

relationship changes (see Figure 1). Similar results are found in the relationship between the boys' hostile sexism and female control victimization ( $\beta=.181, p <.01$ ). In the case of girls, their anxious attachment moderates positively the relationship between their hostile sexism and their direct aggression ( $\beta=.436, p <.01$  for perpetration;  $\beta=.359, p <.01$  for victimization) and their partner direct aggression ( $\beta=.064, p <.05$  for perpetration;  $\beta = .260, p <.01$  for victimization) (see figure 2). These relationships are positive only when it is in the average or above, and negative when it is below the average. Similar results were found between girls' hostile sexism and their control ( $\beta=.131, p <.01$  for victimization;  $\beta=.156, p <.01$  for perpetration) and for their partners' control ( $\beta=.099, p <.01$  for perpetration;  $\beta=.139, p <.01$  for victimization) when they have an anxious attachment. In sum, 13 out of the 16 possible effects are significant (see supplementary material).

Hypothesis 4 predicted that boys' and girls' anxious attachment would positively moderate the relation between their partner's hostile sexism and their own perpetration and victimization, but boys' anxious attachment does not moderate positively this relationship. However, contrary to expectations, when girls' anxious attachment is higher, the relationship between their boyfriends' hostile sexism and girls' direct aggression perpetration becomes weaker ( $\beta = -.142, p <.01$ ). Only one out of the 8 possible effects, is significant.

Finally, the hypothesis 5 predicted that anxious attachment of boys and girls would negatively moderate the relationship between their partner's hostile sexism and their partner's perpetration and victimization. In the case of the moderation of boys' anxious attachment between their partner's hostile sexism and their partners' perpetration of control the hypothesis is fulfilled ( $\beta=-.154, p <.01$ ). For girls, their anxious attachment interacts negatively with the relationship between boys' hostile sexism and boys' direct aggression victimization ( $\beta = -.153, p <.01$ ) (see figure 3). Thus, when girls' anxious attachment decreases, the more positive relationship between boys' hostile sexism and direct aggression victimization. Contrary to the expected, when the girls' anxious attachment increases, the relationship between their boyfriends' hostile sexism and his direct aggression perpetration intensifies ( $\beta=.099, p <.05$ ), but the effect is very small. Only 3 out of the 8 possible effects are significant.

## Discussion

This research aims to delve into the role of anxious attachment and hostile sexism in online violence in young couples using both partners as the unit of analysis, as violence in young people has shown to be a risk factor for later adult couple experiences (Ross et al., 2022). Different studies have shown that hostile sexism and

anxious attachment had a positive correlation (Caridade-Diaz, 2019; Garaigordbil, 2013). However, despite there being studies in online violence in adolescent couples addressing one of the partners (Linares et al., 2021; Wright, 2017), there are not jointed analyses for heterosexual couples nor online violence. This study allowed us to analyse these two powerful psychosocial factors in the study of intimate partner violence. Furthermore, the present research has overcome one of the main limitations and criticisms of these studies, namely the study of only one of the partners. The use of the Actor-Couple Interdependence Model (Kenny, 1996) in the investigation of intimate partner violence allows a more adequate analysis of how the characteristics of both partners may influence each other to sustain violence (Sommer et al., 2017).

Our results show that both members' hostile sexism positively correlates with the perpetration and victimization of online violence in boys and girls, but not in all the dimensions partially supporting our hypothesis. These results are in line with those found in studies that focus only on one partner (Cava et al., 2020; Rodríguez-Castro et al., 2021; Rodríguez-Domínguez et al., 2017). The significant effects of the partner confirm that one partner's characteristics may influence the other partner's outcomes. In the case of partner effects, in which no significant effect was found, it could be explained by the exhibition of hostile sexism in girls. Hostile sexism serves to justify and maintain patriarchy and traditional gender roles (Glick & Fiske, 1997). In this case, girls scoring high in this type of sexism could conform and meet their male partners expectations, fulfilling a traditional gender role (Ickes, 1993), and thus, their male partners would not need to use neither online insults, online threats, among others, nor control behaviours', such as monitor through the social networks where she has been or the last time she has been online, among others. Another possible explanation is that these girls could not be so aware of their partners violence, therefore accepting psychological abuse (Cinquegrana et al., 2022), but further research is needed about how to explain this idea. On the other hand, it is observed that hostile sexism of boys is related to partner perpetration of online behaviors of their partners, but not to their victimization. It seems likely that sexist men may engage in behaviors that elicit aggressive responses from their partners (Forbes et al., 2004).

Our results show that both actor and partner-hostile sexism are related to affect online violence (perpetration/ victimization). Similar results were found by Sommer et al. (2017) in relation to the effects of actor and partner characteristics. Although actor hostile sexism will have a greater effect on both perpetration and victimization for both members than partner hostile sexism, except for control perpetration and victimization of girls in which the hostile sexism of their partner is higher than their hostile sexism. These

results follow the same line as the study carried out by Cinquerama et al. (2022) in which no direct effect was observed between girls' hostile sexism and girls' victimization by psychological violence. Significantly, violent behaviors perpetrated or received by girls correlate more strongly with their partner's hostile sexism. These results require further replications for a deeper study, but we posit that when the partner presents traditional ideas about gender roles, violence in the relationship increases. In relation to these results, it would be interesting in the future to see if this relationship increases when there is a gap between the hostile sexism of both members. It is possible that girls who are more hostile towards women would be more accepting and supportive of the more restrictive traditional gender roles (Forbes et al., 2004)

With respect to the expected effect in hypothesis 3, in some cases, the actor-anxious attachment positively moderated the relationship between actor hostile sexism and perpetration and victimization of both members, although only when it was higher than average in most cases, and negatively moderated when it was lower. As many other studies have shown, anxious attachment correlates positively with IPV (Bonache et al., 2019; Wright, 2017). Our study reveals that low self-anxious attachment not only decreases its relationship with IPV, but also moderates the relationship between hostile sexism and online violence. Thus, it has a protective effect against behaviors that are initially favourable to IPV. In fact, sexist behavior, in particular, hostile sexism, could emerge as a reaction to dependency needs in adolescents (Arbinaga et al., 2021). A low level of anxious attachment is likely to be manifested by greater engagement in the relationship, better interpretation of the other's needs and greater empathy. In addition, emotional security promotes their own emotional regulation and self-perceived efficacy in coping with stress (Valle & Moral, 2018).

Results about how anxious actor attachment moderates the relationship between partner hostile sexism and actor online violence have not been as expected. In the case of boys, it is not fulfilled. Boys' anxious attachment does not moderate positively their partner's hostile sexism and their actor perpetration and victimization. In girls, the hypothesis only fulfils when the anxious attachment is higher, the relationship between the hostile sexism of boys and the girls' direct aggression perpetration becomes weaker. This could be explained by the separation anxiety, the search for closeness, control over the separation, could make girls to accept hostile behavior from their partner without leading to direct aggression toward them, since the fact that he carried out behaviors such as threatening his partner on the networks, posting hurtful phrases on a social network towards him... could jeopardize the relationship, and a person with anxious attachment to her partner would want to avoid at all costs. However, the rest of the results seem to indicate the actor's anxious attachment

does not appear to moderate the relationship between our partner's hostile sexism and the violent online behaviors performed by the actor.

The last hypothesis predicted that the anxious attachment of boys and girls would negatively moderate the relationship between their partner's hostile sexism and their partner's perpetration and victimization. The results show that this hypothesis is fulfilled in boys, when they show anxious attachment, the relationship between their partner's hostile sexism and control of their partner through social networks is reduced. As predicted, fear of abandonment behaviors or loneliness would inhibit the need for control by the partner. Contrary to the expected, when the girls' anxious attachment increases, the relationship between boys' hostile sexism and boys perpetrated direct aggression intensifies. Maybe, as the girls present an anxious attachment, the boys do not have the need to exercise violence, or to exercise control due to the women fear of abandonment, the need for closeness, or even to be controlled. This could lead to direct aggression due to behaviors such as hypervigilance, control, jealousy, which would also clash with the sexist behaviors of their partner towards her. Finally, when girls' anxious attachment decreases, the more positive relationship between boys hostile sexism and direct aggression victimization. This indicates that the greater the girls' anxious attachment, the weaker the relationship between hostile sexism and boys' direct aggression victimization. One possible explanation is that they become aggressive for these reasons, although it would be interesting to further investigate the type of attachment related.

Despite these findings, the study has some limitations. The data were collected online through self-report measures, losing some control over data collection or socially desirable answers. Furthermore, all couples were heterosexual. Therefore, we cannot generalise these results to other types of couples. Moreover, we cannot address whether the participants couples were involved in a violent relationship and thus, cannot predict differences among violent or not violent couples. In addition, future studies should continue to examine online violence in adolescent and young adult couples from a bidirectional perspective to provide us with more information on the (a)symmetry of this type of violence.

All in all, our results show the benefits of using a dyadic approach to examine IPV. Our study has performed analyses of two psychosocial factors in both partners' concerning with online violence adolescents. The results suggest the importance to analysing the hostile sexism and the anxious attachment of both members in order to better understand IPV. The relationship between these factors and online violence in adolescents has been demonstrated, as well as the dual role of anxious attachment as a protective and risk factor depending on

one's own and one's partner's characteristics. Thus, prevention for future IPV in adolescents and adults should include a more comprehensive perspective working with both members and not just focusing on the individual factors of one of the partners. Programs should integrate different psychosocial factors, which, when are interrelated, can increase, maintain or decrease violence in the relationship.

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## Tables and Figures

**Table 1.** Descriptive statistics and correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Hostile Sexism (Man)	1.30	0.58											
2. Hostile Sexism (Woman)	1.18	0.38	.24**										
			[.12, .36]										
3. Anxious attachment (Man)	2.06	0.94	.49**	.13*									
			[.38, .58]	[.00, .26]									
4. Anxious attachment (Woman)	2.20	0.99	.17**	.25**	.33**								
			[.04, .29]	[.12, .36]	[.21, .44]								
5. Direct Aggression Perpetration (Man)	1.04	0.17	.60**	.24**	.38**	.17*							
			[.51, .68]	[.12, .36]	[.26, .49]	[.04, .29]							
6. Direct Aggression Perpetration (Woman)	1.05	0.23	.13	.52**	.15*	.27**	.29**						
			[-.00, .25]	[.41, .61]	[.02, .27]	[.14, .38]	[.17, .40]						
7. Direct Aggression victimization (Man)	1.07	0.21	.46**	.42**	.34**	.23**	.68**	.68**					
			[.35, .55]	[.31, .52]	[.22, .45]	[.10, .35]	[.60, .74]	[.60, .74]					
8. Direct Aggression victimization (Woman)	1.07	0.29	.21**	.53**	.18**	.26**	.53**	.87**	.64**				
			[.08, .33]	[.43, .62]	[.05, .30]	[.14, .38]	[.43, .62]	[.83, .90]	[.56, .71]				
9. Control perpetration (Man)	1.40	0.64	.46**	.25**	.52**	.22**	.67**	.40**	.63**	.49**			
			[.35, .56]	[.12, .36]	[.42, .61]	[.10, .34]	[.60, .74]	[.29, .51]	[.55, .71]	[.38, .58]			
10. Control perpetration (Woman)	1.52	0.70	.31**	.17**	.26**	.40**	.31**	.36**	.41**	.32**	.51**		
			[.19, .42]	[.05, .30]	[.13, .37]	[.29, .51]	[.19, .42]	[.25, .47]	[.30, .52]	[.19, .43]	[.41, .60]		
11. Control victimization (Man)	1.47	0.70	.29**	.21**	.34**	.31**	.38**	.45**	.56**	.41**	.74**	.60**	

			[.17, .41]	[.08, .33]	[.22, .45]	[.18, .42]	[.26, .48]	[.34, .55]	[.46, .64]	[.30, .51]	[.67, .79]	[.50, .67]	
12. Control victimization (Woman)	1.53	0.88	.33**	.18**	.36**	.25**	.54**	.38**	.52**	.51**	.72**	.69**	.56**
			[.21, .44]	[.05, .30]	[.24, .47]	[.12, .36]	[.44, .63]	[.26, .48]	[.42, .61]	[.40, .60]	[.65, .78]	[.61, .75]	[.47, .65]

**Note.** M: mean; SD: standard deviation. Values in square brackets indicate the 95% confidence interval for each correlation. \* Indicates  $p < .05$ . \*\* indicates  $p < .01$ .

**Table 2.** *Indexes of fit of Measurement Models*

Scale	Measures of fit for Measurement Models (CFA)					
	$\Omega, \alpha$	$\chi^2 / df$	CFI	RMSEA	SRMR	
<b>Hostile Sexism</b>	Women	$\Omega = 0.766$ $\alpha = 0.877$	2.31	0.903	0.075	0.075
	Men	$\Omega = 0.934$ $\alpha = 0.946$				
<b>Anxious Attachment</b>	Women	$\Omega = 0.857$ $\alpha = 0.781$	2.09	0.950	0.069	0.047
	Men	$\Omega = 0.795$ $\alpha = 0.785$				
<b>Control Perpetration</b>	Men	$\Omega = 0.876$ $\alpha = 0.903$	1.28	0.991	0.024	0.095
	Women	$\Omega = 0.663$ $\alpha = 0.874$				
<b>Control Victimization</b>	Men	$\Omega = 0.871$ $\alpha = 0.898$	0.22	1.000	0.000	0.113
	Women	$\Omega = 0.750$ $\alpha = 0.929$				
<b>Direct Aggression Perpetration</b>	Men	$\Omega = 0.779$ $\alpha = 0.843$	0.22	1.000	0.000	0.113
	Women	$\Omega = 0.838$ $\alpha = 0.897$				
<b>Direct Aggression Victimization</b>	Men	$\Omega = 0.790$ $\alpha = 0.783$	0.22	1.000	0.000	0.113
	Women	$\Omega = 0.876$ $\alpha = 0.897$				

Note: CR or  $\Omega$ : Composite Reliability; Cronbach's Alfa:  $\alpha$ ;  $\chi^2$ : Chi-squared.

**Table 3.** *Indexes of fit of Constrained models*

Scale	Measures of fit for Constrained models					
	Criteria (Hair et al, 2014)	$\chi^2$ /df	CFI	RMSEA	SRMR	p
1.Saturated Model		0	1	0	0	--
2.Equals Actor and partner effects of Hostile Sexism.		94,719 (10,741)	,960	,206	,049	,000
3.Equals Partner Effect of Hostile Sexism and Equals Actor and Partner Effects of Anxious Attachment		67,048 (5,587)	,971	,142	,036	,000
4.Equals Actor Effects of Hostile Sexism		35,342 (8,835)	,984	,185	,040	,000
5.Equals Partner Effect of Hostile Sexism and Equals Partner Effects of Anxious Attachment		22,784 (2,848)	,992	,090	,028	,004
6.Equals Partner Effect of Hostile Sexism and Equals Actor Effects of Anxious Attachment		18,859 (2,357)	,994	,077	,026	,016
7.Equals Partner Effects of Hostile Sexism		16,250 (4,063)	,994	,116	,026	,003

Note:  $\chi^2$ : Chi-squared; df: degrees of freedom.

Figure 1: Interaction between Anxious Attachment (Boys) and Hostile Sexism (Boys) over Control Perpetration (Boys)

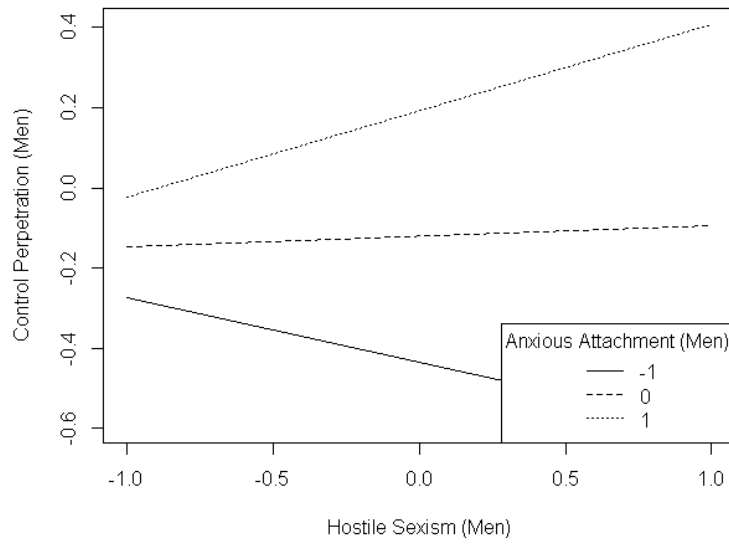


Figure 2: Interaction between Anxious Attachment (Girls) and Hostile Sexism (Girls) over Direct Aggression Perpetration (Boys)

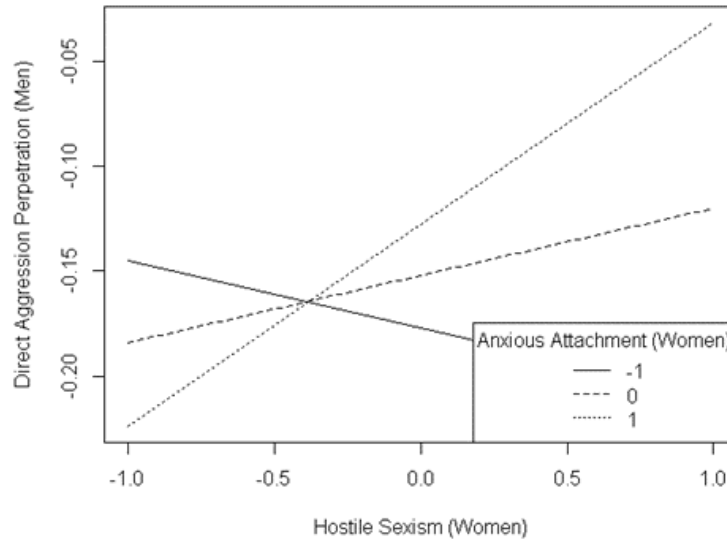


Figure 3: Interaction between Anxious Attachment (Women) and Hostile Sexism (Boys) over Direct Aggression Perpetration (Boys)

