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Social media jealousy and intimate partner violence in young adults' romantic relationships: A longitudinal study

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ABSTRACT

Social media have profoundly transformed young adults' social interactions, especially within their romantic relationships. For instance, jealousy induced by the partner's activity on social media can cause conflicts that can escalate into controlling and aggressive behaviors. Previous cross-sectional studies show significant links between social media jealousy and intimate partner violence (IPV) perpetration. However, the directionality of these associations has not yet been examined using longitudinal designs. This study investigated the associations between social media jealousy and IPV perpetration in young adults' romantic relationships over a year. Two samples, one composed of 111 couples ($n = 222$) and one composed of 286 individuals involved in a romantic relationship, completed online questionnaires at two time points over one year. Results of cross-lagged panel analyses were replicated across samples and suggested that the intra-individual association between social media jealousy and IPV perpetration is bidirectional and positive over time. Results also indicated a negative association between a person's IPV perpetration at Time 1 and their partner's online jealousy at Time 2. These findings highlight the reciprocal and dyadic influences of social media jealousy and IPV and provide a better understanding of the potential risks associated with social media use in young adults' romantic relationships.

1. Introduction

In the past two decades, the popularity of social media has never stopped growing (Auxier & Anderson, 2021), which has profoundly redefined the way people connect and interact with others, especially within their romantic relationships. Indeed, platforms such as Facebook, Instagram, and Snapchat allow greater access to the lives of others and offer a variety of ways to communicate within and about relationships. On one hand, some behaviors on social media (e.g., public displays of affection, enhanced communication) have been associated with several positive outcomes within romantic relationships, such as higher relationship satisfaction

Abbreviations: IPV, Intimate partner violence; SM, Social media.

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(Arikewuyo et al., 2021; Seidman et al., 2019), greater expression of affection (Arikewuyo et al., 2021; Coyne et al., 2011), and facilitated relationship maintenance, especially in long-distance relationships (Billedo et al., 2015; Hertlein & Ancheta, 2014). On the other hand, the dark side of social media has also been recognized with studies showing that it can both exacerbate existing offline conflicts and create new sources of discord within romantic relationships (e.g., Fox & Moreland, 2014). Electronic partner surveillance, jealousy, and cyber-infidelity are among the most commonly reported issues associated with social media use in romantic relationships (Fox, 2016; Rus & Tiemensma, 2017).

Although these issues are observed among all age groups, young adults aged 18 to 29 are the most likely to have experienced them since they have spent most of their love life in the social media era (Smith & Duggan, 2013). Indeed, with 84% of young adults using at least one social media platform, they represent the age group with the highest prevalence of social media use (Pew Research Center, 2021). Moreover, they use a wider variety of social media (e.g., Facebook, Instagram, Snapchat, Tik Tok; Auxier & Anderson, 2021) than older adults. Among the various hot-button issues that social media use raises in young adult romantic relationships, the association between social media jealousy and offline intimate partner violence (IPV) perpetration remains understudied. In light of cross-sectional data suggesting a positive link between social media jealousy and IPV, and given that young adults represent the age group with the greatest prevalence of both social media use and IPV (Cotter, 2021; Pew Research Center, 2021; Rennison, 2001; Truman & Morgan, 2014), further investigation of the associations between social media jealousy and IPV over time among this population is particularly relevant. Thus, the purpose of this study was to examine the longitudinal associations between social media jealousy and offline IPV perpetration among young adults. The findings will, among other things, enrich our understanding of the pitfalls associated with social media use in romantic relationships, a ubiquitous communication medium among young adults.

1.1. Social media jealousy

Several studies show that social media use can exacerbate feelings of jealousy in romantic relationships, especially in young adults (Elphinston & Noller, 2011; Marshall et al., 2013; Muise et al., 2009; Muscanell et al., 2013; Utz & Beukeboom, 2011). Jealousy is generally defined as "a complex of thoughts, feelings, and actions which follows threats to the existence or the quality of the relationship" (White, 1981, p.130). Bevan (2013) has highlighted several reasons why social media can trigger feelings of jealousy in romantic relationships: (1) they provide a centralized place to access information about the romantic partner's behaviors and social connections; (2) they facilitate contacts with both former romantic partners and potential romantic rivals; and (3) they can cause misinterpretation of information, due to their lack of context. Indeed, 34% of young adults have felt jealous or unsure in their current relationship because of the way their partner interacted with others on social media (Anderson et al., 2020).

Empirical data suggests that when individuals spent more time on social media, they are more susceptible to experience feelings of jealousy in their romantic relationship (Daspe et al., 2018; Marshall et al., 2013; Muise et al. 2009; Utz & Beukeboom, 2011). The underlying assumption is that the more time they spend on social media, the more likely they are to be exposed to ambiguous and possibly threatening information about the partner. Studies have also shown that feelings of jealousy can develop from activities on various social media platforms: Facebook (Elphinson & Noller, 2011; Marshall et al., 2013; Muise et al. 2009; Muscanell et al., 2013), Instagram (Fejes-Vékássy et al., 2020; Ridgway et al., 2016), and Snapchat (Dunn & Langlais; 2020; Utz et al., 2015; Vaterlaus et al., 2016). Thus, by their very nature, social media are a prime location for the emergence of jealousy in romantic relationships, regardless of the platform. However, most past studies assessed jealousy associated with only one social media platform at a time, which does not offer a representative portrait of young adults' use of many different platforms (Auxier & Anderson, 2021; Pew Research Center, 2021). Therefore, to obtain a more comprehensive portrait of social media jealousy, it is important to account for jealousy induced by the partner's online activity without limitation to one specific platform.

1.2. Social media jealousy and offline IPV

Intimate partner violence (IPV) refers to physical, sexual, and psychological harm against a romantic partner (Breiding et al., 2015; Stewart et al., 2013). Among couples from the general population, situational violence is the most common form of IPV, which refers to violent behaviors understood as resulting from an escalating romantic conflict (Kelly & Johnson, 2008). Several studies suggest that IPV tends to arise in the context of reciprocal interactions between romantic partners and often involves mutual aggression (i.e., perpetrated by both partners), particularly in young adult's romantic relationship (Paradis et al., 2015; Renner & Whitney, 2012). Indeed, being at a life stage marked by transitions and first serious romantic experiences, young adults are more likely to face an increase in the frequency of conflicts in their romantic relationship (Arnett, 2004; Fincham & Cui, 2011; Johnson et al., 2015). Having not yet fully developed their conflict resolution skills, young adults may have more difficulty managing their romantic disagreements, and therefore, their conflicts may be more at risk of escalating into violence (Johnson et al., 2015).

Feelings of jealousy, in an offline context, are frequently reported among the situational factors that can trigger violent behaviors in romantic partners (Bartholomew & Cobb, 2011; Bartholomew et al., 2015; Capaldi et al., 2012; Wilkinson & Hamerschlag, 2005). Longitudinal data suggests that stronger feelings of general romantic jealousy predict psychological and physical IPV perpetration over time (Collibee & Furman, 2016). The evolutionary perspective provides a rationale for this link between jealousy and IPV (Buss & Shackelford, 1997). Within this framework, feelings of jealousy are considered adaptive since they arise in response to a relationship threat, and they motivate mate-retention tactics aiming at maintaining connection with the partner and protecting the relationship (Buss & Shackelford, 1997). Thus, in the context of jealous feelings and relationship threat, IPV would represent an extreme and deleterious mate-retention tactic aiming at regaining a sense of control over the partner and the relationship (Albert & Arnocky, 2016).

To our knowledge, only two cross-sectional studies have focused more specifically on jealousy in an online context and its

association with IPV. Daspe et al. (2018) found, in a cross-sectional study based on 1508 individuals involved in a romantic relationship and 46 heterosexual couples, that an individual's own Facebook-related jealousy was positively associated with their offline IPV perpetration. They also found that both partners Facebook-related jealousy contributed to each other's IPV perpetration (Daspe et al., 2018). Alternatively, Demirtaş-Madran (2018) hypothesized, in a cross-sectional study of individuals involved in a romantic relationship, the other direction of this association and found a significant and positive link from IPV perpetration to Facebook-related jealousy. The interpretation of this association is that the more violent a person is, the more hypersensitive they will be in the face of potential threats to their relationship, and thus, will tend to be more jealous online. Taken together, these findings support a positive and potentially bi-directional association between social media jealousy and IPV perpetration and are in line with numerous studies suggesting that offline and online relational factors are closely related (Elphinson & Noller, 2011; Fox & Moreland, 2014).

However, the cross-sectional nature of past studies did not allow verifying whether jealousy regarding the partner's activity on social media predicts IPV perpetration, whether IPV perpetration predicts social media jealousy, or whether this association is in fact bidirectional over time. A longitudinal design is therefore necessary to reach more rigorous conclusions about the direction of the link between social media jealousy and IPV perpetration in romantic relationship. Moreover, only one study (Daspe et al., 2018) has used a dyadic perspective (i.e., using data from both romantic partners), limiting our understanding of the potential influence of the partner in explaining the association between social media jealousy and IPV.

1.3. The current study

The overall goal of this study was to examine the longitudinal associations between social media jealousy and offline IPV perpetration in two samples of young adults, one composed of individuals involved in a romantic relationship and one composed of couples for which both partners provided data. This study stands out from past research in several important ways. First, to our knowledge, it is the first to examine the directionality of the association between social media jealousy and offline IPV perpetration using a longitudinal design. Second, including two samples allows verifying the replicability of the results regarding intra-individual associations between social media jealousy and IPV perpetration. Third, the couple sample enables the examination of cross-partner associations (e.g., the link between one partner's social media jealousy at one time point and the other partner's IPV perpetration at the following time point). Given that jealousy and IPV are two complex relational phenomena that are part of the couple dynamic and that past studies have shown cross-partner associations between theses constructs, it is important to study them using a dyadic perspective that considers the couple as the unit of analysis (Bartholomew & Cobb, 2011; Daspe et al., 2018). Finally, our study considers jealousy induced by the partner's online activity regardless of the social media platform, which offers a more representative portrait of young adults' use of these online platforms.

Based on past cross-sectional research, we hypothesized that the association between social media jealousy and IPV perpetration would be positive and bidirectional over time. In both samples, we expected that an individual's own online jealousy and IPV perpetration at one time point would be positively associated with their own online jealousy and IPV perpetration one year later. In addition, we hypothesized that, in the couple sample, both partners' social media jealousy and IPV perpetration at one time point would be significantly and positively associated with their partner's social media jealousy and IPV perpetration one year later. Finally, in light of past studies showing higher levels of social media jealousy among women (Daspe et al., 2018; Muise et al., 2014), we also aimed to examine, in an exploratory fashion, sex-related differences in the magnitude of the associations between social media jealousy and offline IPV perpetration.

2. Method

2.1. Procedure

This study was part of a larger longitudinal research project examining the impact of digital technologies on youth' romantic relationships. Participants were recruited through social media (e.g., Facebook, Instagram) and mailing lists. To be eligible for the larger study, participants had to be aged between 16 and 29 and able to read and understand French. At time 1, eligible participants were asked to complete a series of self-reported questionnaires on the online platform *Qualtrics*. Individuals who reported being currently involved in a romantic relationship were invited, at the end of the questionnaire, to enter their partner's email address to invite them to participate. Thus, some individuals participated with their partner and others did not. One year later, participants were contacted by email to complete the same questionnaires (Time 2). Participants received a CAN$10 compensation after each completion. This research project has been approved by the Ethic Board of the Université du Québec à Trois-Rivières.

2.2. Participants

Of the 1508 participants who completed the eligibility survey, 1384 were eligible, gave their informed consent, and were directed to the online survey. Among the eligible participants, 383 were excluded because they had either failed two out of three attention-testing questions at Time 1 ($n = 19$) or had not completed all questionnaires at Time 1 and were therefore not invited to complete the measures at Time 2 ($n = 364$). The final sample for the larger longitudinal study included 1001 participants at Time 1.

To be included in the final sample for the current study, participants had to be (1) aged between 18 and 29 and (2) currently involved in an exclusive romantic relationship (3) with the same partner at both Time 1 and Time 2. Individuals who reported being involved in a romantic relationship but who did not participate with their partner were included in the individual sample and

individuals who participated with their partner were included in the couple sample. Participants included in the individual sample were not included in the couple sample, and vice versa. In the individual sample, of the 385 eligible participants who completed questionnaires at Time 1, 286 participants (74.29%) still met the inclusion criteria at Time 2. In the couple sample, of the 143 eligible couples who completed questionnaires at Time 1, 111 couples (77.62%) still met the inclusion criteria at Time 2 and provided data from at least one partner. Demographic characteristics for the two samples are presented in Table 1.

2.3. Measures

2.3.1. Social media jealousy

Jealousy associated with partner's social media activity at Time 1 and Time 2 was assessed using a short, adapted and translated version of the *Facebook Jealousy Scale* (Muise et al., 2009). The original items have been reworded to apply to all social media platforms. Participants answered on a 7-point scale ranging from 1 (*Very unlikely*) to 7 (*Very likely*) to what extend they endorsed each item in the past 6 months (e.g., "Feeling threatened if your partner is following a former romantic or sexual partner on a social media platform"). Manifest global scores were computed by averaging across the 16 items and used for descriptive analyses. For the main analyses, the 16 items were used as indicators of global social media jealousy in confirmatory factor analysis (CFA). Factor scores (expressed in standardized units with $M = 0$ and $SD = 1$) were saved from the most invariant measurement model to be used as input for the main analyses. Model-based composite reliability indices (ω; McDonald, 1970), which provides a better reflection of factor reliability than Cronbach's alpha (Morin et al., 2020), were acceptable both in the individual ($\omega_{T1\text{-}T2} = 0.968$.) and the couple ($\omega_{T1\ partner\ 1} = 0.971$, $\omega_{T1\ partner\ 2} = 0.971$, $\omega_{T2\ partner\ 1} = 0.982$, $\omega_{T1\ partner\ 2} = 0.971$) samples[1].

2.3.2. Offline IPV perpetration

IPV perpetration was assessed at Time 1 and Time 2 through a nine-item, French version of the *Revised Conflict Tactics Scale* (CTS2; Staus et al., 1996). Each type of violence (psychological, physical, and sexual) was measured using three items. Participants were asked to report the frequency with which they had perpetrated psychological (e.g., "yelled, shouted, insulted, swore''), physical (e.g., "slapped, pushed, grabbed"), and sexual (e.g., "insisted or used threats to have sex") violence toward their romantic partner during a conflict in the past year on a 7-point scale ranging from 0 (*Never*) to 6 (*More than 20 times*). Due to the low prevalence of violence in our two samples, especially physical and sexual violence, each item was dichotomized (0 = never happened, 1 = at least one instance of the violent behavior). Three items were not endorsed by any participants at least at one time point, as such they were excluded from the analyses. The remaining 6 items (3 items for psychological violence, 2 items for physical violence and 1 item for sexual violence) were used to describe the prevalence of IPV in the current sample and used as indicators of global IPV perpetration in confirmatory factor analysis (CFA). Factor scores (expressed in standardized units with $M = 0$ and $SD = 1$) were saved from the most invariant measurement model to be used as input for the main analyses. Model-based composite reliability indices (ω; McDonald, 1970) were acceptable both in the individual ($\omega_{T1\text{-}T2} = 0.852$) and couple ($\omega_{T1\text{-}T2\ partner1} = 0.769$, $\omega_{T1\text{-}T2\ partner\ 2} = 0.769$) samples.

2.3.3. Control variables

Given their documented associations with social media jealousy and IPV, we included frequency of social media use (average number of hours spent on social media each day, continuous) and cohabitation with partners (0 = not living together, 1 = living together) as covariates. For sake of consistency with the main variables, the frequency of social media use was also standardized during the analyses.

2.4. Statistical analyses

2.4.1. Model estimation

All analyses were conducted using Mplus 8 (Muthén & Muthén, 2017). Models were estimated with the robust weighted least square estimator with mean- and variance-adjusted statistics (WLSMV) given the presence of ordinal indicators following asymmetric response thresholds (i.e., social media jealousy) and the use of binary indicators (i.e., IPV; Finney & DiStefano, 2013). Missing data was handled using algorithms implemented in Mplus for WLSMV estimation, which relies on pairwise present (see Asparouhov & Muthén, 2010 for more information). In the individual sample, there was no missing data for social media jealousy at Time 1, IPV perpetration at Time 1, and IPV perpetration at Time 2, whereas the proportion of missing data was 0.3% for social media jealousy at Time 2. In the couple sample, there was no missing data for social media jealousy at Time 1 and IPV perpetration at Time 1, whereas the proportion of missing data was 6.3% for social media jealousy at Time 2 and 9% for IPV perpetration at Time 2.

2.4.2. Tests of longitudinal measurement invariance

Preliminary tests of longitudinal measurement invariance were first conducted, using CFA, to confirm the psychometric adequacy (i.e., factor structure, composite reliability) of the measures and to ascertain that the definition of these constructs remained unchanged over time. These longitudinal CFA models were estimated separately for the individual and couple samples (see Supplementary material for the detail of these analyses and results).

[1] Although the measurement model was fully invariant over time, the variance of the T2 P1 jealousy factor had to be freed up to achieve partial latent variance–covariance invariance. As a result, omega for this specific factor is slightly different from the others.

Table 1
Demographic characteristics of the samples at Time 1.

Variable	Individual sample ($n = 286$)		Couple sample ($n = 222$)	
	M	***SD***	***M***	***SD***
Age	23.25	2.82	23.35	2.72
Length of relationship (months)	34.36	30.48	36.11	26.75
	%	***n***	**%**	***n***
Biological sex				
Women	71.0	203	51.8	115
Men	29.0	83	48.2	107
Sexual attraction				
Only other sex	54.2	155	62.2	138
Only same sex	2.8	8	1.4	3
Mainly other sex	36	103	26.6	59
Mainly same sex	1.4	4	2.3	5
Both sexes	3.1	9	2.3	5
Person regardless of sex or gender	2.4	7	5.0	11
Uncertain and/or questioning	0.0	0	0.5	1
Cohabitation with partner				
Not living together	48.3	138	33.3	74
Living together	51.7	148	66.7	148
Highest degree completed				
Elementary school	0.0	0	1.4	3
High school	7.7	22	11.3	25
Vocational	5.6	16	6.8	15
Pre-university	42.3	121	41.9	93
Undergraduate	32.5	93	28.4	63
Master	10.1	29	8.6	19
Graduate	1.7	5	1.8	4
Annual salary				
<15 000$	51.4	147	48.0	106
15 000$ – 25 000$	21.0	60	20.8	46
25 000$ – 35 000$	8.4	24	10.4	23
35 000$ – 45 000$	5.2	15	7.2	16
45 000$ – 55 000$	7.0	20	7.2	16
55 000$ – 65 000$	3.5	10	4.1	9
65 000$ – 75 000$	1.7	5	1.4	3
75 000$ – 85 000$	1.0	3	0.0	0
More than 85 000$	0.7	2	0.9	2

2.4.3. Predictive models

To test the longitudinal associations between social media jealousy and IPV, we estimated autoregressive cross-lagged (ARCL) models. In the case of the couple sample, to account for non-independence (both dyadic and autocorrelational), we relied on the actor-partner interdependence modeling (APIM) framework (Kenny et al., 2006). As both opposite- and same-sex couples were included in this study, partners could not be distinguished based on sex or any other variables. In line with the APIM framework with indistinguishable dyads, and to obtain a more parsimonious and stable model, equality constraints were included on the autoregressive paths, cross-lagged paths and the time-specific correlations, as well as on all other parameters (i.e., variances, means, intercepts) between the partners in the couple models. Respondents were randomly assigned to being "partner 1" or "partner 2", and we used biological sex (0 = women, 1 = men) to probe sex-related differences in the associations between the variables of interest. Statistically significant interactions were followed up by simple slope analyses.

3. Results

3.1. Descriptive analyses

In the individual sample, at Time 1, participants reported spending on average 2.43 hours on social media each day ($SD = 1.66$; *range* = 30 min to 15 hours). Regarding IPV perpetration in the individual sample at Time 1, 55.6% of participants reported having perpetrated at least one instance of violent behavior in the past year. More precisely, 47.2% of participants reported having perpetrated psychological IPV, 11.2% reported having perpetrated physical IPV, and 17.1% reported having perpetrated sexual IPV. At Time 2, 54.2% of participants reported having perpetrated at least one instance of violent behavior in the past year. More precisely, 49.7% of participants reported having perpetrated psychological IPV, 10.5% reported having perpetrated physical IPV, and 13.3% reported having perpetrated sexual IPV. In the individual sample, paired sample *t*-tests showed a significant decrease in social media jealousy between Time 1 ($M = 2.42$) and Time 2 ($M = 2.16$; $t(284) = 4.06$, $p < .001$), but no significant difference in IPV between Time 1 ($M = 0.14$) and Time 2 ($M = 0.13$; $t(285) = 0.87$, $p = .381$).

In the couple sample, at Time 1, participants reported spending on average 2.33 hours on social media each day ($SD = 2.02$; *range* =

0 min to 17 hours). Regarding IPV perpetration at Time 1, 55% of participants reported having perpetrated at least one instance of violent behavior in the past year. More precisely, 50.5% of participants reported having perpetrated psychological IPV, 9.5% reported having perpetrated physical IPV, and 15.3% reported having perpetrated sexual IPV. At Time 2, 55% of participants reported having perpetrated at least one instance of violent behavior in the past year. More precisely, 49.5% of participants reported having perpetrated psychological IPV, 10.3% reported having perpetrated physical IPV, and 10.3% reported having perpetrated sexual IPV. In the couple sample, paired sample *t*-tests showed a significant decrease in social media jealousy between Time 1 ($M = 2.11$) and at Time 2 ($M = 1.88$; $t(207) = 3.47$, $p < .001$), but no significant difference in IPV between Time 1 ($M = 0.13$) and at Time 2 ($M = 0.13$; $t(202) = 0.26$, $p = .794$).

Correlations among the factor scores as well as descriptive statistics among the study variables are reported in Table 2 (individual sample) and Table 3 (couple sample). In the two samples, all variables of interest significantly correlated with each other, both within and across measurement times, with the exception of the intra-individual association between one's social media jealousy and IPV perpetration at Time 1 in the couple sample.

3.2. Autoregressive Cross-Lagged models

Goodness-of-fit statistics associated with the ARCL models are reported in the bottom section of Table S1, showing that both ARCL models achieved an acceptable level of fit to the data. These models are graphically depicted on Fig. 1 (individual sample) and Fig. 2 (couple sample), while exact parameter estimates from these models are reported in Table 4.

3.2.1. Individual sample

Social media jealousy and violence demonstrated high levels of stability and social media jealousy and IPV reciprocally and positively predicted one another over time. Regarding the control variables, using social media more frequently was associated with higher levels of IPV perpetration and social media jealousy at Time 1. We tested sex-related differences in the magnitude of associations between the constructs. Sex moderated the association between Time 1 social media jealousy and Time 2 social media jealousy ($b = -0.209$, $SE = 0.088$, $p = .018$) and simple slope analyses revealed that this association was significant for women ($b = 0.748$, $SE = 0.045$, $p < .001$) but not for men ($b = 0.539$, $SE = 0.077$, $p < .001$).

3.2.2. Couple sample

First, autoregressive paths were positive and moderate-to-high in magnitude both for social media jealousy and IPV, attesting to the relative stability of the constructs over time. Results of the cross-lagged effects showed that individuals' prior levels of social media jealousy predicted their own subsequent higher levels of IPV perpetration, while individuals' prior levels of IPV perpetration also predicted their own subsequent higher levels of social media jealousy. Cross-partner associations indicated a significant, negative association between a person's IPV perpetration at Time 1 and their partner's social media jealousy at Time 2. The other cross-partner association between social media jealousy and IPV perpetration was not significant. Regarding the control variables, living situation (i.e., partners living together) predicted higher levels of IPV perpetration at Time 2, while individual's higher levels of social media use predicted their own higher levels of social media jealousy both at Time 1 and Time 2. In terms of sex-related differences, sex moderated the association between an individual's Time 1 social media jealousy and their own Time 2 IPV perpetration ($b = -0.096$, $SE = 0.038$, $p = .012$). Simple slope analyses showed that this association was only statistically significant for women ($b = 0.116$, $SE = 0.031$, $p < .001$) but not men ($b = 0.026$, $SE = 0.028$, $p = .560$). Sex also moderated the association between an individual's Time 1 IPV perpetration and their own Time 2 IPV perpetration ($b = -0.251$, $SE = 0.117$, $p = .031$). Simple slope analyses showed that this association was stronger among women ($b = 0.553$, $SE = 0.090$, $p < .001$) than men ($b = 0.302$, $SE = 0.125$, $p = .016$).

4. Discussion

The goal of the present study was to examine the longitudinal associations between social media jealousy and offline IPV

Table 2
Descriptive Statistics (Based on Manifest Scores) and Pairwise Correlations (Based on Factor Scores) Among the Study Variables (Individual Sample).

	1	2	3	4	5	6
1. SM Jealousy T1†	—					
2. IPV T1†	0.413***	—				
3. SM Jealousy T2†	0.754***	0.415***	—			
4. IPV T2†	0.449***	0.932***	0.598***	—		
5. Cohabitation T1	-0.091	0.075	-0.064	0.056	—	
6. Frequency of SM use T1	0.141*	0.171**	0.083	0.133*	-0.098	—
7. Biological sex	-0.092	-0.067	-0.136*	-0.096	-0.133*	-0.006
Mean	2.42	0.14	2.16	0.13	—	2.43
Standard deviation	1.38	0.17	1.29	0.16	—	1.66

Notes. *$p < .05$; **$p < .01$ *** $p < .001$; † = Factor scores (with $M = 0$ and $SD = 1$) derived from the most invariant measurement model; T = time; Cohabitation was coded as 0 = not living together, 1 = living together; Sex was coded as 0 = women, 1 = men; SM Jealousy = Social media jealousy; Frequency of SM use = Frequency of social media use.

Table 3
Descriptive Statistics (Based on Manifest Scores) and Pairwise Correlations (Based on Factor Scores) Among the Study Variables (Couples Sample).

	1	2	3	4	5	6	7	8	9	10	11	12
1. SM Jealousy partner 1 T1†	—											
2. SM Jealousy partner 2 T1†	0.206**	—										
3. SM Jealousy partner 1 T2†	0.793***	0.216**	—									
4. SM Jealousy partner 2 T2†	0.216**	0.793***	0.370***	—								
5. IPV partner 1 T1†	0.100	0.147*	0.186**	0.173**	—							
6. IPV partner 2 T1†	0.147*	0.100	0.173**	0.186**	0.836***	—						
7. IPV partner 1 T2†	0.224***	0.176**	0.278***	0.168*	0.573***	0.482***	—					
8. IPV partner 2 T2†	0.176**	0.224***	0.168*	0.278***	0.482***	0.573**	0.677***	—				
9. Cohabitation	-0.023	0.012	-0.066	-0.030	0.095	0.108	0.239***	0.255***	—			
10. Frequency of SM use partner 1	0.158*	0.077	0.236***	0.089	0.169*	0.123	0.201**	0.079	0.017	—		
11. Frequency of SM use partner 2	0.077	0.158*	0.089	0.236***	0.123	0.169*	0.079	0.201**	0.029	0.039	—	
12. Sex partner 1	-0.121	0.166*	-0.150*	0.209**	-0.041	0.010	-0.052	0.094	0.004	-0.069	0.108	—
13. Sex partner 2	0.166*	-0.121	0.209**	-0.150*	0.010	-0.041	0.094	-0.052	-0.016	0.108	-0.069	-0.894***
Mean	2.06	2.21	1.93	1.83	0.15	0.13	0.13	0.13	—	2.31	2.35	—
Standard deviation	1.19	1.24	1.41	1.04	0.18	0.16	0.17	0.14	—	2.12	1.92	—

Notes. *p <.05; **p <.01; *** p <.001; † = Factor scores (with $M = 0$ and $SD = 1$) derived from the most invariant measurement model; T = time; Cohabitation was coded as 0 = not living together, 1 = living together; Sex was coded as 0 = women, 1 = men; SM Jealousy = Social media jealousy; Frequency of SM use = Frequency of social media use.

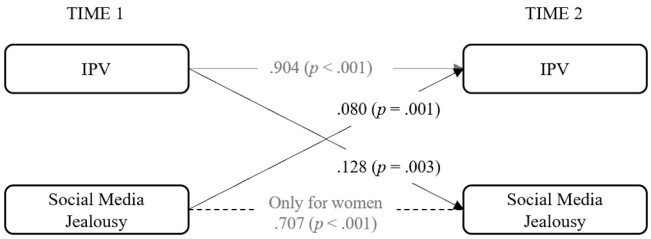

Fig. 1. Graphic Depiction of the Results Pertaining to the Individual Sample.
Notes. Rectangles with rounded corners represent factor scores saved from the most invariant measurement model. Grey one-directional arrows represent autoregressive paths whereby each construct at Time 1 predicts itself at Time 2. Black one-directional arrows represent cross-lagged paths. The dotted line represents the association between social media jealousy at Time 1 and social media jealousy at Time 2 which was statistically significant for women but not men. Values on the arrows are standardized regression coefficients. Time-specific correlations and covariates are not included for the sake of simplicity.

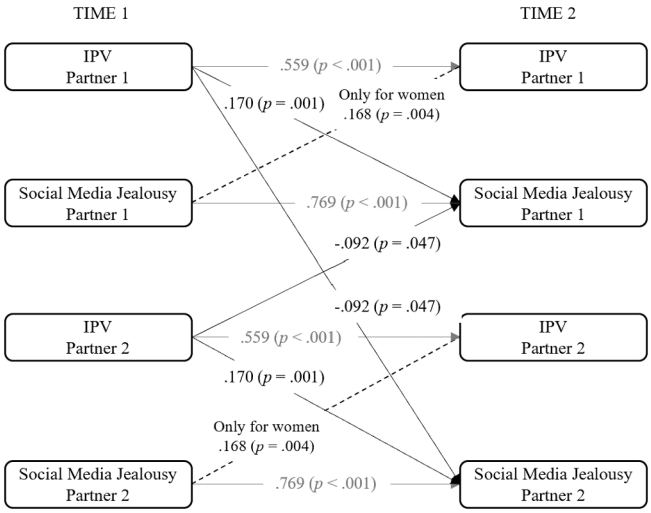

Fig. 2. Graphic Depiction of the Results Pertaining to the Couple Sample.
Notes. Rectangles with rounded corners represent factor scores saved from the most invariant measurement model. Grey one-directional arrows represent autoregressive paths whereby each construct at Time 1 predicts itself at Time 2. Black one-directional arrows represent cross-lagged paths. Values on the arrows are standardized regression coefficients. The dotted line represents the association between own social media jealousy at Time 1 and own IPV perpetration at Time 2 which was statistically significant for women but not men. Time-specific correlations and covariates are not included for the sake of simplicity. For the same reason, only significant associations are depicted in this figure.

perpetration in young adult's romantic relationships across two different samples, one composed of individuals in a romantic relationship, and one composed of couples. The use of two different samples allowed us to (1) examine the replicability of the intra-individual associations and to (2) investigate cross-partner associations in the couple sample. Findings suggest that the association between an individual's own social media jealousy and own offline IPV perpetration is bidirectional and positive over time, as replicated in our two samples. In addition, results from the couple sample indicate a significant and negative association between a person's IPV at Time 1 and their partner's social media jealousy at Time 2. These results highlight the reciprocal and dyadic influences of social media jealousy and IPV perpetration and provide a better understanding of the potential risks associated with social media use in young adults' romantic relationships.

4.1. Intra-individual associations between social media jealousy and IPV perpetration

Among two samples, our results suggest that the association between an individual's own social media jealousy and their own offline IPV perpetration is bidirectional and positive over time. As expected, our findings suggest that the more an individual tends to feel jealous about their partner's activity on social media, the more likely they will be to perpetrate IPV one year later. Conversely, the more an individual perpetrates IPV, the more they will tend to feel jealous about the partner's activity on social media one year later. However, in the couple sample, the results show that the association between an individual's own social jealousy at Time 1 and own IPV perpetration at Time 2 was only significant for women. Considering that women usually feel more frequent and more intense feelings of jealousy online than men (Daspe et al., 2018; Muise et al., 2014), it is possible that they are more reactive and therefore

Table 4
Parameter Estimates from the Regression Models.

		Individual sample			Couple sample		
Predictor	Outcome (actor vs. partner effect in couple sample)	*b* (*S.E.*)	*p*	β	*b* (*S.E.*)	*p*	β
Autoregressive paths							
IPV T1	IPV T2 (actor)	**0.942 (0.028)**	**< 0.001**	**0.904**	**0.499 (0.119)**	**< 0.001**	**0.559**
SM Jealousy T1	SM Jealousy T2 (actor)	**0.709 (0.038)**	**< 0.001**	**0.707**	**0.868 (0.047)**	**< 0.001**	**0.769**
Cross-lagged paths							
SM Jealousy T1	IPV T2 (actor)	**0.072 (0.021)**	**0.001**	**0.080**	**0.085 (0.030)**	**0.004**	**0.168**
SM Jealousy T1	IPV T2 (partner)				0.028 (0.026)	0.285	0.055
SM Jealousy T1	SM Jealousy T2 (partner)				0.038 (0.047)	0.414	0.034
IPV T1	SM Jealousy T2 (actor)	**0.149 (0.050)**	**0.003**	**0.128**	**0.337 (0.099)**	**0.001**	**0.170**
IPV T1	SM Jealousy T2 (partner)				**-0.182 (0.092)**	**0.047**	**-0.092**
IPV T1	IPV T2 (partner)				-0.046 (0.096)	0.629	-0.052
	Control variables						
Cohabitation T1	IPV T1 (actor)	0.143 (0.088)	0.106	0.093	0.096 (0.078)	0.219	0.097
Cohabitation T1	IPV T2 (actor)	-0.013 (0.035)	0.709	-0.008	**0.161 (0.046)**	**< 0.001**	**0.182**
Cohabitation T1	SM Jealousy T1 (actor)	-0.138 (0.104)	0.185	-0.077	-0.024 (0.128)	0.853	-0.014
Cohabitation T1	SM Jealousy T2 (actor)	-0.024 (0.070)	0.735	-0.013	-0.097 (0.098)	0.323	-0.049
Freq. SM use T1	IPV T1 (actor)	**0.138 (0.039)**	**< 0.001**	**0.180**	0.033 (0.023)	0.159	0.070
Freq. SM use T1	IPV T2 (actor)	-0.027 (0.018)	0.126	-0.034	0.034 (0.039)	0.383	0.082
Freq. SM use T1	SM Jealousy T1 (actor)	**0.119 (0.049)**	**0.016**	**0.134**	**0.120 (0.059)**	**0.041**	**0.146**
Freq. SM use T1	SM Jealousy T2 (actor)	-0.036 (0.033)	0.285	-0.040	**0.082 (0.029)**	**0.005**	**0.089**

Notes. Significant associations are in bold. T = time; *b* = unstandardized regression coefficient; β = standardized regression coefficient; *S.E.* = standard error. Cohabitation was coded as 0 = not living together, 1 = living together; SM Jealousy = Social media jealousy; Freq. SM use = Frequency of social media use.

more likely to act on it through violent behaviors. Overall, these results are in line with those of cross-sectional studies that respectively observed both directions in the association between Facebook-related jealousy and offline IPV perpetration (Daspe et al., 2018; Demirtaş-Madran, 2018). The present study, using a longitudinal design, pushes forward these past findings by illustrating how social media jealousy and offline IPV perpetration act both as a risk factor and as an outcome of each other over time.

The reciprocity between jealousy and IPV can reflect a dynamic of suspicion and distrust that takes place within the relationship. When someone perceives a threat to their relationship online (e.g., partner who likes a photo of an ex-partner), they may experience feelings of jealousy which, potentially, could lead them to engage in violent behaviors towards the partner to regain control over the relationship (Albert & Arnocky, 2016). As violent behaviors are not inherently effective for regaining control, or might only allow for a temporary sense of control, the person who perpetrates violence is likely to remain sensitive to further potential threats to the relationship. Furthermore, it is even possible that perpetrating violence against a romantic partner makes the individual even more sensitive to potential threats to their relationship and therefore tend to be more suspicious of their partners' online behaviors. This greater sensitivity to potential treats may arise from the knowledge that they are employing costly strategies for maintaining their partner in the relationship (i.e., violent behaviors) and that the victimized partner could be dissatisfied and tempted to leave. Thus, when faced with a threat to the relationship or the possibility that their partner will leave the relationship, individuals resorting to violence might be more vigilant and reactive, and therefore experience stronger feelings of jealousy. These results highlight a vicious circle in which an individual's social media jealousy and offline IPV perpetration are likely to perpetuate and reinforce each other over time. The replication of these findings across two different samples speaks to the strength of these results.

It should nevertheless be noted that the findings might be explained by alternative causal dynamics that could not be examined in the current study. For example, the bidirectional positive associations between social media jealousy and IPV could be explained by a third variable driving both, such as conflict resolution skills. This would be consistent with studies showing that poorer conflicts resolution skills in the romantic relationship is associated with higher IPV perpetration (e.g., Capaldi et al., 2012) and higher levels of social media jealousy (e.g., Moyano et al., 2017). Therefore, it might be relevant for future studies to examine alternative models that would include other pertinent variables such as conflicts resolution skills.

4.2. Cross-partner associations between social media jealousy and IPV perpetration

Findings from the couple sample show a significant and negative cross-partner association between an individual's IPV perpetration at Time 1 and their partner's social media jealousy at Time 2. Thus, the more an individual perpetrates IPV, the less likely their partner will be to feel jealousy elicited by social media one year later. Although surprising, this finding could be explained by the fact that, in certain contexts, one's partner's IPV perpetration could be *perceived* as a manifestation of their commitment and desire to protect the relationship (Lee et al., 2016; Puente & Cohen, 2003). In fact, jealousy is often reported, particularly among young people, to be an acceptable explanation for IPV perpetration (Puente & Cohen, 2003; Sánchez-Hernández et al., 2019). Thus, if violence is perceived as a proof of commitment from the partner, the individual may tend to be less insecure in the relationship and less likely to

feel jealous over time. This highlights the importance of developing interventions, particularly among youth, that underscore that egalitarian and healthy romantic relationships do not include violence, whatever the reason.

It is also possible that this negative cross-partner association is explained by a decrease in the quality of the relationship and in the victim's satisfaction and commitment, who would care less about threats to the relationship, and therefore who would be less likely to be jealous of the partner's activity on social media. Consistent with an evolutionary perspective on jealousy (Buss & Shackelford, 1997) and preventive jealousy (i.e., reactivity to the partner's potential interest in another person and efforts to prevent the partner from having contact with this person; Buunk, 1997), jealous reactions can represent a protective response to relationship threats (i.e., demonstrates the individual's interest in preserving the relationship). However, as violence has been shown to reduce relationship satisfaction in the victim (Kaura & Lohman, 2007; Shortt et al., 2010), it could, by the same token, be associated with a decrease in preoccupation for the relationship and in attention for potential threats, and therefore less jealousy. More studies are needed to clarify this association.

Findings also show that the cross-partner associations between an individual's social media jealousy and their partner's IPV perpetration is not significant over time. It therefore seems that partner's IPV perpetration is not associated to the individual's social media jealousy over and above the individual's own experience of IPV perpetration one year later. While it is possible that cross-partner associations be present within a single time point, these associations might not be stable over time.

4.3. Associations between social media jealousy, IPV and the covariates

Our findings also reveal significant associations between the covariates (frequency of social media use and couples' living situation) and the variables of interest in our two samples. First, using social media more frequently was associated, in the individual sample, with higher IPV perpetration at Time 1. This is consistent with past cross-sectional results which showed a positive association between Facebook use and IPV perpetration (Daspe et al., 2018). Interestingly, this suggests that the frequency of social media use is, in and of itself, a risk factor of IPV perpetration in young adulthood. The results also indicate that greater frequency of social media use was associated with stronger feelings of social media jealousy at Time 1 (couple and individual sample) and Time 2 (couple sample). This has been consistently observed in past studies, suggesting that when an individual is exposed to more ambiguous content via social media, they are likely to experience higher levels of social media jealousy (Daspe et al., 2018; Marshall et al., 2013; Muise et al. 2009; Utz & Beukeboom, 2011). Finally, the results showed that in the couple sample, cohabiting with the romantic partner was associated with greater IPV perpetration by the individual at Time 2. This is also consistent with multiple studies that have established that violence tends to be more frequent and severe among cohabiting couples than among dating couples (Brown & Bulanda, 2008; Herrera et al., 2008; Manning et al., 2018; Stets & Straus, 1989). Indeed, cohabiting couples are likely to face more conflicts due to the additional responsibilities of taking care of a home (e.g., household chores, money) while having higher dissolution constraints (i.e., factors that make it harder to break-up). Overall, these findings underscore the relevance of controlling for the couple's living situation and frequency of social media use when examining social media jealousy and IPV perpetration.

4.4. Limitations and futures directions

The present study has some limitations that need to be considered. First, it relies solely on self-reported measures and is therefore subject to recall bias, social desirability, and shared-method variance. Second, we assessed offline IPV perpetration using a global score derived from a short version of the CTS-2. The use of an overall score of IPV did not allow us to examine the associations between social media jealousy and each type of IPV perpetration (psychological, physical, and sexual) separately. Moreover, three of these items had to be excluded due to lack of variability. As the removed items assessed physical and sexual violence, our measure of IPV is weighted in favor of psychological violence. Third, the use of the short version of the CTS-2 makes it impossible to assess a wide variety of violent behaviors. This could in part explain the low variability in physical and sexual violence in the current study, as a more extensive measure of IPV might have capture behaviors that were present among our participants but not covered by our short instrument. Future studies should replicate these results using a more comprehensive assessment of violent behaviors. It might also be relevant to consider, in future studies, other forms of violence, such as cyberaggression. Indeed, absence of physical barriers and constant connectivity of digital tools allows the partner to react quickly after seeing content that evokes jealousy, which can trigger violent reactions at any time, not only when partners are in presence of each other. Fourth, the current study is based on a convenience sample of young adults recruited through advertisement on social media where self-selection biases may occur. Finally, although the results support our bidirectional initial hypotheses, it is possible that alternative causal dynamics are responsible for these findings, as our results do not rule out alternative models including third (e.g., conflict resolution skills) or pre-existing variables (e.g., jealousy prior to Time 1).

5. Conclusion

With the growing importance of social media in the social sphere, an awareness of the many ways in which they can influence romantic relationships is necessary. The findings of this study provide insight about some aspects of the dark side of social media use in young adults' romantic relationships by highlighting the mutual influence of social media jealousy and offline IPV perpetration. They are in line with past studies suggesting the reciprocity of online and offline relational factors within romantic relationships (Daspe et al., 2018; Fox & Moreland, 2014). Thus, it is important to consider how other relational phenomena (e.g., conflict resolution, violence) can be transposed online and generate relational consequences both online and offline. Considering the preponderant place

of social media in young adults' social life, it is crucial that they be sensitized to the relational consequences that may arise from their social media use. The current findings particularly highlight the relevance of addressing social media use as a risk factor of IPV in prevention and intervention efforts targeting young adults, especially during this pivotal period for learning healthy and egalitarian romantic relationships.

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Declaration of Competing Interest

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

Data availability

Data will be made available on request.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.tele.2023.101956.

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