

# “Oh Snap!”: A Mixed-Methods Approach to Analyzing the Dark Side of Snapchat

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Snapchat, a multimedia messaging application, has over 300 million users and is currently the third most popular social media platform for young adults. Despite its popularity and unique ephemeral content, few studies examine how Snapchat is related to mental and relational health. The goal of this study therefore is to employ a mixed-methods approach to examine the dark side of Snapchat, paying close attention to how the behaviors and ephemeral content on this platform may be detrimental for young adults' mental health and the quality of their romantic relationships. Quantitative data comes from 118 undergraduate students who completed an online survey. Qualitative data comes from 10 undergraduate students who participated in one-on-one, in-depth interviews and another 11

students who participated in two focus groups. Results reveal that intensity of Snapchat use is associated with lower mental health. Additionally, spending time on Snapchat, communicating with others on Snapchat, monitoring ex-partners on Snapchat, and using the Snap Map feature are associated with increased jealousy in romantic relationships. In short, Snapchat appears detrimental for young adults' mental health and romantic relationships. The study concludes with practical advice for Snapchat users that may promote mental well-being and healthy romantic relationship development.

*Keywords:* Snapchat, mixed-methods, ephemeral content, mental health, romantic relationships

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**S**napchat, a mobile application that allows users to share ephemeral videos, pictures, and messages (i.e., “snaps”), is a pop culture phenomenon. Snapchat currently has over 300 million users, 63% of which use the application regularly, and more than three billion snaps are created and exchanged each day (Iqbal, 2019). Although the use of Snapchat is increasing exponentially across all age groups (Snap Inc., 2019), most users are young adults between the ages of 18 and 24 who live in the United States. In fact, 78% of this demographic actively uses the application, making Snapchat the third most popular application for young adults, trailing shortly behind YouTube and Facebook (Smith & Anderson, 2018).

Given Snapchat's popularity and unique ephemeral content, combined with previous research indicating that too much time spent on social media can negatively impact mental health and interpersonal well-being as well as significantly influence romantic relationship processes (Clayton, Nagurney, & Smith, 2013; Emery, Muise, Alpert, & Le, 2015; LeFebvre, Blackburn, & Brody, 2015; Twenge, Joiner, Rogers, & Martin, 2017; Vannucci, Flannery, & Ohannessian, 2018) more research is needed concerning how this mobile application influences personal and relational well-being. Therefore, the goal of this study is to employ a mixed-methods approach to thoroughly examine the dark side of Snapchat, paying close attention to how the behaviors and ephemeral content on this platform may be detrimental for individuals' mental health and the quality of their romantic relationships.

In order to meet this goal, we first describe Snapchat. Second, we review relevant literature. Third, we detail our mixed-methods approach. Fourth, we share and discuss our results with a focus on the benefits of our methodological approach. We conclude by highlighting the pragmatic benefits of our findings and offering potential suggestions for current and future Snapchat users.

## **Snapchat**

Snapchat was created in 2011 by three (now former) Stanford University students, Evan Spiegel, Bobby Murphy, and Reggie Brown. Snap Inc., the company that owns and operates Snapchat, defines Snapchat as a camera that is connected to users' friends and to the world with the goal of improving the way people live, communicate, and learn about the world. Though Snapchat is a multimedia platform that allows for text-based messages to be sent and received, the emphasis on the camera feature speaks to the visual nature of Snapchat, which is a large draw of the platform (Jeong & Lee, 2017).

When users send a "snap," which can be a video, a picture, or a text-based message, it can only be viewed once and for no more than ten seconds; the only trace left is a timestamp indicating when the snap was received. Snaps can be sent directly to one person or to multiple people at one time. Users can also post a snap to the "My Story" feature, which allows users to share their snaps with all of their friends on Snapchat. Stories can be viewed for 24 hours by anyone on a user's Snapchat social network. After 24

hours, all stories disappear. More than 400 million Snapchat stories are created every day (Aslam, 2018).

Snapchat is a highly social application. Users can easily send their friends snaps, engage in multimedia conversations with their friends using a private chat function, participate in conversations within designated groups, post snaps to their stories, view others' stories—the most common social behavior on Snapchat (Piwek & Joinson, 2016; Utz, Muscanell, & Khalid, 2015)—add new friends to their network, and more. Users add people to their Snapchat network by simply inputting their username or phone number. Users can also scan another user's Snapchat QR-code, which is displayed on their “contacts menu” in the application.

Adding to the rich social interaction on Snapchat are some of its many unique features, such as replays, which allow users to re-watch a snap that they have already viewed. Users are given one free replay per snap that is sent to them. Snapchat also allows users to create a profile picture that is displayed to their social networks or they can link their profile to Bitmoji, which creates a cartoon avatar that resembles the user. Another unique feature of Snapchat is Snap Map, which was introduced in June 2017. Snap Map uses geolocation to let users share their location as well as view nearby friends and stories. In terms of content, Piwek and Joinson (2016) discuss twelve different categories of snaps that individuals send to and receive from others: selfie, screenshot, food, object, message, other people, location, coursework, animal, explicit, other, and do not remember.

## **LITERATURE REVIEW**

### **Snapchat**

As Snapchat has grown in popularity, so too has the research seeking to understand and explain this platform. Among the studies focused on Snapchat are those that address why individuals use the platform. A study by Utz, Muscanell, and Khalid (2015) was one of the first to examine user motivations. Findings indicate that the two most common motivations are distraction/procrastination and keeping in touch with friends and family. The least common motivation is to meet new friends. Punyanunt-Carter, De La Cruz, and Wrench (2017) claim that Snapchat is used, especially among college students, because it is fun and practical. A study by Jeong and Lee (2017) illustrate how the unique visual and

real-time features of Snapchat generate increased social presence—which other social media platforms lack—hence the draw to use the platform. The most recent study to address why individuals use Snapchat was produced by Makki, DeCook, Kadylak, and Lee (2018) whose findings reveal that people primarily use Snapchat to be accepted and affiliated, as well as to develop and maintain relationships with others.

Related to studies that focus on why Snapchat is used are those that focus on how it is used. Some of these studies pinpoint the ways in which Snapchat's ephemeral content encourages sexting (Poltash, 2013), normalizes selfies (Charteris, Gregory, & Masters, 2014; Piwek & Joinson, 2016), and makes the platform an ideal lightweight channel for sharing spontaneous experiences (Bayer, Ellison, Schoeneback, & Falk, 2016) such as witnessing one's favorite team score at a sports game (Billings, Qiao, Conlin, & Nie, 2017). A similar study by Roesner, Gill, and Kohno (2014) finds that, contrary to popular belief, most people do not use Snapchat to send sensitive content and that taking screenshots of snaps is a common and accepted practice, not a violation of the sender's trust.

Among the niche studies on Snapchat is one that addresses how Snapchat use is impacted by passion but not concern for privacy (Lemay, Doleck, & Bazalais, 2017) and another that investigates how Snapchat is used as a tool for sexual access, finding that men are more likely than women to use the platform as such. A different study by Grieve (2017) analyzes the characteristics of Snapchat users and concludes that they tend to be younger, value social connectedness, rely more on graphics when communicating, use technology regularly, and prefer online social interaction more than non-users.

Apart from the aforementioned studies about Snapchat are those that compare the platform to Facebook, Twitter, and Instagram. Phua, Jin, and Kim (2017) focus on the differing influence of online bridging and bonding social capital on these platforms and find that Snapchat is most ideal for bonding social capital. Alhabash and Ma (2017) compare college students' motivations and uses of these platforms. Findings reveal that college students use Snapchat primarily for entertainment and convenience, followed by medium appeal, passing time, self-expression, social interaction, and information sharing. Bossetta (2018) analyzes differences in political campaigning between these platforms and concludes that, while Snapchat encourages a more informal mode of communication to connect with constituents, the audiences tend to be smaller than other platforms. Utz et

al. (2015) only compares Snapchat to Facebook, concluding that Snapchat elicits higher levels of jealousy.

Additional studies address how Snapchat influences the development of interpersonal relationships between young adults (Handyside & Ringrose, 2017; Vaterlaus, Barnett, Roche, & Young, 2016; Velten & Arif, 2016). Velten and Arif (2016), for example, find that Snapchat can (1) move a relationship from the experimenting to intensifying stage, (2) reinitiate family relationships, and (3) play a role in relationship maintenance, including strategic partner avoidance. Part of Snapchat's interpersonal strength is explained by Vaterlaus et al. (2016) who find that Snapchat allows users to connect more deeply as well as avoid the potential for miscommunication because snaps, unlike a simple text message, regularly include pictures overlaid with text to clarify meaning and share emotion. As Snapchat continues to grow and influence interpersonal relationships, romantic or not, it is important that more research is done to further investigate this influence—a recognition that drives the current study.

### **Social Media and Romantic Relationships**

Several studies have addressed the connection between romantic relationships and social media. Subjects range from the formation and development of romantic relationships on Facebook (Fox & Anderegg, 2014; Fox & Warber, 2013; Fox, Warber, & Makstaller, 2013) to the use of various social media platforms for relationship maintenance (Billedo, Kerkhof, & Finkenauer, 2015; Fox, Osborn, & Warber, 2014; Stewart, Dainton, & Goodboy, 2014). For instance, studies have addressed how romantic relationships are presented on these social media platforms (Carpenter & Spottswood, 2013; Emery, Muise, Alpert, & Le, 2015; Mod, 2010; Saslow, Muise, Impett, & Dubin, 2013). Related studies have analyzed the relationship between these platforms and relationship satisfaction (Cole, Leonard, & McAuslan, 2018; Hand, Thomas, Buboltz, Deemer, & Buyanjargal, 2013; Langlais, Seidman, & Bruxvoort, 2018; Manvelyan, 2016), defined as the interpersonal evaluation an individual has that “encompasses all of the positive and negative feelings associated with a relationship” (Rusbult & Buunk, 1993, p. 179).

Although studies have reported benefits for romantic relationship development (e.g., Billedo et al., 2015), other studies have illustrated how social media can be

detrimental to relationships. For instance, studies have focused on social media's role in fostering jealousy in romantic relationships (Drouin, Miller, & Dibble, 2014; Elphinston & Noller, 2011; Fox & Moreland, 2015; Frampton & Fox, 2018; Marshall, Bejanyan, Di Castro, & Lee, 2013; Muise, Christofides, & Desmarais, 2009; Utz & Beukeboom, 2011). Coinciding with studies about jealousy that address the dark side of social media in the context of romantic relationships are those that address the presence, negotiation, and impact of partner surveillance via social media. Tokunaga (2011), for example, argues that people increasingly use social media to engage in the surveillance of others. Related studies pinpoint motives for online surveillance and conclude that such surveillance is an indicator of low-quality relationships (Fox & Warber, 2014; Tokunaga, 2016). Fox and Tokunaga (2015) argue that social media enables online surveillance after relational termination, which may promote rumination that hinders post-relationship recovery.

There are also several studies that address the link between infidelity and Facebook (Abbasi & Alghamdi, 2017; Abbasi & Alghamdi, 2018; Clayton, Nagurney, & Smith, 2013; Cravens, Leckie, & Whiting, 2013), Twitter (Clayton, 2014), and social media sites in general (McDaniel, Drouin, & Cravens, 2017). Each of these studies, in different ways, argue that high levels of social media use can lead to relationship damaging behaviors that signify infidelity, such as flirting and establishing emotional as well as physical intimacy with someone other than an established romantic partner. Another noteworthy and burgeoning area of research focuses on relational dissolution in the context of social media (Choi & Toma, 2017; DeGroot, & Vik, 2017; Fox & Tokunaga, 2015; Haimson, Andalibi, De Choudhury, & Hayes, 2018; LeFebvre et al., 2015; Lukacs & Quan-Haase, 2015; Tong, 2013). Essentially, these studies provide evidence that increased social media use is related to lower romantic relationship quality.

Based on literature reviewed above, social media influences romantic relationship processes. While several studies have addressed this influence, many focus primarily on Facebook or social media broadly. Given the increasing popularity of Snapchat, particularly among young adults, it is vital that research address the role of Snapchat in romantic relationships and how it is related to young adults' romantic relationship quality. Understanding this information will increase understanding of Snapchat's role in

romantic relationship processes and can be used to promote healthy romantic relationship development and maintenance.

### **Mental Health and Social Media**

Although some research indicates that there is a null relationship between social media use and mental health (Berryman, Ferguson, & Negy, 2017), other research has provided evidence that spending a significant amount of time on social media is associated with poor sleep quality, low self-esteem, and high levels of anxiety and depressive symptoms, particularly for teens and young adults (Ginsberg & Burke, 2017; Kross et al., 2013; Twenge, Joiner, Rogers, & Martin, 2018; Vannucci, Flannery, & Ohannessian, 2018; Woods & Scott, 2016). Although these studies do not consistently define what “too much social media time” is, the direction of the association between social media use and mental health is consistent. For instance, Wegmann and colleagues (2017) found that accessing social media on a mobile device was associated with increased psychopathology, but was mediated by social network intensity, meaning that spending time on social media was detrimental for mental health when the use of social media was particularly high.

Additionally, many studies examining social media and mental well-being primarily focus on Facebook. For example, Kross and colleagues (2013) revealed that more time on Facebook is associated with lower cognitive well-being and Vannucci and colleagues (2018) found Facebook use to be positively associated with anxiety. A related study by Ginsberg and Burke (2017) found that individuals who “like” more material on Facebook are more likely to report lower levels of mental health. Generally, this group of research illustrates that high Facebook use is negatively associated with mental health.

Other studies have examined social media broadly, focusing on the combined use of social media in relation to mental well-being. For example, Vannucci and colleagues (2018) found that higher daily use of social media is associated with more frequent and intense experiences of anxiety, particularly for males. Twenge et al. (2017) found a correlation between social media screen time and depressive and suicidal symptoms. Based on these studies, there is an anxiety associated with the desire for reciprocation and approval derived from social media that is bad for mental health. Other studies have discovered similar trends, with the use of multiple social media platforms being positively associated with higher levels of depression and anxiety (Wegmann, Oberst, Stodt, & Brand, 2017;

Royal Society for Public Health, 2017; Sidani, Shensa, Hoffman, Hanmer, & Primack, 2016). One explanation for this association, according to a recent study, is that individuals tend to compare themselves to others on social media, which leads to negative self-comparison, stress, and depressive symptoms (Ginsberg & Burke, 2017).

The literature reviewed above collectively suggests a negative relationship between using social media and mental health. However, few studies have strictly focused on Snapchat, which is one of the three most popular social media platforms. Given the unique ephemeral nature of Snapchat, where content that is shared disappears after it is opened and viewed by recipients, this platform is likely to have a distinct impact on individuals' mental health that may be different from other social media platforms. For example, if someone in a relationship receives snaps from former partners or potential alternative partners, this could cause their current partner to experience jealousy and/or anxiety since they are not privy to the content of the snaps given that they disappear. Consequently, a deeper investigation of the relationship between Snapchat and mental health is warranted in order to promote mental well-being.

## **METHODS**

This IRB-approved study sought to answer the following research questions: How do young adults negotiate the presence of Snapchat in their everyday lives? Does Snapchat have an impact on young adults' mental health? How do young adults integrate Snapchat in their romantic relational processes? Does Snapchat impact the quality of young adults' romantic relationships? To answer these questions, we employed a mixed-methods approach by gathering data from an online survey, in-depth interviews, and focus groups completed by students from a midsize university located in the Midwestern United States. Our reasoning for using two qualitative methods is twofold. First, given the personal nature of our questions (see Appendix A and B), we wanted participants to have some agency in determining the setting in which they would feel most comfortable answering these questions. Second, using two qualitative methods enabled us to solicit a wider variety of responses so that we would be better equipped to elaborate on the significant results found via the quantitative data derived from the survey.



## Participants

Participants were initially recruited through announcements in courses offered by the departments associated with the authors. In these announcements, students were informed they would receive extra credit if they completed an online survey. Students were then sent an e-mail that described the study in more detail and reminded them about the extra credit opportunity. The e-mail also contained a hyperlink that directed them to a web page, which displayed the informed consent form for the study. At the bottom of the page was a button that read, “I Agree.” Those who clicked this button consented to participate in the study and were granted access to the survey. Informed consent was obtained from all participants.

A sample size of 118 participants took the online survey; 10 of these participants also engaged in an in-depth interview and 11 partook in focus groups. Descriptive statistics for this sample are presented in *Table 1*. The requirements for participation in this study were to be a legal adult (at least 18 years of age or older) and to currently use Snapchat. Participants were predominantly female (80.5%) and approximately 21.72 years old ( $SD = 5.90$ ; range: 18-59). The ethnic composition of participants in the sample was 87.3% White/Caucasian, 4.2% Hispanic, 1.7% Asian American, 1.7% Black/African American, .9% Native American, and 4.2% other. Apart from gender, this sample was representative, based on regional demographics, of the population from the area in which participants were recruited. Based on demographic information, there were no mean differences between participants who participated in the interviews or focus groups and participants who did not participate in the interviews or focus groups.

**Table 1** *Descriptive Statistics for Study Sample.*

		Male ( <i>n</i> = 23)	Female ( <i>n</i> = 95)	Total ( <i>N</i> = 118)	<i>F</i> (2, 117)	$\chi^2$ (2, 117)
Age		23.81 (9.05)	21.24 (4.85)	21.72 (5.90)	3.30	---
Education Status	Freshmen	2 (8.7)	27 (28.4)	29 (24.6)	---	10.78*
	Sophomore	1 (4.3)	18 (18.9)	19 (16.1)		
	Junior	7 (30.4)	21 (22.1)	28 (23.7)		
	Senior	9 (39.1)	24 (25.3)	33 (28.0)		
	Five or more years	4 (17.4)	5 (5.3)	9 (7.6)		
Ethnicity	White/Caucasian	19 (82.6)	84 (88.4)	103 (87.2)	---	8.70
	Hispanic	1 (4.3)	6 (6.3)	7 (5.9)		
	Asian/Pacific Islander	1 (4.3)	1 (1.0)	2 (1.7)		

	Black/African American	1 (4.3)	0 (0.0)	1 (0.8)		
	Other	1 (4.3)	4 (4.2)	5 (4.2)		
Sexual Orientation	Heterosexual	21 (91.3)	90 (94.7)	111	---	6.31
	Homosexual	1 (4.3)	1 (1.0)	2 (1.7)		
	Bisexual	0 (0.0)	4 (4.2)	4 (3.4)		
	Other	1 (4.3)	0 (0.0)	1 (0.8)		
Relationship Status	Single	13 (56.5)	33 (34.7)	46 (39.0)	---	9.51*
	Casually Dating	3 (13.0)	6 (6.3)	9 (7.6)		
	Serious Dating	4 (17.4)	49 (51.6)	53 (44.9)		
	Engaged	0 (0.0)	1 (1.0)	1 (.08)		
	Married	3 (13.0)	6 (6.3)	9 (7.6)		
Snapchat Behaviors <sup>a</sup>	Minutes on Snapchat	29.13 (54.52)	54.18 (94.52)	49.30 (87.67)	1.52	---
	Sending snaps	3.36 (3.13)	3.80 (3.05)	3.72 (3.05)	.36	---
	Receiving snaps	3.77 (3.38)	4.15 (3.11)	4.08 (3.15)	.25	---
	Posting snaps to one's story	2.64 (1.81)	2.87 (1.56)	2.83 (1.61)	.38	---
	Commenting on others' stories	2.64 (1.43)	2.72 (1.40)	2.71 (1.40)	.07	---
	Looking at others' stories	4.50 (2.06)	4.93 (1.85)	4.84 (1.89)	.90	---
	Using chat on Snapchat	3.64 (2.01)	3.93 (1.86)	3.87 (1.88)	.42	---
	Using snap maps	2.14 (1.49)	2.68 (2.01)	2.58 (1.93)	1.42	---
	Snapchat intensity	2.90 (1.20)	3.36 (1.10)	3.27 (1.13)	3.17	---
Relationship Quality <sup>b</sup>	Relationship Satisfaction	4.89 (2.05)	5.48 (1.71)	5.37 (1.78)	1.70	---
	Commitment	5.00 (2.17)	5.74 (1.78)	5.60 (1.87)	2.47	---
	Jealousy	1.49 (.86)	1.65 (.88)	1.62 (.88)	.60	---
Interpersonal Health <sup>c</sup>	Anxiety	1.43 (.56)	1.54 (.54)	1.52 (.54)	.78	---
	Depressive Symptoms	1.50 (.79)	1.52 (.48)	1.52 (.55)	.03	---
	Stress	1.66 (.70)	1.80 (.59)	1.77 (.61)	.97	---

*Notes.* Gender, educational status, ethnicity, sexual orientation, and relationship status are presented as counts with column percentages in parentheses; all other information is presented as averages with standard deviation in parentheses.

<sup>a</sup>Sending and receiving snaps are frequency counts, whereas other variables are measured on a scale from 1 (*Never*) to 7 (*All the time*); Snapchat Intensity is on a scale of 1 (*strongly disagree*) to 7 (*strongly agree*), with larger numbers signifying more intense Snapchat use.

<sup>b</sup>Relationship quality is measured on a scale from 1 to 5, with larger numbers signifying higher relationship quality or jealousy.

<sup>c</sup>Interpersonal health is measured on a scale of 0 to 3, with higher numbers signifying higher symptoms.

\*  $p < .05$ .

## Procedures

**Online Survey.** The online survey, hosted by Qualtrics, was comprised of 75 questions and took approximately 30 minutes to complete. Several variables were measured in the survey, including: frequency of Snapchat use, experiences of using Snapchat, hurt feelings, fear of missing out (FOMO), indicators of participants' mental

health, and romantic relationship quality with a particular focus on commitment, satisfaction, and jealousy. Each of these scales came from pre-existing studies in the social media literature, besides frequency measures of using Snapchat, which the authors developed based on information collected from previous studies on Snapchat (e.g., Piwek & Joinson, 2016). At the end of the online survey, participants were directed to a separate link where they could sign up to participate in a one-on-one, in-depth interview or a focus group with a principal investigator, where qualitative information concerning Snapchat would be collected. Participation in these interviews and focus groups was completely optional, and those who opted to participate were given a \$10 Amazon gift card.

**In-Depth Interviews.** After administering the online survey, one of the principal investigators e-mailed those who opted to participate in a one-on-one in-depth interview. A total of 10 people—three males and seven females between the ages of 18 and 22—responded to the e-mail and were subsequently interviewed by one of the principal investigators. The interviews were conducted using a semi-structured protocol consisting of 15 questions inquiring about the use of Snapchat in the context of romantic relationships (see Appendix A). Each interview was audio recorded and took place in a private room at the university where the study was administered to ensure anonymity. The interviews lasted approximately 30 minutes and were transcribed verbatim using pseudonyms in place of actual names to protect the identity of informants. The transcriptions totaled 90 pages in length.

**Focus Groups.** Shortly after interviews were conducted, two focus groups took place. A focus group involves working with a group of people to discuss an issue and share a variety of opinions in a focused manner. Because they involve and seek the knowledge, ideas, and opinions of a group of people, focus groups are valuable for gaining in-depth knowledge about a subject (Wilkinson, 2016).

Focus groups for this study were formed by one of the principal investigators who e-mailed those who had taken the survey and opted to participate in a focus group. Eleven people—two males and nine females between the ages of 18 and 25—responded to the e-mail. Based on their availability, the 11 participants were split into two different focus groups, one consisting of four females, and the other consisting of two males and five females. To conduct these groups, a semi-structured protocol consisting of five questions

(see Appendix B) was used. Each focus group lasted approximately one hour and was transcribed verbatim using pseudonyms in place of actual names to protect the identity of informants. The transcriptions totaled 40 pages in length.

## Measures

**Snapchat Behaviors.** Several behaviors regarding Snapchat use were collected for this study via the online survey. First, participants indicated how many minutes on average they spent on Snapchat each day through an open-ended response. Participants also indicated on a scale of 1 (*not at all*) to 7 (*very often*) about how often they sent snaps, received snaps, posted snaps to their story, commented on others' stories, viewed others' stories, privately chatted with others on Snapchat, and used Snapchat to locate others in their social network. Means and standard deviations for these variables are presented in *Table 1*.

**Snapchat Intensity.** Snapchat intensity was measured using a modified version of the Social Network Intensity scale (Salehan & Negahban, 2013). This scale had five items, such as "I feel out of touch when I haven't logged onto Snapchat for a day," with responses ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher means represent more intense use of Snapchat. Reliability of this measure was acceptable (Cronbach's alpha = .92).

**Mental Health.** Mental health was assessed using the Depression, Anxiety, and Stress Scales (DASS-21; Henry & Crawford, 2005). This scale is comprised of three subscales, each measuring a different measure of mental health (depression, anxiety, and stress). Each subscale is comprised of seven items and asks participants if they experienced various behaviors over the given week. Example items include, "I felt that life was meaningless" (depression), "I felt I was close to panic" (anxiety), and "I found it difficult to relax" (stress). Responses ranged from 0 (*Did not apply to me at all*) to 3 (*Applied to me very much, or most of the time*). Higher means represented more significant symptoms and lower mental health. Reliability for each subscale was acceptable (Cronbach's alpha = .82, .88, and .85, respectively).

**Relationship Quality.** Participants currently in romantic relationships answered questions regarding relationship quality ( $n = 72$ ). Relationship quality was measured using three different scales. First, the relationship satisfaction and commitment subscales

of the Perceived Relationship Quality Components Inventory (Fletcher, Simpson, & Thomas, 2000) were used. An example of the 3-item satisfaction scale is “How content are you with your relationship?” and an example of the 3-item commitment scale is “How dedicated are you to the relationship?” with responses ranging from 1 (*not at all*) to 7 (*extremely*). Reliability of these two subscales were acceptable (Cronbach’s alpha = .97 and .98, respectively). Jealousy was measured using the 9-item social media jealousy scale by Nongpong and Charoensukmongkol (2016), which was modified for Snapchat use. An example item was “You feel that your partner has contacts on Snapchat that he or she does not want you to know” with responses ranging from 1 (*never*) to 5 (*a lot*). This scale illustrated acceptable internal consistency (Cronbach’s alpha = .95).

**Monitoring an Ex-Partner.** This variable was measured using the Interpersonal Electronic Surveillance scale (Fox & Tokunaga, 2015) and revised for Snapchat use. An example of this 4-item scale is “I am generally aware of my ex-partner’s Snapchat activities” with responses ranging from 1 (*completely agree*) to 5 (*completely disagree*) but was reverse-coded for ease of interpretation. An “N/A” option was provided for participants who did not have an ex-partner, which 21 participants selected. The mean for monitoring an ex was 2.12 ( $SD = 1.35$ ) and this measure yielded acceptable reliability (Cronbach’s alpha = .95).

### Data Analysis

To analyze the quantitative data, a bivariate correlation analysis was conducted with all study variables, including mental health (anxiety, depressive symptoms, and stress), romantic relationship quality (satisfaction, commitment, and jealousy), and various behaviors on Snapchat as well as intensity of Snapchat use. Subsequently, regression analyses were conducted to determine the strength of the relationship between mental health, relationship quality, and Snapchat behaviors. Step 1 included control variables (age, gender, ethnicity-dichotomized, and sexual orientation-dichotomized). Step 2 included the independent variables, which were the Snapchat behaviors. Each Snapchat variable was analyzed independently in order to avoid multicollinearity. For the first set of analyses, mental health was the criterion variable. For the second set of analyses, relationship quality was the criterion variable. Changes in  $R^2$  were captured in order to identify how much of the variance was explained by variables in Step 2 from Step 1.

For the qualitative data, an inductive thematic analysis was used to identify common themes. This process involved several steps. First, each author became familiar with the data by reading transcripts from both the interviews and focus groups a minimum of five times. During this stage, similar and/or repeated responses were marked with a code used to represent a theme. Next, each author compared and contrasted their individual coding scheme to arrive at a consensus about which codes should be used to sort and analyze the data. In order to reach this consensus, codes were merged, subdivided, or eliminated if necessary, to ensure a coding framework that best represented the data. Once the coding framework was agreed upon, the first author manually coded all transcripts. Finally, the second author carefully reviewed the coded data to ensure that coding framework was appropriately applied, and that participants' experiences were accurately presented.

The final step of data analysis involved merging the quantitative and qualitative data sets. To do so, we looked for themes that emerged from the qualitative data, which supported the statistically significant correlations and regression results from the quantitative data. Through this approach, we essentially privileged the quantitative results and used the qualitative data to provide further insight into the correlations and regression analyses—a process that not only validated but also illustrated the significant quantitative findings. We demonstrate and expound upon this process in the following section (Creswell & Plano Clark, 2011).

## RESULTS

### Mental Health

The initial goal of data analyses was to identify the relationship between using Snapchat and mental health, specifically depression, anxiety, and stress. A correlation analysis was conducted first with all participants. Results of this analysis are presented in *Table 2*. Linear regression analyses were also conducted to further examine the relationship between Snapchat use and mental health. These results are presented in *Table 3*. Although different from the correlation analyses, regression results indicate that minutes spent on Snapchat are positively associated with all three indicators of mental health: anxiety, depression, and stress. One explanation for the difference between the

significant findings with the correlation and regression results would be that we controlled for age, gender, sexual orientation, and ethnicity with the regression analyses, providing a stronger depiction of the relationship between mental health and Snapchat use. From the regression results, it appears that spending time on Snapchat is related to lower levels of mental health, regardless of age, gender, ethnicity, and sexual orientation. It could also be that individuals with lower levels of mental health spend more time on Snapchat. On a different but equally vital note, the change in  $R^2$  was significant for four of the models predicting stress, with 4-8% of the variance attributed to Snapchat variables (i.e., minutes on Snapchat, chatting on Snapchat, Using Snap Map, and Snapchat intensity). In other words, Snapchat behaviors explain a significant amount of the stress reported by participants in this study.

Table 2  
*Correlations of mental health and Snapchat behaviors by gender (N = 118).*

Study Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Anxiety	---	.71**	.80**	.18	-.03	-.02	.15	.16	.16	.09	.14	.26*
2. Depressive symptoms	.81**	---	.72**	.19	.01	.04	.21*	.13	.19	.24*	.23*	.33**
3. Stress	.80**	.79**	---	.26*	.00	.04	.10	.15	.17	.20	.28**	.32**
4. Minutes on Snapchat	.39	.24	.32	---	.48**	.51**	.15	.17	.23*	.15	.33**	.29**
5. Sending snaps	-.22	-.15	.06	.32	---	.97**	.28**	.24*	.29**	.30**	.36**	.52**
6. Receiving snaps	-.22	-.17	.02	.38	.97**	---	.30**	.27**	.31**	.32**	.35**	.54**
7. Posting snaps	-.13	-.19	-.02	.19	.26	.34	---	.60**	.47**	.49**	.36**	.32**
8. Commenting on stories	.17	.10	.24	.37	.32	.38	.55**	---	.43**	.45**	.41**	.46**
9. Looking at stories	.04	-.07	.14	.23	.38	.37	.56**	.66**	---	.37**	.45**	.53**
10. Chatting	.21	.14	.36	.18	.37	.36	.35	.58**	.78**	---	.37**	.54**
11. Using Snap Map	.35	.26	.52*	.61**	.51*	.57**	.44*	.72*	.57**	.57**	---	.59**
12. Snapchat intensity	-.06	-.02	.13	.26	.57**	.49*	.22	.46*	.74**	.55**	.47*	---

*Note.* Women are on top of the diagonal and men are on the bottom.

\*\*  $p < .01$ , \*  $p < .05$

Table 3

*Examining the relationship between Snapchat behaviors and mental health (N=118).*

Predictor Variables	Anxiety	$\Delta R^2$	Depressive Symptoms	$\Delta R^2$	Stress	$\Delta R^2$
Minutes on Snapchat	.21 (.03)*	.034	.22 (.03)*	.027	.26 (.00)	.063**
Sending snaps	-.15 (.02)	.019	-.14 (.02)	.015	-.08 (.02)	.005
Receiving snaps	-.14 (.02)	.016	-.11 (.02)	.010	-.02 (.02)	.000
Posting snaps	.06 (.04)	.003	.04 (.04)	.001	.06 (.04)	.003
Commenting on stories	.15 (.04)	.018	.05 (.04)	.002	.17 (.05)	.023
Looking at stories	.12 (.03)	.010	-.01 (.03)	.000	.14 (.04)	.014
Chatting	.09 (.03)	.006	.14 (.03)	.015	.24 (.03)	.042*
Using Snap Map	.16 (.03)	.023	.16 (.03)	.024	.29 (.03)	.075**
Snapchat intensity	.18 (.06)	.021	.14 (.06)	.012	.27 (.06)	.046*

*Notes.* All variables are presented as standardized beta coefficients with standard error in parentheses. All analyses controlled for age, gender, sexual orientation (dichotomized) and ethnicity (dichotomized) in Step 1. However, these control variables were not significant in any of the analyses and therefore are not presented for parsimony.  $\Delta R^2$  represents changes in  $R^2$  from Step 1 to Step 2.

\*\*  $p < .01$ ; \*  $p < .05$ .

**Stress.** For female participants, minutes spent on Snapchat, using Snapchat to locate others, and Snapchat intensity were each positively associated with stress. Much of the stress explained in focus groups and interviews was related to impression management as several participants made comments about the need to fix their hair and/or makeup before exchanging snaps with new or potential romantic partners. Stress was explicitly mentioned in the exchange below, which took place in one of the focus groups:

- Mary: When I Snapchat my best girlfriend, I make weird faces at her and she makes weird faces at me. But if I am Snapchatting a cute boy or something it's super stressful, because if you want to talk to them a lot, you want to respond really fast, but then you have to look cute in all them but you run out of expressions to use after a while, so you are like, "Wow, I need to do something interesting so then I can take a picture of that."
- Jessica: Because you don't want to seem like you are just lying in bed all day.
- Clair: You want them to think you're interesting, because you're going different places and doing different things.
- Kristen: Only if you are interested in somebody though. Because if it is just like a friend, you are going to be taking a photo with a double chin.



- Clair: Or if you are not interested, you will send pictures of your floor.  
Jordan: Or you'll send a picture of your shoe, a bike, or another phone, you know—  
Clair: If you are actually interested in somebody and taking pictures, it is a lot of work. You have to A, make yourself look cute, B, take different pictures, and C, you have to move around all over the place to make yourself seem interesting.  
Jessica: It's stressful.

From making sure they look their best to running around and taking pictures in different locations to appear interesting, it is clear that some users go to great lengths to make a good impression—hence the stress.

For male participants, using Snap Map, the location-sharing feature, was positively associated with stress. This stress was exemplified in one of the focus groups when John, a participant, stated the following:

One time I was at a club in Kansas City and someone I thought I had removed from Snapchat messaged me and said they saw me on Snap Map, so I thought, "I have to leave now." I think Snap Map has a negative impact in that sense.

The fact that John felt the need to leave the club immediately, indicates he was stressed about his visibility—he did not realize that people who were not his friends on Snapchat could still see his location. David, an interview participant, echoed the negative impact of Snap Map expressed by John when sharing about a time his now ex-girlfriend randomly looked up his location on Snap Map and got mad: "You don't need to know the specific GPS location of where somebody is at. I think that's overstepping a privacy boundary. It's invasive." David's statement suggests that unsolicited monitoring via Snap Map is unwelcome.

Interestingly, a majority of the participants in focus groups and interviews confessed to using Snap Map to locate their significant other, indicating that this is a common practice. Hannah, an interviewee, explained, "I didn't ever have my location on until I dated a truck driver for a while and then I could see where he was at when he was driving to California and it gave me peace of mind." While Snap Map gave Hannah a peace of mind, Piper, a focus group participant, had a different impression:

I have a friend whose wife always monitors him no matter where he goes. We kind of consider him our third girl, so we take him to the bar with us when we go out so he can ward off creeps. We decided to leave the bar we were at and go to another

bar across town and his phone died. Right before it died, he opened Snapchat and his wife could see where he was on Snap Map. When we finally got his phone charged, he had like six missed calls. She was like, “Why aren’t you where you said you were going to be?” I think there needs to be a level of understanding that sometimes things don’t go as planned.

As Piper’s story and the related examples above indicate, monitoring via Snap Map is common in relationships but when things do not go as planned, it can cause stress.

**Anxiety.** Next, Snapchat intensity (i.e., how often Snapchat is used) was positively associated with anxiety for female participants. This anxiety surfaced in both interviews and focus groups among those who were avid Snapchat users. The asynchronous and ephemeral message features appeared to be the root causes of such anxiety. For example, Clair, a focus group participant, struggled with asynchronicity, as evidenced in the statement below:

I’ve been single for three years and probably four out of five guys I have talked to since college have ghosted me. That’s a thing for me, being left on read (i.e., when you send someone a snap, they see it, but they don’t send a snap back). It feeds off of insecurities. I am a very upfront person. If you don’t want to talk or pursue something, let me know. But if you leave me on read, I will sit there and think about all the things I have done wrong and why you are not talking to me.

Clair’s obsessive thoughts about why a guy has not snapped her back are indicative of anxiety, which Clair later attributed to Snapchat:

If somebody doesn’t snap me back, I will go back in Snapchat and look and see how long it has been. But for a text, if they don’t use read receipts, I am more likely not to look at it [the text(s) I sent] until they text back. So, if they text me and they don’t respond for three hours, I am not searching. But if I snap somebody and they haven’t responded in an hour, I am like, “Oh my god.”

As Clair indicates, Snapchat’s unique ability to show users if and when a snap has been read fosters anxiety. Interestingly, Jordan, a male who was in the same focus group as Clair, tried to solve this issue when he turned to Clair and said the following:

I think if you do that little check back, you are playing with fire. They can see your Bitmoji pop up if you are checking. When a girl does that to me, I am just like, “Damn they are checking and it has only been like 5 minutes!”

Jordan’s advice, which was an attempt to mitigate the anxiety expressed by Clair, ultimately surfaced a new form of anxiety—the anxiety of being seen when checking to see if and when someone has viewed a private snap.

The ephemeral, time-limited messages on Snapchat also caused anxiety for other female participants, such as Stella, who said the following in an interview: “The disappearing of snaps is another level. Like, you can clear a chat, and you can clear just one individual name in a chat. That’s not good. There’s lots of potential for secrecy and it gives me anxiety issues.” The anxiety expressed by Stella is clearly displayed in the following exchange, which took place in one of the focus groups:

- Jessica: I have been in a relationship for a year and a half, and I definitely randomly take his phone and look at his Snapchat.
- Interviewer: What are you looking for?
- Jessica: I just like look to make sure I am his number one still. I also like to look at his best friends and make sure they are all guys.
- Interviewer: What would happen if they were girls?
- Jessica: I don't know. I would probably look at his list of friends. I know he has a few friends who are girls, and I am fine with it. I don't know. I would just like randomly grab his phone when he is in the shower. I don't know. I am not like the jealous type, but I get nervous sometimes.

From randomly checking a partner’s phone to openly admitting that disappearing snaps cause anxiety, it is clear Snapchat’s unique ephemeral messaging has its downfalls.

**Depression.** Additionally, posting snaps, privately chatting on Snapchat, using Snapchat to locate others, and Snapchat intensity were each positively associated with depressive symptoms among female participants. Monica, an interviewee participant who regularly uses Snapchat to pursue relationships, alluded to the potential for depression when stating, “Sometimes if a guy I like doesn’t snap me back, I feel sad, like, ‘Oh they don’t want to talk to me right now,’ because I can see that they opened it [my snap] and whatnot.” Monica also expressed sadness about Snap Map:

Snap Map can create a feeling of missing out because if can see that my friends are hanging out, and I’m not with them, it’s kind of sad. During the summer, my roommate was always at one of our friends’ houses—I could see them together on Snap Map—and she never invited me. I couldn’t help but think, “People don’t want me around. People don’t like me.” So I would look at her location, get a little sad, and just kind of exit out and do my own thing.

Monica’s mention of feeling left out because of what she discovered on Snap Map was not uncommon as several other participants shared similar stories.

Many female participants also alluded to feeling depressed when seeing their ex-partners on Snapchat, further supporting the quantitative findings. For example, after a

discussion in the second focus group about the complications of being connected to exes on Snapchat, one participant, Kristen, stated, “I feel like sometimes for your well-being, so you are not miserable, you have to delete your ex. Otherwise you will make yourself more upset and depressed and always check if they’ve seen your stories.” The members in Kristen’s focus group collectively agreed to her suggestion, indicating that remaining connected to ex-partners on Snapchat can cause feelings of depression.

### **Jealousy in Romantic Relational Processes**

The second goal of this study was to understand the relationship between romantic relationship quality and Snapchat behaviors. First, correlations were conducted, which are presented in *Table 4*. Interestingly, none of the Snapchat variables significantly predicted relationship satisfaction and commitment. In other words, no snapchat behaviors were associated with relationship quality generally. However, several Snapchat behaviors were positively associated with jealousy for male and female participants. More precisely, posting snaps, looking and commenting on snaps, and Snapchat intensity was positively associated with jealousy for female participants, and all of the measured Snapchat variables (asides from commenting) were positively associated with jealousy for male participants. Furthermore, similar results between Snapchat use and relationship quality were found via linear regression analyses (see *Table 5*). Consistently with the correlations, there were no significant associations between Snapchat use and relationship satisfaction and commitment. However, there were positive associations between Snapchat use and jealousy, as some of these models (e.g., posting on Snapchat, commenting on others Snapchat content, looking at others’ content on Snapchat, chatting on Snapchat, using Snap Map, and Snapchat Intensity) predicted 5-15% of the variance as a result of Snapchat behaviors. In other words, jealousy was significantly associated with various behaviors on Snapchat compared to other variables measured in this study.

Table 4

*Correlations of relationship quality and Snapchat behaviors by gender (N=118).*

Study Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Relationship Satisfaction	---	.92**	-.07	-.07	.00	-.02	-.01	-.06	-.01	-.09	-.05	-.10
2. Commitment	.87**	---	-.10	-.14	-.14	-.18	-.08	-.06	-.06	-.11	-.04	-.14
3. Jealousy	-.23	-.17	---	.09	.05	.09	.21*	.35**	.26*	.18	.19	.31**
4. Minutes on Snapchat	.07	-.07	.57**	---	.48**	.51**	.15	.17	.23*	.15	.33**	.29**
5. Sending snaps	.06	.03	.52*	.32	---	.97**	.28**	.24*	.29**	.30**	.36**	.52**
6. Receiving snaps	.07	-.05	.48*	.38	.97**	---	.30**	.27**	.31**	.32**	.35**	.54**
7. Posting snaps	-.16	-.24	.44*	.19	.26	.34	---	.60**	.47**	.49**	.36**	.32**
8. Commenting on stories	-.34	-.54*	.55**	.37	.32	.38	.55**	---	.43**	.45**	.41**	.46**
9. Looking at stories	.14	.02	.46*	.23	.38	.37	.56**	.66**	---	.37**	.45**	.53**
10. Chatting	.09	-.02	.40	.18	.37	.36	.35	.58**	.78**	---	.37**	.54**
11. Using Snap Map	-.11	-.32	.80**	.61**	.51*	.57**	.44*	.72*	.57**	.57**	---	.59**
12. Snapchat intensity	.10	.10	.46*	.26	.57**	.49*	.22	.46*	.74**	.55**	.47*	---

Note: Women are on top of the diagonal and men are on the bottom.

\*\*  $p < .01$ , \*  $p < .05$

Table 5

*Examining the relationship between Snapchat behaviors and relationship quality (N = 72).*

Predictor Variables	Satisfaction	$\Delta R^2$	Commitment	$\Delta R^2$	Jealousy	$\Delta R^2$
Minutes on Snapchat	-.04 (.00)	.002	-.12 (.00)	.014	.13 (.00)	.016
Sending snaps	-.02 (.06)	.000	-.13 (.07)	.014	.10 (.03)	.008
Receiving snaps	-.04 (.06)	.001	-.18 (.07)	.029	.14 (.03)	.017
Posting snaps	-.05 (.12)	.002	-.08 (.13)	.005	.25 (.06)	.054*
Commenting on stories	-.11 (.14)	.011	-.15 (.15)	.018	.43 (.06)	.15***
Looking at stories	.01 (.12)	.000	-.01 (.13)	.000	.32 (.05)	.07**
Chatting	-.03 (.11)	.001	-.06 (.12)	.002	.22 (.05)	.036*
Using Snap Maps	-.06 (.10)	.004	-.09 (.11)	.007	.25 (.05)	.057*
Snapchat intensity	-.06 (.19)	.002	-.09 (.21)	.005	.40 (.09)	.101***

Notes. All variables are presented as standardized beta coefficients with standard error in parentheses. All analyses controlled for age, gender, sexual orientation (dichotomized) and ethnicity (dichotomized) in Step 1. However, these control variables were not significant in any of the analyses and therefore are not presented for parsimony.  $\Delta R^2$  represents changes in  $R^2$  from Step 1 to Step 2.

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

Again, many of the Snapchat behaviors (e.g., minutes on Snapchat, sending and receiving snaps, looking at and commenting on stories, using Snap Map, and Snapchat intensity) were positively associated with jealousy for male and female participants. For example, Chad stated the following in an interview: “If I am hanging out with a girl I am dating and she is snapping a guy and I ask her about it, but she doesn’t explain anything and she acts shady, I get a little jealous.” Blair, another interviewee, had something similar to say: “If you see someone, like a potential romantic partner, snapping a bunch but you are not getting those snaps, I feel like that can cause jealousy.” Both observations by Chad and Blair align with previous research which has found that the self-destructive, ephemeral nature of snaps can elicit more jealousy than Facebook, especially when snaps involve former partners or potential alternative partners (Utz et al., 2015). Interviewee David’s statement also supports this finding:

If see a girl I like with another guy on her story, that makes me go crazy. My friends say the same. We’ve always talked about how if there’s a girl that we’re interested in and we see her story and they are talking to a guy it makes us really jealous. I think my number one issue with Snapchat is jealousy.

David’s concern with jealousy caused by Snapchat was reiterated at a later point in his interview when he explained his firsthand experience with such jealousy:

During my past relationship, which was very toxic right at the end, one of my old high school classmates started Snapchatting me. One day, my phone was face-up and I got a snap from my classmate and my girlfriend didn’t like that. She got very, very, very, very jealous to a point where we argued for an entire day and every single time we would hang out after and every single time I got a snap, she would be like, “Who is that?”

Where David’s girlfriend ending up experiencing jealousy when she saw him receive a snap from an old friend, Kathryn battled with jealousy over viewing the Snapchat stories of her ex as indicated in the following interview exchange:

Kathryn: When my ex and I broke up, he started dating his ex and I only knew that because of a story he posted where he was in Colorado and he took a selfie of them and wrote, “So in love with my girlfriend.”

Interviewer: And how did that make you feel?

Kathryn: I mean, I was on his stories when we were dating, so, a little jealous I would say of course. It’s like I don’t want to watch his stories, but I don’t want to unfriend him. I don’t want to not watch them either.

Interviewer: It's like a car accident. You don't want to see it, but you don't want to turn away because you're also curious.

Kathryn: Yes, that's exactly how it is.

The examples provided above are only a few of the many mentions of jealousy expressed by participants, indicating that jealousy is indeed a significant issue with the platform.

**(Extra)ordinary Stories and Jealousy.** One potential reason for the abundance of jealousy reported by participants is the viewing of others' stories, which, as previously mentioned, is one of the most common behaviors on Snapchat (Piwek & Joinson, 2016; Utz et al., 2015). The stories users are exposed to warrant further investigation as a majority of participants admitted to sharing stories about their romantic relationships that were focused not on ordinary, but extraordinary events. For example, when asked about how, if at all, she communicates about her relationship on Snapchat, Blair said:

I don't think people need to know about every second of our relationship, but if we are doing something out of the ordinary, like hiking or kayaking, or whatever, then I will put a story up. But rarely is it just like a selfie of us having dinner or something.

Colby had a similar response in his interview:

The only time I ever communicate about our relationship on Snapchat is through the stories I'll post if we go somewhere special. I'm not going to post anything if we are just hanging around town. I just like getting our adventures out there.

The proposed link between jealousy and extraordinary stories becomes increasingly clear in the following exchange, which took place in one of the focus groups.

Piper: I have this one friend who whenever her boyfriend buys her anything, which is like every day, she will post it on her story just to let you know. She will throw out words like, "I have the best boyfriend. He bought me coffee." "I have the best boyfriend. He bought me this purse I have been wanting." One day she showed a candy bar he bought her, and I was just like, "congratulations."

Ayla: I have unfriended people like that who always post about their romantic relationship on their story because it is just kind of nauseating after a while.

Cici: I think everyone is guilty about posting something once in a while. I can't say that I have never posted about my boyfriend. I think everyone does once in a while. Like, if my boyfriend gets me flowers once in a while, I will post that just because, well, it is kind of shallow saying it out loud, but it is nice and something I would post.

Similar to the examples above, many of the interview and focus group participants in romantic relationships openly admitted to only posting stories that featured their relationship(s) in a positive and/or fun light. Consequently, Snapchat users are not seeing mundane, ordinary romantic relational processes, such as watching television together, which are the building blocks of a relationship (Wood, 2015). Instead, the majority of what users see are the extraordinary elements—the gifts, flowers, adventures, and more—that are a part of a romantic relationship, but certainly not the whole picture; jealousy is bound to be a byproduct.

### **“Moving on” from and Monitoring Ex-Partners**

We conducted post-hoc analyses regarding how monitoring an ex-partner was associated with participants’ mental health and romantic relationship quality. A correlation analysis revealed that monitoring an ex was positively associated with anxiety and stress and negatively associated with relationship quality. In other words, monitoring an ex was related to higher anxiety ( $r = .18, p < .05$ ), higher stress ( $r = .20, p < .05$ ), lower levels of satisfaction ( $r = -.32, p < .01$ ) and commitment ( $r = -.33, p < .01$ ), and more jealousy ( $r = .24, p < .05$ ). Additionally, linear regression analyses revealed that monitoring an ex was marginally significant with stress and anxiety and significantly associated with relationship quality, which supports the correlational results.

Quantitative data essentially revealed that monitoring an ex-partner is not good for one’s mental health or for the quality of their current romantic relationship(s). For example, in addition to monitoring their ex-partner(s) on Snapchat, several participants confessed to using the platform to show an ex, via strategic stories, that they have “moved on” and are “fine” and/or “happy” without them—with the ultimate goal of making the ex-partner feel a sense of remorse. Summer, a focus group participant, articulated this clearly:

Sometimes my friends will post something about their new significant other and they will check to see if their ex looked at it. A lot of women I know will feel vindication and be like, “My ex sees how happy I am. He’s such a dirt bag.”

Summer’s statement indicates that the monitoring goes both ways in that people she knows will monitor their ex-partners on Snapchat and hope that their ex-partners will monitor them too so that her friends can strategically show they have “moved on.” Cici,



Piper, and Kristen display this phenomenon in the following exchange, which took place in a focus group:

- Cici: After I broke up with my boyfriend freshman year, I tried to make it seem like I was doing so good. I posted stories of me going out with friends and doing stuff I thought was cool. I think I posted one time that I got a really cool frame and poster from Target and I was like, “This is so cool. Look at this.” I posted that story to show that I was spending my own money and doing my own thing.
- Piper: I actually helped my friend do something like that this weekend. She broke up with her boyfriend, so we went to the bar and there was a foam party. She had a friend take a video of us dancing in the middle of a dance floor around all these guys and posted it on Snapchat. She is friends with a lot of his friends, so even if he didn’t see it, somebody was going to see it and they would tell him.
- Interviewer: How does it feel when you know an ex has viewed your stories of “moving on”?
- Kristen: It’s amazing.

Kristen’s comment above was widely supported with a series of head nods and expressions such as “oh yeah” from participants in the focus group, indicating that using Snapchat to strategically communicate that one has moved on is common. However, while it may feel “amazing” to be the sender of a strategic “moving on” story, the same cannot be said for the recipient—a situation Ayla spoke to in one of the focus groups:

I broke up with a boyfriend right when I came to college and, the day I broke up with him, he put up on his Snapchat story something about going out of town to hang out with his sister and all of her hot friends because no one needs a girlfriend. I know that story was meant for me and it made me realize that it was a good thing I broke up with him.

The story shared by Ayla’s ex was clearly not meant to make her feel “amazing”; it was posted to solicit negative feelings for Ayla and if similar situations are commonplace on Snapchat, the negative impact that monitoring an ex can have on mental health makes sense. Furthermore, such monitoring can take time and focus away from the formation and development of new romantic relationships, which may explain the non-significant finding between relationship quality and Snapchat use in the quantitative data; it is hard to move on if one stays stuck in the past.

### **Snapcheating**

Additional post-hoc analyses examined whether or not using Snapchat was associated with cheating on a romantic partner. Two different forms of cheating were examined: physical and emotional. Survey results revealed that four participants had physically cheated on a romantic partner via Snapchat, three of which were males. Additionally, 25 participants (i.e., 20%) admitted to emotionally cheating on a partner via Snapchat. To examine relationships with Snapchat behaviors, ANOVAs were conducted, with cheating (physical or emotional) as the criterion variable (yes, no, or unsure). Results revealed that individuals who emotionally cheated on their romantic partner were significantly more likely to post to their stories ( $F= 10.19, p < .001$ ), comment on others' stories ( $F= 4.18, p < .05$ ), and use Snap Maps ( $F= 3.65, p < .05$ ) than participants who did not emotionally cheat on their romantic partners.

It is clear, based on quantitative data alone, that cheating can occur on Snapchat. Qualitative data revealed much the same. As Clair stated boldly in a focus group, "Snapchat opens up a lot of opportunities for cheating." In fact, one participant confessed to emotionally cheating on his girlfriend in the midst of his interview. Another interview participant, Stella, experienced cheating firsthand as evidenced in the following exchange:

Stella: I've been dating a guy for almost five years now, and in the first year of our relationship I went away on vacation and when I checked Snapchat after I landed back in the United States, I found out that he had cheated on me. The girl that he had cheated on me with was in bed with him and she posted a picture of it on her Snapchat story, which I saw.

Interviewer: Wait, so that's how you found out? Through her story? Did she know you would see it?

Stella: She didn't even know that he had a girlfriend. Yeah, so we broke up for like a full year and a half and he went to therapy, I went to Vegas. And then we got back together and now he's a better person, thank god, but yeah Snapchat has a very negative spot relationship-wise for me. I feel like men especially, and I'm not trying to be biased or stereotypical or whatever, but I truthfully feel like when men have such easy access to things, they can't help themselves, you know? I feel like if Snapchat was never a thing he wouldn't have been able to hit this girl up. I just think Snapchat and relationships don't mix and I have heard that Snapchat was an app originally created for people who want to cheat and keep it a secret. I don't know if this is the case now but I just don't think it's a very good platform for a relationship.

Based on the abundance of cheating reported in the quantitative and qualitative data, Stella may be onto something: Snapchat is not an ideal platform for romantic relationships.

## DISCUSSION

The goal of Snapchat is to improve the way people live, communicate, and learn about the world. However, results from this study illustrate that Snapchat has the potential to negatively impact young adults' mental health and romantic relationship quality. Consequently, young adults who claim to use Snapchat as a form of entertainment and a platform to communicate with their friends, family, and romantic partners, may be unconsciously accepting something detrimental to their mental health and might not help their relationships in general.

These results would never have been possible had we not employed a mixed-methods approach. This approach allowed us to not only provide quantitative evidence that Snapchat is associated with lower mental health and increased romantic jealousy, but also to incorporate qualitative data to illustrate what these associations look like and how they play out in users' lives. Through this approach, we were able to more deeply investigate a platform that seeks to improve people's lives, which illuminated and exposed a dark side of this platform. Such exposure supports and contributes to the few studies that focus on how Snapchat influences the development of interpersonal relationships between young adults. As Snapchat continues to grow, so should the number of studies that show its influence. On a related note, exposing the dark side of Snapchat also contributes to the aforementioned group of literature suggesting a negative relationship between using social media and mental health. We hope to see more studies focused on Snapchat within this literature as the unique ephemeral content of this platform has a distinct impact on individuals' mental health, which our findings reveal, that warrants further investigation.

What we have learned and witnessed throughout this study has prompted us to provide practical suggestions for Snapchat users that can be implemented to promote mental well-being and healthy romantic relationship development. Our pragmatic approach is inspired by focus group participants, like Kristen, who said, "You almost need

a rule book for Snapchat about what is smart to do and what could possibly lead to getting hurt more.” Clair’s words were equally inspiring: “Snapchat is tricky and jealousy and insecurity happen. So, it would be nice to know how to navigate [Snapchat] so you don’t end up feeling negative impulses or you don’t get overly jealous and ruin your relationships.” Given the previous statements made by participants, it seems some suggestions are desired.

First, people in romantic relationships who each have Snapchat should trust one another. As Ayla stated in a focus group, “I think that trust and Snapchat have to go together. If you trust someone, then you won’t really have a problem, but if you don’t, Snapchat is probably not the best thing for a relationship.” Interview participant Hannah mentioned something similar: “There has to be a level of maturity and trust for Snapchat to be an okay deal.” In short, partners who do not trust each other should consider eliminating, or at least minimizing the use of Snapchat.

Second, Snapchat users should consider deleting their ex-partners from Snapchat. Several focus group participants offered this suggestion. John, for example, said, “If you have your ex on Snapchat, you find stuff out and you want to message them and it is going to fuel another fire and you’re basically going to relive everything.” Other group members echoed John’s sentiment, pointing out how maintaining a connection with ex-partners can cause depression, which is reason enough to remove the connection.

Third, transparency is vital. This means that people who are in relationships and who have Snapchat should be open about their use of the platform with one another. Focus group participant Kristen takes an approach with her partner that serves as a healthy example of such transparency. As she states:

We have rules set up. We don’t look through each other’s phones or anything without asking. But if each other asks, we are more than willing to give up our phones to look. If I were to ask my significant other to look at his Snapchat because I saw a girl’s name when he was snapping, he would let me. I can ask who it is and he will tell me and he will let me know what he was talking about.

Establishing rules similar to those in Kristen’s relationship could help romantic partners improve relationship quality and more healthily navigate the complex and obscure terrain of Snapchat.

Last, Snapchat users should self-monitor and be vigilant about how and why they use Snapchat and what emotions they feel when engaging the platform. Rather than accepting Snapchat as a normal part of everyday social life, users should question its function and effects and should make adjustments accordingly to avoid potential negative impacts on mental health and romantic relationship quality that this study has uncovered. This suggestion and the others provided above are just a few of many to mitigate the dark side of Snapchat; more research is needed to better inform these processes.

### **LIMITATIONS, FUTURE RESEARCH, AND CONCLUSION**

Although this study advances knowledge on Snapchat, mental health, and romantic relationships, no studies are without limitations. First, the current study is restricted by location and participant composition. A larger, more diverse sample size would have been preferable. Second, a one-time, online survey—while informative—is limited. Future studies should analyze Snapchat behaviors longitudinally. Third, there has been an increased trend in examining dyadic data; given this, future studies should examine the use of Snapchat with and between both individuals in a romantic relationship. Finally, although the current study provides insight about the dark side of Snapchat, future studies are recommended to examine if Snapchat can positively influence romantic relationship processes or mental health.

In conclusion, Snapchat use is increasing exponentially in the United States, especially among young adults. To better understand this increasingly popular platform, we used a mixed-methods approach to examine relationships between Snapchat use, mental health, and relationship quality. Through this approach, we were able to use qualitative data to elaborate on the direction of associations found via quantitative data. Although individuals vary in how they use Snapchat, results from this study illustrate that there are detrimental consequences for users' mental health and romantic relationships. Given these results, we have sought to provide practical recommendations for individual Snapchat use in order to promote mental well-being and healthy relational development.

Ultimately, there are no simple solutions to mitigating the dark side of Snapchat, but we hope this study has taken a step in the right direction and will inspire and inform future studies that seek to understand this increasingly popular and influential platform. Increased information can help to remedy the amplification of negative attributes via Snapchat; by doing so, Snapchat users can ideally lead more productive, meaningful, and enriching social lives that are removed from the dark side to embrace the light.

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## Appendix A Interview Protocol

1. Pseudonym
2. Gender
3. Age
4. What initially attracted you to Snapchat?
5. Why do you use Snapchat?
6. When and how often do you use Snapchat?
7. How do you use Snapchat? What does a typical day of Snapchat use entail for you?
8. How do you feel about Snapchat?
  - a. Have you had any positive experiences with Snapchat? If so, could you describe them? If not, why?
  - b. Have you had any negative experiences with Snapchat? If so, could you describe them? If not, why?
9. What role does Snapchat play in your romantic relationship(s)?
10. How, if at all, do you use Snapchat to communicate about your romantic relationship(s)?
11. Has Snapchat impacted your romantic relationship(s) in any way? If so, how?
12. Is your use of Snapchat impacted by your romantic relationship(s)? If so, how? If not, why?
13. How, if at all, do you use Snapchat to navigate and/or communicate about problems in your romantic relationship(s)? Has Snapchat been a part of these problems? If so, how and why?
14. How do you feel about the presence of Snapchat in the context of romantic relationships?
15. Do you have any critiques of Snapchat?

## **Appendix B**

### **Focus Group Protocol**

1. Why do you use Snapchat?
2. How do you feel about the presence of Snapchat in romantic relationships?
  - a. How do you deal with this presence in your own relationship?
3. What role should Snapchat play in romantic relationships?
4. What are some of the consequences of using Snapchat in your romantic relationships?
5. What, if any, role does Snapchat play in creating relational tension, problems, and/or dissolution?
  - a. How, if at all, do you or could you use Snapchat to communicate about and/or navigate these issues?

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### **Online Connections**

To follow Tasha R. Dunn in social media: @proftasharose