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Is our Attachment Hurting Us? Unraveling the Associations between Partners' Attachment Pairings, Negative Emotions during Conflict and Intimate Partner Violence

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Is our Attachment Hurting Us? Unraveling the Associations between Partners' Attachment Pairings, Negative Emotions during Conflict and Intimate Partner Violence

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Résumé

L'insécurité d'attachement et l'expérience accrue d'émotions négatives lors de conflits constituent des facteurs de risque significatifs pour la violence conjugale (VC). Cependant, les recherches antérieures ont surtout examiné l'attachement de chaque partenaire séparément dans l'association entre l'attachement et la VC, et l'examen du rôle des émotions négatives en tant que mécanismes explicatifs est limité. La présente étude est basée sur un devis observationnel dyadique pour (1) examiner l'interaction entre l'attachement des partenaires (i.e. pairage) et la perpétration de VC et (2) vérifier la contribution des émotions négatives durant une discussion conflictuelle dans ces associations. Un échantillon inclusif de 178 couples de jeunes adultes âgés de 18 à 29 ans a été recruté au sein de la communauté. Les résultats ont révélé que l'évitement d'une personne était positivement lié à la VC seulement lorsque le partenaire avait un évitement faible. Les autres pairages d'attachement (anxiété-anxiété ; évitement-anxiété) n'étaient pas liés à la perpétration de VC. Les résultats ont également montré que l'évitement d'une personne était indirectement lié à sa propre perpétration de VC via ses propres émotions négatives lors de la discussion conflictuelle. L'évitement d'une personne était également indirectement associé à la perpétration de VC de son partenaire via les émotions négatives de ce dernier. Enfin, l'anxiété d'une personne était indirectement associée à sa propre perpétration de VC via ses propres émotions négatives lors de la discussion conflictuelle. Ces résultats suggèrent que d'investiguer les pairages d'attachement des couples et les émotions négatives lors de conflits offre des pistes importantes pour améliorer la prévention et l'intervention en matière de VC et approfondir notre compréhension des mécanismes impliqués dans les liens entre l'attachement et la VC.

Mots-clés : couples, jeunes adultes, attachement, émotions négatives, violence conjugale.

Abstract

Insecure romantic attachment and heightened negative emotions during conflict are significant risk factors for intimate partner violence (IPV). Previous research has mainly examined each partner's attachment separately when studying the association between attachment and IPV, while the role of negative emotions as an explanatory mechanism has been overlooked. The current study used a dyadic observational design to (1) examine the interplay between partners' attachment (i.e., pairings) in association with their IPV perpetration and (2) verify the contribution of negative emotions during a conflict discussion in these associations. An inclusive community sample of 178 young adult couples aged 18 to 29 years were recruited. Results revealed that attachment avoidance was positively associated with IPV perpetration only when the partner showed low levels of attachment avoidance. Other attachment pairings (i.e., anxiety-anxiety; avoidance-anxiety) were unrelated to IPV perpetration. Results also showed that a person's attachment avoidance was indirectly associated with their own IPV perpetration through their own negative emotions during the conflict discussion. A person's attachment avoidance was also indirectly associated with their partner's IPV perpetration through their partner's negative emotions. Finally, a person's attachment anxiety was indirectly associated with their own IPV perpetration through their own negative emotions during the conflict discussion. These findings suggest that focusing on couples' attachment pairings and negative emotions during conflict provides valuable insights for refining prevention and intervention for IPV and furthers our understanding of the mechanisms involved in the link between attachment and IPV.

Keywords: couples, emerging adulthood, attachment, negative emotions, intimate partner violence.

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Liste des sigles

ANOVA – Analysis of variance

APIM – Actor-Partner Interdependence Model

APIMoM – Actor-Partner Interdependence Moderation Model

APIMeM – Actor-Partner Interdependence Mediation Model

CFA – Confirmatory Factor Analysis

CFI – Comparative Fit Index

CTS-2 – Revised Conflict Tactics Scales-2

ECR – Experiences in Close Relationships Scale

IPV – Intimate Partner Violence

FIML – Full Information Maximum Likelihood method (FIML)

MLR – Maximum Likelihood Robust

PANAS – Positive and Negative Affective Scales

RMSEA – Root Mean Square Error Approximation

SPSS – Statistical Package for the Social Sciences

SRMR – Standardized Root Mean Square Residual

TLI – Tucker-Lewis index

Liste des abréviations

α – Cronbach's Alpha Coefficient

B – Unstandardized Regression Coefficient

β – Standardized Regression Coefficient

CI – Confidence Interval

F – F-value

IE – Indirect Effect

M – Mean

n – Number of Respondents

p – P-value

R² – R-squared value

SD – Standard Deviation

χ^2 – Chi-square

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Avant-propos

I am the first author of this article, responsible for formulating the research questions, actively participating in data collection, analyzing the data, interpreting the results, and writing the entire article.

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Article

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Introduction

Intimate Partner Violence (IPV) has significant personal, health, economic, and social costs (Stewart et al., 2012) and is highly prevalent, especially among young adults (Johnson et al., 2015). In 2018, the prevalence rates of IPV perpetration and victimization reported in a Canadian community sample aged 15 years and over ranged between 36% for men and 44% for women when considering all forms of violence (Cotter, 2018). Examples of these forms are physical (e.g., shoving, punching, slapping, strangling, etc.), psychological (e.g., criticizing, blaming, social isolation, emotional manipulation, threats, etc.), and sexual (e.g., unwanted sexual contact and experiences through coercion; Kelly & Johnson, 2008; Cotter, 2018).

Situational couple violence, understood as arising from conflict between partners that escalates into mutual violence by both partners, is prevalent in community samples (e.g., Kelly & Johnson, 2008). This pattern also appears to hold true in young adults' romantic relationships, where a significant portion of violence is mutually perpetrated by both partners (Paradis et al., 2015; Langhinrichsen-Rohling et al., 2012). Research suggests that young adults are at a greater risk of partner violence compared to older, more established couples. This transitional phase, marked by various life events, signifies a critical period in young adults' learning process of communication patterns, with many of them undergoing their first experiences in romantic relationships (e.g., Johnson et al., 2015). Targeting young adults' IPV perpetration risk factors is highly relevant as examining early manifestations of relationship violence is necessary to intervene before violent patterns become internalized (Godbout et al., 2017). In that respect, romantic attachment and negative emotions have both respectively been linked to IPV perpetration (e.g., Stefania et al., 2021; Birkley & Eckhardt, 2015). Nonetheless, certain gaps in the existing literature require attention. First, there has been limited research on how both partners' attachment are interactively linked to IPV. Second, it is essential to gain a deeper understanding of the explanatory

mechanisms linking attachment and IPV, while also delving into more proximal mechanisms, such as negative emotions, within the context of conflict between partners. Adopting a dyadic observational design is crucial in addressing these gaps, as it allows for a nuanced examination of the interactive dynamics between partners, providing insights into how their attachment styles and negative emotions manifest during couple conflicts. This comprehensive approach to IPV is vital to grasp the complexity of this intricate issue and to enhance existing prevention and intervention strategies.

Romantic Attachment and IPV

Adult attachment theory suggests that individuals develop internalized working models of relationships based on their early experiences with caregivers, shaping their beliefs, expectations, and emotions concerning their romantic partners as well as their responses to relationship threats (e.g., conflict, e.g., Bowlby, 1973; Hazan & Shaver, 1987). Individual differences in these internal working models may be understood through attachment styles (Mikulincer & Shaver, 2016). Two attachment dimensions have been proposed in the literature, namely anxiety over abandonment and avoidance of intimacy (Brennan et al., 1998). Attachment anxiety characterizes the extent to which a person has a negative representation of the self in the romantic relationship, tends to worry about being rejected or abandoned by their partner, and tends to seek excessive closeness and reassurance from their partner (Mikulincer & Shaver, 2016). Attachment avoidance depicts the extent to which a person has a negative representation of their romantic partner, tends to feel uncomfortable with intimacy and closeness, and tends to seek distance from their partner (Mikulincer & Shaver, 2016). Individuals low on the anxiety and avoidance dimensions are considered to have a secure attachment style and are more likely to behave in ways that promote trust and intimacy (Mikulincer & Shaver, 2016).

Theoretically, couple conflict may trigger attachment-related threats. Individuals with higher attachment anxiety may experience conflict as a threat to the relationship, interpreting their partners' behavior (i.e., disagreement, silence, etc.) as evidence of potential abandonment or rejection, and may use psychological and physical violence to regain proximity to their partner in response to this perceived threat (Bowlby, 1973). In contrast, conflict for individuals with higher attachment avoidance may result in the use of violence to maintain distance from their partner to deal with their discomfort with intimacy (e.g., Mayseless, 1991; Pistole & Arricale, 2003).

Literature reviews on attachment styles and IPV report that attachment anxiety and avoidance are positively associated with all forms of IPV perpetration (e.g., Velotti et al., 2018; Stefania et al., 2021). While the relation between attachment anxiety and IPV is consistently observed across studies, findings are mixed regarding attachment avoidance (e.g., Velotti et al., 2018; Stefania et al., 2021). Among the studies reviewed by Velotti et al. (2018), about half found a positive association between attachment avoidance and IPV, while the other half did not find significant associations. These mixed findings may suggest that the link between one's attachment avoidance and IPV may depend on the attachment dimensions of the other partner. Indeed, it is important to consider the link between individuals' attachment and their partner's IPV perpetration because romantic relationships function within a couple system, with each partner intrinsically interinfluencing each other (Bartholomew & Allison, 2006). However, most research has primarily focused on the association of individual differences in attachment on individuals' psychosocial development and functioning; only a limited number of studies have used a dyadic approach to examine the link between one's attachment and their partner's IPV perpetration. Studies reveal a dyadic relation between attachment (i.e., both anxiety and avoidance) and partner IPV perpetration in samples of both same-sex male couples and heterosexual couples (e.g., Landolt & Dutton, 1997;

Péloquin et al., 2011; Sommer et al., 2017). In a sample of same-sex male couples, one's own attachment anxiety predicted one's partner's psychological IPV perpetration (Landolt & Dutton, 1997). Furthermore, a study conducted by Sommer et al. (2017) found that one's own attachment avoidance or anxiety predicted both their own and their partners IPV perpetration. Finally, Péloquin et al. (2011) examined the dyadic associations between attachment, empathy, and psychological IPV and found that women's own attachment (i.e., anxiety or avoidance) was not associated with their male partner's psychological IPV, but men's own attachment anxiety predicted greater use of psychological IPV in their female partners. These findings suggest that implementing a dyadic perspective to examine the associations between attachment and IPV perpetration is important to account for the interplay of both partners' attachment. In addition, and beyond examining each partner's attachment separately, investigating attachment pairings in couples may allow clarifying some mixed findings regarding attachment dimensions and IPV perpetration.

Attachment Pairings

Recent studies propose that a more comprehensive understanding of the role of attachment in IPV can be achieved by considering the attachment pairing of both partners, instead of examining each partner's attachment dimension separately (e.g., Allison et al., 2008; Pollard & Cantos, 2021). Theoretically, the pairing of two secure partners promotes healthy communication patterns since each person can respond to negative feelings toward their partner in a constructive manner and are less likely to view conflict as a threat (Wilson et al., 2013). In contrast, the pairing of an anxious partner – seeking closeness and reassurance – with an avoidant partner – seeking autonomy and independence – may create a challenging dynamic. Unmet attachment needs can lead to partner violence as a form of protest to increase proximity for anxious partners (e.g., blaming, criticizing, clinging, demanding communication, displays of jealousy, psychological

and physical abuse, etc.), and withdrawal and self-soothing behaviors for avoidant partners (e.g., turning away, becoming quiet, removing oneself from the situation, ignoring, psychological and physical abuse, etc.; Allison et al., 2008). Such contrasting motivations and emotion regulation strategies may foster dysfunctional behaviors and, at times, violence in the relationship, as the anxious partner pursues proximity and the avoidant partner attempts to maintain distance (Bowlby, 1984; Huerta et al., 2022).

Similarly, the pairing of two anxious partners may be challenging during conflict as they both associate to conflict escalation by overly focusing on their own needs for reassurance and they risk trying to control each other (e.g., Pietromonaco et al., 2004; Bartholomew & Allison, 2006). In contrast, the pairing of two avoidant partners may be linked to reduced conflict escalation as they both use deactivating strategies (i.e., denial, suppressing and minimising their emotions, using distractions, disengagement and overly relying on themselves rather than on their partner), therefore lessening the risk of IPV during conflict (Pietromonaco et al., 2004).

Empirically, Allison et al. (2008) qualitatively examined attachment pairings and IPV perpetration within a clinical sample. Their results supported theoretical models of attachment, whereby both partners used IPV as an effort to maintain a desired level of proximity or distance to their partner according to their attachment needs. Furthermore, Pollard & Cantos (2021) conducted a study examining attachment pairings and physical IPV within heterosexual couples and found that both men and women's high attachment anxiety was linked to their own IPV perpetration. In men, attachment avoidance was associated with their own self-reported IPV perpetration when their female partner exhibited high attachment anxiety. However, when male IPV perpetration was assessed using partner reports, only attachment anxiety in women showed a significant association with men's IPV perpetration. Thus, while only few studies have examined attachment pairings in

relation to IPV perpetration, it is crucial to further investigate them as they may offer a more holistic understanding of couples' violent dynamics. This is particularly significant in the context of IPV, a highly relational phenomenon that involves significant interaction between partners' characteristics. By treating couples as a unit and considering the synergy between partners' attachment needs, interventions can be tailored to address potential issues before their dynamic escalates to IPV during conflict. Beyond attachment pairings, it is also important to examine the underlying mechanisms that may explain the links between attachment and IPV. Understanding more proximal factors that are involved during couple conflicts is essential because they may inform existing prevention and intervention IPV programs. One potential explanatory mechanism in this relation, both proximal and amenable to intervention, is negative emotions during conflicts.

Attachment and Negative Emotions

Negative emotions may be understood as the experience of a range of unpleasant emotions such as anger, contempt, disgust, guilt, fear, and nervousness (e.g., Watson et al., 1988). Several theoretical and empirical propositions have been made regarding the link between attachment and negative emotions using diverse methods.

From a theoretical point of view, when faced with negative emotions in response to perceived threats to the relationship (e.g., disagreement and conflicts), partners with high attachment anxiety may use hyperactivating strategies (i.e., overfocusing on their emotions and adopting reassurance—and proximity—seeking behaviors) when they feel abandoned, rejected, and distressed during conflict (Mikulincer & Shaver, 2016; Huerta et al., 2022). In contrast, partners with high attachment avoidance may use deactivating strategies (i.e., denial, minimising their emotions, disengagement, and overly relying on themselves rather than on their partner) when they feel overwhelmed and that their autonomy is threatened during conflict (Mikulincer & Shaver, 2016). For anxious partners, hyperactivating strategies may amplify their emotional

experience of negative emotions during conflict, and they may report experiencing more negative emotions. Conversely, for avoidant partners, deactivating strategies may minimize their experience of negative emotions, and they may report experiencing fewer negative emotions during conflict. These attachment-related strategies can be linked to how individuals respond to and cope with negative emotions during conflicts, shaping both their emotional reactions and contributing to dysfunctional couple dynamics (Allison et al., 2008; Huerta et al., 2022).

Empirical studies have supported attachment theory by providing evidence for specific patterns of behaviors and emotions among individuals with different attachment styles. Sheinbaum et al. (2015) measured momentary affective states and found that individuals with higher attachment anxiety exhibited hyperactivating strategies throughout the day, including higher negative emotions, greater variability in negative emotions, and decreased positive emotions in comparison to securely attached individuals. In contrast, individuals with attachment avoidance adopted deactivating strategies when approaching their daily experiences, demonstrating less positive views of others compared to securely attached individuals, and did not show heightened negative emotions (Sheinbaum et al., 2015). Moreover, Creasey & Hesson-McInnis (2001) used retrospective questionnaires and found that, compared to attachment avoidance, attachment anxiety was associated with more negative emotions during conflict with a romantic partner.

Although most previous studies have examined the association of individuals' attachment on their own experience of negative emotions, examining the role of an individual's attachment on their partner's emotions is crucial. Insecure attachment may be linked to the partner's experience of negative emotions, a scenario that may arise when one's attachment needs do not align with those of their partner, leading to their partner's experience of negative emotions due to unfulfilled attachment needs (Pietromonaco et al., 2004). Observational studies have been conducted to

empirically examine the link between attachment dimensions, either separately or as pairings, and negative emotions during a laboratory-based couple conflictual discussion. A study by Simpson et al. (1996) examined the attachment of each partner separately without considering the association of individual's attachment on their partner's negative emotion and showed that partners high on attachment anxiety reported greater anger and hostility toward their partner during conflict, whereas partners high on attachment avoidance did not. Moreover, in a study by Beck et al. (2013) that adopted a dyadic approach to examine attachment pairings in association with emotional reactivity (i.e., using subjective and objective measures of distress) found that husbands with high attachment anxiety reported significantly higher levels of distress during the conflict discussion when their wives reported high levels of avoidance. This suggests that examining the interplay between partners' attachment pairings, while also adopting an observational design, offers a more nuanced perspective in understanding both partners' emotional experiences during conflicts (Beck et al., 2013).

To our knowledge, except for Beck et al.'s (2013) study, research has yet to examine partners' emotional experience (i.e., heightened negative emotions) during conflict while considering their specific attachment pairing. Investigating the attachment dimensions of both partners is highly relevant in understanding the experience of negative emotions during conflict, as attachment plays a significant role in emotion regulation (e.g., Bowlby, 1980) and individuals' attachment may be linked to their partners' experience of negative emotions. In turn, examining heightened experience of negative emotions during conflicts using a dyadic observational design may help explain the well-documented link between attachment dimensions and IPV, as research has revealed several positive associations between negative emotions and IPV.

Negative Emotions and IPV

Theoretical models of IPV posit that heightened negative emotions during conflict may constitute a risk factor for IPV perpetration (e.g., O’Leary, 1988; Norlander & Eckhardt, 2005; Crick & Doge, 1994). Understanding the role of negative emotions can inform underlying psychological processes and motivations behind IPV perpetration in both partners.

Studies that used global self-reports suggest that both male and female perpetrators demonstrate trait-anger and hostility at significantly greater extents than nonviolent individuals (e.g., Dutton, 1994; Dye & Eckhardt, 2000). Similarly, Shorey et al. (2015) measured overall daily negative emotions (i.e., outside of couple conflict settings) and showed that the mean daily scores of negative emotions increased the odds of psychological and physical violence perpetration across days. In addition, a meta-analytic review of studies using mainly self-report retrospective questionnaires outside of laboratory-based couple conflict discussions showed that anger, hostility and internalizing negative emotions are moderately associated with IPV (Birkley & Eckhardt, 2015). Margolin et al. (1988) conducted an observational laboratory-based study on a sample of couples in which the male partner was physically abusive. The authors measured the association between individual’s negative emotions directly after a conflictual discussion and their own IPV perpetration without considering their partners’ perpetration. They observed a link between individuals experience of heightened negative emotions during conflict and their own IPV, demonstrating that abusive male partners present more negative emotions during conflict than non-abusive partners.

While negative emotions are commonly conceptualized as an individual-level variable, it is important to recognize the dyadic processes involved, making negative emotions a significant relational variable to consider when studying couple conflict and IPV perpetration (Butler, 2011). This significance is underscored by recent studies that highlight the bidirectional nature of IPV

perpetration (Bartholomew et al., 2015). Therefore, it is important to understand how both partners' emotional states and interactions associate to the complex dynamics of IPV and how addressing these emotional factors could inform more effective prevention and intervention strategies. To this day, few studies have utilized a dyadic approach to examine the link between negative emotions and IPV perpetration. One such study, conducted by Lee et al. (2019), employed a dyadic perspective to assess emotional dysregulation during conflict and IPV in both partners by using self-report questionnaires to recollect on their experiences during conflict. They found that both one's own and one's partner's higher levels of emotional dysregulation were associated with an increased risk of physical and sexual forms of IPV perpetration (Lee et al., 2019). The authors proposed that when an individual is dysregulated, their inability to control their emotions may escalate conflict interactions by eliciting a more reactive response from their partner, potentially increasing the risk of IPV. Although this study focused specifically on emotional regulation, some authors have suggested that negative emotions and emotional dysregulation are highly related (Langer & Lawrence, 2010).

Given that negative emotions are both risk factors for IPV perpetration and significant features of attachment anxiety – and to a lesser extent of attachment avoidance –, it seems relevant to examine whether they constitute a mechanism of the link between attachment and IPV. Additionally, adopting a dyadic approach may provide valuable insights into how one partner's attachment and negative emotions are linked to the other partner's perpetration of IPV.

Attachment Pairings, Negative Emotions, and IPV

Although previous research highlights meaningful associations between attachment, negative emotions, and IPV (e.g., Babcock et al., 2005; Péloquin et al., 2011; Birkley & Eckhardt, 2015; Pollard & Cantos, 2021), only one study, to our knowledge, has examined these variables within one comprehensive model. Belus et al. (2014) examined the mediational role of anger and

jealousy in the link between individual attachment styles and physical IPV perpetration. Findings revealed that anger mediated the relation between all attachment styles and physical IPV in women, but not in men (Belus et al., 2014). However, their study was based on a sample of individuals rather than couples, precluding examination of partner effects (e.g., the link between one partner's attachment and the other partner's perpetration of IPV). In addition, research has yet to explore whether attachment, especially pairings, is indirectly associated with IPV through greater negative emotions in the specific context of couple conflicts. Hence, it is imperative to undertake research that employs a dyadic approach and considers attachment pairings as well as potential explanatory mechanisms such as negative emotions during conflicts to gain a deeper understanding of the well-established link between attachment and IPV. Targeting attachment dimensions and negative emotions is important because they may inform interventions and prevention efforts aimed at addressing these factors in young adult couples.

The current study

We adopted a dyadic observational design to examine the interplay of both partners' attachment (i.e., pairings) and their associations with their experience of negative emotions during conflict and IPV. Two main objectives were addressed: (1) assessing whether specific pairings of insecure attachment are linked with IPV perpetration, and (2) exploring whether heightened negative emotions during conflict is an explanatory mechanism of these associations.

Regarding the first objective, we expected that high attachment anxiety in one partner would be more strongly associated with reports of IPV perpetration when the other partner is high in attachment avoidance than when the other partner is low in attachment avoidance. Similarly, we predicted that high attachment anxiety in one partner would be more strongly associated with reports of IPV perpetration when the other partner is also high in attachment anxiety than when the other partner is low in attachment anxiety. We did not expect that the pairing of two partners high

on attachment avoidance would be associated with IPV, as they tend to use deactivating strategies during conflict (e.g., Beck et al., 2013; Reviews in Mikulincer & Shaver, 2016).

For the second objective, we expected that partners' attachment would be indirectly associated with IPV through negative emotions during a laboratory-based conflictual discussion. More precisely, we expected that one partner's attachment anxiety and avoidance would interact with the other partner's attachment anxiety and avoidance to predict both partners' negative emotions, which in turn would relate to both partners' IPV perpetration. First, we predicted that high attachment anxiety in one partner would be more strongly associated with negative emotions in response to conflict, which in turn would relate to greater reports of IPV perpetration when the other partner is high in attachment avoidance than when the other partner is low in attachment avoidance. Similarly, we predicted that high attachment anxiety in one partner would be more strongly associated with negative emotions in response to conflict, which in turn would relate to greater reports of IPV perpetration when the other partner is also high in attachment anxiety than when the other partner is low in attachment anxiety. As mentioned, partners with high attachment avoidance typically use deactivating strategies when faced with conflict, hence we expected that couples in which both partners are high in attachment avoidance would present less negative emotions and less reports of IPV perpetration than the other pairings.

Method

Participants

Of the initial 404 couples who contacted us to participate in the study, 190 (47%) declined to participate and 21 (5.2%) were ineligible after screening. Of the 193 eligible couples who completed the questionnaires, 15 (7.8%) withdrew before participating in the virtual session. Thus, the final sample included 178 couples (356 participants, $M_{age} = 23.44$, $SD = 2.85$; See Table 1 for sociodemographic information) from the general [Blind for review] community, recruited through

social media (e.g., Facebook). Eligibility criteria included: (a) be aged between 18-29 years old; (b) be in a romantic relationship since at least two months at the moment of participating in the study; (c) have access to a common confidential space with internet access; (d) have access to a computer with webcam for a Zoom session; (e) have access to a smartphone, tablet or computer to complete online questionnaires; (f) be comfortable with oral and written French. Online questionnaires included attention-testing items, and participants had to correctly answer two out of the three items for their data to be considered valid (Thomas & Clifford, 2017). In the current sample, 0.02% of participants (n= 7) failed at least two attention-testing questions and their data were considered as missing. As their partner provided valid data, all couples were included and missing data from one partner were handled during the analyses.

Procedure

Data was collected from July 2021 to August 2022 as part of a larger research project on communication in young adult couples. The study was conducted entirely online to adapt to the COVID-19 pandemic constraints. Each partner was sent an e-mail through the web-based survey platform *Qualtrics Research Suites* with a link to complete an informed consent and a set of self-report questionnaires including measures of sociodemographic information, attachment, and IPV. Partners were asked to complete these questionnaires individually and to refrain from discussing their responses. Completion time for the questionnaires was approximately 60 minutes and each partner received a CAN\$10 compensation.

Within a week after completing the online questionnaires, partners were invited to join a virtual session with two experimenters, lasting approximately 2.5 hours. Partners joined the Zoom session from the same location to promote more naturalistic interactions, whereas experimenters joined the session from separate locations. Informed consent was obtained again at the beginning of the online session. As part of this session, participants were instructed to discuss topics of

disagreement in their relationship. Both partners first completed a checklist of common disagreement topics within couples. Experimenters interviewed each partner separately, one via Zoom and the other by phone in a separate room, to identify emotionally charged themes. Experimenters then met in a breakout room on Zoom to select three topics of disagreement based on the checklists and their individual interviews with partners. Upon their return, couples were instructed to engage in a 10-minute discussion regarding one or more of these three topics. During the discussion, experimenters turned off their microphone and webcam, and recorded the interaction using screen recording. Immediately following the discussion, partners individually completed a self-report survey on their personal device (e.g., cellphone), measuring subjective negative emotions during the conflict discussion. Before ending the virtual session, participants were debriefed individually by experimenters to verify the presence of distress and assess the risk of violence. Following their participation, each partner received an e-mail including a list of appropriate resources (e.g., hotlines, community organizations specialized in violence, etc.) and a CAN\$40 compensation for this portion of the study. The study was approved by the research ethical board of [Blind for review].

Measures

Attachment dimensions

To assess attachment dimensions, both partners independently completed the French Version of the *Experiences in Close Relationships* scale (ECR) - Short Form (Brennan et al., 1998; Lafontaine et al., 2016). This questionnaire includes 12 items measuring attachment anxiety and avoidance with respectively 6 items. A sample item for attachment anxiety is: “I worry a fair amount about losing my partner”, and for attachment avoidance: “I don’t feel comfortable opening up to romantic partners”. All items are rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) based on their experience within their current romantic relationship.

Items were averaged to produce one score for each dimension; higher scores indicated greater anxiety and avoidance. Reliability, construct, predictive, and discriminant validity of the two dimensions have been demonstrated extensively for the English and French versions (Brennan et al., 1998; Lafontaine & Lussier, 2003), with satisfying Cronbach's alpha coefficients for both attachment anxiety ($\alpha = .78-.87$) and avoidance ($\alpha = .74-.83$; Brennan et al., 1998; Lafontaine & Lussier, 2003). In the current sample, Cronbach's alpha coefficients were satisfying for both attachment anxiety ($\alpha = .85$) and avoidance ($\alpha = .82$).

Subjective measure of negative emotions

Negative emotions were assessed using an 11-item survey derived from the Positive and Negative Affective Scales (PANAS; Watson et al., 1988) and adapted for the current study to include a broader range of negative emotions relevant to the conflict discussion (e.g., deceived, desperate, frustrated). Participants rated each emotion on a 5-point Likert scale ranging from 0 (*Not at all*) to 4 (*A lot*), regarding how they felt *during* the discussion. Examples of negative emotions include items such as “angry, frustrated, anxious, deceived, ashamed, guilty, sad”, etc. A total score was obtained by averaging the score across all negative emotion items. In the current sample, Cronbach's alpha coefficient for negative emotions was .88.

Intimate partner violence

Both partners independently completed the French Version of the *Revised Conflict Tactics Scales-2* (CTS-2; Straus et al., 1996, translated by Lussier, 1997). The CTS-2 is a self-report questionnaire containing 78 items that assess both perpetrated and sustained violence within the last 12 months (Straus et al., 1996). In the current study, only the following subscales were used: psychological violence (8 items), physical violence (12 items), and sexual violence (7 items). Each item was presented twice to assess perpetration and victimization. On an 8-point Likert scale, participants reported how often they perpetrated (and sustained) each behavior ranging from 0

(*This never happened*) to 6 (*More than 20 times in the past year*). The questionnaire also includes an option “not in the past year, but it happened before” (7), which was recoded to 0 to obtain the past year prevalence of each behavior. For each item, perpetrated violence was then computed by calculating the maximum score reported by couples (i.e., the highest value between the perpetration reported by one partner and the victimization reported by the other partner). This method is particularly useful to minimize under-reported violence perpetration (Cuenca et al, 2015; O’Leary & Williams, 2006). To obtain a score of IPV global perpetration, the sum of the mean scores from each subscale of violence (i.e., physical, sexual, psychological) was computed. The CTS-2 is a widely reliable and valid measure and is frequently used in IPV research (Straus et al., 1996). In the current sample, it was not possible to reliably calculate internal consistency, given that several items—especially those related to physical and sexual violence—were very infrequently endorsed. Lower Cronbach’s alphas are expected for physical and sexual violence as items represent behaviors of different severity that are not consistently endorsed (i.e., “I used threats to make my partner have sex”, “I used force (like hitting, holding down, or using a weapon) to make my partner have oral or anal sex”).

Topics of disagreement

Topics of disagreement within romantic relationships were identified using a 27-item checklist adapted from the *Adolescent Couples’ Issues Checklist* (ACIC; Welsh et al., 2001) and the *Partner Issue Checklist* (Capaldi & Wilson, 1992). Both partners independently rated on a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*a lot*) to which extent each theme was currently a topic of disagreement in their relationship (e.g., “Your partner promises to do something and then does not follow through”, “Your partner avoids talking about difficult things”). The last item was optional (i.e., *Other*) and allowed each participant to write a topic of disagreement that was not presented within the list but was currently an issue.

Sociodemographic information

To control for potential covariates, participants were asked sociodemographic questions. Participants age was assessed in months. One item related to gender identity and included the following response choices: Female; Male; Non-binary; Indigenous gender identity or other cultural identity/experience (e.g., two-spirit); Agender or genderless; and Prefer not to answer. Gender was recoded as follow: 0= *female*, 1= *male*, 2= *gender diversity*. Relationship status was measured by three response choices: In a relationship without cohabitation; In a relationship with cohabitation; Married. We recoded relationship status into cohabitation as follows: 0 = *non-cohabitating*; 1= *cohabitating*. Finally, relationship length was measured in months.

Data Analysis Strategy

Descriptive statistics and correlations were conducted via *SPSS v.27*. Preliminary bivariate correlations were computed to examine actor (within-partner) and partner (between-partner) associations between the main variables and to screen for potential covariates. Univariate one-way analysis of variance (ANOVA) was also used to compare mean scores of IPV global perpetration between categories of gender identity.

Main statistical analyses were based on the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006) for indistinguishable dyads, as both same-gender and mixed-gender dyads were included in the sample. The APIM approach allows us to model the interdependence between each partner's data and to specify both actor effects (i.e., the effect of an individual's independent variable onto their own outcome variable) and partner effects (i.e., the effect of an individual's independent variable onto their partners' outcome variable). We implemented two analytical strategies to test our hypotheses. To examine our first objective (i.e., whether specific matches of insecure attachment are at increased risk of IPV), we used an Actor-Partner Interdependence Moderation Model (APIMoM; Garcia et al., 2015). We tested the unique associations between

scores on attachment dimensions of each partner and IPV, as well as the interactive effect of both partners scores on attachment dimensions in predicting IPV. We computed the effects of each possible attachment pairing in three separate models (i.e., (1) attachment anxiety P1 X attachment anxiety P2; (2) attachment anxiety P1 X attachment avoidance P2; (3) attachment avoidance P1 X attachment avoidance P2). As dyads were indistinguishable, a fourth model was not necessary because the anxiety P1 X avoidance P2 interaction is equivalent to the anxiety P2 X avoidance P1 interaction.

To address our second objective regarding the indirect effect of negative emotions in the associations between partners' scores on attachment dimension (and their interaction) and IPV, we used a combination of the APIMoM and the Actor–Partner Interdependence Mediation Model (APIMeM; Ledermann et al., 2011) to compute moderated mediation models. The APIMeM enables the examination of mediating effects in dyadic data (Ledermann et al., 2011). For parsimony, interaction terms between partners' attachment dimensions were included in APIMeM only when significant in the models examining objective 1.

APIMoM and APIMeM analyses were implemented using path analyses in Mplus Version 8.5 (Muthén & Muthén, 1998–2017) using the Maximum Likelihood Robust (MLR) estimation to account for the non-normal distribution of IPV and negative emotions scores. This approach is important for variables that depart from a normal distribution, often being the case with IPV (Ryan, 2013). Missing data (< 5% in the current sample) were handled using the Full Information Maximum Likelihood method (FIML). For APIMeM, we computed all direct effects, indirect effects (IE), and total effects. To determine whether an IE is statistically significant, we used the bias-corrected bootstrap 95% CI for unstandardized effects (Bollen & Stine, 1990). As partners in the dyads were indistinguishable, regression coefficients, variances, residuals variances,

covariances, and means were constrained to be equal across partners. To assess the goodness-of-fit of the models the following indices were used: Chi-square (χ^2), Root Mean Square Error Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and Tucker Lewis Index (TLI). A model has good fit when $\chi^2 > .05$, RMSEA $< .05$, SRMR $< .08$, CFI $> .95$, and TLI $> .95$.

Results

Descriptive and Correlation analyses

Correlations between main variables and control variables as well as their descriptive statistics can be found in Table 2. ANOVA revealed no significant mean differences between gender identity and IPV global perpetration, $F(2, 352) = 0.737, p = 0.479$; gender was therefore not included as a covariate in main statistical models. Significant correlations were found between all variables of interest, covariates (i.e., cohabitation, relationship length, and age) and IPV global perpetration, both within and across partners. These covariates have consistently been used in IPV research as they are shown to be significantly related to IPV (e.g., Johnson et al., 2015). Therefore, all analyses adjusted for cohabitation, length of the relationship, and age. Regarding significant actor correlations between attachment and negative emotions, both attachment anxiety and avoidance were positively correlated with negative emotions. Partner correlations revealed a positive association between attachment avoidance and negative emotions, but not between attachment anxiety and negative emotions.

Main Analyses

Attachment pairings and IPV perpetration

We first examined actor and partner effects between attachment dimensions, attachment pairings (i.e., interaction between partners' attachment dimensions), and IPV perpetration in three separate models (See Table 3).

The model investigating the associations between partners' attachment avoidance and their pairings respected the goodness of fit criteria: $\chi^2(21)=24.916, p=0.251, CFI=0.984, TLI=0.988, RMSEA=0.032 [0.000, 0.074], SRMR= 0.038$. Results indicated a significant interaction between partners' attachment avoidance. To decompose the significant interaction, we tested simple slopes of the association between one partner's attachment avoidance and IPV perpetration at high (+1) and low (-1 SD) levels of the other partner's attachment avoidance. As shown in Figure 1 (actor effect) and 2 (partner effect), attachment avoidance was positively associated with IPV perpetration only when the partner showed low levels of attachment avoidance. This model explained 15.8% of variance in IPV perpetration.

The model investigating the associations between partners' attachment anxiety, their pairings, and IPV respected the goodness-of-fit criteria: $\chi^2(21)=25.466, p=0.226, CFI=0.982, TLI=0.987, RMSEA=0.035 [0.000, 0.076], SRMR=0.039$. Main effects indicated significant actor and partner associations between attachment anxiety and IPV perpetration. No significant interaction between partners' attachment anxiety was found. This model explained 14.9% of variance in IPV perpetration.

The model examining the links between partners' attachment avoidance and anxiety, their pairings, and IPV respected the goodness-of-fit criteria: $\chi^2(41)=50.644, p=0.121, CFI=0.958, TLI=0.978, RMSEA=0.039 [0.000, 0.068], SRMR=0.047$. Main effects indicated significant actor and partner effects of both attachment anxiety and avoidance on IPV perpetration. No significant interaction emerged between partners' attachment anxiety and avoidance. This model explained 18.5% of variance in IPV perpetration.

Indirect effects through negative emotions

We examined indirect effects from partners' attachment dimensions to IPV perpetration through negative emotions during the conflict discussion. Results are presented in Figure 3 and indirect path estimates are shown in Table 4.

Results for the model examining attachment avoidance suggested that the interaction between partners' avoidance was no longer significant after the inclusion of negative emotions. The interaction term was therefore removed from the final model. Moreover, as no other interaction between partners' attachment dimensions was significant based on the APIMoM analyses, we examined the indirect associations from partners' attachment anxiety and avoidance to IPV perpetration through negative emotions in one comprehensive model.

This final model (See Figure 3) respected goodness-of-fit criteria: $\chi^2(39)=42.529, p=0.322, RMSEA=0.023 [0.000, 0.058], CFI=0.989, TLI=0.989, SRMR=0.044$. Regarding attachment avoidance, actor effects revealed positive associations between one's own attachment avoidance and negative emotions. The association between one's own attachment avoidance and IPV was no longer significant after the inclusion of negative emotions. Partner effects suggested that one's attachment avoidance was positively associated with their partner's negative emotions and IPV. As shown in Table 3, two significant indirect effects were found. First, one's own attachment avoidance was associated with one's IPV perpetration through one's own negative emotions. Second, one's attachment avoidance was associated with their partner's IPV perpetration through their partner's negative emotions.

Concerning attachment anxiety, actor effects revealed a positive association between one's own attachment anxiety and negative emotions. The association between one's own attachment anxiety and IPV was no longer significant after the inclusion of negative emotions. For partner effects, results revealed no association between one's own attachment anxiety and their partners'

negative emotions. The association between one's own attachment anxiety and their partners' IPV was no longer significant after the inclusion of negative emotions. As shown in Table 3, indirect effect results revealed that one's own attachment anxiety was associated with their own IPV perpetration through their own negative emotions during the conflict discussion. No other significant indirect effect was found. Regarding covariates, relationship length ($\beta=0.210, p=0.003$) and the partner's age were associated with IPV ($\beta=-0.196, p=0.000$), while cohabitation and own age were not. The model explained 22.2% of the variance in IPV perpetration.

Discussion

Past studies have shown that the link between romantic partners' attachment and IPV is complex and have emphasized the importance of examining potential factors that explain this relationship to improve prevention and treatment interventions (Velotti et al., 2018). The current study adds to the literature on IPV risk factors in young adult couples by adopting a dyadic observational approach to (1) examine how attachment pairings relate to IPV perpetration (2) while also considering the contribution of negative emotions during conflicts. Although several of our findings are in line with attachment theory, as well as past empirical research on attachment, negative emotions and IPV, several hypotheses in this study received partial support.

With respect to the first objective, results showed, in contrast with our initial hypothesis, that attachment avoidance was positively associated with IPV perpetration when the partner showed low levels of attachment avoidance, while other attachment dimensions did not interact (i.e., anxiety X anxiety; avoidance X anxiety). However, in line with previous research, we found that partners' individual levels of attachment anxiety and avoidance were uniquely linked to both partners' IPV perpetration. Concerning the second objective, results partially supported our hypotheses, indicating that a person's attachment avoidance and anxiety were both positively associated with their own IPV perpetration through their own negative emotions during the conflict

discussion. Additionally, we found that a person's attachment avoidance was positively linked to their partner's IPV perpetration directly and through their partner's negative emotions.

Attachment Pairings and IPV perpetration

In contrast to our hypothesis that the pairing of two partners' high on attachment avoidance would predict less IPV perpetration, results indicated that attachment avoidance in one partner was positively associated with IPV perpetration when the other partner showed low levels of attachment avoidance. Attachment avoidance was unrelated to IPV perpetration when the other partner showed high levels of attachment avoidance. These results help clarify the mixed findings found in the literature regarding attachment avoidance (e.g., Velotti et al., 2018), whereby the association between one partner's attachment avoidance and IPV seem to depend on the other partner's scores on attachment dimensions. Perhaps individuals with higher levels on the avoidance dimension may adopt communication patterns that exacerbate conflict and may resort to IPV when they are unable to avoid conflict (e.g., when a partner low on attachment avoidance insists on discussing the issue or when the conflict is recurring). It may become notably challenging for individuals to communicate with a partner high on attachment avoidance, as conflict resolution may be impeded, and their attachment needs may not be fulfilled.

Our hypothesis that the pairing of two partners high on attachment anxiety would be positively associated with IPV perpetration was not supported. Results rather suggested that each partner's attachment anxiety had a unique effect in predicting IPV. In line with previous dyadic studies examining the link between attachment anxiety and IPV (e.g., Babcock et al., 2000; Péroquin et al., 2011; Sommer et al., 2017), results reveal significant actor and partner effects. This suggests that individuals' own attachment anxiety is positively linked to both their own and their partners' IPV perpetration. This is consistent with theoretical models of couple conflict proposing that individuals with high attachment anxiety may perceive conflict as a threat to the

relationship and resort to IPV to restore proximity to their partner (e.g., Bowlby, 1973). Both partners may contribute to conflict escalation by overly focusing on their own needs for reassurance, leading to attempts to control each other (Pietromonaco et al., 2004).

Similarly, our hypothesis that the pairing of one partner high on attachment avoidance and the other high on anxiety would be positively related to IPV perpetration was not supported. However, our results were consistent with previous studies examining the unique link between attachment dimensions and IPV (e.g., Stefania et al., 2021), revealing significant actor and partner effects. This implies that individuals' own attachment avoidance is associated with both their own and their partners' IPV perpetration. This is consistent with theoretical models of couple conflict that propose individuals with high attachment avoidance may engage in IPV to maintain distance from their partner (Mayseless, 1991; Mikulincer & Shaver, 2016). In addition, these findings highlight the importance of considering the contribution of both partners IPV perpetration in understanding the association between attachment and IPV.

It is possible that the lack of associations between the avoidance-anxiety and anxiety-anxiety pairings and IPV perpetration within our community sample could be attributed to the relatively limited variability in attachment dimension scores present in our dataset. Unlike clinical samples in which higher degrees of anxiety and avoidance may be observed in some partners, our community sample may not provide the level of variability necessary to detect these more 'extreme' types of attachment pairings (e.g., Allison et al., 2008). Possibly couples in our samples did not exhibit heightened attachment fears and needs to the extent that would exacerbate conflict when considering their joint contribution to IPV perpetration. Another potential explanation for the lack of significant associations between certain attachment pairings and IPV perpetration lies in the composition of the sample, consisting of young adult couples. Previous studies that identified

associations between attachment and IPV primarily involved older and more established couples (e.g., Pélouquin et al., 2011; Allison et al., 2008). It is possible that attachment dynamics in young couples are evolving, less crystallized, or perhaps less apparent in dysfunctional relational patterns. Young couples may have distinct coping strategies in conflict resolution compared to more established couples. The manifestation of behaviors linked to underlying attachment needs may become more overt with age or as the duration of the relationship increases, stemming from the frustrations associated with these needs over time.

Furthermore, our findings deviate from Pollard & Cantos (2021) findings that men's attachment avoidance was associated with their own self-reported IPV perpetration when their female partner exhibited high attachment anxiety. Two methodological differences might explain the divergence between these findings and the results of the current study. First, it is possible that the pairing of a partner high in attachment avoidance with a partner high in attachment anxiety was unrelated to IPV perpetration in our study because we did not consider gender differences. Second, we measured IPV by selecting the maximum reported violence from both partners reports, on all three forms of IPV. In contrast, Pollard & Cantos (2021) exclusively focused on physical IPV perpetration, categorizing participants' continuous self- and partner-reports into a dichotomous format. Given the current results and those of previous research, it appears relevant to further investigate attachment pairings, while considering sample types (community vs. clinical), gender differences, and IPV measurement. This approach may offer valuable insights into further understanding the dynamics of attachment and their implications for IPV perpetration.

The contribution of negative emotions

Our findings suggest meaningful associations between negative emotions and attachment, on one hand, and IPV perpetration, on the other hand. Regarding links between attachment and

negative emotions, actor effects revealed positive associations between one's own attachment avoidance and negative emotions. We also found partner effects suggesting positive links between one's attachment avoidance and their partner's negative emotions. This contrasts with findings from previous studies suggesting that one's own attachment avoidance is unrelated to their own or their partner's negative emotions (e.g., Creasey & Hesson-McInnis, 2001; Simpson et al., 1996), while it aligns with Beck et al.'s (2013) findings that wives with high attachment avoidance reported feeling more distress during conflict discussion since they could not use typical distancing strategies to avoid conflict. These divergent findings may be attributed to methodological differences, whereby most previous studies have measured negative emotions retrospectively, while Beck et al. (2013) and the current study measured negative emotions immediately after conflict. In fact, our findings may provide valuable insights into the context in which individuals with attachment avoidance use deactivating strategies. Specifically, it is possible that previous studies have not found significant links between attachment avoidance and negative emotions during conflict because they did not measure emotions immediately after the conflict (e.g., Sheinbaum et al., 2015; Creasey & Hesson-McInnis, 2001). One exception is Simpson et al. (1996) who found that attachment avoidance was not linked with negative emotions immediately after a conflict. This study, however, captured a narrower range of negative emotions (i.e., anger, hostility, disgust, and resentment) compared to our study. Furthermore, findings from studies using retrospective reports may reflect stabilized emotional experiences of those with attachment avoidance. Such individuals might recall emotions through deactivating strategies, consistent with their emotional avoidance approach (Mikulincer & Shaver, 2016). In line with this idea, Pietromonaco and Feldman Barrett (1997) found that dismissing-avoidant individuals reported lower emotionality retrospectively, potentially due to memory biases, but greater negative

emotions immediately after conflict. Thus, our results support the notion that measuring negative emotions immediately after conflict and using a dyadic approach provides a more precise view of negative emotional experiences in those with high attachment avoidance.

Regarding attachment anxiety, we found positive actor effects between one's own attachment anxiety and negative emotions, which is consistent with previous studies (e.g., Sheinbaum et al., 2015; Creasey & Hesson-McInnis, 2001; Simpson et al., 1996). In contrast, no significant partner effect was observed between attachment anxiety and negative emotions, indicating that one's attachment anxiety was not associated with their partner's negative emotions. This may suggest that the link between attachment anxiety and negative emotions is more intra-individual in nature. Perhaps these results may be attributed to the nature of hyperactivating strategies commonly adopted by individuals with attachment anxiety, which often involve seeking excessive closeness, reassurance, and validation from their partners (Mikulincer & Shaver, 2016). While these behaviors may associate to the individual's own experience of negative emotions, they may not necessarily trigger similarly strong negative emotions in their partners.

Contrary to our hypothesis, attachment avoidance pairings were unrelated to negative emotions, and no longer related to IPV after considering the contribution of negative emotions. It is possible that negative emotions may play an important role in IPV perpetration, above and beyond the association of this attachment pairing. Indeed, negative emotions during a conflict discussion may constitute a more proximal IPV risk factor than attachment pairings. Our findings thus suggest that negative emotions play a crucial role in the overall framework of understanding and preventing IPV.

Additionally, although we observed the expected positive association between one's negative emotions and IPV perpetration, findings indicated no significant link between one's

negative emotions and their partner's IPV perpetration. This observation may suggest that negative emotions may only associate to one's own IPV, whereas their association to their partner's IPV perpetration may be limited. Perhaps this is due to the individualistic nature of measuring subjective negative emotions and its link with IPV perpetration. Negative emotions may trigger certain behavioral responses in an individual, leading them to engage in IPV to cope or to express their emotions. However, these emotions may not necessarily have the same effect on their partner. This approach delves into the covert realm of intra-individual emotional responses. Assessing more overt aspects of emotional expression or emotional regulation might reveal different associations with partners' perpetration of IPV (e.g., Malik et al., 2020). In such a scenario, we may have observed a clearer connection between an individual's negative emotions and their partner's IPV perpetration, shedding light on the more overt dynamics of the emotional interplay within the context of IPV.

Regarding the role of negative emotions in the links between attachment and IPV, our findings first suggest that an individual's attachment avoidance was positively and indirectly associated with their own IPV perpetration through their own negative emotions during the conflict discussion. This finding departs from previous research that suggests that individuals high on attachment avoidance tend to use deactivating strategies by suppressing their emotions during conflict (e.g., reviews Pietromonaco et al., 2004). It is possible that during conflicts, individuals with high attachment avoidance actually experience heightened negative emotions, and if unable to retreat from conflict, these negative emotions could associate to one's own IPV perpetration to restore distance, aligning with theoretical models of attachment avoidance that suggest a desire for independence and emotional discomfort with conflict (Maysless, 1991). Moreover, a person's attachment avoidance was also positively associated with their partner's IPV perpetration through

their partner's negative emotions. This is consistent with research showing that individuals high on attachment avoidance tend to keep their partners at distance (Sommer et al., 2017), which may lead their partners to experience more negative emotions in the relationship (Beck et al., 2013). In turn, negative emotions experienced by partners may escalate conflict and lead to partners' IPV perpetration to cope with this distress and to achieve their respective attachment needs.

Our hypothesis that attachment anxiety would be associated with IPV perpetration through the indirect pathway of negative emotions was partially supported. Specifically, one's own attachment anxiety was positively associated with their own IPV perpetration through their own negative emotions during the conflict discussion. One possible explanation for these results is that individuals high in attachment anxiety may perceive conflict as a threat to the relationship (Mikulincer & Shaver, 2016), leading them to feel heightened negative emotions. These negative emotions may then escalate the conflict and result in their IPV perpetration to cope with this distress and to restore proximity in the relationship (Pietromonaco et al., 2004). This is in support of studies that have empirically shown that attachment anxiety is linked to the experience of greater negative emotions during conflict and that predicts their IPV perpetration (e.g., Creasey & Hesson-McInnis; Simpson et al., 1996). Interestingly, the link between one's own attachment anxiety and IPV was no longer significant once negative emotions were considered. This may be explained by the fact that attachment anxiety is a more distal variable, further supporting the idea that negative emotions act as a salient proximal risk factor for IPV.

Contrary to our hypothesis, we did not find an indirect link from one's attachment anxiety to their partners' IPV perpetration through either partner's negative emotions. As previously mentioned, negative emotions, especially the more covert nature of subjective experience of negative emotions, may represent an intra-individual component of attachment anxiety and IPV.

An individual's attachment anxiety may not significantly associate to their partner's subjective experience of negative emotions. Furthermore, negative emotions may only play a role in an individual's own IPV perpetration, with limited impact on their partner's IPV perpetration.

Concerning attachment avoidance, the significant direct association between one's attachment avoidance and their partner's IPV perpetration suggests that this link may be robust, and that other potential explanatory mechanisms may contribute to this associations. One potential mechanism of this link could be the behavioral expression of negative emotions. More specifically, the expression of negative emotions in individuals with high avoidance might translate in behaviors such as distancing, withdrawing, ignoring the partner, appearing indifferent or cold, expressing contempt, etc. These behaviors could contribute to conflict escalation and IPV as individuals may find it challenging when their partners are perceived as unavailable for communication and meeting their needs. Thus, further research may be necessary to elucidate the current findings by implementing more overt measures of negative emotions, which could provide deeper understanding of interpersonal dynamics.

Study and limitations

The current study extends previous research by adopting a dyadic observational design to examine IPV risk factors among an inclusive sample of young adult couples. This design enabled the measurement of negative emotions within the context of conflict, minimizing potential recall bias associated with self-report measures, and the examination of both actor and partner effects of attachment and emotions on IPV perpetration. We nevertheless acknowledge several limitations of this study. First, the findings are correlational in nature due to the cross-sectional design and do not allow for causal interpretation. Future studies should consider employing a longitudinal design to examine the mediating effects of negative emotions in the association between attachment and

perpetration of IPV. Second, the sample size was limited, which affects statistical power and might explain the absence of significant results pertaining to attachment pairings in this study. Third, self-reported questionnaires of IPV may introduce recall and desirability biases (Bell & Bell, 2018). Fourth, and while a strength of the study is the measurement of negative emotions immediately after conflicts, future studies should consider other processes related to negative emotions as an explanatory mechanism in the association between attachment and IPV, such as emotion regulation and mentalization, and implement objective measures of negative emotion expression (i.e., SPAFF; Coan & Gottman, 2007). Fifth, concerning gender diversity, although the sample in this study was inclusive, limited sample size did not allow for specific comparisons of our findings across gender identity. Sixth, this sample comprised young adult couples, as such, results may not be fully generalizable to established adults or couples who have been in a relationship for a longer period. Finally, regarding IPV perpetration, we did not compare different types of violence as we combined each type into one global score. We chose to utilize this approach for statistical power considerations and because it provides a comprehensive perspective on the overall level of IPV. Future studies may consider examining the different types of IPV separately to investigate whether they relate differently to attachment pairings and negative emotions.

Conclusion

The findings of this study underscore the significance of examining attachment and negative emotions in understanding IPV perpetration risk factors. The current research contributes to and expands upon attachment theory by identifying the circumstances in which both partners' attachment dimensions and their experiences of negative emotions jointly associate to IPV perpetration. Targeting attachment dimensions and negative emotions is important because they may inform interventions and prevention efforts aimed at addressing these factors in young adult

couples. These findings also support the application of intervention approaches focusing on attachment and emotions such as Emotions-Focused Therapy (EFT; Greenberg & Johnson, 1988; Johnson, 2004) in individuals and couples presenting IPV perpetration. Although EFT is not recommended for couples presenting chronic and severe IPV (Péloquin et al., 2011), this research emphasizes directing attention to couples presenting milder forms of mutual IPV and exhibiting high levels of attachment avoidance and anxiety. Our findings that one partner's attachment insecurity relates to the other partner IPV perpetration also highlights the importance of implementing a dyadic perspective in research and the relevance of couples therapy to address violent dynamics.

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Tables

Table 1. Sociodemographic Information of the Participants ($n=356$)

	<i>n</i>	%
Gender identity		
Women	189	53.1
Men	152	42.7
Non-binary, queer, or gender fluid	12	3.4
Two-spirit	1	0.3
Agender	1	0.3
Preferred not to answer	1	0.3
Couple combinations ($n=178$)		
Women-men	143	80.3
Women-women	20	11.2
Men-men	3	1.7
Other	12	6.7
Sexual orientation		
Heterosexual	240	67.4
Gay or lesbian	30	8.4
Bisexual	29	8.1
Pansexual	23	6.5
Heteroflexible	14	3.9
Queer	8	2.2
Other (e.g., gray sexual, demisexual, etc.).	8	2.2
Questioning their sexuality	4	1.1
Relationship status		
Cohabiting	172	48.3
Non-cohabiting	168	47.2
Married	16	4.5
Relationship exclusivity ($n=314$)		
Exclusivity agreement	276	87.9
Non-exclusive agreement for either one or both partners	38	12.1
Cultural identity		
White	287	80.6
East Asian	12	3.4
Latin American	10	2.8
Arab	8	2.2
Others cultural identities (i.e., Black, Caribbean, South-East Asian, West Asian, etc.)	13	3.7
Identifying with more than one cultural identity	26	7.3
Annual income		
Under \$15,000	155	43.5
Between \$15 000 and \$45,000	136	38.2
Over \$45,000	65	18.3
Education		

University degree	188	52.8
College degree	124	34.8
High school	23	6.5
Vocational training	17	4.8
Uncompleted high school	4	1.1
Principal occupation		
Students	228	64
Working full-time or part-time	108	30.3
Other (e.g., maternity leave, unemployment, etc.)	20	5.6
Children		
With children	3	1.7
Without children	353	98.3

Notes. n =number of responds in the sample; %= percentage in the sample.

Table 2. Descriptive Statistics and Correlations for all Study Variables

	1	2	3	4	5	6	7
1. IPV	0.852***	0.163**	0.161**	0.212**	0.147**	0.172**	-0.134*
2.Attachment anxiety	0.206***	0.159**	0.162**	0.052	-0.041	-0.084	-0.077
3.Attachment avoidance	0.131*	0.053	0.179***	0.223***	-0.074	-0.008	0.033
4.Negative emotions	0.280***	0.307***	0.161**	0.361***	0.072	0.032	0.144**
5.Cohabitation	0.147**	-0.041	-0.074	0.072	1	0.438***	0.293***
6.Relationship length	0.172***	-0.084	-0.008	0.032	0.438***	1	0.323**
7. Age	-0.118*	-0.109*	0.031	0.056	0.293***	0.345***	0.695***
<i>M</i>	0.280	3.79	1.85	0.611	0.528	34.348	23.435
<i>SD</i>	0.304	1.48	0.899	0.649	0.499	27.311	2.845

Note. IPV= Intimate partner violence; *M* = mean; *SD* = standard deviation. Relationship length is in months. Below the diagonal are actor (within-partner) correlations; above the diagonal are partner (between-partner) correlations; along the diagonal are cross-partner correlations for each variable.

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 3. Actor-Partner Interdependence Moderation Models for Attachment Dimensions and IPV Perpetration

Predictors	Main effect of attachment on IPV			Interaction between partners' attachment and IPV		
	β	<i>SE</i>	<i>p</i>	β	<i>SE</i>	<i>p</i>
Attachment avoidance						
Avoidance A	0.120	0.046	0.008	0.146	0.047	0.002
Avoidance P	0.166	0.046	0.000	0.192	0.048	0.000
Avoidance A*Avoidance P	-	-	-	-0.148	0.058	0.011
Cohabitation	0.324	0.180	0.072	0.346	0.178	0.053
Relationship length	0.197	0.078	0.011	0.219	0.076	0.004
Age A	-0.117	0.057	0.040	-0.118	0.057	0.041
Age P	-0.179	0.049	0.000	-0.179	0.048	0.000
Attachment anxiety						
Anxiety A	0.187	0.054	0.001	0.187	0.055	0.001
Anxiety P	0.147	0.051	0.004	0.147	0.052	0.004
Anxiety A*Anxiety P	-	-	-	0.006	0.067	0.930
Cohabitation	0.262	0.178	0.140	0.262	0.177	0.137
Relationship length	0.218	0.079	0.006	0.217	0.079	0.006
Age A	-0.090	0.059	0.127	-0.090	0.058	0.125
Age P	-0.156	0.048	0.001	-0.156	0.047	0.001
Attachment anxiety and avoidance						
Anxiety A	0.161	0.053	0.002	0.153	0.053	0.003
Anxiety P	0.126	0.051	0.013	0.122	0.052	0.019
Avoidance A	0.096	0.046	0.036	0.089	0.045	0.047
Avoidance P	0.137	0.045	0.002	0.130	0.044	0.003
Anxiety A*Avoidance P	-	-	-	0.062	0.044	0.156
Anxiety P*Avoidance A	-	-	-	0.044	0.041	0.282
Cohabitation	0.310	0.179	0.084	0.284	0.174	0.103
Relationship length	0.213	0.077	0.005	0.213	0.077	0.006
Age A	-0.101	0.057	0.080	-0.099	0.058	0.084
Age P	-0.166	0.047	0.000	-0.164	0.047	0.000

Notes. A= Actor; P= Partner; Results in bold are significant at $p < .05$.

Table 4. Indirect Effects of Attachment on IPV Perpetration through Negative Emotions

Variables	Indirect effects	
	<i>b</i>	95% CI
Attachment avoidance A → Negative emotions A → IPV A	0.023	0.002, 0.054
Attachment avoidance A → Negative emotions P → IPV A	0.013	-0.003, 0.034
Attachment avoidance A → Negative emotions P → IPV P	0.029	0.007, 0.058
Attachment avoidance A → Negative emotions A → IPV P	0.010	-0.002, 0.031
Attachment anxiety A → Negative emotions A → IPV A	0.056	0.018, 0.104
Attachment anxiety A → Negative emotions P → IPV A	0.000	-0.010, 0.012
Attachment anxiety A → Negative emotions P → IPV P	0.000	-0.019, 0.019
Attachment anxiety A → Negative emotions A → IPV P	0.025	-0.006, 0.060

Note. A = Actor; P = Partner; 95% CI = bias-corrected bootstrapped confidence intervals. Indirect effects are significant (in bold) if 0 is not in the 95% CI. Indirect effects from partner attachment were not included in the table to avoid redundancy.

Figures

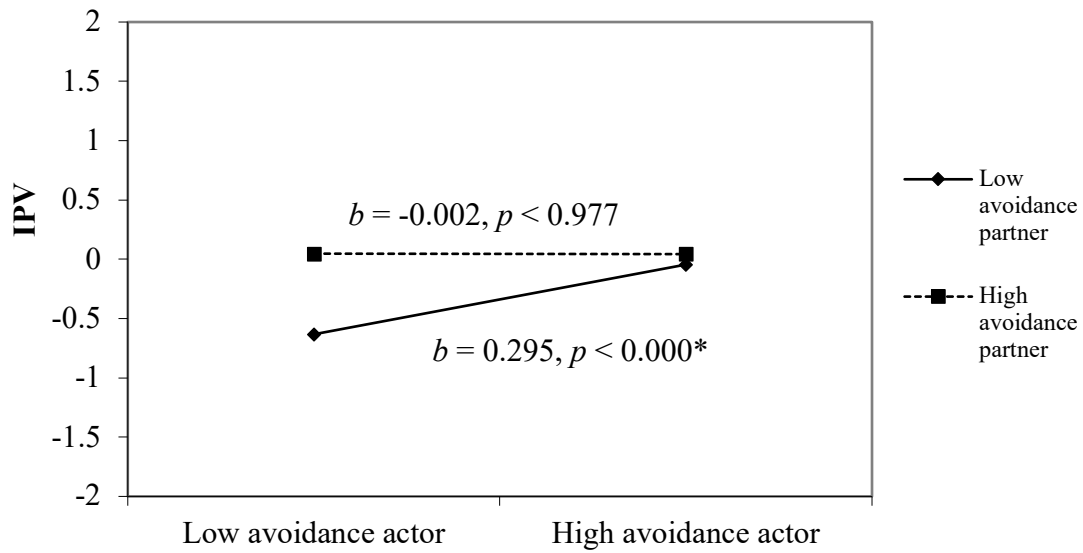


Figure 1. Moderating Effect of Partner Attachment Avoidance in the Association between Actor Attachment Avoidance and Actor IPV Perpetration.

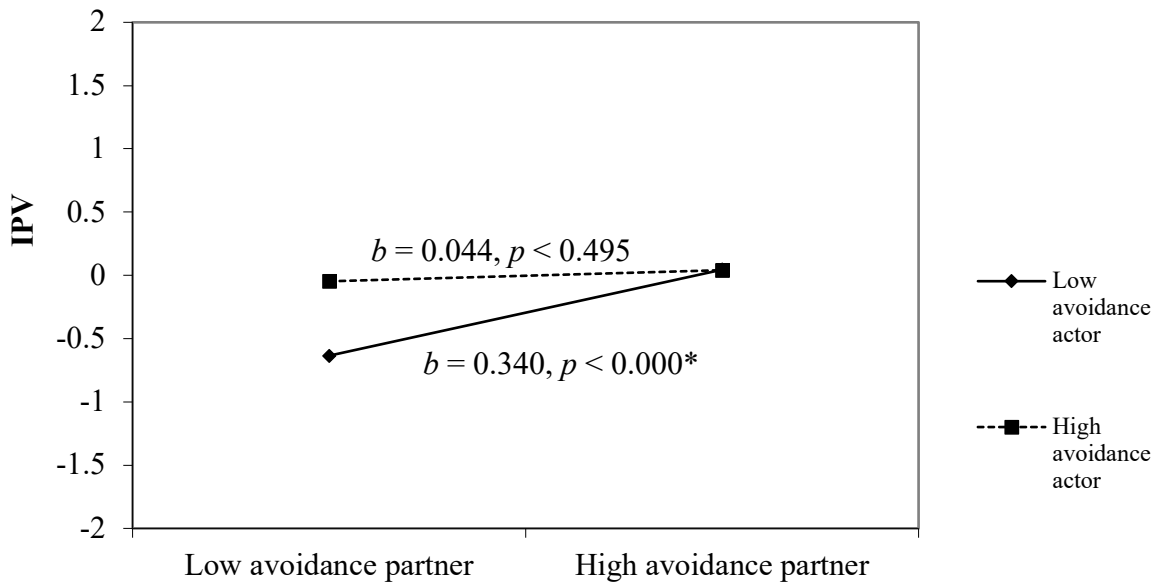


Figure 2. Moderating Effect of Actor Attachment Avoidance in the Association between Partner Attachment Avoidance and Actor IPV Perpetration.

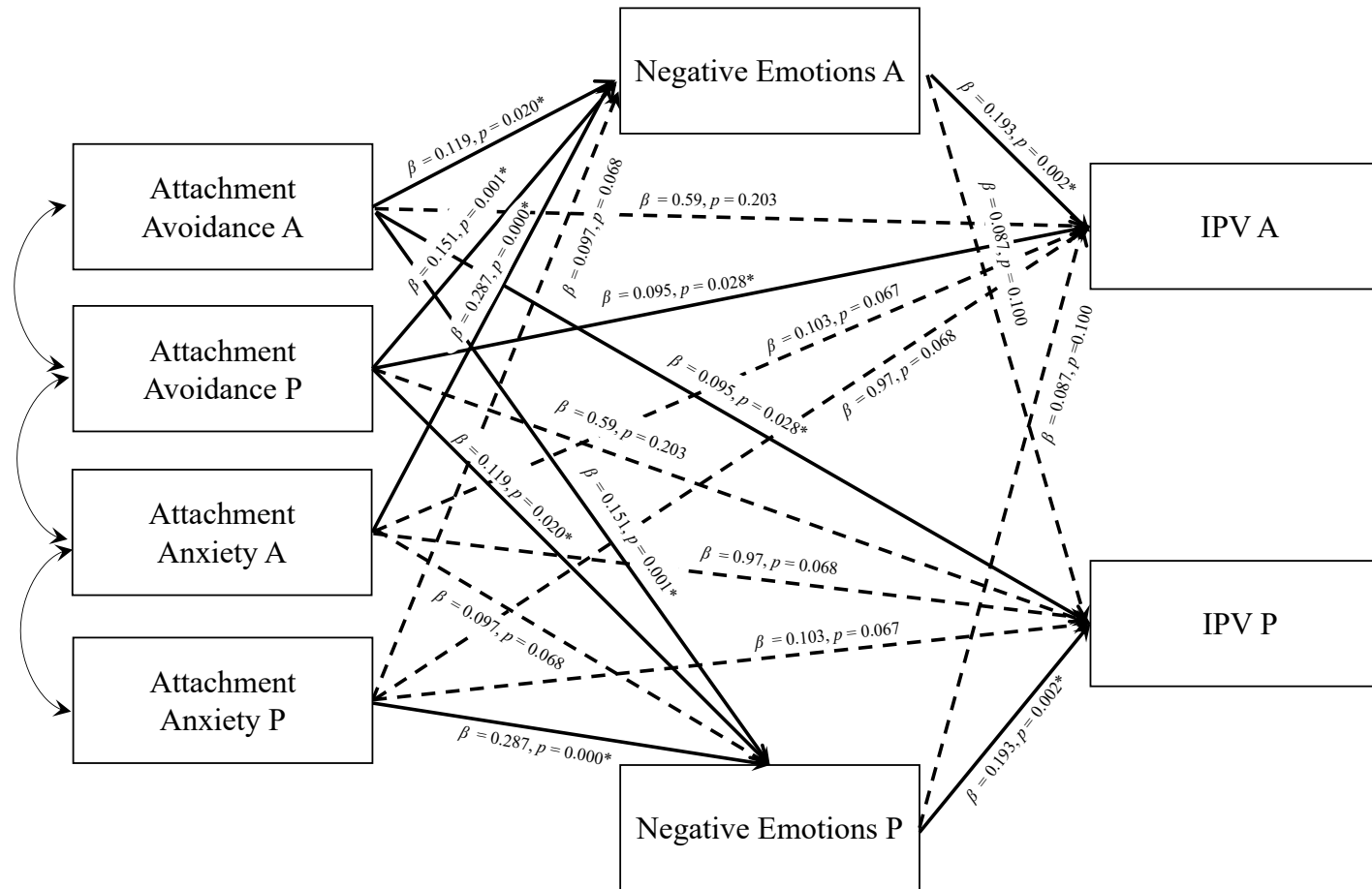


Figure 3. Associations Between Attachment Avoidance, Attachment Anxiety, Negative Emotions, and IPV Perpetration. Notes. A= Actor; P= Partner; β represents standardized coefficient. To simplify the figure, covariate paths and covariances were omitted.