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Snapchat as a new tool for sexual access: Are there sex differences?

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ABSTRACT

Snapchat is a popular social media app that provides users the opportunity to send and receive photos and videos; however, these photos and videos only last ten seconds with a close group of friends. However, there is little research regarding user's sexual behavior with the app. This current project (N = 450, 126 men and 324 women), investigated the sex difference between men and women and their use of the app for sending naked snapchats, gaining sexual access, and gaining a sexual hookup. It was hypothesized that men were more likely to use the app to gain a mate, and ask for naked snapchats. Women were predicted to be more likely than men to use the app to send naked snapchats to a partner, and to use this behavior continually to keep their partner interested. It was also hypothesized that unrestricted individuals would use the app more. These hypotheses were partially supported. Women did not use the app to continuously send naked snapchats. However, men were more likely than women to use the app for a hookup and unrestricted individuals were associated with using *Snapchat* to gain sexual access, hookups, and to continue sending naked snapchats.

1. Introduction

Snapchat is a popular social media application that allows users to send and receive photos and videos. Users of the app can also post videos and pictures to their "MyStory" which can be viewed by all of their friends on the app. In recent years, the number of users of *Snapchat* has grown considerably, with one report finding that > 60% of 13 to 34-year-olds in the United States use the app (U.S. Age and Sex of the Census, 2015). Furthermore, in November 2015, *Snapchat* reached six billion videos daily (Matney, 2015).

Snapchat users have a lot of options when determining what they would like to send and for how long. For example, the user can send either a photograph or a video. If the user sends a video, he or she has the option to edit the time, the filter, and incorporate different stickers and emoji's (Vaterlaus, Barnett, Roche, & Young, 2016). Another aspect of the app is that the photos and videos are self-destructing, which means that photos or videos that are sent will disappear. Although it is possible for the receiver to screenshot the snapchat, the sender will be notified which protects the sender, allowing her/him to see what is actually being kept (Vaterlaus et al., 2016).

Piwek and Joinson (2016) discovered, in a sample size of 2194, that 47% of the individuals began using *Snapchat* because friends were using it. About 80% of their participants used *Snapchat* to communicate with no more than twelve people on a daily basis (Piwek & Joinson, 2016). These findings suggest that individuals are using the app to

communicate with a small group of people rather than a larger group.

While there is some information about how people are using the app, *Snapchat* is difficult to research because once a user sends a picture or video to someone, that picture or video is gone forever. Despite this limitation, Piwek and Joinson (2016) investigated how people are using *Snapchat* by employing a retrospective technique in which they asked participants what type of content they typically send. The researchers found that half of the participant's last snapchat was a selfie and that a selfie was the most common type of content they received from their friends. Additionally, the researchers found that people use *Snapchat* for communication (48%), to send funny snapchats, emotional snapchats, or because they were bored.

Furthermore, researchers have also found that the majority of individuals do not use the app to send sensitive content, as there is an underlying agreement between the users that individuals are capable of screenshotting the snapchat that they received (Roesner, Gill, & Kohno, 2014). Due to the self-destructing nature of the app, it seems that the users understand that if a screenshot is taken the sender will be notified. Thus, research shows that the majority of the users do not take screenshots (Piwek & Joinson, 2016).

Regarding attitudes about using the app, research has found that college-aged users have a more positive attitude toward using the app, which is likely due to the quick ten-second long duration of the post. Participants explained that *Snapchat* is a carefree app that allows them to show ordinary aspects of their lives with a close group of friends

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(Bayer, Ellison, Schoenebeck, & Falk, 2015). From this previous research, it appears that the primary use of *Snapchat* is to communicate with friends about day to day life. Furthermore, while it is known that people are using the app to get updates on their friends and on celebrity's lives, as well as using it as an interactive media outlet, it is suspected that *Snapchat* has other uses as well. One of which could be for sexting.

1.1. Sexting and the hookup culture

Humans have evolved preferential mating strategies over time to obtain maximal reproductive advantages. Since men and women faced different pressures when choosing an optimal mate, sex differences in mating preferences have arisen over time (Buss & Schmitt, 1993). Based on Sexual Strategies Theory, proposed by Buss and Schmitt (1993), men and women faced different adaptive problems, which they had to solve. During short-term mating, men faced the problem of the number of sexual partners they could obtain. Men also face the adaptive problem of identifying which potential mates are sexually accessible (Buss, 2017; Buss & Schmitt, 1993). To solve these problems, it is likely that the sexes evolved preferences for a partner for each type of mating situation. Kenrick, Sadalla, Groth, and Trost's (1990) research supports these claims for context dependent mating preferences, where men's preferences were influenced by the anticipated amount of time invested in a relationship. This sex difference is apparent when looking at the difference between homosexual and heterosexual men. Specifically, there are robust variations between the two groups of men which suggest that men had to solve this adaptive problem. Whereas there is not a variation between homosexual and heterosexual women because their sexuality is much more fluid (Howard & Perilloux, 2017).

Buss and Schmitt (1993) hypothesized that to solve the problem of the number of sexual partners, men would pursue short-term mates more than women would. Men may have evolved short-term mating strategies to solve the problem of determining which women are sexually accessible. The authors predicted that men would seek out and value cues that signal immediate sex (i.e., promiscuity), while men would not seek out cues that would not signal the likelihood of sexual intercourse (i.e., prudishness). When surveyed, men placed a higher value on promiscuity, sexual appeal, and sexually experienced traits when evaluating someone as a short-term versus long-term partner. Additionally, experimental evidence by Schmitt, Couden, and Baker (2001) found that men rated descriptions that described women as being sexually accessible as most desirable in a short-term mate. Men report a high willingness to engage in sexual intercourse, which aligns with Sexual Strategies Theory, and men also report engaging in both long-term and short-term relationships with attractive women (Surbey & Conohan, 2000).

A final hypothesis from this research was that men would have evolved preferences to solve the problem of discovering which women are fertile (Buss & Schmitt, 1993). Men will value physical attractiveness in both contexts, but more strongly for short-term relationships. Since physical attractiveness is strongly linked to fertility and health, men will want to choose a partner whose characteristics signal that she is likely to conceive and who appears to have overall good health (Thornhill & Gangestad, 1999). Men tended to rate good looking, and physically attractive as highly important traits for short and long-term mating contexts, but this was valued more for short-term mating (Meltzer, McNulty, Jackson, & Karney, 2014a). Outside of the laboratory, when looking at marital couples' satisfaction, husbands' marital satisfaction was predicted by their wife's physical attractiveness (Meltzer, McNulty, Jackson, & Karney, 2014b). Finally, to test this cross-culturally, data from different 37 cultures found that men valued physical attractiveness in a partner more than women (Buss, 1989). Men also needed to solve the adaptive problem of finding a fertile mate. This problem is evident when men become significantly more regretful for passing up casual sex, compared to women who are less likely to regret passing on an opportunity for casual sex (Bendixen, Asao, Wyckoff, Buss, & Kennair, 2017).

While there may be numerous approaches to solving the problems outlined, it is postulated that Snapchat use may be a modern way for men to solve the problems of obtaining a multitude of sexual partners, determining which women would be available for sex, and by exchanging snapchats that involve photos of the body, obtain signals indicating which women are fertile. Women may also benefit from sharing sexual material via Snapchat because it may signal they are willing to have a short-term hookup. Given the sharing nature of Snapchat about different aspects of life, it could be that it is used as a quicker and more efficient way to help solve some of the problems associated with short-term mating. It would be interesting and informative to determine if it is in fact used for this purpose as well and to date, no research has examined these other possible uses for Snapchat. For example, since there is no trace of what photos or videos are sent to the Snapchat user, previous research has yet to examine whether men and women are using the application as another way of "sexting".

While it is understood that individuals are using the app to send photos from their lives to a small group of people, the question that arises is if the content changes depending on whom the receiver is. It would benefit researchers to further investigate whether individuals are sending sensitive, or explicit snapchats. Utz, Muscanell, and Khalid (2015), discovered that Snapchat usage elicits more romantic jealousy than Facebook does. It may be that people are trying to avoid jealous reactions from their partners by using Snapchat to obtain sexual partners since the content disappears after ten seconds of opening the chat. In this regard, Snapchat allows for more anonymous communication. This anonymous communication thus can evoke jealousy. Although research findings regarding sex differences in jealousy are varied, recent research supports the notion that men will become jealous due to sexual infidelity, because of paternity uncertainty. While women will experience jealousy from emotional infidelity due to parental investment concerns (Edlund & Sagarin, 2017). This sex difference in jealousy is also found when one looks at the physiological measures of a startle response, which suggests that this sex differences has biological roots (Baschnagel & Edlund, 2016). Concurrently, men and women do have a firm understanding of what invokes jealousy in their partner (Wade & Weinstein, 2011). Therefore, using Snapchat may be a method to prevent a partner from becoming jealous due to the anonymity associated with using the app.

Due to this anonymity, the app could be used for cheating and sending nude photographs since the photo disappears, reducing the chances of the sender being caught. Finally, because of the wide variety of uses, *Snapchat* can be employed as an effective tool for human mate selection. Therefore, it would benefit researchers to begin to explore the differences between the sexes' general use of the app, and explore whether people are using the app differently when accessing a potential mate. The present research seeks to address these issues.

1.2. Sociosexuality and mating actions

Besides general sex differences in mating, there is another categorization that leads to within group and across group differences. That categorization is named sociosexuality (Penke & Asendorpf, 2008). Sociosexuality is an orientation which catalogs an individual's promiscuity and willingness to engage in casual and uncommitted sex (Simpson & Gangestad, 1991). For example, individuals with a restricted sociosexual orientation have a higher motivation to form longterm relationships compared to individuals with an unrestricted sociosexual orientation (Jones, 1998).

There are several lines of research that depict differences between restricted and unrestricted individuals. Both, men and women who are unrestricted tend to have higher well-being after engaging in casual sex compared to individuals who are restricted (Vrangalova & Ong, 2014), and an individual's sociosexuality is also positively associated with her/

his sex drive and number of sex partners (Ostovich & Sabini, 2004).

Looking at sex difference regarding sociosexuality, women who are unrestricted tend to prefer short-term mates (Muggleton & Fincher, 2017). Unrestricted men are willing to change their mating strategies, to pursue multiple potential mates, when there is a high frequency of women available for mating (Arnocky, Woodruff, & Schmitt, 2016). Based on these findings, and other findings that suggest that men do not report feeling upset after breakups because they are surrounded by attractive, young, and fertile women (Perilloux & Buss, 2008), one would expect sex, and sociosexuality differences in Snapchat use. Therefore, the current research was implemented to explore how using *Snapchat* in a college sample may be different for restricted and unrestricted Snapchatters.

1.3. Hypotheses

It was hypothesized that women, more than men, would use the app more on a daily basis. Based on sexual strategy theory (Buss & Schmitt, 1993), and research regarding the hookup culture and "booty-calls" on college campus' (Jonason, Li, & Cason, 2009), it is hypothesized that men would use *Snapchat* to gain sexual access and ask for naked snapchats. Women were predicted to be more likely than men to use the app to send naked snapchats to a partner, and that this behavior would continue, to try and keep the partner interested. An additional set of hypotheses expected that unrestricted individuals would use *Snapchat* more for sexual behavior. Specifically, unrestricted individuals would be more likely to respond yes to previously asking individuals to participate in those sexual behaviors. These hypotheses were generated from the knowledge that sociosexuality affects sexual behavior (Arnocky et al., 2016).

2. Methods

2.1. Participants

The participants were students from a Northeastern university. The sample of participants consisted of 450 (126 men and 324 women), ranging in age from 18 to 28, (M = 19.71, SD = 3.87). Of the participants, 92% were heterosexual. Of the sample, 67.2% reported being single while 32.4% reported being in a relationship.

2.2. Procedure

The survey was distributed via Qualtrics. After consenting to participate, participants were asked to fill out demographic information, including age, sex, their current relationship status, their sexual orientation, and whether they are currently on birth control (women). Next, participants were asked if they had *Snapchat*, and if this were the case, they were asked to answer questions about their use of *Snapchat*. Specifically, the participants were asked nine questions regarding their *Snapchat* behavior.

2.3. Materials

The questionnaire consisted of 2 sections, a nonsexual section, and a sexual section. The reason for the non-sexual section was to further understand the sheer nature of *Snapchat*. Research speculates that people use *Snapchat* less than other social media outlets, therefore, this project wanted to further understand the typical behavior of *Snapchat* users across the sexes (Utz et al., 2015). The *Non-sexual section* consisted of four basic questions 1) How often do you snapchat per week? 2) How often do you snapchat a day? 3) How often do you snapchat a friend? 4) How often do you post to your "MyStory?"

The *Sexual Section* of the survey consisted of five basic questions regarding sex and sexual behavior. Prior research speculates that 13–20% of *Snapchat* users have used the app to sext or send snapchats

(Utz et al., 2015). We thus wanted to understand this sexual use of *Snapchat* further. The five questions of the sexual section of the survey consisted of: 5) Have ever used *Snapchat* to gain sexual access from someone you were attracted to? 6) Have you ever used *Snapchat* to hookup with someone? That is asking someone to come over and hookup. 7) Have you ever used *Snapchat* to send naked photos of yourself to someone who you are interested in sexually? 8) Have you ever asked someone, who you were sexually interested in to send a naked or sexual snapchat to someone you were sexually interested in to keep them interested in you?

Once the participants completed the *Snapchat* Demographic survey, they then completed the behavioral facet portion of the SOI-R (Penke & Asendorpf, 2008), to determine which participants behave in an unrestricted or restricted way. Once, that was complete, the participants were debriefed about the purpose of the study and were asked to indicate if they wanted to have their data included or not.

3. Results

3.1. Sex difference

A series of χ^2 s were calculated comparing the sexes responses to the different questions. Given the number of analyses computed, Bonferroni corrections were employed. The alpha level was adjusted by dividing 0.05 by 9 (number of tests computed) which led to a critical $\alpha = 0.0055$. For the question asking how often they use *Snapchat* in a week, no significant differences occurred, χ^2 (449) = 9.17, p = 0.057. For the question of "how often do you *Snapchat* in a day," a significant difference occurred for sex, χ^2 (447) = 20.62, p = 0.0001 (see Table 1). Table 1 shows that women snapchat more than men for every category.

No significant sex difference occurred for the question "how much they snapchat their friends" $\chi 2$ (448) = 7.87, p = 0.096. The $\chi 2$ across sex for the question of "how much they post to their MyStory" was not significant, $\chi 2$ (410) = 13.38, p = 0.010, as well as for the question: "have you ever used *Snapchat* to gain sexual access from someone you were attracted to," $\chi 2$ (448) = 6.661, p = 0.010. There was a significant sex difference for the question "have you ever used *Snapchat* to hookup with someone," $\chi 2$ (448) = 8.47, p = 0.004, see Table 2. Table 2 shows that 29% of men and 17% of women have used the app to ask someone for a hookup from the opposite sex.

No sex difference occurred for the question "have you ever used *Snapchat* to send naked photos of yourself to someone who you are interested in sexually," $\chi 2$ (447) = 1.81, p = 0.179. However, a sex difference did occur for the question "have you ever asked someone to send you a naked snapchat," $\chi 2$ (447) = 29.12, p = 0.0001, see Table 3. Table 3 shows that men, more than women, ask for a naked snapchat. Lastly, no significant sex difference occurred for the question "have you ever continued to send naked snapchats to keep someone interested in you," $\chi 2$ (447) = 0.387, p = 0.534.

3.2. Sociosexuality behavioral difference

To see how responses are affected by sociosexuality, a multiple regression was computed. SOI was the dependent variable, and Gain

Table 1

Frequencies between the men and women regarding how much they snapchat during the day.

Sex	Hourly	Every 3 h	Every 6 h	Every 9 h	Every 12 h	Total
Men	23	40	29	14	19	152
Women	102	124	59	15	22	322

Note: Higher numbers mean higher frequency in each category.

Table 2

Frequencies between the sexes regarding if they use Snapchat to hookup with someone of the opposite sex.

Sex	Yes	No	Total
Men	37	89	125
Women	55	268	323

Note: Higher numbers mean higher frequency in each category.

Table 3

Frequencies between the men and women and if they had asked someone to send them a naked snapchat.

Sex	Yes	No	Total
Men	42	83	125
Women	38	284	323

Note: Higher numbers mean higher frequency in each category.

Table 4

Multiple regression for predictors of sociosexuality.

Measure	В	SE	ß	t	р
Gain sexual access Hookup Sent naked snap Ask for naked snap Continued to send naked	- 2.50 - 1.85 - 0.517 - 0.276 - 2.36	0.615 0.675 0.600 0.656 0.800	-0.234 -0.155 -0.050 -0.022 -0.148	- 4.00 - 2.73 - 0.862 - 0.421 - 2.95	0.0001*** 0.007** 0.389 0.674 0.003**
R ² Adjusted R ²					0.21 0.20

^{***} p < 0.001.

sexual access, Hookup, Sent naked snapchat, Continued to send naked snapchats, and Asked for a naked snapchats were the independent variables. The regression was significant F(5, 433) = 22.622, p < 0.0001, R² of 0.21, adjusted R² = 0.20. The significant predictors of sociosexuality were "Gain sexual access", b = -.234, p < 0.0001, "Hookup", b = -0.155, p < 0.007; and "Continued to send naked Snapchat", b = -0.148, p < 0.003. These results suggest that individuals who said yes to using Snapchat to: gain sexual access, obtain a hookup, and continue to send naked snapchats have an unrestricted sociosexual orientation (see Table 4).

4. Discussion

Based on sexual strategies theory (Buss & Schmitt, 1993) it was hypothesized that more women than men would use the app on a daily basis. This hypothesis was supported. Women were more likely to snapchat hourly compared to men. However, the results indicate that there is no sex difference associated with individuals' use of *Snapchat* throughout the week, nor on for how much individuals snapchat their friends or for posting to their "mystory". Overall, both sexes stated they would post to their "MyStory" every 12 h. However, more women indicated that they would post every 6 and 9 h.

Regarding the sexual section of the *Snapchat* survey, it was hypothesized that men would use *Snapchat* to gain sexual access, ask for a hookup, and ask for naked snapchats. These hypotheses were partially supported. Men more than women indicated they would use *Snapchat* to: ask someone for a hookup, and ask for a naked snapchat. However, there was not a significant sex difference for using Snapchat to "gain sexual access" between men and women.

Women were predicted to be more likely than men to use the app to send naked snapchats to a partner. This hypothesis was not supported. Results suggest that there is no sex difference in sending naked snapchats. It was also hypothesized that women would continue sending naked snapchats to try and keep the partner interested. This hypothesis was also not supported.

Based on sexual strategies theory (Buss & Schmitt, 1993), and research regarding the hookup culture and "booty-calls" on college campuses, (Jonason et al., 2009), it is not surprising that men, more than women, are using Snapchat as an avenue for short-term mating. Previous evidence suggests that men prefer a hookup, rather than wanting to form long-term relationships while women prefer long term relationships (Buss & Schmitt, 1993; Jonason et al., 2009). This sex difference may account for why more men than women are using the Snapchat app to gain sexual access and a hookup. Delevi and Weisskirch (2013) found that men, more than women, would be more likely to engage in low-risk sexting. Their study also suggests that men may continue to ask for a sext as a means of inquiring about sexual access and a possible hookup. In addition, they also found that in order for women to send a sext, there must be commitment through the two individuals. Although commitment was not directly observed in our current study, it aligns with the current research which suggests that men more than women will ask for naked photos and will send snapchats for sexual access because they do not prioritize commitment as much as women do (Buss & Shackelford, 2008; Haselton & Buss, 2000). When looking at commitment and social media such as Facebook, research suggests that women place importance on commitment (Fox & Warber, 2013). This sex difference is rooted in sexual strategies theory (Buss & Schmitt, 1993) which posits that due to differences in parental investment men and women have evolved different mating strategies to acquire a mate. This current finding reflects that sex difference in mating strategies because men report using Snapchat to acquire a hookup more than women do.

When it comes to soliciting naked photos, men were more likely to request these types of photos than women were, and women were more likely to state that they had not asked for a naked snapchat. These findings are consistent with previous literature, which finds that men's preference, especially for a short-term mate, centers around physical attractiveness (Buss & Schmitt, 1993) and with prior research speculating that men are more likely to ask for and receive naked text messages (Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2013). By requesting naked snapchats, men can assess a partner's physical and sexual attractiveness. Given the nature of the app, men may overestimate a women's willingness to snapchat themselves naked, which is why men more frequently report asking for a naked snapchat image. This explanation is further supported by error management theory which indicates that men overestimate sexual access from women (Haselton & Buss, 2000).

In regard to the participants Sociosexual Orientation, it was hypothesized that unrestricted participants would be more likely to participate in these sexual behaviors because SOI affects an individual's behaviors (Arnocky et al., 2016). This current research project suggests that unrestricted individuals tend to be more likely to engage in these sexual behaviors with *Snapchat*. The findings obtained show that unrestricted individuals more frequently use *Snapchat* to: gain sexual access, ask for a hookup, and to continue sending naked Snapchats. Prior research shows that unrestricted individuals are more likely to regret turning down a casual hookup (Bendixen et al., 2017). The findings from the current study are consistent with that. Since unrestricted individuals more regret missing a sexual opportunity they are more likely to request sexual access and sexual opportunities.

This is not the first study to investigate sociosexual orientations and technology use. Specifically, recent research speculates that unrestricted individuals tend to be more motivated to use *Tinder* to gain casual sex from strangers (Sevi, Aral, & Eskenazi, 2017). This research examining sociosexuality and *Tinder* use, and the findings from the current study further validate the SOI and illustrate how another app's use is affected by sociosexuality.

To understand the effects of sociosexuality and sexual and sex

^{**} p < 0.01.

related behavior further, researchers have also focused on infidelity, and discovered that unrestricted individuals would be more likely to spend time with someone they met on *Tinder*, and have sex with a partner they met on *Tinder*, even if they were in a committed relationship (Weiser et al., 2017). This is not surprising since prior research suggests that unrestricted individuals tend to report being less committed and more likely to engage in sexual infidelity compared to restricted individuals also (Rodrigues, Lopes, & Pereira, 2017). Based on the prior research and the findings from the current research, one can begin to understand how *Snapchat* may be used as a tool for mate solicitation and attraction.

5. Limitations and future directions

The aforementioned research project investigated normal behavior and sexual behavior using the popular app Snapchat. The results suggest that there are sex differences in the behavioral intentions behind the use of Snapchat. However, there are some limitations associated with this research. First, the sample was from a predominantly white, northeastern university. As such, the behavioral intentions that underlie the use of Snapchat may be different for different ethnic groups. Prior research on men and women's mate preferences (Buss, 1989) and men and women's motivations regarding short term sexual access (Buss & Schmitt, 1993) suggest this would not be the case. But, this needs to be confirmed with additional research. Additionally, it would also behoove researchers to examine the nature, content, and facial/body positions individuals use when they send a snapchat of themselves. Recent research suggests that women tend to position themselves in a low physical position to highlight their youth and beauty, whereas men use a high position to highlight features of their face that proclaim their dominance and masculinity (Makhanova, McNulty, & Maner, 2017). Ultimately, this research is one of the few studies that has investigated the psychology of the Snapchat user. As such, there are plenty of avenues that remain to be explored.

Declarations of interest

None.

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