

# I Ruminates Therefore I Violate: The Tainted Love of Anxiously Attached and Jealous Partners

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## Abstract

Anxiously attached individuals worry about the psychological availability of their partners. Their preoccupation with unmet attachment related needs is likely accompanied by ruminative thoughts, feelings of jealousy, and dating abuse perpetration. The purpose of the current study was to investigate the prevalence of gender differences in perpetrating psychological and cyber dating abuse and to explore a hypothesized serial path from anxious attachment, through rumination, and cognitive jealousy to psychological and cyber dating abuse perpetration. The sample consisted of 562 (404 women) Turkish emerging adults. The majority of the sample perpetrated at least one psychological (88.9%) and cyber (68.4%) abusive behavior over the last six months, with women perpetrating more psychological and cyber abuse. We tested a serial mediational model for each type of dating abuse, which indicated that anxious attachment was related to more rumination (brooding), cognitive jealousy, and in turn, to psychological and cyber dating

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abuse perpetration. We discuss the implications of our study for research, theory, and practice.

### Keywords

anxious attachment, rumination, jealousy, cyber dating abuse perpetration, psychological dating abuse perpetration, emerging adults

*L'enfer, c'est les autres* (Hell is other people)

—Jean-Paul Sartre, 1944, p. 93

Humans have an enormous capacity to love, as well as hurt others. Unfortunately, some of us resort to abuse as a way to communicate our feelings and thoughts toward a significant other, with research documenting high rates of intimate partner abuse, especially among dating couples in college (e.g., Johnson et al., 2014; Toplu-Demirtaş et al., 2020; Zapor et al., 2017). Psychological abuse has been associated with several adverse effects above and beyond the effects of other types of dating abuse (e.g., Arriaga & Schkeryantz, 2015); it predicts the onset of physical partner abuse perpetration (Schumacher & Leonard, 2005) and is more prevalent than physical partner abuse (e.g., Cornelius et al., 2010). In its various forms, psychological abuse (see Reed et al., 2016; Zapor et al., 2017) is a significant health issue among emerging adults in college. Although the negative impacts of intimate partner abuse are well documented (e.g., White & Satyen, 2015), little is known about why a partner perpetrates dating abuse (Elmquist et al., 2016), an issue addressed in the present study.

Cyber dating abuse, a relatively new type of abuse perpetrated via the use of communication technology, is especially common among younger persons who have grown up with digital technology. Some authors argue that rather than being a new and unique type of dating abuse, it is a form of psychological abuse perpetrated through digital media (e.g., social media, e-mail) rather than in-person or on the phone (e.g., Leisring & Giumetti, 2014). In a recent survey (Pew Research Center, 2018), emerging adults from the United States (18 to 25 years; Arnett, 2004) were reported to be the most frequent users of YouTube (91%), Facebook (81%), Snapchat (68%), and Instagram (64%), documenting the potential of these social media to serve as a vehicle for dating abuse (see Lancaster et al., 2019). In Turkey, people spend an average of 2 hours 46 minutes daily online on social media and 57% of 52 million social media users were between 18 and 34 years old (We Are Social, 2019). Apart from social networking sites, text messages and e-mails are also available platforms for partners to exert cyber dating abuse. Given this context, cyber dating abuse warrants investigation among emerging adults; however, the

existing literature is still limited in understanding the prevalence and predictors of cyber dating abuse perpetration (CDVP) and victimization. To our knowledge, only one study has investigated cyber abuse among Turkish college students ( $N = 303$ ) and found that 67% perpetrated at least one cyber dating abuse act over the last six months (Toplu-Demirtaş et al., 2020). In light of the need for further investigation of dating abuse perpetration, the present study explores the prevalence of cyber and psychological dating abuse perpetration (PDVP) among male and female Turkish college students. Informed by attachment theory, it also explores potential mechanisms that give rise to these two forms of abuse.

## **Psychological and Cyber Dating Abuse and Gender Differences**

Psychological abuse in dating relationships has been studied extensively. O’Leary (1999) conceptualized psychological abuse as “encompassing an array of controlling and coercive behaviors like recurring criticism, denigration, verbal aggression, isolation, threats, and domination” (p. 4). In 17 of the 70 published studies reviewed by Dokkedahl and Elklit (2019), psychological abuse was found to be more destructive than physical abuse in intimate relationships. With the increased use of smartphones and social networking websites/apps, and the availability of the Internet, cyber dating abuse has received increased attention. Cyber dating abuse has been conceptualized as the use of communication technologies (e.g., social media, e-mail, text messaging, WhatsApp) to threaten, harass, or control one’s partner (Morelli et al., 2018). Although such communication channels open up new venues for young adults to be in touch with their partners, they also provide alternative means of perpetrating dating abuse. Indeed, the absence of physical presence might facilitate the perpetrators’ attempts to control, denigrate, and smear the reputation of his/her partner (Melander, 2010).

Contrary to the popular belief that males are perpetrators and females are victims of dating abuse, research shows approximate gender symmetry with regards to psychological (e.g., Toplu-Demirtaş et al., 2020; Gormley & Lopez, 2010; Straus, 2004; Straus & Gozjolko, 2014; Toplu-Demirtaş & Fincham, 2020; Whitaker et al., 2007), physical (e.g., Novak & Furman, 2016; Toplu-Demirtaş et al., 2020), and cyber dating abuse (e.g., Toplu-Demirtaş et al., 2020). Despite similar findings in Turkish samples, the Turkish media continues to communicate the aforementioned gendered view of intimate partner abuse, particularly physical abuse, probably because it is potentially life threatening. However, it is the case that both women and men are at risk of dating abuse perpetration and victimization. Bidirectional violence is claimed to be

the most common pattern of intimate partner abuse (Langhinrichsen-Rohling et al., 2012). Indeed, Johnson (2006) differentiated between “common couple violence” and “intimate terrorism.” The former refers to mutual aggression that rarely results in severe injuries, whereas the latter is the asymmetrical use of violence to control the partner (mostly women) who is more likely to sustain serious injuries. For example, of the 932 women murdered in Turkey between 2016 and 2018, 96.2% were murdered by men (Taştan & Küçüker-Yıldız, 2019). Moreover, considering that psychological abuse has moved into digital platforms in dating relationships, the differences between college men and women have blurred and are worth further investigation. Hence, we invite scholars to rethink the claim that intimate partner violence should be analyzed as a gendered phenomenon, as asserted by Larsen and Hamberger (2015).

## **Attachment Theory**

Attachment theory is a useful theoretical framework for understanding the dynamics of dating abuse perpetration (Karakurt, 2001; Lafontaine et al., 2016), including physical (e.g., Ermon-Tuessey & Tyler, 2019), psychological (Gormley & Lopez, 2010; Toplu-Demirtaş et al., 2018), and cyber dating abuse (e.g., Toplu-Demirtaş et al., 2020; Lancaster et al., 2019).

Attachment theory assumes a strong association between attachment insecurity early in life and emotion regulation problems later on, particularly in the context of intimate relationships (Bowlby, 1969; Hazan & Shaver, 1987). Anxiously attached individuals are preoccupied with the availability of the attachment figure and their own value to him or her (Shaver & Hazan, 1993). In the case of perceived cues of abandonment and lack of appreciation, anxiously attached partners show hyperactive or heightened emotion regulation strategies like rumination or excessive complaining (Shaver & Mikulincer, 2002). They are also unable to handle their negative emotions and expect significant others to contain their distress (Shaver & Mikulincer, 2002). If such an expectation is not consistently satisfied by the intimate partner, they may then experience difficulty in regulating their anger, which can give rise to aggressive behaviors (Brenning & Braet, 2013).

A recent comprehensive review (Raison & Dutton, 2019: 20 articles,  $n = 16,463$ ) revealed that regardless of gender, the second most frequently endorsed reason for the perpetration of intimate partner abuse was gaining attention (53% by women, 55% by men), especially in college samples. Therefore, it is theoretically reasonable to argue that when an anxiously attached partner perceives a lack of intimacy, s/he is more likely to experience difficulty coping with negative feelings arising from their unmet attachment needs. This chain of cognition and emotion may be expressed in problematic behavior. Of the

various forms of abuse, perpetration of psychological dating abuse occupies a unique place in regard to attachment anxiety. Cascardi et al. (2017) demonstrated that attachment insecurity correlated with the perpetration of psychological abuse but not physical abuse in a sample of university students. Anxiously attached individuals are hypervigilant to any real or imagined signs of rejection and/or distance by their intimate partners (Mikulincer & Shaver, 2007). This oversensitivity can give rise to the use of abuse in the hope of restoring proximity to the intimate partner (Bartholomew & Allison, 2006; Dutton, 2011).

### **Mediators: Rumination and Jealousy**

Attachment anxiety leads to dysregulation of negative emotions, such as jealousy (Brenning & Baret, 2013). Jealousy, as a multidimensional phenomenon, includes a cognitive component which refers to the individual's worries and doubts about a potential rival and cognitive appraisal of real or imaginary threat about his/her partner's infidelity (Pfeiffer & Wong, 1989). In other words, cognitive jealousy denotes suspicion and distrust about the partner's loyalty and poses many challenges to partners in romantic relationships. For instance, in their recent review of 70 studies, Dokkedahl and Elklit (2019) identified jealousy as a salient factor that can give rise to intimate partner abuse. Jealousy also emerged as a powerful justification for actions taken to exert violent control tactics towards one's intimate partner (Pence & Paymar, 1993). Given that jealousy is a common motivation for dating abuse in college samples (e.g., Elmquist et al., 2016), it constituted one of the main causes of psychological aggression (Davis et al., 2000) and has recently been found to be positively associated with cyber dating violence perpetration (Toplu-Demirtaş et al., 2020). It would be valuable to determine how cognitive jealousy might serve as a potential mechanism accounting for the link between anxious attachment and psychological and cyber dating abuse. In this regard, rumination becomes salient as a possible predictor of jealousy and another potential mechanism along with jealousy in understanding the association between anxious attachment and perpetration of dating abuse. Rumination is self-focused attention that people use to cope with their distress and ruminative thinking indicates repetitive and passive thinking about negative feelings (Lyubomirsky & Nolen-Hoeksema, 1993; Nolen-Hoeksema, 2000). In the assessment of the ruminative response style, two subtypes have emerged: reflection and brooding (Treynor et al., 2003). Reflection is "a purposeful turning inward to engage in cognitive problem solving", on the other hand, brooding is defined as "passive comparison of one's current situation with some unachieved standard" (Treynor et al., 2003, p. 256). Brooding (e.g.,

“What am I doing to deserve this”) is characterized as a more maladaptive feature of rumination compared to reflection (e.g., “Write down what you are thinking and analyze it”) and has been found to be more likely and strongly associated with negative outcomes such as depression and anxious worrying (Raes & Hermans, 2008; Treynor et al., 2003).

Overall, rumination has been shown to be associated with several negative outcomes, including jealousy (Carson & Cupach, 2000) and perpetration of intimate partner violence (e.g., Birkley & Eckhardt, 2015). As Metts and Bowers (1994) argued that “to the extent that a person feels his or her romantic partner is the only possible source of happiness, any perceived threat to the relationship may lead to rumination and eventually to excessive or dispositional jealousy” (p. 533). An anxiously attached partner likely finds himself or herself wondering and worrying about the psychological availability of his or her partner which can trigger the partner’s obsessive thinking and worry about potential relational threats and, in turn, feelings of jealousy. These thoughts might include ruminating on questions such as “Does s/he really love me?” “What if s/he likes another person, not me?” “Is s/he really and sincerely listening to me?”, “Does s/he care for me as I care for him/ her?” Such rumination is dysfunctional for healthy emotion regulation (Shaver & Mikulincer, 2002) and likely aroused by fear of abandonment. This threatens self-esteem, a key component of anxious attachment (Bowlby, 1969). Threatened self-esteem has been shown to evoke jealousy that then elicits aggression toward the dating partner in emerging adults (DeSteno et al., 2006). In terms of subtypes of rumination, we argue that brooding—a maladaptive aspect of rumination—but not reflection would be influential in predicting jealousy and mediating the links between anxious attachment and perpetration of abuse along with jealousy.

## **Current Study**

The positive association between attachment anxiety and psychological and cyber abuse perpetration prompts the question of what might account for the association. In the present study, we examine potential mechanisms that may link them. Specifically, we explore the potential mediating roles of rumination (brooding and reflection) and cognitive jealousy in relating attachment anxiety to and abuse perpetration.

Because this study also extends the study of cyber abuse to a non-Western culture, we first examined the prevalence of psychological and CDVP and tested whether prevalence rates differ across gender. Second, we examined brooding (maladaptive aspects of rumination) and reflection (adaptive aspects of rumination) and cognitive jealousy as variables that might serially mediate the association between anxious attachment and the perpetration of

psychological abuse and cyber dating abuse, respectively. The hypothetical model is shown in Figure 1. Two models were tested, one for PDVP and one for CDVP. The hypotheses of the study were:

**Hypothesis 1:** Anxious attachment will directly and indirectly via brooding, not reflection, predict cognitive jealousy, which in turn will predict PDVP.

**Hypothesis 2:** Anxious attachment will directly and indirectly via brooding, not reflection, predict cognitive jealousy, which in turn will predict CDVP.

## Method

### Participants

Participants were 562 individuals recruited online. Of these, 404 (71.9%) identified as women, 156 (27.8%) as men, and two (.4%) as gender other. Participants averaged 22.57 (SD = 2.46; min = 18 and max = 30) years of age and reflected the following sexual orientation: 93.6% heterosexual, 1.6% gay, 0.4% lesbian, 3.6% bisexual, 0.7% other, and 0.2% preferred not to disclose their sexual orientation. Most of the sample were full-time students (61.7%), and 21.9% were students with part-time jobs. The rest were not students and were either employed (12.1%) or unemployed (4.1%).

Participants had a current (65.7%) relationship at least for one month or a previous (34.3%) relationship over the past six months. People with a current relationship defined their relationships as dating (86.7%), cohabiting (9.8%), and engaged (3.3%). The average relationship length was 22.01 months (SD = 21.88 months; min = 1 and max = 108 months). Only 22.5% were unsure about the future of the relationship, 1.9% declared intentions to leave, 41.2% to marry, and 34.4% to keep it going.

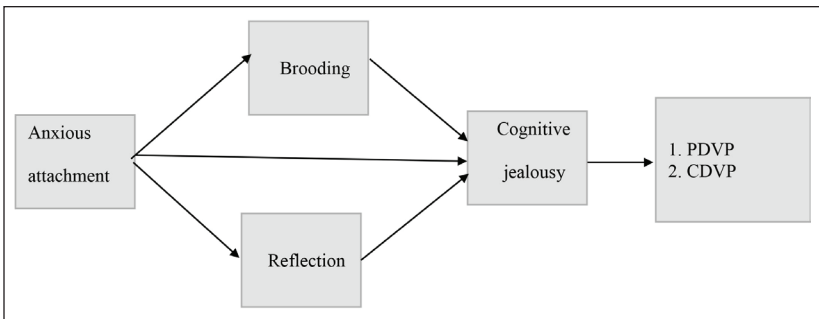


Figure 1. The hypothetical model tested.

### *Data Collection Procedure*

We collected the data via Google Forms. Before data collection started, we obtained ethical permission from the Human Subjects Ethics Committees of the universities. Convenience and snowball sampling methods were utilized to recruit participants. Participants were recruited from two sources. First, we recruited college students from classes in which one of the lecturers (first, second, and third authors of this study) offered extra credit (8% of the sample received an extra two points to be added on to their total score at the end of the semester), and others did not. Second, we recruited noncollege participants from social media platforms. Specifically, each of the first three authors made the survey link of the study available, including the consent form (the aim of the study, the total time commitment, contact information, etc.), to their followers and requested them to participate if they were interested. In addition, the survey link was delivered to people in the close circle of the first three authors via WhatsApp messages and e-mails, and they were asked to invite their contacts to participate in the study.

We informed the participants about the aim of the study and participation criteria (i.e., being voluntary, between the ages of 18 and 30) and asked them to check a box to indicate their consent. However, we did not clearly specify the focus of the study as one on cyber and psychological abuse perpetration in order to eliminate any potential effect on sample composition. Instead, we stated that the study aimed to explore the dating relationship experiences of emerging adults. Besides, confidentiality, voluntariness, and anonymity were assured at the beginning of the survey. It took, on average, 10 to 15 minutes for participants to complete the survey. However, we could not calculate the response rate in social media, e-mail, and WhatsApp platforms because Google Forms only gives access to completed data and does not indicate how many potential respondents received the survey. Finally, the application does not indicate which source the responses came from.

### *Data Collection Instruments*

**Demographics.** We created a form to collect demographic data including gender, sexual orientation, age, education and employment status, relationship status, type and length, and the future of the relationship.

**Psychological dating abuse perpetration.** We assessed PDVP via the Turkish adaptation (Toplu- Demirtaş et al., 2018) of the Restrictive Engulfment subscale of the Multidimensional Measure of Emotional Abuse (Murphy & Hoover, 1999). The seven-item single-factor Restrictive Engulfment subscale involves items such as “I asked my partner where s/he



had been with, in a suspicious manner” and “I tried to make my partner feel guilty for not spending enough time together.” All the items were rated on a 7-point frequency scale over the past six months (never, once, twice, 3–5 times, 6–10 times, 11–20 times, and more than 20 times). As recommended by Murphy and Hoover (1999), we treated category 7 (never in the past six months, but it has happened before) as 0 (never happened) since we were interested in the experiences over the past six months. The composite score was obtained by summing scores from the seven items yielding a range of 0–42. Higher scores reflect greater PDVP. Cronbach’s alpha was 0.75. We dichotomized the score into 0 (never used an instance of psychological abuse) and 1 (used at least one instance of psychological abuse) to indicate whether the respondent had perpetrated abuse in the relationship.

**Cyber dating abuse perpetration.** We measured CDVP using the Turkish version (Erdem et al., 2018) of the Cyber Dating Abuse Inventory (Morelli et al., 2018). The measure has two subscales: The Cyber-Relational Abuse subscale (four items; e.g., “I tried to turn my partner’s friends against him/her using SMS/email/social media”) and the Cyber-Emotional Abuse subscale (six items; e.g., “I wrote things via SMS/email/social media just to make my partner angry”). The Cyber-Relational Abuse items focus on ruining the partner’s relational network and the Cyber-Emotional Abuse items constitute attempts to cause emotional harm to the partner. Participants indicated their responses on a 4-point frequency scale (from never = 0 to 3 = six times and more) for the last six months. A total score was calculated by summing the item responses (min = 0; max = 30), higher scores reflecting more frequent use of cyber abuse. In the current sample, Cronbach’s alpha was 0.78. We again dichotomized this score to indicate whether the respondent had perpetrated cyber abuse in the relationship.

**Anxious attachment.** We assessed anxious attachment with the Turkish form (Savcı & Aysan, 2016) of the six item (e.g., “I need a lot of reassurance that I am loved by my partner”) Anxious Attachment subscale of the Experiences in Close Relationship Scale-Short Form (Wei et al., 2007). Participants gave their responses on a 7-point Likert-type scale (1 = disagree strongly to 7 = agree strongly) with higher scores depicting more anxious attachment (min = 6; max = 42). In the present study, Cronbach’s alpha was 0.61.

**Rumination.** We evaluated participants’ ruminative responses with the Turkish adaptation (Erdur-Baker & Bugay, 2010) of the Brooding and Reflection subscales of the Ruminative Responses Scale (Treyner et al., 2003). The Brooding subscale (five items, e.g., “How often do you think, why do I always react this way?”) assesses maladaptive aspects of rumination. The Reflection subscale, on the other hand, assesses adaptive aspects

of rumination (five items, e.g., “How often do you go someplace alone to think about your feelings?”). The items on both subscales are rated on a 4-point rating scale anchored by 1 = almost never and 4 = almost always. For each subscale, the responses ranged between 5 and 20, higher scores exhibiting more frequent use of adaptive or maladaptive ruminative responses. Cronbach’s alphas were 0.79 for the Brooding and 0.77 for the Reflection subscales.

**Cognitive jealousy.** We assessed jealousy with the Turkish adaptation (Karakurt, 2001) of the eight-item Cognitive Jealousy subscale (e.g., “I suspect that my partner is secretly seeing someone of the opposite sex”) of the Multidimensional Jealousy Scale (Pfeiffer & Wong, 1989). Participants responded to items on a 7-point Likert-type scale ranging from 1 (never) to 7 (all of the time). All the items were summed (min = 7, max = 49), yielding a total score with higher scores reflecting more jealous thoughts. Cronbach’s alpha was 0.90, in the present sample.

## *Data Analysis*

We analyzed two separate hypothesized models to understand the role of rumination (brooding and reflection) and cognitive jealousy as mediators linking anxious attachment and PDVP (Model 1) and CDVP (Model 2). Before conducting mediation analyses, we first checked the assumptions of missing data, normality, outliers, linearity and homoscedasticity, and multicollinearity to ensure that assumptions were met. All preliminary analyses and descriptive statistics were conducted using SPSS 22 (IBM Corp., 2013). We tested our hypotheses with blended parallel (pathways involving brooding and reflection) and serial mediation (pathways from brooding and reflection to cognitive jealousy) using PROCESS (Version 3.4, Hayes, 2019; Model 80 with three mediators) with 10,000 bootstrap samples. Each model controlled for gender.

## **Results**

### *Descriptive Analyses*

Means and standard deviations, along with correlations among the study variables, are shown in Table 1. Overall, the majority of the sample ( $n = 498$ ; 88.9%) perpetrated at least one psychologically abusive behavior in their relationship over the last six months. Of the 404 women, 374 (92.6%) and of the 156 men, 124 (79.5%) reported using at least one instance of psychological abuse. A gender difference emerged,  $\chi^2(1, n = 560) = 19.58, p = .00, \Phi = 0.20$ , with relatively more women perpetrating psychological dating abuse.

**Table 1.** Intercorrelations, Means, Standard Deviations, and Cronbach Alphas Among Study Variables.

	1	2	3	4	5	6	7	M (SD)	Actual Range	$\alpha$
PDVP (1)	1	0.512**	0.339**	0.249**	0.170**	0.354**	0.157**	7.08 (6.55)	0–42	0.751
CDVP (2)		1	0.215**	0.191**	0.137**	0.334**	0.138**	2.74 (3.52)	0–30	0.784
Anxious Attach (3)			1	0.483**	0.370**	0.409**	0.055	18.69 (4.21)	6–42	0.608
Brooding (4)				1	.655**	0.320**	0.149**	12.61 (3.68)	5–20	0.794
Reflection (5)					1	0.258**	0.207**	13.19 (3.67)	5–20	0.776
Jealousy (6)						1	0.037	19.04 (12.41)	7–49	0.902
Gender (7)							1	–	–	–

Note. *N* is 559 for the results of intercorrelations as three cases deleted due to defining as gender-other. *N* = 562 for the results of means, standard deviations, and Cronbach alphas. Gender was coded as men = 0 and women = 1. \*\**p* < .05. \*\*\**p* < .001.

As with cyber dating abuse, a majority of the sample ( $n = 383$ ; 68.4%) reported using abuse via technology over the last six months. Of the 404 women, 290 (71.8%) and of the 156 men, 93 (59.6%) engaged in abusive cyber acts. Again, there was a gender difference,  $\chi^2(1, n = 560) = 7.71, p = .00, \Phi = 0.12$ , with women reporting more cyber abuse.

As can be seen in Table 1, with one exception (correlation between anxious attachment and gender,  $r = 0.06, p = .20$ ), correlations among the study variables were positive and statistically significant ( $p < .01$ ), varying from small (e.g., between reflection and CDVP,  $r = 0.14, p < .01$ ) to large effects (e.g., between brooding and reflection,  $r = 0.66, p < .01$ ; Field, 2009). Results showed that there was a positive and strong association between the PDVP and CDVP ( $r = 0.51, p < .01$ ).

### Mediation Analyses

Results of Model 1 (Table 2) that involved PDVP, showed that anxious attachment was a significant predictor of brooding [ $\beta = 0.41, t(559) = 12.78, p = .000$ ], reflection [ $\beta = 0.31, t(559) = 9.29, p = .000$ ] as well as cognitive jealousy [ $\beta = 0.96, t(557) = 7.46, p = .000$ ]. Brooding was a significant predictor of cognitive jealousy [ $\beta = 0.44, t(557) = 2.42, p = .02$ ]; however, reflection did not significantly predict cognitive jealousy [ $\beta = 0.18, t(557) = 1.05, p = .29$ ]. Anxious attachment and cognitive jealousy were significant predictors of PDVP [ $\beta = 0.33, t(556) = 4.61, p = .000$ ;  $\beta = 0.13, t(556) = 6.02, p = .000$ , respectively]. On the other hand, brooding and reflection did not significantly predict PDVP [ $\beta = 0.11, t(556) = 1.18, p = .24$ ;  $\beta = -0.08, t(556) = -0.87, p = .38$ , respectively]. A total of 19% of the variance in PDVP was explained by the predictors [ $F(5, 556) = 25.77, p = .000$ ].

Support for Hypothesis 1 was obtained as the indirect association anxious attachment  $\rightarrow$  brooding  $\rightarrow$  cognitive jealousy  $\rightarrow$  PDVP was significant, [ $\beta = 0.02, SE = 0.01, 95\% CI = 0.0013; 0.0504$ ]. Partners who were anxiously attached also reported more brooding and, in turn, greater jealousy, which was related to perpetration of psychological dating abuse. Consistent with our hypothesis, the indirect effect via the serial path from reflection to cognitive jealousy was not significant in accounting for the association between anxious attachment and PDVP [ $\beta = 0.01, SE = 0.01, 95\% CI = -0.0076; 0.0262$ ]. See Table 4 for results pertaining to indirect effects.

Results for Model 2 (Table 3) involving CDVP, indicated that anxious attachment significantly predicted brooding [ $\beta = 0.41, t(559) = 12.78, p = .000$ ], reflection [ $\beta = 0.31, t(559) = 9.29, p = .000$ ], and cognitive jealousy [ $\beta = 0.96, t(557) = 7.46, p = .000$ ]. Similar to the results of Model 1, brooding was a significant predictor of cognitive jealousy [ $\beta = 0.44, t(557) = 2.42, p =$

**Table 2.** Results of Mediation Analysis Predicting PDVP: Model 1.

Predictors	DV = Brooding		DV = Reflection		DV = Jealousy		DV = PDVP	
	$\beta$	CI	$\beta$	CI	$\beta$	CI	$\beta$	CI
Gender	0.976*	[0.390;1.564]	1.538***	[0.927;2.149]	-0.564	[-2.664;1.534]	1.83**	[0.723;2.941]
Anxious Attachment	0.412***	[0.349;0.476]	0.312***	[0.246;0.378]	0.962***	[0.709;1.216]	0.329***	[0.189;0.470]
Brooding	-	-	-	-	0.438*	[0.083;0.794]	0.113	[-0.075;0.302]
Reflection	-	-	-	-	0.182	[-0.159;0.524]	-0.080	[-0.261;0.100]
Jealousy	-	-	-	-	-	-	0.134***	[0.091;0.179]

Note.  $R^2 = 0.24$ ,  $F(2, 559) = 90.17$ ,  $p = .000$  for brooding as a dependent variable;  $R^2 = 0.17$ ,  $F(2, 559) = 58.72$ ,  $p = .000$  for reflection as a dependent variable;  $R^2 = 0.19$ ,  $F(4, 557) = 32.08$ ,  $p = .000$  for cognitive jealousy as a dependent variable;  $R^2 = 0.19$ ,  $F(5, 556) = 25.77$ ,  $p = .000$  for psychological dating abuse perpetration as a dependent variable. \* $p < .005$ . \*\* $p < .01$ . \*\*\* $p = .000$ .

.02]; however, reflection did not significantly predict cognitive jealousy [ $\beta = 0.19$ ,  $t(554) = 1.07$ ,  $p = .29$ ]. The only significant predictor of CDVP was cognitive jealousy [ $\beta = 0.08$ ,  $t(556) = 6.62$ ,  $p = .000$ ]. On the other hand, anxious attachment, brooding and reflection did not significantly predict CDVP [ $\beta = 0.06$ ,  $t(556) = 1.45$ ,  $p = .15$ ;  $\beta = 0.07$ ,  $t(556) = 1.27$ ,  $p = .20$ ;  $\beta = -.03$ ,  $t(556) = -0.66$ ,  $p = 0.51$ , respectively]. A total of 14% of the variance in CDVP was explained by the predictors [ $F = (2, 556) = 17.59$ ,  $p = .000$ ].

Hypothesis 2 was supported. The indirect effect anxious attachment  $\rightarrow$  brooding  $\rightarrow$  cognitive jealousy  $\rightarrow$  CDVP was significant, [ $\beta = 0.01$ ,  $SE = 0.01$ , 95% CI = 0.0009; 0.0312]. Partners who were anxiously attached also reported brooding more frequently and, in turn, more jealous thoughts which were related to the perpetration of cyber dating abuse. Consistent with the results of the Model 1, the indirect effect between anxious attachment and CDVP involving reflection was again not significant [ $\beta = 0.00$ ,  $SE = 0.01$ , 95% CI = -0.0044; 0.0163]. See Table 4 for the results of indirect effects analyses.

Although we found significant indirect effects in the hypothesized serial mediation models, it is also possible that there might be other significant serial mediation models. Consequently, we tested two alternative models. In the first model, both the first [anxious attachment  $\rightarrow$  cognitive jealousy  $\rightarrow$  brooding  $\rightarrow$  PDVP;  $\beta = 0.006$ ; 95% CI (-0.0034, 0.0214)] and second serial mediation paths [anxious attachment  $\rightarrow$  cognitive jealousy  $\rightarrow$  reflection  $\rightarrow$  PDVP;  $\beta = -0.002$ ; 95% CI (-0.0113, 0.0076)] did not yield significant overall indirect effects in explaining PDVP. Similarly, in explaining CDVP in the second model, both the first [anxious attachment  $\rightarrow$  cognitive jealousy  $\rightarrow$  brooding  $\rightarrow$  CDVP;  $\beta = 0.004$ ; 95% CI (-0.0020, 0.0122)] and second paths [anxious attachment  $\rightarrow$  cognitive jealousy  $\rightarrow$  reflection  $\rightarrow$  CDVP;  $\beta = -0.001$ ; 95% CI (-0.0052, 0.0046)] did not show overall indirect effects.

## Discussion

The purpose of the current study was twofold. First, to investigate the prevalence of gender differences in the perpetration of psychological and cyber dating abuse among emerging adults in Turkey. Second, to explore the role of rumination (brooding and reflection) and cognitive jealousy as potential mediating mechanisms that might account for the association between anxious attachment and the perpetration of two forms of intimate partner abuse (psychological abuse and cyber abuse).

Regarding prevalence, 88.9% of the sample reported that they perpetrated at least one psychologically abusive behavior and 68.4% reported an abusive cyber behavior in their relationship over the last six months. The percentage found for CDVP is consistent with previous national findings (i.e.,

**Table 3.** Results of Mediation Analysis Predicting CDVP: Model 2

Predictors	DV = Brooding		DV = Reflection		DV = Jealousy		DV = CDVP	
	$\beta$	CI	$\beta$	CI	$\beta$	CI	$\beta$	CI
Gender	0.976*	[0.390;1.564]	1.538***	[0.927;2.149]	-0.564	[-2.664;1.534]	0.917**	[0.302;1.531]
Anxious Attachment	0.412***	[0.349;0.476]	0.312***	[0.246;0.378]	0.962***	[0.709;1.216]	0.058	[-0.020;0.135]
Brooding	-	-	-	-	0.438*	[0.083;0.794]	0.068	[-0.037;0.172]
Reflection	-	-	-	-	0.182	[-0.159;0.524]	-0.034	[-0.134;0.067]
Jealousy	-	-	-	-	-	-	0.082***	[0.058;0.107]

Note.  $R^2 = 0.24$ ,  $F(2, 559) = 90.17$ ,  $p = .000$  for brooding as a dependent variable;  $R^2 = 0.17$ ,  $F(2, 559) = 58.72$ ,  $p = .000$  for reflection as a dependent variable;  $R^2 = 0.19$ ,  $F(4, 557) = 32.08$ ,  $p = .000$  for cognitive jealousy as a dependent variable;  $R^2 = 0.14$ ,  $F(5, 556) = 17.59$ ,  $p = .000$  for cyber dating abuse perpetration as a dependent variable. \* $p < .005$ . \*\* $p < .01$ . \*\*\* $p = .000$ .

**Table 4.** Bootstrapped Results of Indirect Effects for Model 1 and Model 2.

Indirect Effects	Path	$\beta$	Boot SE	Boot LLCI	Boot ULCI
<b>Model 1: DV = PDVP</b>					
1	Anxious attachment → brooding → PDVP	0.047	0.042	-0.036	0.128
2	Anxious attachment → reflection → PDVP	-0.025	0.030	-0.083	0.034
3	Anxious attachment → jealousy → PDVP	0.130	0.031	0.072	0.194
4	Anxious attachment → brooding → jealousy → PDVP	0.024	0.012	0.072	0.194
5	Anxious attachment → reflection → jealousy → PDVP	0.01	0.01	-0.008	0.026
<b>Model 2: DV = CDVP</b>					
1	Anxious attachment → brooding → CDVP	0.028	0.024	-0.019	0.075
2	Anxious attachment → reflection → CDVP	-0.011	0.016	-0.041	0.021
3	Anxious attachment → jealousy → CDVP	0.079	0.019	0.045	0.118
4	Anxious attachment → brooding → jealousy → CDVP	0.015	0.007	0.001	0.031
5	Anxious attachment → reflection → jealousy → CDVP	0.005	0.005	-0.004	0.016

Note. Reported BC intervals are the bias-corrected 95% CI of estimates resulting from bootstrap analysis; 10,000 bootstrapped samples. Total N is 562.



Toplu-Demirtaş et al., 2020) and is lower than that reported in western countries (i.e., 82% in Borrajo et al., 2015; 93.7% in Leisring & Giumetti, 2014; 75.3% in Brem et al., 2019). However, the rates fluctuate greatly depending on how cyber abuse is measured. For example, using the same instrument as that in the current study, Morelli et al. (2018) obtained a similar rate (67%) in their sample of Italian college students. The prevalence of controlling behaviors towards an intimate partner in the form of psychological abuse was high in our sample, which was not unexpected as previous studies repeatedly revealed high rates of psychological abuse perpetration among college students in Turkey (Toplu-Demirtaş, 2015; Toplu-Demirtaş et al., 2019) and in the world (i.e., Leisring, 2013), reaching as high as 95%. This pervasively high rate of attempts to control partners in dating relationships is consistent with the view that college students in Turkey tend to de-emphasize the seriousness of dating violence, particularly psychological abuse perceiving “controlling” behaviors as signs of love rather than abuse (Toplu-Demirtaş et al., 2017). Therefore, students who mistakenly believe that “the person who controls their partners loves them” might be motivated by being controlled to maintain their relationships.

In both CDVP and PDVP, a significant gender difference was found, indicating that women perpetrate more psychological and cyber abuse. This finding is not in line with several studies that reported no gender difference (i.e., Reed et al., 2016; Toplu-Demirtaş et al., 2019; Toplu-Demirtaş & Fincham, 2020; Zapor et al., 2017). In reconciling these findings, it is worth noting the large discrepancy in the number of women ( $n = 404$ ) and men ( $n = 156$ ) in our sample. It is possible that the much smaller number of men sampled may have yielded results that are not as representative of male responses more generally. Therefore, caution is advised when interpreting the gender differences we found. Moreover, we do not know if women used abuse for self-defense or some other protective function or who was injured more within the relationship (Murray & Graves, 2012). Nevertheless, it is well known that historically, women have been at higher risk for more severe forms of abuse in romantic relationships (Murray & Graves, 2012).

One explanation for such high rates of controlling behavior might be women’s anticipation of their partners’ infidelity as premarital sex for women has been taboo in Turkey. Indeed, one study showed that anxiously attached dating college students with higher dyadic distrust tended to suspect partner infidelity and experience jealousy more, which in turn increased the risk of cyber abuse perpetration (Toplu-Demirtaş et al., 2020). For example, one controlling behavior—secretly searching through the partner’s belongings—might be used for the sake of controlling the partner’s acts or as a search for evidence of an affair.

The second purpose of our study was to address the issue of what gives rise to dating abuse perpetration. Drawing on attachment theory, we tested two serial mediation models that were proposed to predict CDVP and PDVP, respectively. In both models, support was obtained for our hypotheses that anxiously attached partners are more likely to dysfunctionally ruminate on their concerns about their romantic partners, which then triggers more jealousy and paves the way for perpetrating cyber and psychological dating abuse behaviors. As anticipated, reflection, an adaptive aspect of rumination, did not play a role in mediating the relationship between attachment anxiety and dating abuse perpetration. Attachment theory posits that the anxiously attached partner's cognitions, emotions, and behaviors reflect impaired trust, fear of abandonment, excessive proximity seeking, extreme preoccupation with psychological and physical availability, and responsiveness of the partner, low self-esteem, and problems in self-soothing when distressed. In particular, threat appraisals are associated with consciously or unconsciously with painful experiences such as separation, rejection, punishment, and betrayal (Mikulincer & Shaver, 2007). Such a hypervigilant and fragile inner world would inevitably leave the partner vulnerable to any perceived or imagined threat (Fraley & Shaver, 1997). Therefore, perceived negative experiences by the anxiously attached partner would precipitate rumination characterized by overthinking and brooding. Being a dysfunctional emotion regulation strategy, brooding over perceived unfulfilled intimacy and trust would set off jealousy as a justification to resort to abusive behaviors. The perpetration of cyber and psychological abuse could function as an attempt to reestablish desired closeness and security (Bartholomew & Allison, 2006), as well as to soothe the anxiety activated via the attachment system. A study by Bartholomew et al. (2001) indicated that anxiously attached partners, who felt threatened by the probable loss of an intimate partner, opted for abusive behaviors to eliminate possible abandonment.

### **Limitations, Strengths, and Further Directions**

The current study has several limitations that need to be considered when interpreting the results. First, the use of self-report data raises the issue of socially desirable responding, yet the high rate of reported dating abuse in the current study seems the opposite. Second, the use of cross-sectional data to test the hypothesized model precludes causal inferences. It is suggested that future research includes a longitudinal component to provide more robust support for making causal inferences. Third, the sample was largely limited to college students from three different universities located in large cities of Turkey, and the distribution of college students and noncollege

participants—who were recruited through convenience and snowball sampling—was not equal. Therefore, the sample may not be representative of the target population of college students and noncollege participants in Turkey. Fourth, 8% of the participants from the second author’s class received extra credit to participate in the study, which might have caused pressure on behalf of the students. Fifth, the sample is not distributed equally in terms of gender—the sample was predominantly female. Sixth, our sample did not represent diversity in terms of sexual orientation as only 6.3% of the participants identified themselves as gay, lesbian, bisexual, and other, whereas the rest (93.6%) were heterosexual. In light of the evidence that intimate partner violence is also common among LGBT individuals (Reuter et al., 2017), further research needs to be conducted with more diverse samples. Finally, although the sample included different romantic relationship types (e.g., dating, cohabitating, and engaged), it is also worth including married partners as psychological and cyber violence perpetration commonly exist in marital relationships (Kar & O’Leary, 2013; Watkins et al., 2018). The generalizability of the results should be interpreted with caution considering the limitations of the sample and the sampling method. Future research can address these limitations by recruiting participants from various regions (urban and rural), ensuring equivalent gender distribution in the sample.

Notwithstanding these limitations, this study offers a novel contribution on two fronts. First, it adds to recent data on a relatively new but flourishing type of dating abuse, cyber abuse, which has begun to receive research attention. Second, it identifies potential mechanisms that might underlie the association between anxious attachment and two forms of dating abuse among emerging adults.

### *Implications for Further Research and Practice*

Because we only assessed rumination in general, future studies would do well to explore rumination specifically in romantic relationships (e.g., Relational Rumination Questionnaire; Senkans et al., 2016). In doing so, we will likely obtain a more nuanced picture of how rumination operates in the occurrence of both cyber and psychological dating abuse. In a similar vein, the construct of jealousy is multidimensional and only cognitive jealousy was assessed in the present study. At a minimum, replication of the model tested in this study should occur with other dimensions of jealousy, such as emotional and behavioral jealousy.

Perpetration of psychological dating abuse can take various forms and is not limited to restrictive engulfment. Other subtypes include denigration, hostile withdrawal, and dominance/intimidation (Murphy & Hoover, 1999),

and may reveal more about the maladaptive impacts of attachment anxiety, rumination, and jealousy. We focused on perpetration in the current study, but what about cyber and psychological dating abuse victimization? Whether or not the model we presented will work with victims is an important question that remains to be addressed. An anxiously attached victim of cyber and/or psychological dating abuse might ruminate on how s/he triggered the partner's abuse, as a result of which s/he might feel shame, guilt, and regret. This chain of cognition and emotion might lead her/him to act in a manner that reinforces the abusive behaviors of the perpetrator. Accordingly, future studies should explore the model from the perspective of both perpetrator and victim using dyadic data analysis methods.

Regarding practice, our study builds upon ways of handling psychological and CDVP in counseling and psychotherapy. First, the chain that we demonstrated, anxious attachment → rumination → jealousy → CDVP and PDV, could be conceptualized as a maladaptive pattern to be challenged and restructured in cognitive-behavioral theory-based counseling. Indeed, this chain could be communicated to the client to raise self-awareness to help the client understand his/her troublesome behaviors. In tackling the client's abuse problem, the therapist could explore early relationship experiences with his/her parents and their projection on to later relationships (e.g., friends, romantic partners) to gain insight into the current issues.

The findings of our study could also be a resource in developing psychoeducation groups designed to teach better ways of coping with emotions and cognitions (both rumination and jealousy) stemming from anxious attachment in the service of cultivating more prosocial behaviors in romantic relationships. In doing so, mindfulness practices might be fruitful as reflecting on feelings and thoughts requires purposeful, nonjudgmental attention at the present moment. Indeed, Brem et al. (2018) investigated mindfulness as a moderator of the association between women's anticipated partner infidelity and dating abuse perpetration and provided preliminary evidence for the use of mindfulness practices in romantic relationships where there is suspicion of infidelity to mitigate the risk of dating abuse perpetration.

## **Concluding Remarks**

Our study identifies a potential underlying mechanism pertaining to psychological and cyber dating abuse in a sample of Turkish emerging adults. In doing so, it suggests that anxious attachment is a significant risk factor for dating abuse that exerts its influence via rumination and cognitive jealousy. To our knowledge, the findings related to the models tested provide a novel contribution to the dating abuse literature.

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**Frank D. Fincham**, PhD, is an eminent scholar and Director of the Florida State University Family Institute. His goal is to understand the cognitive processes involved in conflict, forgiveness, and prayer in close relationships. He also investigates emerging adulthood, focusing particularly on school burnout, hooking up, and friends with benefits. Recently, he has integrated hemodynamic and cardiac functioning into his research to understand how the processes he studies impact health.