

Relationship Quality in the Context of Cyber Dating Abuse: The Role of Attachment

Journal of Family Issues

1–20

© The Author(s) 2019

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/0192513X19881674

journals.sagepub.com/home/jfi

Morgan Lancaster¹ , Gregory S. Seibert¹,
Ashley N. Cooper¹, Ross W. May¹,
and Frank Fincham¹

Abstract

Cyber dating abuse can lead to negative outcomes for the message receiver and for the relationship. Extending previous research examining problematic technology-based behavior and attachment security, this study examined whether insecure attachment moderates the relationship between cyber dating abuse and relationship quality in emerging adults ($N = 177$). Through survey methodology, findings detail an interaction between cyber dating abuse and attachment avoidance pertaining to positive, but not negative, relationship quality. Victims of cyber dating abuse who were high in attachment avoidance reported significantly lower positive relationship quality compared to those who are not victims of cyber dating abuse. The present study contributes to a limited body of cyber abuse research within intimate relationships providing a nuanced understanding of the differentiation between positive and negative elements of relationship quality. Implications suggest clinicians should incorporate psychoeducation about the impact of cyber dating abuse to help couples interrupt and improve negative communication through technology.

¹Florida State University, Tallahassee, FL, USA

Corresponding Author:

Morgan Lancaster, Florida State University, 120 Convocation Way, Tallahassee, FL 32304, USA.

Email: lancasterm10@gmail.com

Keywords

Cyber dating abuse, attachment, relationship quality, dating violence, communication technologies, electronic victimization

As native users of technology, emerging adults (18- to 25-year-olds, Arnett, 2000) are preoccupied with technology-based communication (Subrahmanyam, Reich, Waechter, & Espinoza, 2008) and use communication technologies (e.g., text messaging) to build and maintain romantic connections (Pettigrew, 2009). Technology provides a unique means of proximity seeking to attachment figures, and attachment insecurity is linked to both the type and frequency of technological communications (Morey, Gentzler, Creasy, Oberhauser, & Westerman, 2013). However, the growth of technology has also expanded the number of outlets available to harass, control, and abuse romantic partners (Zweig, Dank, Yahner, & Lachman, 2013). Email, text messaging, blogs, instant messaging (IM), and other social media outlets such as Facebook, Instagram, Twitter, and Snapchat can all be utilized to remain emotionally connected with a partner but may also serve as vehicles for dating abuse.

Cyber dating abuse can lead to negative outcomes for the message receiver and possibly for the relationship. When individuals are hurt by a message from their partner (face-to-face or via technology), they typically try to distance themselves or may feel more distant from their partner (Vangelisti & Young, 2000). Relational distance impacts the way partners feel toward one another and may lead to lower support, trust, and perceived relationship quality (Dailey & Le Poire, 2003; Madlock & Westerman, 2011). Whether dating abuse leads to these hypothesized outcomes may depend on attachment security, a well-documented determinant of relational outcomes (Varghese & Pistole, 2017). The present study, therefore, investigates the role of attachment (anxious and avoidant) in understanding the association between cyber dating abuse and relationship quality.

Technology Use in Emerging Adult Romantic Relationships

Access to, and frequent use of, communication technologies impact opportunities to engage in cyber dating abuse behaviors. Zweig, Lachman, Yahner, and Dank (2014) found that hours spent per day on the computer and on a cell phone were each significantly correlated with being a victim of cyber dating abuse, and emerging adults are the most likely group to use at least one social networking site (88% of 18-29 year-olds, Pew Research Center, 2018). The Pew Research Center's latest study (2018) suggests that YouTube is the most frequented social networking site by emerging adults at 91%,

followed by Facebook (81%), Snapchat (68%) and Instagram (64%). Furthermore, Smith, Rainie, and Zickuhr (2011) found that 100% of college students are Internet users (compared to 92% of non-college students in the same age group), making college students a population at greater risk of cyber dating abuse than other emerging adults.

Aside from social networking sites, text messaging is one of the most common ways emerging adults begin and maintain romantic relationships (Schade, Sandberg, Bean, Busby, & Coyne, 2013). Ninety-two percent of Millennials own smartphones (Jiang, 2018) with 97% of emerging adults using their phone for texting (Duggan, 2013). Pettigrew (2009) conducted a qualitative study, which suggested that text messages are used in close relationships to commence, advance, maintain, or influence the relationship. However, there are also data to suggest that texting (along with other forms of technology) is used to control, threaten, and harass dating partners (Epstein-Ngo et al., 2014). As attachment insecurity has been linked with technology behaviors (Morey et al., 2013) as well as abusive behaviors (Bookwala, 2002; Henderson, Bartholomew, Trinke, & Kwong, 2005), it follows that attachment insecurity (i.e., anxiety and avoidance), may impact the relationship between cyber dating abuse and relationship outcomes.

The Context of Attachment

Based on Bowlby (1973) and Ainsworth's (1978) early observations, it is widely accepted that people develop relatively stable attachment styles based on interactions with caregivers in childhood, which then extend to romantic relationships in adulthood (Mikulincer & Shaver, 2007). Individuals with greater attachment security have low levels of attachment anxiety and avoidance, and are found to have better mental health and social functioning (Fonagy et al., 1996). In contrast, people with high levels of attachment anxiety or avoidance are more likely to exhibit low self-esteem, depression, and loneliness (Mikulincer & Shaver, 2007). Attachment has also been repeatedly linked to relationship aggression; attachment preoccupation (Henderson, Bartholomew, Trinke, & Kwong, 2005) and perceptions of partner attachment security (Bookwala, 2002) were found to predict the use of aggression by men and women in romantic relationships. Further, attachment has more recently been linked with technology behaviors. For example, attachment anxiety was found to predict sexualized technological communication (i.e., "sexting"; Weisskirch & Delevi, 2011), and the use of specific types of communication (such as texting to express affection) predicted partners' use of attachment behaviors (i.e., accessibility, responsiveness, and engagement; Schade, Sandberg, Bean, Busby, & Coyne, 2013). Additionally, attachment

style has been linked to perpetrating cyberstalking-related behaviors (Strawhun, Adams, & Huss, 2013), but more research is needed that examines how attachment informs the use of technology within romantic relationships.

Cyber Dating Abuse

Cyber dating abuse is defined as the use of communication technologies to threaten, harass, or control one's partner (David-Ferdon & Hertz, 2007). Communication technologies may include email, text messaging, blogs, instant messaging, and social networking sites such as Facebook, Instagram, Twitter, and Snapchat. Given the widespread use of communication technology among emerging adult couples, it is not surprising that relationship abuse occurs through online and/or phone-based platforms. In a study examining college students' reports of electronic victimization in friendships and dating relationships, an astounding 92% of participants reported having been a victim of cyber abuse within the past year (Bennett, Guran, Ramos, & Margolin, 2011).

Cyber dating abuse can occur in a variety of ways. The most common forms of cyber dating abuse occur when technology is used to exert control over one's partner (e.g., monitoring where one's partner is or what he/she does, putting one's partner down) and unwanted invasion of privacy (e.g., the use of social network passwords without the partners permission or pretending to be one's partner through a technology platform; Borrajo et al., 2015; Burke, Wallen, Vail-Smith, & Knox, 2011; Draucker & Martsof, 2010; Lyndon, Bonds-Raacke & Cratty, 2011; Melander, 2010; Peskin et al., 2017). Sexting can become a form of cyber dating abuse (e.g., being pressured to send a sexual or nude photo of oneself) and is becoming a growing concern for females in particular (Reed, Tolman, & Ward, 2016). Furthermore, in several studies, authors specifically discussed how persistent surveillance and constant monitoring or controlling of activities or the whereabouts of a partner are ways in which cyber dating abuse is markedly different from traditional dating abuse (Lucero, Weisz, Smith-Darden, & Lucero, 2014; Reed et al., 2016).

A noteworthy theme throughout the literature is the link between cyber dating abuse and social health concerns. For example, cyber dating abuse is shown to consistently correlate with "offline" forms of dating abuse (Borrajo et al., 2015; Epstein-Ngo et al., 2014; Reed et al., 2016; Sargent, Krauss, Jouriles, & McDonald, 2016; Temple et al., 2016; Yahner, Dank, Zweig, & Lachman, 2015), and traditional peer bullying (Peskin et al., 2017, Van Ouytsel et al., 2017; Yahner et al., 2015). Other important factors correlated with cyber dating victimization are delinquent behaviors (Wick et al., 2017;

Zweig et al., 2014), substance and alcohol use (Bennett et al., 2011; Epstein-Ngo et al., 2014; Van Ouytsel, Ponnet, Walrave, & Temple, 2016; Van Ouytsel et al., 2017), and risky sexual activity/history (Korchmaros et al., 2013; Marganski & Fauth, 2013; Van Ouytsel et al., 2016; Van Ouytsel et al., 2017; Zweig et al., 2014). With such a variety of problematic correlates, it is crucial to understand cyber dating abuse in romantic relationships.

Draucker and Martsolf (2010) conducted interviews with 56 young adults to examine the role of communication technologies in dating violence and abuse. They found eight ways in which partners used electronic communications, the last six of which were related to violence, abuse, or controlling behaviors: (a) establishing a relationship, (b) nonaggressive communication, (c) arguing, (d) monitoring the whereabouts of a partner or controlling their activities, (e) emotional aggression toward a partner, (f) seeking help during a violent episode, (g) distancing a partner's access to self by not responding to calls, texts, and other contacts via technology and (h) reestablishing contact after a violent episode. From these findings, it is evident that communication technologies hold a strong influence over how, when, and who perpetrates dating violence in emerging adulthood.

Dating Abuse and Relationship Quality

Although no research to date has specifically examined the association between *cyber* dating abuse and relationship quality, some research suggests that more aggressive individuals (those who exhibit antisocial behavior and/or delinquent acts in a variety of settings) tend to be involved in poorer quality romantic relationships (Capaldi & Crosby, 1997). In contrast, others have found individuals can experience violence from a romantic partner and still be satisfied with the quality of the relationship overall (Giordano, Soto, Manning, & Longmore, 2010; Gray & Foshee, 1997). One reason for this discrepancy may be explained by gender differences in perceived relationship quality. For example, in one study where men and women experienced violence at similar rates, only women experienced lower relationship quality as a function of partner abuse (Katz, Kuffel, & Coblenz, 2002). However, both males and females who are involved in dating aggression are more likely to experience both perpetration and victimization as opposed to just one or the other (Viejo, Monks, Sanchez, & Ortega-Ruiz, 2016). Furthermore, those involved in reciprocal dating abuse report higher levels of negative aspects of relationship quality, but may not experience any differences in positive aspects of relationship quality (Viejo et al., 2016). The cited literature largely supports a link between abuse and relationship quality, but the unique route of technology-based abuse has yet to be examined.

Attachment security has been examined extensively to help explain relationship behavior (Varghese & Pistole, 2017) and may be useful to better understand the link between cyber abuse and perceived relationship quality. For example, in a sample of undergraduate students, anxious attachment style was shown to predict cyberstalking-related behaviors in romantic relationships (Strawhun, Adams, & Huss, 2013). Similarly, Ménard and Pincus (2012) found that for college females, insecure attachment style predicts persistently pursuing someone intrusively using electronic forms of communication. Moreover, attachment also plays a critical role in relationship outcomes. The relationship between attachment and relationship quality, specifically, is well documented (see Li & Chan, 2012 for meta-analysis). However, research has yet to examine how cyber dating abuse is linked to relationship quality, or what role attachment security plays in this relationship.

A novel approach to conceptualizing romantic relationship quality as a bidimensional construct was undertaken by Rogge, Fincham, Crasta, and Maniaci (2017), positing that partners in romantic relationships simultaneously hold both negative and positive sentiments toward their partners. Positing that positive qualities of a relationship are unique from its negative qualities, the authors developed the Positive–Negative Relationship Quality scale (PN-RQ) via modern test theory procedures (i.e., item response theory) and demonstrated that it produced unique predictive validity over other unidimensional measures of relationship quality (i.e., the Marital Adjustment Test, Locke & Wallace, 1959; and the Couples Satisfaction Index, Funk & Rogge, 2007). Importantly, this bi-dimensional approach allows for more nuanced identification of relationship profiles, for example the identification of a partner that may feel indifferent (low positive and negative qualities) or ambivalent (high positive and negative qualities) in regards to their relationship quality. The utilization of this measure in the present study provides nuanced and unique results that can expand the knowledge base in the current literature of the effect of couple issues on relationship quality.

The Present Study

Cyber dating abuse is a significant health concern among emerging adults (Reed et al., 2016). Because attachment security is linked to problematic technology-based behavior in emerging adult relationships (Ménard & Pincus, 2012; Strawhun et al., 2013) and is an established indicator of relational outcomes (Varghese & Pistole, 2017), it likely plays an important role in cyber dating abuse. Therefore, the current study investigates the

relationships among cyber dating abuse, attachment insecurity (anxious and avoidant), and positive and negative relationship quality. Based on previous research (Ménard & Pincus, 2012; Strawhun et al., 2013) and attachment theory (Ainsworth, 1978; Bowlby, 1973), we expect levels of anxious and avoidant attachment styles to interact with cyber dating abuse in predicting relationship quality. Specifically, we hypothesize those higher in anxious or avoidant attachment insecurity who experience cyber dating abuse victimization to report significantly lower positive relationship quality and significantly higher negative relationship quality, as compared to those who report no cyber abuse victimization.

Methods

Participants

A sample of 230 undergraduate students at a large South Eastern University were recruited. After deleting participants with missing data ($N = 21$) and who were not in a romantic relationship, the data from 177 respondents (89.2% female) was available for use in the current study. The average age of these participants was 20.74 years ($SD = 2.4$); 70.3% were Caucasian, 15.3% Latino/Hispanic, 10.1% African American/Black, 1.4% Asian/Pacific Islander, and 2.9% other. Participants' relationship length was reported with 4% endorsing "less than 2 months," 10% "3–4 months," 6% "5–6 months," 8% "7–12 months," 22% "1–2 years," 18% "2 years," and 32% reporting "3 or more years."

Measures

Cyber abuse. The Partner Cyber Abuse Questionnaire (Hamby, 2013) assesses the frequency of nine behaviors in romantic relationships scored on a scale of 0 (never) to 5 (5 or more times). Items include "My partner sent messages from my Facebook profile without my permission," "My partner monitored my profile or used phone applications as a way to keep tabs on me," and "My partner forwarded embarrassing text messages or pictures about me." The total score for the items represents the amount of cyber abuse experienced in the past year ($\alpha = .80$). Consistent with the scoring of other intimate partner violence measures in which violence is non-normally distributed (e.g., Straus, 2004), the composite of cyber abuse was dichotomized into 0 (never experienced an instance of cyber abuse in their current relationship) and 1 (experienced at least 1 instance of cyber abuse in their current relationship). A total of 65.5% respondents report never (0) experiencing

abuse via technology, and 34.5% report experiencing abuse via technology at least one or more times (1).

Relationship quality. The PN-RQ scale was utilized to measure both positive and negative dimensions of relationship quality (Rogge et al., 2017). The scale consisted of eight items, and participants were prompted to assess their relationship using the qualities listed on a scale from 1 (not at all) to 7 (extremely). The scale includes four negative qualities—“bad,” “miserable,” “empty,” and “lifeless”—and four positive qualities—“enjoyable,” “pleasant,” “strong,” and “alive.” Positive (PRQ, $\alpha = .97$) and negative (NRQ, $\alpha = .92$) subscales were summed to yield indices of positive and negative relationship quality.

Attachment insecurity. Attachment insecurity was assessed using the Experiences in Close Relationship Scale–Short Form (Wei, Russell, Mallinckrodt, & Vogel, 2007). Participants were prompted to report the degree to which each statement describes them on a scale of 1 (definitely not like me) to 7 (definitely like me). The scale consisted of 12 items, including “I want to get close to my partner, but I keep pulling back,” “I need a lot of reassurance that I am loved by my partner,” and “I do not often worry about being abandoned.” Items were summed for each subscale to obtain scores for attachment anxiety (6 items; $\alpha = .78$) and attachment avoidance (6 items; $\alpha = .85$).

Analysis

Pearson correlations were first utilized to evaluate associations among study variables. To test our hypothesis that levels of attachment anxiety and avoidance interact with cyber abuse to predict positive and negative relationship quality, we conducted four hierarchical multiple regression analyses: (a) attachment anxiety and cyber abuse on positive relationship quality, (b) attachment anxiety and cyber abuse on negative relationship quality, (c) attachment avoidance and cyber abuse on positive relationship quality, and (d) attachment avoidance and cyber abuse on negative relationship quality.

Model 1 of the analyses comprised the predictors (cyber abuse and attachment anxiety/avoidance), and Model 2 introduced the interaction term (centered attachment anxiety/avoidance scores \times cyber abuse). Centering predictor variables is recommended when examining moderation to help manage potential multicollinearity and increase interpretability of results (see Cohen, Cohen, West, & Aiken, 2003 for full explanation). Lastly, significant interaction effects were further examined using simple slopes analysis.

Table 1. Correlations among Study Variables.

Variables	1.	2.	3.	4.	5.
1. Cyber dating abuse	-				
2. PRQ	-.19*	-			
3. NRQ	.26**	-.48**	-		
4. Anxiety	.19*	-.20**	.34**	-	
5. Avoidance	.09	-.49**	.30**	.28**	-
<i>M</i>		25.22	6.11	20.58	15.59
<i>SD</i>		3.68	3.41	7.28	7.53

Note. $p < .05^*$, $p < .01^{**}$ PRQ = Positive relationship quality. NRQ = Negative relationship quality.

Results

Pearson correlations demonstrated significant relationships between all study variables except attachment avoidance and cyber abuse (see Table 1). Regression analyses revealed that attachment anxiety and cyber abuse did not significantly interact to predict negative relationship quality ($b = .07$, $SE_b = .07$, $\beta = .08$, $p = .325$) or to predict positive relationship quality ($b = -.04$, $SE_b = .08$, $\beta = -.05$, $p = .599$; see Table 2). Similarly, attachment avoidance and cyber abuse did not significantly interact to predict negative relationship quality ($b = .04$, $SE_b = .08$, $\beta = .05$, $p = .564$). However, attachment avoidance and cyber abuse did interact to predict positive relationship quality ($b = -.16$, $SE_b = .07$, $\beta = -.17$, $p = .032$), suggesting the association between cyber dating abuse and positive relationship quality is contingent upon levels of attachment avoidance (see Table 3). Follow-up simple slope analysis showed the relationship between attachment avoidance and positive relationship satisfaction is stronger for those who report cyber dating abuse as compared to those who do not report cyber dating abuse. Specifically, positive relationship quality is lower for those who report cyber dating abuse and are high in attachment avoidance (see Figure 1).

Discussion

The current study examined the link between cyber dating abuse and two dimensions of relationship quality as moderated by attachment avoidance and attachment anxiety. Results provide partial support for our hypothesis, demonstrating that attachment avoidance amplifies the relationship between cyber dating abuse and positive relationship quality. However, attachment avoidance did not moderate the relationship between cyber dating abuse and

Table 2. Hierarchical Multiple Regression of Cyber Dating Abuse, Anxious Attachment and Positive and Negative Relationship Quality.

Criterion	Model	Predictors	β	sr	p	R ²	ΔR^2	Model F
PRQ	Model 1	Attachment anxiety	-.17	-.16	.029	.061		F(2, 174) = 5.615, p = .004
		Cyber abuse	-.16	-.15	.039			
	Model 2	Attachment anxiety	-.14	-.12	.119	.062	.002	$\Delta F(1, 173) = .278, p = .599$
		Cyber abuse	-.16	-.15	.04			
NIRQ	Model 1	Attachment anxiety	-.05	-.04	.599			F(2, 174) = 15.089, p < .001
		Cyber abuse	.29	.28	<.001	.148		
	Model 2	Attachment anxiety	.21	.21	.004	.153	.005	$\Delta F(1, 173) = .974, p = .325$
		Cyber abuse	.24	.2	.005			
		Interaction	.21	.21	.004			
		Interaction	.08	.07	.325			

Note. PRQ = Positive relationship quality. NIRQ = Negative relationship quality. sr = semi-partial correlation.

Table 3. Hierarchical Multiple Regression of Cyber Dating Abuse, Avoidant Attachment and Positive and Negative Relationship Quality.

Criterion	Model	Predictors	β	sr	p	R ²	ΔR^2	Model F
PRQ	Model 1	Attachment avoidance	-.45	-.44	<.001	.231		F(2, 174) = 26.139, p = <.001
		Cyber abuse	-.15	-.15	.030			
	Model 2	Attachment avoidance	-.35	-.28	<.001	.251	.02	$\Delta F(1, 173) = 4.648$ p = .032
		Cyber abuse	-.17	-.17	.012			
NRQ		Interaction	-.17	-.14	.032			
	Model 1	Attachment avoidance	.22	.22	.002	.117		F(2, 174) = 11.566, p < .001
		Cyber abuse	.24	.24	.001			
	Model 2	Attachment avoidance	.19	.16	.029	.119	.002	$\Delta F(1, 173) = .335$, p = .564
		Cyber abuse	.25	.25	.001			
		Interaction	.05	.04	.564			

Note. PRQ = Positive relationship quality, NRQ = Negative relationship quality, sr = semi-partial correlation.

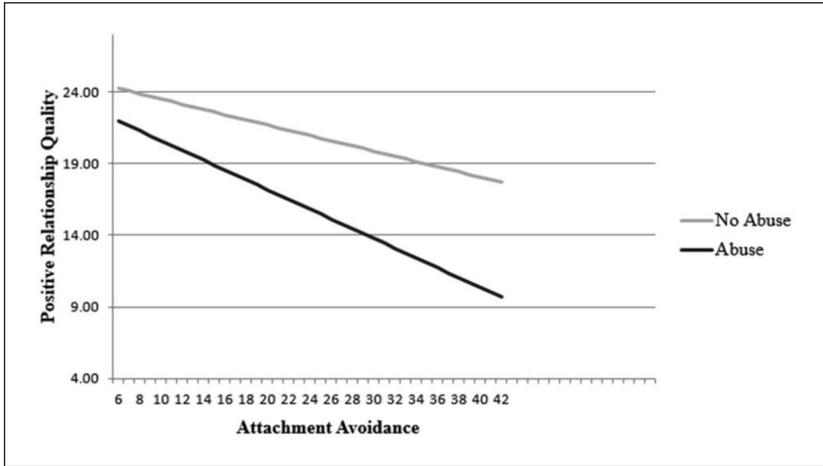


Figure 1. Simple slope analysis testing the interaction between cyber abuse and attachment avoidance on positive relationship quality.

negative relationship quality, nor did attachment anxiety moderate the relationship between cyber dating abuse and either dimension of relationship quality.

Cyber Dating Abuse and Attachment Avoidance

This research demonstrates that emerging adults who are victims of cyber dating abuse and are high in attachment avoidance reported significantly lower positive relationship quality (lower ratings of “enjoyable,” “pleasant,” “strong,” and “alive qualities of the relationship). However, attachment avoidance had no impact on the relationship between cyber dating abuse and ratings of negative relationship quality. This finding contradicts previous research, which suggests those involved in physical dating abuse report higher levels of negative relationship quality compared to non-victims yet may not experience any differences in positive relationship quality (Viejo et al., 2016).

One explanation for our finding that attachment avoidance had no influence on the relationship between cyber dating abuse and negative relationship quality could be that those with attachment avoidance tendencies have more negative beliefs about others across contexts (leading to negative perceptions of relationship quality) that are less impacted by whether or not cyber dating abuse takes place (Mikulincer & Shaver, 2007). On the other

hand, positive beliefs about one's partner or relationship may be subject to significant changes if cyber dating abuse occurs, as individuals attempt to "minimize emotional reliance and closeness" (Wright, 2015, p. 38). The findings from the current study extend the limited knowledge about cyber dating abuse, since positive perceptions of the relationship seem to be susceptible to the influence of cyber dating abuse for those high in attachment avoidance. This calls for further exploration on the different effects of cyber dating abuse on relationship quality perceptions in the context of other salient relational factors.

Cyber Dating Abuse and Attachment Anxiety

Our finding that attachment anxiety did not moderate the relationship between cyber dating abuse and either dimension of relationship quality lends interesting information. Some research suggests that anxiously attached individuals are more likely to preserve the relationship by acting out when confronted with conflict, resulting in partner-directed aggression (Simpson, Rholes, & Phillips, 1996). Therefore, anxiously attached individuals may perceive acts of cyber dating abuse as normal bids for attention or connection and may be less likely to change their perception of relationship quality based on abusive acts. The current study suggests that different attachment styles may play unique roles in how individuals assign meaning to abusive acts within their romantic relationships, and calls for closer examination of the way attachment insecurity impacts cyber dating abuse perpetration as well.

Clinical Implications

This study offers new insight for marriage and family therapists and other clinicians working with the emerging adulthood population who may be experiencing partner abuse. Clinicians should more thoroughly assess for partner abuse by asking systemic questions about social media use and the way partners communicate via technology. Assessing for attachment security early in treatment may be useful to clinicians who suspect that perceptions of relationship quality are unbalanced between partners. Incorporating psychoeducation about the impact of cyber dating abuse may provide a new systemic avenue to help couples interrupt and improve negative communication cycles that occur through technology. On the other hand, if couples are able to more thoughtfully and intentionally respond to conflict and/or abusive messages from their partner by using technology (e.g., texting), marriage therapists may have the opportunity to highlight exceptions to the negative communication cycles that occur due to the extra reaction time

non face-to-face communications allot. For instance, some participants report that having more time to construct a thoughtful message through text messaging is preferred over real-time phone calls during confrontational interactions (Rettie, 2009). In either case, clinicians can better understand a couple's process outside the therapy room by asking specific assessment questions about their technology-based relationship, as well as their relationship to technology itself.

Strengths, Limitations, and Future Directions

The present study contributes to a limited body of research on cyber abuse in the context of intimate relationships. In doing so, it examined both positive and negative dimensions of relationship quality. Whereas most measures conceptualize relationship quality as a unidimensional construct, we examined relationship quality as two-dimensional, providing a more nuanced understanding of the positive and negative elements of relationship quality (Fincham & Rogge, 2010).

Notwithstanding its strengths, several limitations need to be considered when interpreting the results. First the sample was predominantly female, restricting our ability to examine gender effects. Because of documented gender differences in relational abuse (Linder, Crick, & Collins, 2002; Schnurr, Mahatmya, & Basche III, 2013), it is important to examine both men and women in future research. Second, self-report measures were used. Such measures are subject to social desirability bias, which may lead to over reporting of positive aspects such as positive relationship quality, and under reporting of negative aspects of relationship quality and cyber abuse. Third, the current study only examined reports of partner cyber abuse behaviors. Including reports of own and partner behaviors would allow examination of an individual's influence on own outcomes (actor effects) and partner outcomes (partner effects). Fourth, identifying more individual-level factors that potentially influence the impact of cyber abuse on relationship quality need to be addressed. Previous violence victimization, for example, could increase the impact of cyber abuse on the cyber victim. Additionally, psychopathology, such as anxiety and depression, may also play a role in the impact of cyber abuse as it has been shown to impact relationship quality (Leach, Butterworth, Olesen, & Mackinnon, 2013) and is an outcome of psychological abuse (Eshelman & Levendosky, 2012). Lastly, the current study uses cross-sectional data, restricting our ability to make causal inferences. Researchers interested in extending our understanding of the link between cyber dating abuse and relationship quality should do so by establishing temporal precedence.

Conclusion

Extending previous research on the link between attachment security and problematic technology-based behavior (Ménard & Pincus, 2012; Strawhun et al., 2013), this study examined how insecure attachment styles may impact the relationship between cyber dating abuse and relationship quality. The study showed a significant interaction between cyber dating abuse and attachment avoidance in relation to positive relationship quality. However, attachment anxiety did not change the relationship between cyber dating abuse and either dimension of relationship quality. These findings contribute to our understanding of cyber abuse and the way attachment styles function in such abusive emerging adult relationships. Results from the current study also contribute to a growing body of literature that provide evidence for the need for dating violence prevention efforts.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Morgan Lancaster  <https://orcid.org/0000-0002-0574-176X>

References

- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469–80.
- Bennett, D., Guran, E., Ramos, M., & Margolin, G. (2011). College students' electronic victimization in friendships and dating relationships: Anticipated distress and associations with risky behaviors. *Violence and Victims*, *26*, 410–429. doi: 10.1891/0886-6708.26.4.410
- Bookwala, J. (2002). The role of own and perceived partner attachment in relationship aggression. *Journal of Interpersonal Violence*, *17*(1), 8–100.
- Borrajó, E., Gámez-Guadix, M., & Calvete, E. (2015). Cyber dating abuse: Prevalence, context, and relationship with offline dating aggression. *Psychological Reports*, *116*, 565–585. doi: 10.2466/21.16.PR0.116k22w4

- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Burke, S. C., Wallen, M., Vail-Smith, K., & Knox, D. (2011). Using technology to control intimate partners: An exploratory study of college undergraduates. *Computers in Human Behavior, 27*, 1162–1167. doi: 10.1016/j.chb.2010.12.010
- Capaldi, D. M., & Crosby, L. (1997). Observed and reported psychological and physical aggression in young, at-risk couples. *Social Development, 6*, 184–206. doi: 10.1111/j.1467-9507.1997.tb00101.x
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple correlation/regression analysis for the behavioral sciences*. UK: Taylor & Francis.
- Dailey, R., & Le Poire, B. (2003, May). *Exploring the relationship between hurtful messages and partner attachment*. Paper presented at the International Communication Association Conference, San Diego, CA.
- David-Ferdon, C., & Hertz, M. F. (2007). Electronic media, violence, and adolescents: An emerging public health problem. *Journal of Adolescent Health, 41*, S1–S5. doi: 10.1016/j.jadohealth.2007.08.020
- Drucker, C. B., & Martsof, D. S. (2010). The role of electronic communication technology in adolescent dating violence. *Journal of Child and Adolescent Psychiatric Nursing, 23*, 133–142. doi: 10.1111/j.1744-6171.2010.00235.x
- Duggan, M. (2013). *Cell phone activities*. Pew Research Center. Retrieved from <http://www.pewinternet.org/2013/09/19/cell-phone-activities-2013/>
- Epstein-Ngo, Q. M., Roche, J. S., Walton, M. A., Zimmerman, M. A., Chermack, S. T., & Cunningham, R. M. (2014). Technology-delivered dating aggression: Risk and promotive factors and patterns of associations across violence types among high-risk youth. *Journal of Violence and Gender, 1*, 131–133. doi: 10.1089/vio.2014.0018
- Eshelman, L., & Levendosky, A. A. (2012). Dating violence: Mental health consequences based on type of abuse. *Violence and Victims, 27*(2), 215–28.
- Fonagy, P., Leigh, T., Steele, M., Steele, H., Kennedy, R., Mattoon, G., . . . Gerber, A. (1996). The relation of attachment status, psychiatric classification, and response to psychotherapy. *Journal of Consulting and Clinical Psychology, 64*(1), 22–31. doi: 10.1037/0022-006X.64.1.22
- Fincham, F.D., & Rogge, R. (2010). Understanding relationship quality: Theoretical challenges and new tools for assessment. *Journal of Family Theory and Review, 2*, 227–242. doi: 10.1111/j.1756-2589.2010.00059.x
- Funk, J. L., & Rogge, R. D. (2007). Testing the ruler with item response theory: Increasing precision of measurement for relationship satisfaction with the Couples Satisfaction Index. *Journal of Family Psychology, 21*, 572–583. <http://dx.doi.org/10.1037/0893-3200.21.4.572>
- Giordano, P. C., Soto, D. A., Manning, W. D., & Longmore, M. A. (2010). The characteristics of romantic relationships associated with teen dating violence. *Social Science Research, 39*, 863–874. doi: 10.1016/j.ssresearch.2010.03.009

- Gray, H., & Foshee, V. A. (1997). Adolescent dating violence: Differences between one-sided and mutually violent profiles. *Journal of Interpersonal Violence, 12*, 126–141. doi: 10.1177/088626097012001008
- Hamby, S. (2013, March). The Partner Cyber Abuse Questionnaire: Preliminary psychometrics of technology-based intimate partner violence. Paper presented at the annual convention of the Southeastern Psychological Association, Atlanta, GA.
- Henderson, A. J., Bartholomew, K., Trinke, S. J., & Kwong, M. J. (2005). When loving means hurting: An exploration of attachment and intimate abuse in a community sample. *Journal of Family Violence, 20*(4), 219–230.
- Jiang, J. (May 2, 2018). Millennials stand out for their technology use, but older generations also embrace digital life. *Pew Research Center*. Retrieved from: <http://www.pewresearch.org/fact-tank/2018/05/02/millennials-stand-out-for-their-technology-use-but-older-generations-also-embrace-digital-life/>
- Katz, J., Kuffel, S. W., & Coblenz, A. (2002). Are there gender differences in sustaining dating violence? An examination of frequency, severity, and relationship satisfaction. *Journal of Family Violence, 17*, 247–271. doi: 10.1023/A:1016005312091
- Korchmaros, J.D., Ybarra, M. L., Langhinrichsen-Rohling, J., Boyd, D., & Lenhart, A. (2013). Perpetration of teen dating violence in a networked society. *Cyberpsychology, Behavior and Social Networking, 16*, 561–567. doi: 10.1089/cyber.2012.0627
- Leach, L. S., Butterworth, P., Olesen, S. C., & Mackinnon, A. (2013). Relationship quality and levels of depression and anxiety in a large population-based survey. *Social Psychiatry and Psychiatric Epidemiology, 48*, 417–425. doi: 10.1007/s00127-012-0559-9
- Li, T., & Chan, D. K-S. (2012). How anxious and avoidant attachment affect romantic relationship quality differently: A meta-analytic review. *European Journal of Social Psychology, 42*(4), 406–419. <http://dx.doi.org/10.1002/ejsp.1842>
- Linder, J. R., Crick, N. R., & Collins, W. A. (2002). Relational aggression and victimization in young adults' romantic relationships: Associations with perceptions of parent, peer, and romantic relationship quality. *Social Development, 11*, 69–86. doi: 10.1111/1467-9507.00187
- Locke, H. J., & Wallace, K. M. (1959). Short marital adjustment and prediction tests: Their reliability and validity. *Marriage and Family Living, 21*, 251–255. <http://dx.doi.org/10.2307/348022>
- Lucero, J., Weisz, A., Smith-Darden, J., & Lucero, S. (2014). Exploring gender differences: Socially interactive technology use/abuse among dating teens. *Affilia, 29*(4), 478–491. doi: 10.1177/0886109914522627
- Lyndon, A., Bonds-Raacke, J., & Cratty, A. D. (2011). College students' facebook stalking of ex-partners. *Cyberpsychology, Behavior, and Social Networking, 14*, 711–716. doi: 10.1089/cyber.2010.0588
- Madlock, P. E., & Westerman, D. (2011). Hurtful cyber-teasing and violence: Who's laughing out loud? *Journal of Interpersonal Violence, 26*, 3542–3560. doi: 10.1177/0886260511403749

- Marganski, A., & Fauth, K. (2013). Socially interactive technology and contemporary dating: A cross-cultural exploration of deviant behaviors among young adults in the modern, evolving technological world. *International Criminal Justice Review*, 23, 357–377. doi: 10.1177/1057567713513797
- Melander, L. A. (2010). College students' perceptions of intimate partner cyber harassment. *Cyberpsychology, Behavior, and Social Networking*, 13, 263–268. doi: 10.1089/cyber.2009.0221
- Ménard, K. S., & Pincus, A. L. (2012). Predicting overt and cyber stalking perpetration by male and female college students. *Journal of Interpersonal Violence*, 27, 2183–2207. doi: 10.1177/0886260511432144
- Mikulincer, M., & Shaver, P. R. (2007). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Morey, J. N., Gentzler, A. L., Creasy, B., Oberhauser, A. M., & Westerman, D. (2013). Young adults' use of communication technology within their romantic relationships and associations with attachment style. *Computers in Human Behavior*, 29(4), 1771–1778.
- Peskin, M. F., Markham, C. M., Shegog, R., Temple, J. R., Baumler, E. R., Addy, R. C., . . . Emery, S. T. (2017). Prevalence and correlates of the perpetration of cyber dating abuse among early adolescents. *Journal of Youth and Adolescence*, 46, 358–375. doi: 10.1007/s10964-016-0568-1
- Pettigrew, J. (2009). Textmessaging and connectedness within close interpersonal relationships. *Marriage & Family Review*, 45, 697–716. doi: 10.1080/01494920903224269
- Reed, L. A., Tolman, R. M., & Ward, L. M. (2016). Snooping and sexting: Digital media as a context for dating aggression and abuse among college students. *Violence Against Women*, 22, 1556–1576. doi: 10.1177/1077801216630143
- Rettie, R. (2009). SMS: Exploiting the interactional characteristics of near-synchrony. *Information, Communication & Society*, 12, 1131–1148. doi: 10.1080/13691180902786943
- Rogge, R. D., Fincham, F. D., Crasta, D., & Maniaci, M. R. (2017). Positive and negative evaluation of relationships: Development and validation of the Positive–Negative relationship quality (PN-RQ) scale. *Psychological Assessment*, 29, 1028–1043. doi: 10.1037/pas0000392
- Sargent, K. S., Krauss, A., Jouriles, E. N., & McDonald, R. (2016). Cyber victimization, psychological intimate partner violence, and problematic mental health outcomes among first-year college students. *Cyberpsychology, Behavior, and Social Networking*, 19, 545–550. doi: 10.1089/cyber.2016.0115
- Schade, L. C., Sandberg, J., Bean, R., Busby, D., & Coyne, S. (2013). Using technology to connect in romantic relationships: Effects on attachment, relationship satisfaction, and stability in emerging adults. *Journal of Couple & Relationship Therapy*, 12(4), 314–338. doi: 10.1080/15332691.2013.836051
- Schnurr, M. P., Mahatmya, D., & Basche III, R. A. (2013). The role of dominance, cyber aggression perpetration, and gender on emerging adults' perpetration of intimate partner violence. *Psychology of Violence*, 3, 70. doi: 10.1037/a0030601

- Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71*, 899–914. doi: 10.1037/0022-3514.71.5.899
- Smith, A., Rainie, L., & Zickuhr, K. (2011). *College students and technology*. Pew Research Center. Retrieved from <http://www.pewinternet.org/2011/07/19/college-students-and-technology/>
- Social Media Use in 2018. Pew Research Center, Washington, D.C. March 1, 2018. Retrieved from <https://www.pewinternet.org/2018/03/01/social-media-use-in-2018/>
- Straus, M. A. (2004). *Scoring the CTS2 and CTSPC*. Retrieved September 7, 2016. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.295.2407&rep=rep1&type=pdf>
- Strawhun, J., Adams, N., & Huss, M. T. (2013). The assessment of cyberstalking: An expanded examination including social networking, attachment, jealousy, and anger in relation to violence and abuse. *Violence and Victims, 28*, 715–730. doi: 10.1891/0886-6708.11-00145
- Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology, 29*(6), 420–433. doi: 10.1016/j.appdev.2008.07.003
- Temple, J. R., Choi, H. J., Brem, M., Wolford-Clevenger, C., Stuart, G. L., Peskin, M. F., & Elmquist, J. (2016). The temporal association between traditional and cyber dating abuse among adolescents. *Journal of Youth and Adolescence, 45*, 340–349. doi: 10.1007/s10964-015-0380-3
- Van Ouytsel, J., Ponnet, K., Walrave, M., & Temple, J. R. (2016). Adolescent cyber dating abuse victimization and its associations with substance use, and sexual behaviors. *Public Health, 135*, 147–151. doi: 10.1016/j.puhe.2016.02.011
- Van Ouytsel, J., Torres, E., Choi, H. J., Ponnet, K., Walrave, M., & Temple, J. R. (2017). The associations between substance use, sexual behaviors, bullying, deviant behaviors, health, and cyber dating abuse perpetration. *The Journal of School Nursing, 33*, 116–122. doi: 10.1177/1059840516683229
- Vangelisti, A. L., & Young, S. L. (2000). When words hurt: The effects of perceived intentionality on interpersonal relationships. *Journal of Social and Personal Relationships, 17*, 393–424. doi: 10.1177/0265407500173005
- Varghese, M. E., & Pistole, M. C. (2017). College student cyberbullying: Self-esteem, depression, loneliness, and attachment. *Journal of College Counseling, 20*, 7–21. doi: 10.1002/jocc.12055
- Viejo, C., Monks, C. P., Sanchez, V., & Ortega-Ruiz, R. (2016). Physical dating violence in Spain and the United Kingdom and the importance of relationship quality. *Journal of Interpersonal Violence, 31*, 1453–1475. doi: 10.1177/0886260514567963
- Wei, M., Russell, D. W., Mallinckrodt, B., & Vogel, D. L. (2007). The Experiences in Close Relationship Scale (ECR)-short form: Reliability, validity, and factor structure. *Journal of Personality Assessment, 88*, 187–204. doi: 10.1080/00223890701268041

- Weisskirch, R. S., & Delevi, R. (2011). "Sexting" and adult romantic attachment. *Computers in Human Behavior, 27*(5), 1697–1701.
- Wick, S. E., Nagoshi, C., Basham, R., Jordan, C., Kim, Y. K., Nguyen, A. P., & Lehmann, P. (2017). Patterns of cyber harassment and perpetration among college students in the united states: A test of routine activities theory. *International Journal of Cyber Criminology, 11*, 24–38. doi: 10.5281/zenodo.495770
- Wright, M. F. (2015). Cyber aggression within adolescents' romantic relationships: Linkages to parental and partner attachment. *Journal of Youth and Adolescence, 44*, 37–47. doi: 10.1007/s10964-014-0147-2
- Yahner, J., Dank, M., Zweig, J. M., & Lachman, P. (2015). The co-occurrence of physical and cyber dating violence and bullying among teens. *Journal of Interpersonal Violence, 30*, 1079–1089. doi: 10.1177/0886260514540324
- Zweig, J. M., Dank, M., Yahner, J., & Lachman, P. (2013). The rate of cyber dating abuse among teens and how it relates to other forms of teen dating violence. *Journal of Youth and Adolescence, 42*, 1063–1077. doi: 10.1007/s10964-013-9922-8
- Zweig, J. M., Lachman, P., Yahner, J., & Dank, M. (2014). Correlates of cyber dating abuse among teens. *Journal of Youth and Adolescence, 43*, 1306–1321. doi: 10.1007/s10964-013-0047-x