

TRANSITORY INFORMATION SHARING: THE RELATIONSHIP BETWEEN SOCIAL  
ANXIETY AND SELF-DISCLOSURE THROUGH EPHEMERALITY

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## ABSTRACT

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Through an online survey, this research explores the relationship between self-reported social anxiety, self-disclosure, and the use of ephemeral social media affordances. Ephemeral social media content is social media messages, text, pictures, and videos that disappear upon initial viewing or after a short period of time. Recent studies focusing on social information processing theory have utilized the Internet Attribute Perception (IAP) model to show that social media might increase self-disclosure for socially anxious social media users. The IAP model extends social information processing theory to focus on how socially anxious social media users' perceptions of social media controllability can predict online self-disclosure. This survey study utilizes a model similar to the IAP model to better understand the relationship between perceptions about ephemerality and self-disclosure. Specifically, this study focuses on whether users with social anxiety perceive ephemeral social media to be important when engaging with it and if they self-disclose through ephemeral social media content.

This study found that social media users with higher reported leveled of social anxiety were more likely to perceive ephemerality as important and engage with ephemeral social media content. More specifically, those with higher levels of social anxiety are more likely to self-disclose online. The results also show that ephemeral social media engagement is indirectly related to online self-disclosure. Furthermore, ephemerality is important to those with social anxiety when they are engaging and disclosing through social media platforms.

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## CHAPTER 1: INTRODUCTION

The current digital world of the internet allows for anyone to share personal information online. Sharing personal information with other individuals is an essential motivation of most social human behavior. People need to be able to interact and share information in order to feel that they belong in a group (Buhrmester & Furman, 1987). Sometimes, sharing information in person can be stressful due to individuals worrying about the way they appear during a social interaction (Walther, 1996). Social anxiety is defined as a “marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others” (Bögels et al., 2010). During social interactions, those with social anxiety have trouble sharing information. Socially anxious individuals stress about appearing to be inarticulate due to their physical symptoms when socializing (American Psychiatric Association, 2000, p. 451).

Social media might allow for those with social anxiety to overcome their worries in social interactions because they can control the way that others view them online. Social media often includes newer features that can possibly change the way that socially anxious users share their personal information online by making them feel as if they are in more control when they are sharing information. Ephemeral social media content is social media messages, text, pictures, and videos that disappear upon initial viewing or after a short period of time rather than remaining available indefinitely (Bayer et al., 2016). Recent research focused on ephemerality and social media use has found that ephemeral social media content might motivate social media users to be more inclined to share their personal information. This study will explore how users with higher levels of social anxiety perceive and engage with ephemerality to share personal information online.

## **Background of the Research**

### *The Growth of Ephemeral Social Media Content*

Social media use is currently very popular around the world. According to a statistical analysis conducted by Kemp (2022), social media platforms are facing a surge in use with a growth of 227 million users in 2022. The same study found that there are currently around 4.70 billion social media users worldwide, equating to 59 percent of the world's population. Among these social media platforms, those with ephemeral social media content such as Facebook, Snapchat, and Instagram are very popular among users for daily social interaction purposes (Pew Research Center, 2021). Ephemeral social media content was first developed in 2011, as a smartphone application called "Picaboo" (Spalding, 2016). Users could send messages to each other that would only be available to the receiver of the message for one to ten seconds (Schoja, 2016). Picaboo was not popular until it received a name change to what is now known as Snapchat (Spalding, 2016). Snapchat allows for users to send messages that disappear after initial viewing or after a brief period of time, such as 24 hours. Snapchat, with its ephemeral nature, grew in popularity to more than 100 million users by 2016 (Stolz, 2016). Snapchat currently has 332 million daily users worldwide. More than 5-billion Snaps are sent out daily (Dixon, 2022).

Social media platforms often adopt features similar to their competitors after features become popular. Ephemeral social media content has become more common among social media platforms. For instance, Instagram and Facebook have adopted ephemeral features (Wakefield & Bennett, 2018). Thus, ephemeral social media content has become increasingly popular among a variety of social media platforms.

The developers of Snapchat wanted to create an application that would allow social media users to prevent other users from saving images from posts without permission (Spalding, 2016). Social media users may want to control access to the messages that they send online. Social media users may have privacy concerns about certain content being saved without their permission due to audience size. Individuals are typically worried about a larger audience eventually seeing their content online and take their time constructing a post when they share social media content (Berger 2013). Thus, users tend to utilize certain social media platforms to reach their target audiences (Piwek & Joinson, 2016). For instance, social media users commonly use Snapchat to reach close friends or family and they use Facebook to reach out to larger networks. When social media users save content that they receive from other users without permission they can share content to a wider audience than what was originally intended by the sender. Social media users may not worry as much about audience size or scrutiny from sharing certain content when it is ephemeral (Vranken and Kurten, 2021). Thus, ephemerality was created in hopes of benefitting users by increasing their social engagement online and decreasing their concerns over their content being shared or saved by others without permission.

### *Social Anxiety and Online Communication*

Social anxiety disorder is the most prevalent type of anxiety disorder in the United States (Stein & Stein, 2008). Those with social anxiety make up 7% to 13% of the general population and end up having it their entire life (Furmark, 2002). According to a recent Pew Research Report survey, social anxiety and depression are major problems that teens see among their friends due to various social pressures involved with fitting in and looking good in public (Horowitz & Graf, 2020). Social anxiety disorder not only affects teens. Social anxiety currently affects 6.8% of the U.S. population (Anxiety and Depression Association of America, 2020).

Those with social anxiety want to make a great impression and they also worry about the social scrutiny involved with others' perceptions of themselves.

A fundamental assumption of this study is all about the perceptions of socially anxious individuals regarding their on-line interactions. Socially anxious individuals can compensate for their deficits with in-person communication by engaging in online social interactions (Desjarlais & Willoughby, 2010). Several studies have shown how individuals can overcome concerns about self-presentation in face-to-face interactions. One potential solution is for individuals with self-presentation concerns to fulfill their belongingness needs by sharing personal information through social media (Krasnova, 2010; Valkenburg & Peter, 2007; Weidman et al., 2012). However, while there are potential benefits associated with online communication through social media, socially anxious individuals might still hesitate to engage with others through social media because of self-presentation concerns (Green et al., 2016). For these individuals, ephemeral social media could be beneficial because it may provide a perception of greater control over who might see posted content. Research finds that when individuals perceive a platform to be ephemeral, they will also have increased perceived controllability and intend to share more personal information (Ma et al., 2021). Thus, when socially anxious individuals engage with ephemeral content, it might encourage them to share content more frequently and allow them to fulfill their belongingness needs.

#### *Potential Implications of Ephemerality for Socially Anxious Individuals*

Research suggests that knowing that such ephemeral social media post or comment will be available only briefly could be comforting or reassuring for individuals who experience communication related anxiety (Bayer et al., 2016; Morlok et al., 2017; Roesner et al., 2014; Xu et al., 2016). Essentially, ephemeral social media content might provide users some sense of

relief from social anxiety (Wakefield & Wakefield, 2018). For instance, engaging with ephemeral content is associated with reduced privacy and self-presentational concerns (Bayer et al., 2016; Morlok et al., 2017; Roesner et al., 2014; Xu et al, 2016). Ephemeral affordances may allow people more control, or sense of control, over who sees their posts (Kircova et al., 2020). Social media users share ephemeral content because they feel like they do not have to worry about perception management due to the fact that ephemeral content does not stay on the permanent timeline like other social media content (Morlok et al., 2018). Users might feel more comfortable disclosing honest information through ephemeral social media affordances because they are motivated to share data or images they would not have otherwise shared (Turner, 2013). Thus, ephemeral social media content could provide benefits, such as increased comfort in self-disclosure, for social media users who are socially anxious about sharing archived content online. This aspect of social media ephemerality has the potential to be helpful to some users.

The perception of automatic deletion does not guarantee that social media users' disclosed information is always safely shared and confidential (Ganzenmuller, 2014). Social media users with social anxiety – or any social media user, for that matter – might be overconfident in ephemerality, leading them to upload personal details that could then be shared publicly without their permission, possibly leading to cyberbullying victimization. Receivers of ephemeral messages can save messages sent to them through Snapchat's interface, screenshotting (Poltash, 2012), or a third-party app that secretly saves images without alerting the sender (Lee, 2014). Research has found that when private information is shared to a wider audience, the more cyberbullying victimization can occur (Aizenkot, 2020; [Chen et al., 2017](#)). Therefore, someone with social anxiety might send more personal information through

ephemeral social media platforms due to a false sense of data security and could experience victimization when their private information is shared.

### **Significance of the Research**

First, this dissertation study theoretically contributes to the literature on social media and social anxiety by questioning how ephemerality relates to social anxiety. The social compensation hypothesis describes the beneficial and harmful aspects of social media use. The social compensation hypothesis describes how using social media can be beneficial for socially anxious users to compensate for their offline communication issues (Fernandez et al., 2012). However, the social compensation hypothesis also argues that social media use can possibly be harmful for those with higher social anxiety because they can face more issues as a result of relying too much on the internet for social interactions. The beneficial and harmful aspects of socially anxious users' social media use have been equally supported in the literature which has led to conflicting viewpoints on whether social media mostly benefits or harms those with social anxiety. It is unclear whether socially anxious users will benefit from ephemeral social media content with their online social compensation or face more issues as a result of this use.

Second, this research contributes to what is known about the relationship between social anxiety and online self-disclosure through ephemeral social media engagement. So far, only one study has looked at how ephemerality relates to self-disclosure. Ma et al. (2021) found that those who perceive a platform as ephemeral will be more likely to self-disclose online. However, they looked at ephemeral social media content through a single social media platform only available in China called WeChat. WeChat operates differently from ephemerality on Snapchat, Instagram, and Facebook. The ephemeral content on WeChat lasts longer than other social media platforms, from three days to six months (Zhang et al., 2022). Ephemeral social media content is only



available for up to 24 hours on other platforms such as Facebook, Instagram, and Snapchat (Kircova et al., 2020). Additionally, this study did not assess individual's social anxiety levels in relation to their ephemeral social media engagement.

Third, this dissertation study extends theoretical findings on the need to belong and social information processing theories in relation to ephemeral social media engagement. The need to belong is defined as the motivation to form and maintain interpersonal relationships (Baumeister & Leary, 1995). Research has looked at how the need to belong leads to more social media engagement (Sarita & Suleeman, 2017; Nadkarni & Hofmann, 2012). However, no studies have looked at how those with social anxiety might be fulfilling their belongingness needs through ephemeral social media content. Social information processing theory describes how individuals can form close relationships through online textual communication (Walther & Burgoon, 1992). Social information processing theory has not yet been applied to ephemeral social media engagement among those with social anxiety. Individuals with social anxiety should be motivated to form better impressions online because they are worried about their self-presentation in social interactions. Socially anxious individuals pay more attention to facial expressions and body posture during their offline social interactions (Gilboa-Schechtman & Shachar-Lavie (2013). Socially anxious individuals are also concerned about their own physical symptoms of anxiety showing during their offline social interactions because they believe that others will possibly view them as anxious, stupid, or weak (Clark & Wells, 1995). Research finds that socially anxious users can overcome these concerns by controlling the way they interact with others online (Schouten et al., 2007). If ephemerality reduces self-presentation concerns for most social media users, socially anxious users should be more likely to engage in social interactions through ephemeral social media content.

### **Purpose and Research Problem**

This dissertation expands upon theoretical findings between social anxiety, ephemeral social media use, and self-disclosure. Research has not yet explored the relationship between social anxiety and the use of ephemeral social media content. Additionally, the literature on social anxiety and self-disclosure through ephemerality is sparse. Thus, this dissertation focuses on the following research problems: How does social anxiety relate to ephemerality? Does ephemeral social media engagement cause individuals with higher social anxiety to share more personal information online? Specifically, this research focuses on whether users who report experiencing more social anxiety are more motivated than those who report less social anxiety to engage with and self-disclose through ephemeral social media content. An online survey was sent to Amazon Mechanical Turk workers in the U.S. during Spring 2022. The survey measured social media users' self-reported levels of social anxiety, their perceived importance of ephemerality, their frequency of social media engagement, and their likelihood of self-disclosing online.

### **Organization of the Dissertation**

This dissertation is organized in the following chapters: First, in Chapter II, the literature review introduces social media and then explains ephemeral social media content. Then social anxiety is described in relation to self-disclosure and the theoretical explanation behind why socially anxious users disclose online is explained in further detail. Next, social anxiety indicators and consequences that are associated with ephemerality on social media platforms are explained. The research questions and hypotheses are introduced in the last section of the literature review chapter. In Chapter III, the methods utilized to conduct this research are described with the online survey, sample, procedure, and measures explained. In Chapter IV, the results of this dissertation are described with the initial analyses of the descriptive statistics,

principal component analysis, and a correlation table of all of the variables used in this study.

Next, the results of the analyses conducted for each research question and hypothesis are explained. Regression and mediation analyses were used in order to test the relationships between social anxiety, perceived importance of ephemerality, ephemeral engagement, non-ephemeral engagement, and online self-disclosure. In Chapter V, the discussion section includes descriptions about the implications and limitations of this study. The possible future research directions for research on social anxiety and ephemeral social media content are explained.

## CHAPTER 2: LITERATURE REVIEW

The following literature review begins by examining literature on the background of social media along with the possible benefits and harms of social media. Then, the types of social media use and the affordances associated with social media engagement are explicated. In the next section, ephemeral social media content and the possible motivations and consequences of ephemeral social media content engagement are explained. Social anxiety is defined and a theoretical explication behind social anxiety and computer mediated communication is provided by explaining the need to belong and social information processing theory. Then, online self-disclosure is defined in relation to socially anxious individuals' disclosure behavior. The social compensation hypothesis is described in order to assess how research explains whether social media can benefit or harm those with social anxiety. Lastly, the social anxiety indicators and consequences that are associated with ephemerality on social media platforms are explained before the research questions and hypotheses are introduced along with the research models utilized in this study.

### Social Media

Social media is a term that was first introduced in 2005 to describe user generated content that is built on the technical foundations of Web 2.0 through Internet-based applications (Carr and Hayes, 2015; Kaplan & Haenlein, 2010). Social media depends on user generated content and would not have been created without the development of Web 2.0. Web 2.0 is defined as web-based, collaborative tools designed to evolve and improve consistently over time (O'Reilly, 2005). Web 2.0 emerged early in the new millennium and emphasizes “the importance of user-generated reviews, collaborative filtering (i.e., ‘people like you also like this’), and aggregated popularity ratings to effectively manage vast amounts of data” (Messing & Westwood, 2014, p.

1043). Web 2.0 was innovative in allowing individuals to look into each other's worlds for the first time across the previous boundaries of time and space (Lewis et al., 2010).

Social media describes how each person in a media environment can communicate with many other people (Rodriguez, 2011). Social media may be used for individual, professional, or entertainment purposes with leverages on social networks curated by individuals. Social media is further described as technologies through which individuals can connect, interact with, and produce shared content (Lewis, 2009). Howard and Parks (2012) further define social media with more detail "(a) the information infrastructure and tools used to produce and distribute content; (b) the content that takes the digital form of personal messages, news, ideas, and cultural products; and (c) the people, organizations, and industries that produce and consume digital content" (p. 362).

Social networking sites (SNSs) are defined as Internet sites that allow for the creation of individual profiles and the ability to build friend's lists which allows for interconnected networks (Laranjo et al., 2015; Lee & Jang, 2019). Social media is much broader than just SNSs. Social media includes blogs, discussion boards, wikis, and other types of platforms that allow social interaction, but are not always specifically SNSs. In summary, in order for media content to be defined as social media, it must involve some degree of personalized customization where users can create, distribute, and share various levels of user generated content through web applications (Kim & Lee, 2016).

The following three sections describes research findings on social media's potential benefits, potential harms, types of social media use, and what social media affords users. Then, ephemeral social media is described followed by a theoretical explication of how social anxiety relates to social media use and online self-disclosure.

### *Potential Benefits of Social Media Use*

Social media can be beneficial. Some platforms allow users to provide each other with social support, social capital, improved friendship, and crowdsourcing. Facebook, Twitter, and YouTube may provide social support by allowing people with disorders to find advice from others and share experiences (Dobrea & Pasarelu, 2016, p. 130). Social capital is defined as the connections and norms of reciprocity among people (Putnam, 2001). Putnam (2001) describes two forms of social capital: bonding and bridging. Bonding social capital includes strong-tie relationships with others such as family members, partners, and close friends (people share strong personal or intimate connections and provide emotional support to each other) (Piwek & Joinson, 2016). Certain social media platforms such as Facebook or Snapchat have the potential to mitigate issues related to low self-esteem and anxiety by increasing users' bonding social capital. Social media also can have important benefits for adolescents by increasing friendship opportunities and improving the quality of face-to-face relationships (Antheunis et al., 2016). Lastly, crowd sourcing is defined as an "online, distributed problem-solving and production model that leverages the collective intelligence of online communities for specific purposes" (Brabham et al., 2014). Crowdsourcing through social media can aid in relief during public health problems and has been shown to do so during catastrophes such as Hurricane Harvey (Conrad et al., 2020). Thus, social media can provide a plethora of social benefits involving improved relationships and social support for mental health and during public health crises.

Social media can also benefit the elderly. For example, Facebook interventions have been shown to benefit older adults' cognitive abilities (Dobrea & Pasarelu, 2016, p. 131). These social media interventions involved training specific cognitive functions that decline with age such as episodic memory, executive functions, and processing speed. Myhre et al (2017) describe

social media interventions as a form of social interaction training. They used online social networking as intervention to maintain or enhance cognitive function in older adults. The intervention involved participants attending six two-hour classes over a two-week period in which they learned how to use Facebook. This intervention was followed by six weeks of continued use at home which showed improvements their performance on trained tasks.

In summary, social media potentially benefits both adolescent and elder social media users through social support and psychological health improvement. Social media can possibly benefit relationships between others and bring large groups of people together to work through issues online.

#### *Potential Harms of Social Media Use*

Although research has shown that social media use has potential benefits, it also potential negative consequences. Some of these issues are associated with time on social media platforms. For instance, a survey study has shown how adolescents who spend more time on SNSs such as Facebook, Instagram, and Twitter might have more psychological distress, lower self-rated mental health, increased suicidal ideation, and a lack of mental health support (Sampasa-Kanyinga & Hamilton, 2015). Research has also found that spending large amounts of time on more than one social media platform is associated with depression in young adults (Lin et al., 2015; Primack et al., 2017). High social media use is also related to more anxiety symptoms and an increased likelihood of having an anxiety-related disorder (Vannucci et al., 2017). Experimental research has shown that brief exposure to Facebook in one session led to more negative moods compared to those who were not exposed to Facebook (Fardouly et al., 2015; Sagioglou & Greitemeyer, 2014). Research also indicates that depression, anxiety, and insomnia predict Facebook addiction in college students (Koc & Gulyagci, 2013). Not all of these studies

demonstrate causal direction. The depression and anxiety problems that these users experience might motivate them to increase their social media usage.

Other problems can occur on social media such as cyberstalking and cyberbullying. Cyberstalking is defined as the use of communication technology to harass individuals (Bocij, & McFarlane, 2002), which in most cases is committed by a stranger (Short et al., 2015). Short, et al. (2015) found that cyberstalking victimization did not just cause distress in individuals, but it caused severe anxiety and traumatic symptoms similar to post traumatic stress disorder (PTSD). Cyberbullying victimization has been linked to online self-disclosure. When individuals publicly share personal information online through social media platforms, there is a greater likelihood of encountering some form of harassment from other social media users (Aizenkot, 2020; Chen et al., 2017, Peluchette et al., 2015). People who encounter cyberstalking or cyberbullying behavior will not just feel general distress but might also feel extreme anxiety and depression as a result.

In summary, there is a variety of negative mental health outcomes that may result from social media use. These issues have been associated with time spent on different social media platforms and mere use of them. Issues with some forms of online harassment also may occur when individuals socialize and share personal information online.

#### *Active vs. Passive Social Media Use*

Social media use can be passive or active. Each has its own set of motivations and effects (Burnell et al., 2019; Chai et al., 2019). Passive social media use involves viewing content (i.e., browsing the profile of others) without interacting with others (Burnell et al., 2019). Passive use has been connected to problems that can affect users such as reduced sense of well-being (Chai et al., 2019). Also, passively browsing through positive content that other users post online may trigger upward social comparison, or the fear that others are having more rewarding experiences



(Buglass et al., 2017). According to Burnell et al. (2019), after passively browsing, users must first engage in a process where they make upward social comparisons toward others. Potential issues with depressive symptoms and self-perceptions would then occur after these upward comparisons are made (Burnell et al., 2019). Passive use has also been associated with a social media behavior called “doom scrolling”. Doom scrolling refers to “a state of media use typically characterized as individuals persistently scrolling through their social media newsfeeds with an obsessive focus on distressing, depressing, or otherwise negative information” (Sharma et al., 2022, p.1). When social media users engage in doom scrolling, they can possibly lose track of time spent on social media because they are concentrated on the act of scrolling and reading through timely negative information on their news feeds. According to a study by Sharma et al. (2022), social media users are attracted to viewing more negative information because they want to stay on top of news that could potentially impact themselves and the people that they are closest to. Thus, passively browsing through content that is either positive or negative may still cause harms to social media users. Reducing the time that social media users spend passively browsing online may benefit passive users. For instance, experimental research found that quitting Facebook for a week increased life satisfaction and positive emotional states for those that passively use Facebook (Tromholt, 2016). However, motivating users to become more active in their social media use may also counteract the issues stemming from passive social media use. Active social media use, on the other hand, involves socially interacting with others online through messages, comments, or liking and disliking other users’ content (Alt, 2015). Active social media use may provide benefits to users such as improved sense of well-being (Burnell et al., 2019) and reduced social anxiety (Selfhout et al., 2009). Because active users share their life experiences and respond frequently to other users, they might experience

augmented social capital (Quinn, 2016). More specifically, active users may have increased emotional support when sharing content with close friends through potential increases in bonding social capital (Johnson et al., 2013). Thus, passive social media use is typically linked to issues and active social media use is usually associated with positive outcomes.

Distinguishing between active and passive social media use could be helpful for understanding how individuals may be engaging with ephemeral social media content. Ephemeral social media allows for passive social media use through just viewing other users' social media stories or messages without engaging in any sort of interaction. Some research suggests that passive ephemeral social media use could be potentially addictive. Research on Facebook found that viewing ephemeral social media content might be more addictive than viewing archived social media content through Facebook news feeds (Yu & Chen, 2020). Studies find that social media users report attending to ephemeral content more closely (Bayer et al., 2016; Kivetz & He, 2017). Highly ephemeral content has also been found to increase attention, voluntary viewing time, and heightened focus on important information (Barnea, 2020). Therefore, passive users might end up increasing their frequency of passive ephemeral social media content use. However, as described in further sections of this dissertation, research finds that ephemeral social media content seems to motivate active social media use among social media users. Social media users enjoy socially interacting through ephemeral social media content and they worry less about their self-presentation when sharing ephemeral content (Morlok et al., 2018). According to Morlok et al., (2017), ephemeral social media content use may also reduce privacy concerns because users worry less about their privacy when a message disappears. Decreasing social media users' self-presentation and privacy concerns can motivate them to actively engage in social media use by influencing them sharing more content. Thus,

ephemeral social media content may cause issues with increased frequency of passive use since it may cause viewers to be more attentive to social media content, however, ephemerality should encourage more active social media use due to decreases in self presentation and privacy concerns.

### *Social Media Affordances*

Affordances are essential to understanding how social media and ephemeral social media content operate because ephemerality is one of many affordances utilized in some of the most popular social media platforms. Social media affordances are “the new dynamic or types of communicative practices and social interactions that various features afford” (Bucher & Helmond, 2017, p. 11). Affordances on social media are typically conceptualized in two dimensions: low level or high level. Low-level affordances specifically focus on the technical features of the user interface. Low-level affordances are located in the materiality of the technology such as specific features, buttons, screens, and platforms (boyd, 2011). High-level affordances are more abstract in definition because they focus on how the user interacts with these features since these high-level affordances tend to focus more on “the kinds of dynamics and conditions enabled by technical devices, platforms and media” (Bucher & Helmond, 2017). More specifically, high-level affordances focus on how technical features can enable or constrain certain communicative practices. Thus, low-level affordances focus on the technical features of the user interface itself and high-level affordances focus more on how social media can structure the engagement of the user. As mentioned in the following sections, ephemerality can be directly described through high level affordances because ephemeral social media content features can change the way a user engages with various content (Kivetz & He, 2017).

According to boyd (2011), there are four high level affordances of SNSs: persistence, replicability, scalability, and searchability. However, different studies have suggested different high-level affordances. Across the studies these affordances are known as are connectivity, visibility, social feedback, persistence, accessibility, and synchronicity (Fox & Moreland, 2015). Connectivity allows for convenient access to friends and expansion of one's network through secondary connections (friends of friends). Visibility is "the public or private nature of information presented online" (Fox & Moreland, 2015, p. 169). In other words, visibility is the degree to which information is seen by others online. Social feedback is the level of positive or negative responses that can be received from others online. Persistence is the amount of time a post is archived on social media. Accessibility is the ease in which someone can access an SNS platform on a variety of digital devices that can connect the internet. Lastly, synchronicity is the level of real-time communication occurring through social media. The more synchronous a platform is, the quicker users can respond to one another (Fox & McEwan, 2017). Thus, while there are other conceptualizations of these affordances, this dissertation focuses exclusively on persistence, visibility, and synchronicity because even though ephemerality is an affordance, ephemerality on social media refers specifically to lower levels of persistence. Additionally, highly ephemeral social media content tends to have less visibility and more synchronicity. The following section describes how ephemerality functions as an affordance for various social media platforms and how ephemeral social media content relates to other affordances such as visibility and synchronicity.

### **Ephemeral Social Media Content**

This section describes how ephemeral social media content functions on a variety of social media platforms. Ephemerality is described in relation to previously mentioned

affordances such as persistence, visibility, and synchronicity. Then, various ephemeral social media platforms that have utilized and innovated ephemeral social media content are described.

One affordance little researched thus far is the level of persistence among ephemeral social media content, otherwise known as ephemerality. Persistence describes “the relative permanence or ephemerality of communication” (Fox & McEwan, 2017, p. 303). On one hand, high persistence specifically describes permanent content, on the other hand, lower persistent describes the transient nature of content (i.e. content that is more ephemeral in nature).

Therefore, ephemerality refers to low persistence (Xu et al., 2016). More specifically, ephemeral social media content is content that disappears from a platform within a relatively short amount of time or immediately after initial viewing (Piwek & Joinson, 2016). Online content is easily captured, saved, replicated, and recirculated, so most social media content has high persistence and can be accessible long after the initial interaction and it can also be difficult to remove permanently. Individuals can still find ways to bypass ephemerality and save content through screenshotting, third party apps, or archiving what comes through their phone with another recording device (Poltash, 2012; Lee, 2014). Thus, it is important to acknowledge the difference between types of persistence, such as official and unofficial persistence. Official persistence is content that remain on a site because that’s what is intended. Unofficial persistence refers to content that is intended to be ephemeral but is captured outside of the platform and redistributed in some way that is beyond the intention of the user or the platform. Thus, most social media platforms offer a lower degree of ephemerality and ephemeral features do not always guarantee official persistence.

Visibility is the degree to which others can see a user’s social media content. Platforms that offer more ephemerality, such as Snapchat, offer users a lower degree of visibility through

the length of time information is available for and the number of people who can see that information. Highly ephemeral platforms such as Snapchat or Clubhouse can erase messages after the receiver sees or hears it if users do not try to save the content through changing settings or recording through a third-party device (Kircova et al., 2020). Furthermore, ephemerality might decrease visibility due to the typically smaller audience that views social media stories as opposed to archived newsfeed content.

Different social media platforms provide different levels of ephemerality and visibility. Some platforms, like Snapchat, rely more on ephemeral content and less visibility than other platforms. For instance, Snapchat has been found to be significantly less persistent than other forms of CMC such as texting, email, IM, and Facebook (Fox & McEwan, 2017), because ephemerality is its default setting. Snapchat also has the unique feature of allowing instant messages to disappear after being viewed once which gives it greater default ephemerality than other platforms (Piwek & Joinson, 2016). Additionally, Snapchat has a feature that is less ephemeral called Snapchat Stories. Snapchat Stories were introduced later in Snapchat's growth in popularity. Stories allow users to view social media content multiple times for 24 hours. Snapchat has less visibility because users can only add friends by entering their Snapchat username or searching through their mobile phone contacts for other Snapchat users (Xu et al., 2016). This is unlike other platforms that allow users to add friends by looking up their names or email addresses. This design limits a Snapchat user's ability to add acquaintances, leading to smaller networks of closer friends compared to other social media sites (Xu et al., 2016).

Synchronicity is the speed with which individuals can reach and see each other reacting online. Technology affords more asynchronous communication since it typically has a delay between the sender and the receiver, and it allows a message to be available to a user until he or

she decides to view it. The more synchronous the communication is on a social media platform, the more that individuals can respond in real-time to each other without delay (Fox & McEwan, 2017). Face-to-face and telephone-based communication are both forms of synchronous communication because there is little delay between the sending and receiving of information. Instant messaging is the most popular form of online synchronous communication. Social media provides the opportunity for users to delay their reception of messages, but voice requires people receive the message immediately.

Ephemeral social media content is different from archived social media content because ephemeral features typically share properties of face-to-face conversations and voice calling. This comparison of ephemeral communication with face-to-face and voice communication is due to the synchronous communication and information exchange with others (Bajpai et al., 2021). Most social media platforms allow for synchronicity through direct messaging, however, instant messaging on Snapchat is synchronously delivered to audiences (users can communicate in real time with no delay) with no record of these interactions if someone does not purposely try to save them, similar to offline social interactions (Ogara, Koh, & Prybutok, 2014). Clubhouse, a newer audio-based ephemeral social media platform, also includes synchronous ephemeral features where individual can have real-time discussions with groups of people (Bajpai et al., 2021). Ephemeral content in social media also relates to face-to-face and voice communication because it provides a sense of immediacy (Chen & Cheung, 2019). For instance, “users can share digital images and videos immediately or even live stream with others through ephemeral content in social media, as if they are talking face to face in conversation” (Chen & Cheung, 2019, p. 68). Snapchat allows for users to see when other users are currently viewing a message similar to being face to face with someone or on the phone with them while they are responding

to another person. Highly ephemeral content in social media not only provides users with immediate communication but also leads them to perceive that they are involved in a real-time information exchange with others (Chen & Cheung, 2019). People tend to compare Snapchat communication to face to face interactions and attend to Snapchat's ephemeral content more closely than archived content (Bayer et al., 2016). The time limit that ephemeral content is available for also makes it similar to offline interactions because users have to rely upon their memory of the interaction (Henkel, 2013). Less ephemeral features, such as social media stories, still approximate this sense of information exchange since the content will disappear within 24 hours, however, social media stories are not synchronous. In summary, highly ephemeral features are currently associated with instant messaging or voice-based communication and can allow for immediate information exchange that will not be automatically archived, similar to offline interactions.

Snapchat was among the first to introduce ephemeral features in social media. Since then, other social media applications have added features that allow users to limit the time messages are available. These applications include Instagram, Facebook, Xpire, Wickr, Jott, CyberDust, Clipchat, Burn Note, Bleep, and Clubhouse (Bajpai et al., 2021; Wakefield & Bennett, 2018). Because the most popular SNS platforms to introduce ephemeral features besides Snapchat are Instagram and Facebook, this study focuses on these major platforms exclusively. Facebook and Instagram have fewer ephemeral features than Snapchat (Kircova et al., 2020). Facebook and Instagram allow for social media stories that are similar to Snapchat's story feature, where users can post stories that are visible to select groups of friends for 24-hours before disappearing. However, Facebook and Instagram only offer common instant messaging features that are more persistent because those messages do not automatically disappear after initial viewing.



Therefore, Facebook and Instagram only offer ephemeral features associated with social media stories as opposed to Snapchat, which offers both social media stories and ephemeral messaging.

In summary, ephemeral social media platforms are different from non-ephemeral social media platforms due to variance in affordances such as permanence, visibility, and synchronicity. Social media platforms that contain more ephemerality within certain features of channels of the platform typically have less permanence since content will not publicly be archived unless the user purposely chooses to do so. Social media platforms that have highly ephemeral features might have less visibility because the content either disappears immediately upon viewing or within a short period of time. Highly ephemeral social media platforms also tend to have increased synchronicity that allows for instantaneous communication online. There are currently a variety of social media platforms that allow for more or less ephemerality through their specific platform features.

#### *Motivations of Ephemeral Social Media Engagement*

Perceived ephemerality and enjoyment are seen as two positive motivations to engage with ephemeral content (Coa & Setiawan, 2017; Kircova et al., 2020; Morlok et al., 2017). Perceived ephemerality is an individual's perception that access to shared information (e.g., snaps, stories) is time limited (Morlok et al., 2017). This extends to other platforms that offer some level of ephemerality, such as Facebook and Instagram stories. Perceived ephemerality is positively related to the continuing use of Instagram stories. This shows that individuals are motivated to engage with ephemeral content when it has higher levels of perceived ephemerality (Kircova et al., 2020). The more aware a person is that a platform is ephemeral, the more likely they will engage with that platform. Additionally, perceived ephemerality leads to more enjoyment which can affect individuals' attitudes in a positive way and lead to them continuing

to use ephemeral platforms (Coa & Setiawan, 2017). This means that when an individual perceives a platform to have a higher degree of ephemerality, they might perceive the platform as more enjoyable and continue to use it.

The enjoyment associated with ephemerality may stem from users' willingness to share information due to decreased privacy concerns and "fun" (Morlok et al., 2017; Morlok et al., 2018). Research shows a significant negative relationship between privacy concerns and enjoyment. When a social media platform is more ephemeral, users may share broader types of content. This content can be mundane including usual daily activities, or more sensitive, such as selfies or photos showing intoxication (Vranken and Kurten, 2021). The users in a study by Morklok et al., (2018) stated that the level of data persistence was a determining factor in their sharing intentions when it came to different social media platforms. Ephemerality gave them a feeling of freedom associated with being able to post more types of content because users believed they had more control over the flow of the information they were sharing. Additionally, Snapchat markets itself as "fun" and encourages users to be "in the moment" (Morlok et al., 2017, p. 7). In summary, viewing a social media platform as more ephemeral may reduce privacy concerns leading to increased perceived enjoyment and more frequent ephemeral social media use.

#### *Consequences of Ephemeral Social Media Engagement*

Ephemerality has a variety of possible consequences for social media users. The potential beneficial consequences include increased social media engagement, decreased self-presentational concerns and perceived enjoyment. Users reported attending to Snapchat content more closely than content on archived platforms (Bayer et al., 2016). Bayer et al., (2016) found that Snapchat users also shared mundane experiences with close ties and had reduced self-

presentation concerns compared to less ephemeral platforms such as Facebook. Users shared carefree everyday content through Snapchat such as: “a cute pet, a nice outdoor scene, or other everyday moments” (Bayer et al., 2016, p. 967). Users on Facebook usually take their time to construct a post because they are worried about a larger audience seeing their post since it will be archived (Berger 2013). The study by Morlok et al. (2018) did not establish a causal order between perceived enjoyment and ephemeral engagement meaning that those that share content through an ephemeral platform might also experience more enjoyment as a result. Less visibility and less worries associated with leaving behind a record might lead to higher levels of enjoyment. Ephemerality might encourage more participation on social media through reduced self-presentation concerns, thus leading to reduced social anxiety in online interactions.

Research has explored how differences between permanent messaging and ephemeral messaging exist through immersion. Immersion is defined as being absorbed in the present task (Witmer & Singer, 1998). Consumers become more immersed in ephemeral messaging than permanent messaging (He & Kivetz, 2016). According to Kivetz and He (2017), ephemeral content allows for immersion in a few different ways: First, current research on photography and memory association found that the ephemeral act of viewing artworks in a museum without taking pictures resulted in better memory of the artworks (Henkel, 2013). This suggests that ephemeral experiences can enable a person to be more immersed in an experience because it puts them “in the moment”. Second, because ephemeral messaging disappears rather quickly (either immediately or within a 24-hour period) this grounds the interaction to the present. Research on mindfulness shows that focusing on an action that occurs in the present can motivate individuals to be more attentive to the present interaction, thus creating some form of immersive experience (Bishop, 2004). Lastly, research on “flow” describe how when a person is involved with an

activity in the moment that is somewhat challenging, they enter a state of flow. Flow is defined as “a state of concentration so focused that it amounts to absolute absorption in an activity” (Csikszentmihalyi & Csikzentmihaly, 1990, p.1). Thus, users are absorbed on the present task they are trying to accomplish, and their attention must be maintained to keep this state of flow. According to Kivetz and He (2017), when social media users’ attention is drawn towards transitory messages, highly ephemeral social media messaging can motivate individuals to engage and become immerse in social interaction.

Kivetz and He (2017) found that social media users who viewed ephemeral social media photo messages were more immersed in experience than social media users who view non-ephemeral social messages. This immersion increased their preference to be involved with a similar activity. For instance, in an experimental study, Kivetz and He (2017) had social media users receive both ephemeral and non-ephemeral social media picture messages about going to the beach along with positive captions about their experience at the beach. The ephemeral picture messages disappeared ten seconds after being opened by the participants while the non-ephemeral messages remained available and could be opened multiple times after viewing. After conducting an ANOVA analysis, they found that participants were more immersed when viewing ephemeral pictures of the beach and showed more interest in visiting the beach locations when they were shown ephemerally. The study went further to prove that even when ephemeral photographic messages contain a mix of positive information and negative information ephemeral messaging, rather than permanent messaging, still increased users’ preference to participate in an event. The next part of their study involved showing sports fans ephemeral and non-ephemeral picture messages that contained both positive information (showing fun highlights of the Super Bowl) and negative information (captions and clips showing one of the

teams losing). Even when Super Bowl fans supporting the losing team saw negative information about their team losing, they were still more interested in visiting the Super Bowl when viewing it through ephemeral messaging rather than non-ephemeral messaging. A final part of Kivetz and He's (2017) study also found that when participants received ephemeral and non-ephemeral photographs of places they were not familiar with, they were more likely to show interest in visiting those places through ephemeral messaging rather than non-ephemeral messaging. Thus, photographic ephemeral messages may increase feelings of immersion and increase users' engagement when social media users receive them.

Because higher ephemerality is positively related to social media engagement, users will share more information about themselves when they perceive a platform to be more ephemeral. This could lead to more problematic issues such as cyberbullying victimization. Recent research has found that highly ephemeral platforms are associated with self-disclosure intention (Ma et al., 2021). Users might feel more comfortable disclosing personal information through ephemeral social media affordances. This increased self-disclosure intention may lead to sharing private information they would not have otherwise shared (Turner, 2013). Ephemerality does not guarantee that social media users' disclosed information is safe and confidential (Ganzenmuller, 2014). As previously mentioned, individuals may save messages sent to them through an interface intended to be ephemeral by capturing or screenshotting (Poltash, 2012). Saving an ephemeral social media message or screenshotting it on Snapchat will alert the sender if his or her message is saved. However, users could also utilize a third-party app or device that secretly saved texts, images, and videos without alerting the sender (Lee, 2014). Therefore, social media users might have a false sense of security due to the perception of ephemerality. This can lead to unwanted public exposure and cyberbullying (Aizenkot, 2020). Research has found that the more

widely private information is shared, the more likely that cyberbullying victimization will occur (Chen et al., 2017, Peluchette et al., 2015). Thus, social media users who self-disclose through ephemeral platforms may be at more of a risk of cyberbullying victimization if they disclose to someone who shares their personal information with a larger audience.

In summary, social media has a variety of possible benefits and harms while ephemeral social media might have a different set of benefits and harms that have not yet been explored. Ephemerality might cause users with social anxiety to be more active on social media and share more personal information which can be both potentially beneficial and harmful for themselves. Thus, the research on social anxiety and self-disclosure in relation to social media use must be reviewed before explaining their possible relation to ephemerality.

### **Anxiety**

Anxiety is a negative emotional response to a stressor or threat (Lazarus & Folkman, 1984) and usually involves the anticipation of a perceived threat that is unclear or uncertain (Kilgus, Maxmen, & Ward, 2015). Anxiety also can be defined as “a pervasively apprehensive state of mind which is concerned about prospective difficult situations or threats” (Dhir, et al., 2018, p. 144). Although anxiety is a negative emotion, from an evolutionary perspective, it helps organisms defend against a wide variety of threats (Marks & Nesse, 1994, p. 247). General anxiety “probably evolved to deal with threats whose nature could not be defined very clearly” (Marks & Nesse, 1994, p. 249).

Anxiety is associated with a defensive system that is primarily related to withdrawal, escape from pain, and defensive aggression (Lang et al., 2000). Marks (1987), describes four ways anxiety provides protection: escape, aggressive defense, freezing, and submission. Escape, or avoidance, “distances an individual from certain threats in the way that vomiting, disgust,

diarrhea, coughing, and sneezing put physical space between organism and pathogen” (Marks, 1987, p. 250). Defensive aggression involves attacking the source of danger, similar to the way that the immune system defends against bacteria. Freezing can provide multiple benefits such as: aiding in locating sources of danger, assessing levels of danger, hiding from threats, and possibly stopping a predator’s attack reflex (Marks, 1987). Lastly, submission (also known as inhibition of impulses), or appeasement, is beneficial when the source of a threat comes from within one’s group.

An important difference between normal forms of anxiety and pathological anxiety (anxiety disorder) is the level of adaptation to specific threatening situations (Kilgus et al., 2016). For instance, when an individual is faced with some form of threat or an aversive situation, an “adaptive fear response is elicited and then subsides when the aversion diminishes. For instance, public speaking typically elicits some fear or normal anxious behavior that subsides once the presentation is underway or completed” (Rosen, 1998, p. 235). Thus, when an individual continues to feel fear after some form of threatening scenario is over, then they may be facing pathological anxiety.

Beyond the difference between normal and pathological anxiety there are other distinctions such as state, trait, acute, and chronic anxiety. State anxiety deals with “adverse situations in a specific moment” (Leal, 2017, p. 148). Thus, state anxiety occurs in response to a particular time and situation. Most people have a range of anxiety responses that can be viewed as a personality trait – trait anxiety (Kilgus et al., 2016). Trait anxiety describes the individual differences that are related to a likelihood of having state anxiety (Leal, 2017). Trait anxiety is relatively stable over time and can predict anxiety disorders because those with an anxiety disorder will have higher trait anxiety in comparison to a healthy individual (Spielberger et al.,

1971). When state or trait anxiety are dysregulated in individuals, this can lead to either acute anxiety or chronic anxiety. Acute anxiety involves moments of severe anxiety and panic that occur when there are high levels of state anxiety that are maladaptive (Kilgus et al., 2017).

Chronic anxiety occurs when someone has a high level of trait anxiety that is maladaptive and can also occur when state anxiety continues beyond a particular stressful situation, leading to disorders such as generalized anxiety disorder (generalized anxiety disorder, along with other anxiety disorders, is explained in the section below) (Kilgus et al., 2017).

### *Anxiety Disorders*

According to the Anxiety and Depression Association of America (ADAA), anxiety disorders are the most common than other disorders in the U.S., with 18.1 % of the population being affected each year (Anxiety and Depression Association of America, 2020). Anxiety disorders occur when there is a dysregulation of normal defensive responses within individuals. Marks and Nesse (1994) found that dysregulated anxiety involves defense regulation: too much defensive response can disable an individual, while too little defensive response can result in a lack of preparation for environmental threats. Thus, anxiety becomes problematic when normal defense responses are not appropriate given situational factors.

There are different types of disorders associated with anxiety: Social Anxiety Disorder (SAD), The Fear of Missing Out (FOMO), Generalized Anxiety Disorder (GAD), Obsessive Compulsive Disorder (OCD), Panic Disorder, and Post-Traumatic Stress Disorder (PTSD). Social anxiety disorder (SAD) is defined as a mental illness that involves the “persistent fear of one or more social or performance situations” (Brook & Schmidt, 2008, p. 123). People with social anxiety fear and avoid the scrutiny of others that may occur in social situations. These can be performance or social-based situations in which scrutiny is possible including social media



interactions (Stein & Stein, 2008). The fear of missing out (FoMO) is a type of social anxiety that describes how others might be having rewarding experiences that one is missing out on (Przybylski et al., 2013). Most research on FoMO tends to focus on how it is related to greater levels of social media use (Baker et al., 2016; Blackwell et al., 2017; Przybylski et al., 2013). Generalized anxiety disorder is excessive anxiety that has persisted for six months or longer and is out of proportion to situational factors (Parks & Marek, 2007). OCD is a disorder involving obsessions and compulsions (American Psychiatric Association, 2013). Obsessions are recurrent and persistent thoughts; compulsions are “repetitive behaviors” (American Psychiatric Association, 2013, p. 237). Individuals diagnosed with OCD feel the drive to behave in response to these obsessions. Their behavior is usually conducted to prevent or reduce anxiety. Panic disorders involve “recurrent attacks of severe anxiety (panic) which are not restricted to any particular situation or set of circumstances, and which are therefore unpredictable” (Kilgus, Maxmen, & Ward, 2015, p. 411). According to the DSM–IV–TR “PTSD is characterized by the reexperiencing of an extremely traumatic event accompanied by symptoms of increased arousal and by avoidance of stimuli associated with the trauma” (American Psychiatric Association, 2000, p. 429). Individuals with PTSD usually acquire this disorder after “a severe and extraordinary stressor” such as tornado, terrorist bombing, mugging, or military combat (Kilgus, Maxmen, & Ward, 2015, p. 411). PTSD causes individuals to re-experience and avoid stimuli associated with a traumatic event. Anxiety-induced disorders share some similar qualities (Marks & Nesse, 1994) and social anxiety disorders appear to be most related to social media use (Dobrea & Păsărelu, 2016; Przybylski et al., 2013). Of the previously mentioned anxiety disorders, social anxiety and FOMO should be most relevant to social media use because social media typically involves social interaction with close friends and sharing those experiences them

(Hall, 2018). Social anxiety and FOMO are the only previously mentioned anxiety disorders that involve anxiety stemming from social interactions and those with social anxiety and/or FOMO typically care about their close relationships with others online (Dobrea & Pasarelu, 2016; Pryzbylski et al., 2013). However, this dissertation focuses exclusively on social anxiety as described in the following section on social anxiety and social media use.

Of the types of anxiety, social anxiety is most likely to be related to social media use (Dobrea & Păsărelu, 2016). Individuals are now growing up surrounded by technological opportunities to meet and interact with others online. Online interactions can be more important than face to face interactions for individuals with social anxiety. Socially anxious users feel more comfortable expressing themselves online. As described in the following sections, when communication occurs online, users feel less social pressure than in face-to-face interactions (Weidman et al., 2012).

### *Defining Social Anxiety*

Social Anxiety Disorder (SAD) involves the fear of social scrutiny (Kilgus et al., 2015). As previously mentioned, social anxiety disorder is the most common type of anxiety disorder. Whether it comes to worrying about embarrassing themselves while doing some sort of activity in public such as speaking, eating out or even using public restrooms, social anxiety can affect people in a variety of ways (Kilgus, et al., 2015). The DSM IV defines social anxiety as a phobic (anxiety) disorder, similar to other phobias (Kilgus et al., 2015). Those with social anxiety fear social interactions along with scrutiny from others in actual and anticipated social situations (Kilgus et al., 2015). Social anxiety involves feelings including apprehension, self-consciousness, and emotional distress in social evaluative situations that might occur or are

already occurring (Leitenberg, 2013). These social interactions can be performance- or social-based situations in which scrutiny is possible (Stein & Stein, 2008, p. 1115).

### **The Need to Belong Theory**

The evolutionary theory behind social anxiety involves the function of social anxiety as a survival instinct (Baumeister & Leary, 1995; Baumeister & Tice, 1990; Schlenker & Leary, 1982). Social anxiety is thought to occur in response to the probability of being rejected by individuals or social groups (Schlenker & Leary, 1982). This relationship between fear of negative evaluation and social anxiety is thought to generate some form of motivation for adequate social performance (Mull, 2006). Specifically, fear of negative evaluation threatens individuals' belongingness which leads to inclusion. Thus, social anxiety functioned as a motivation for increasing the probability of being included within a group and surviving.

Human's need to belong is useful for understanding social anxiety because it focuses on the need for close bonds with others. The need to belong is defined as the motivation to form and maintain interpersonal bonds (Baumeister & Leary, 1995). Thus, the need to belong is a fundamental motivation behind human behavior and it is found to some degree in humans within all cultures (Baumeister & Leary, 1995). There are two essential components involved in the need to belong: frequent contact with another person (this contact should be ideally pleasant or free of conflict) and perception that there is an interpersonal bond or a "relationship marked by stability, affective concern, and continuation into the foreseeable future" (Baumeister & Leary, 1995, p. 501). Therefore, the need to belong is an important interpersonal motivation for those with social anxiety because problems with belongingness can describe how anxiety disorders are formed.

The need to belong is positively related to social anxiety (Brown et al., 2007). Individuals with social anxiety tend to have lower levels of social support and lower levels of relatedness, which may be due to the fear of social scrutiny. Social anxiety may occur in response to the probability of being rejected by individuals or social groups (Schlenker & Leary, 1982). The fear of negative evaluation that is caused by social anxiety is thought to generate some form of motivation for inclusion (Mull, 2006). Thus, the need to belong and social anxiety should be positively related.

In summary, the need to belong is an important motivation for individuals with social anxiety since frequent social contact and close bonds are a typical occurrence on most, if not all, cultures. Problems with belongingness are some of the root causes for issues that create or increase social anxiety. Thus, as explained in the following sections, socially anxious individuals may seek social interaction and attempt to satisfy their need to belong by turning to social media to achieve a sense of inclusion.

### **Social Information Processing Theory**

Computer mediated communication (CMC) is often described by Social Information Processing theory (SIPT). SIPT is an interpersonal theory about impression management that describes how individuals can form close relationships through online textual communication and that these relationships can be as close as in-person relationships (Walther & Burgoon, 1992). This theory describes how impression management is often more complicated and difficult to manage when interacting in person because there are multiple indicators rapidly occurring. As CMC evolved, so did SIPT, Walther (1996) eventually extended his theory with hyperpersonal communication theory. Hyperpersonal communication theory is an interpersonal

communication theory that describes how CMC can facilitate communication that is just as intimate and sometime more intimate than face-to-face communication (Walther, 1996).

Walther's theory can be described through the "sip" analogy (Griffin, 2011, p. 140). According to Walther (1992), impressions occur very rapidly in offline encounters and individuals must be quick to process and respond efficiently to certain indicators in order to form a positive impression. Thus, in-person communication allows users to rapidly receive information over a shorter amount of time, similar to consuming "gulps" of water. On the other hand, when individuals can communicate online through text, they are able to take their time with forming impressions. When communication occurs online through text, individuals do not have as much pressure to quickly process and respond efficiently to another individual in a social interaction. Online communication allows users to slowly receive personal bits of information through textual communication, akin to "sipping" from a glass of water. In summary, SIPT argues that online communication can allow individuals to consume the same quantity and quality of information as offline communication, however, online communication allows for different rates and methods of communication (Griffin, 2011).

SIPT specifically describes how intimate communication online can possibly occur despite the fewer cues and asynchronicity. First, CMC offers fewer nonverbal cues than are typically associated with offline communication (Walther, 1996). Verbal cues include language and meaning behind the message. Nonverbal cues can include eye contact and facial expressions (Green et al., 2016). Nonverbal cues can be more important in social interactions because certain individuals (such as those with social anxiety) are biased towards interpreting them and may place more importance on both interpreting and producing them (Gilboa-Schechtman & Shachar-Lavie, 2013). Self-disclosing in person can be very difficult for individuals with social anxiety

because social anxiety is associated with a biased attention toward nonverbal cues. These nonverbal cues can include emotional facial expressions and body posture (Gilboa-Schechtman & Shachar-Lavie (2013). Emotional facial expressions can provide important interpersonal information for socially anxious individuals during social encounters (especially when they are self-disclosing). Those with social anxiety tend to be distracted by any sort of facial expression from others whether someone is smiling or frowning at them (Gilboa-Schechtman & Shachar-Lavie, 2013). According to a review on social anxiety literature by Gilboa-Schechtman & Shachar-Lavie (2013), if socially anxious individuals interpret someone else as have a threatening or dominant body posture, they can become distracted, and these postures can possibly make them avoid social interactions. Additionally, those with social anxiety are also worried about producing unwanted nonverbal cues because they do not want others to notice any visual or auditory symptoms of their anxiety. For instance, those with social anxiety can have symptoms such as a trembling voice, shaky hands, or blushing. Socially anxious individuals believe that if others notice these symptoms, they will appear to be more anxious, weak, or stupid (Clark & Wells, 1995). Therefore, both interpreting and producing nonverbal cues can make offline self-disclosure much more difficult for those with social anxiety due to their avoidance of threatening nonverbal cues and worries about showing symptoms of their anxiety to others. Reduction of these nonverbal cues can free up cognitive resources which may allow socially anxious users to focus more on creating their message and self-disclosing (Green et al., 2016).

Second, CMC is typically asynchronous in nature. Individuals do not have to communicate simultaneously because feedback is somewhat delayed (Gibbs et al., 2013). This asynchronous form of communication gives users more time to carefully construct

communicative messages (Gibbs et al., 2013). When individuals have more time to respond, they feel less anxiety during a social interaction online because they can take their time to respond. Socially anxious individuals care about the speed of their interactions, and this can impact whether they will self-disclose or not. Those with social anxiety appear to be less synchronous in their interactions with others (Gilboa-Schechtman & Shachar-Lavie, 2013). Socially anxious individuals take longer to socially interact because they are constantly processing social feedback. Those with social anxiety are fearful of negative feedback since it can threaten their belongingness (Mull, 2006). It can be much more difficult for socially anxious individuals to disclose in an immediate face-to-face encounter because they prefer less risky contexts for social interaction (Leary & Kowalski, 1997). Feedback is usually instantaneous in offline social interactions (Chan, 2011). Instant feedback can be stressful for socially anxious individuals because they might worry about the likelihood of receiving negative feedback. Thus, individuals with social anxiety will feel even more social pressure to make a positive impression in face-to-face interactions, especially when they are self-disclosing about potentially sensitive information.

In summary, the social information processing theory of communication describes how both fewer cues and asynchronous communication can lead to more social interaction online for those with social anxiety.

Social media studies that have applied the social information processing theory of communication to various social media platforms have utilized the internet attribute perception (IAP) model (Schouten et al., 2007). This model describes how the actual effects of reduced cues and the asynchronous nature (controllability) of online communication “depend on user’s perceptions of their relevance” (Green et al., 2016, p. 207). Reduced nonverbal cues and increased controllability can reduce users’ inhibitions. This disinhibition effect occurs while they

are communicating through social media (Walther, 1996). Disinhibition is associated with feelings of being less restrained and the freedom to express oneself online (Suler, 2004). Thus, the feelings of disinhibition that these users encounter typically results in increased online self-disclosure (Green et al., 2016; Schouten et al., 2007). In hyperpersonal theory, reduced nonverbal cues and controllability are seen as fixed attribute of CMC that typically led to online self-disclosure. However, later research found that users can greatly vary in their perceptions of CMC attributes and these perceptions might affect their online behavior (Peter & Valkenburg, 2006). If an individual has a perception that a certain medium can fulfill their specific needs, that individual will attach more relevance to this medium. Therefore, highly socially anxious users might perceive reduced cues and increased controllability to be more important features of social media than other users with less social anxiety.

Adoption of ephemeral social media content may vary from one person to another and may co-vary with levels of social anxiety, therefore, this study will introduce a new concept called perceived importance of ephemerality. Similar to research by Schouten et al., (2007) and Green et al., (2016) utilizing the IAP model, it is hoped that this concept will allow for further investigation into the relationship between ephemerality and social anxiety. Individual's may feel more disinhibition through ephemerality since perceived ephemerality is associated with reductions in self-presentational concerns. Therefore, socially anxious social media users may place more importance on ephemeral social media content during their social interactions online. According to Krosnick (1989), "important attitudes are those that individuals attach personal importance to and care deeply about" (p. 297). Thus, measuring perceived importance is both a simple and direct way to determine an individual's value and personal significance towards something (Van Dick et al., 2004). Perceived importance of ephemerality is defined as an



attitude indicating the level of value that a social media user places on ephemerality. Individuals with social anxiety will not only adopt platforms that have more ephemeral features, but they also place more importance on ephemerality as well since it may cause them to feel less restrained in their interactions. Perceived importance of ephemerality could possibly extend the IAP model to explain why certain individuals with social anxiety might view ephemerality as an important feature of online communication.

### **Self-Disclosure**

Self-disclosure is a behavior that can fulfill the need to belong and is essential to both building and maintaining interpersonal relationships (Buhrmester & Furman, 1987). Self-disclosure is defined as the act of sharing personal information with others (Jourard, 1971). It can be further described as the revealing of personal and intimate information about oneself to certain individuals (Green et al., 2016). This information can include personal detail such as sexual behavior, personal feelings, and secrets (Schouten et al., 2007). There are two types of self-disclosure that are commonly referred to in social media studies: public and private self-disclosure. Public self-disclosure describes sharing content with a whole network of friends or followers (Bazarova & Choi, 2014). Private self-disclosure, on the other hand, is defined as selectively sharing information with a certain recipient through private messaging (Bazarova & Choi, 2014). Self-disclosure is an important interpersonal construct that can describe the level of intimate details that individuals share with others both publicly and privately.

Self-disclosure is a vital behavioral strategy for increasing a sense of belonging. Self-disclosure can increase closeness and intimacy with friends (Green et al., 2016). Theoretically self-disclosure may operate differently in face-to-face social interaction than on-line (Walther, 1996). This is because in face-to-face interactions, self-disclosure typically involves verbally

describing information about oneself to others (Green et al., 2016). In offline encounters, individuals need to manage multiple cues associated with how they look, sound, and engage in appropriate conversational turn taking (Green et al., 2016).

### *Social Anxiety and Online Self-Disclosure*

SIPT provides a theoretical explication for the difficulties socially anxious individuals may find in self-disclosing when communicating face-to-face. Socially anxious individuals place higher value on the reduced social pressure associated with online communication, which enhances their communication experience ([Weidman et al., 2012](#)). This reduced social pressure likely stems from a reduction in cues and speed of social interactions associated with offline communication.

In accordance with studies on social information processing theory and social anxiety, social anxiety has been found to impact online self-disclosure levels. Socially anxious individuals prefer to self-disclose online with close friends in privacy (Green et al., 2016). Adolescents with social anxiety perceive that online communication is more valuable for private self-disclosure than offline self-disclosure (Valkenburg & Peter, 2007). Additionally, users with social anxiety will self-disclose more through instant messaging when they perceive reduced nonverbal cues and controllability of communication to be greater (Schouten et al., 2007). On Facebook, users with social anxiety will self-disclose privately and publicly when they perceive reduced cues and controllability to be more valuable (Green et al., 2016). Thus, social media can be a particularly valuable tool of online private and public self-disclosure and social anxiety must be explored further in relation to self-disclosure.

Social anxiety appears to be positively related to online self-disclosure. Research has found that social anxiety is positively related to online private self-disclosure and negatively

related to both online public disclosure and offline self-disclosure (Green et al., 2016; Schouten et al., 2007; Valkenburg & Peter, 2007; Weidman et al., 2012). Those with social anxiety view online communication as less stress inducing for online self-disclosure than offline communication (Weidman et al., 2012). This suggests that that social anxiety should be positively related to online private disclosure and negatively related to both public and offline disclosure. Green et al., (2016) focused on self-disclosure through Facebook. On that platform, social anxiety was positively related to private self-disclosure and negatively related to public and offline self-disclosure (Green et al., 2016). In summary, individuals with high social anxiety disclose privately more than publicly online or offline.

### **Social Compensation Hypothesis**

Social media might be beneficial to users with social anxiety, but it also can be detrimental. The social compensation hypothesis, otherwise known as the “poor-get-richer” hypothesis, suggests that individuals with social anxiety use online SNSs to compensate for deficits in social skills or discomfort in face-to-face situations (Lee & Stapinski, 2012). Most studies focusing on social compensation describe how socially anxious users adopt the internet for social support (Dobrea & Pasarelu, 2016). However, research provides conflicting evidence for the social compensation hypothesis. For instance, some research has found that individuals with social anxiety utilize Facebook for social support (McCord et al., 2014) and other research found no relationship between social anxiety and Facebook frequency (Fernandez et al., 2012; Indian & Grieve, 2014). Furthermore, research finds that socially anxious users may turn toward social media for social support, but they may face issues with lower self-esteem and higher levels of depression as a result of this compensatory use (Weidman et al., 2012). Thus, individuals with social anxiety may benefit from social media use but may also face further mental health issues

when relying too much on using the internet for social compensation. It is not yet clear whether social compensation is occurring through socially anxious user's ephemeral social media content engagement or not.

### **Social Anxiety and Ephemeral Social Media Content**

Research has not yet linked social anxiety with ephemeral social media content use. However, a variety of social anxiety indicators and consequences are associated with ephemerality on social media platforms. Gratification is defined as a feeling of satisfaction when needs are fulfilled via media consumption (Katz et al., 1973). One study focused on how social pressure and FOMO are related to gratifications associated with ephemeral social media engagement (Chen & Cheung, 2019). Chen and Cheung (2019) specifically measured ephemeral gratifications as feelings of being connected, fitting in, and feel comfortable communicating with other people through ephemeral content in social media. They found a significant indirect effect of social pressure on engagement with ephemeral content through gratification. The same study found that social pressure was negatively related to gratifications associated with ephemeral social media but positively related to adopting ephemeral social media platforms. Individuals with social anxiety are more susceptible to social pressure (Weidman et al., 2012). If social pressure is related to adopting ephemeral social media platforms, then ephemeral social media engagement will most likely be related to social anxiety. Therefore, socially anxious individuals may feel some form of social pressure to adopt ephemeral social media platforms. Chen and Cheung (2019) also found that FOMO was positively related to gratifications obtained from ephemeral social media engagement. Social anxiety is positively related to FOMO because socially anxious users worry about missing out on social media content (Duan et al., 2020; Wolniewicz et al., 2018). Socially anxious users might want to stay caught up on ephemeral

content to keep in touch with their close friends and avoid possible social scrutiny associated with missing out. Other research on gratifications obtained from ephemeral social media engagement has found that social media users utilize ephemeral messaging for relational maintenance (Waddell, 2016). Users engage with highly ephemeral platforms, such as Snapchat, for closed personal communication with their friends, family, and romantic partners (Kamble et al., 2021). Socially anxious users value personal communication with their close friends and they will most likely use ephemeral messaging to maintain their relationship with those friends. Research has found that perceived ephemerality on ephemeral platforms such as Snapchat are negatively related to privacy concerns (Morlok et al., 2017). Privacy concerns can influence social anxiety. Individuals with high privacy concerns tend to have social anxiety and may be more likely to avoid sharing and revealing of personal information (Alkis et al., 2017; Okazaki et al., 2012). Thus, ephemerality might reduce socially anxious users' privacy concerns. Perceived ephemerality is also positively associated with perceived enjoyment (Bayer et al., 2016). In other words, individuals view ephemeral platforms as more fun and playful than other platforms which could relate to decreased social anxiety when using ephemeral social media. Bayer et al., (2016) also found that perceived ephemerality is negatively associated with self-presentational concerns (Bayer et al., 2016). Individuals with social anxiety have high levels of concerns with the way they present themselves in social interactions due to their worries about avoiding embarrassment (Schlenker & Leary, 1982). Thus, ephemerality might allow socially anxious social media users to reduce their self-presentational concerns when disclosing to others online. In summary, social media users with social anxiety might adopt ephemeral social media platform features because they are associated with benefits such as reductions in privacy concerns and increases in enjoyment. However, since social pressure and FOMO might be motivating users to adopt

ephemeral social media features, users might be feeling more social anxiety when using ephemeral social media.

### **Hypotheses and Research Questions**

The following hypotheses are based on the studies described above. The gaps in these findings are briefly reviewed before positing new hypotheses and research question of from this study.

Individuals with social anxiety are more comfortable communicating online, especially when privately disclosing information through Facebook (Green et al., 2016). However, recent research has found that social anxiety is negatively related to active social media use on Facebook (Kruchten, 2021). This might be because those with social anxiety are more cautious about sharing content with others when they use a non-ephemeral social media platform. Thus, the following research question is introduced:

**RQ1:** How does social anxiety relate to ephemeral social media engagement?

Prior studies have found that social anxiety is positively related to online public disclosure and negatively related to offline self-disclosure (Schouten et al., 2007; Valkenburg & Peter, 2007). Weidman et al. (2012) found that social anxiety is positively related to online self-disclosure. In accordance with the social compensation hypothesis, highly socially anxious individuals viewed the internet as a more comfortable place for self-disclosure than offline settings compared to those with low social anxiety. The reduction of nonverbal cues and synchronicity within socially anxious users' online interactions allows for them to feel like they can safely self-disclose to others. Not only does the setting matter when socially anxious individuals choose to self-disclose, but also who they are disclosing to. Some research finds that those with social anxiety prefer to privately self-disclose online with the people that they are

closer to rather than publicly (Green et al., 2016). This is because those with social anxiety care about maintaining their close relationships with friends and family. Therefore, individuals with high social anxiety typically disclose online and may do so privately. Thus, the following research question is introduced:

**H1:** Social anxiety will be positively related to online self-disclosure.

Socially anxiety users might feel pressured into using ephemeral social media features and they could also be motivated to decrease their anxiety through engaging with ephemeral features meaning that they should perceive ephemerality to be important when socializing online. Social pressure predicts the adoption of ephemeral social media platforms (Chen & Cheung, 2019). Additionally, perceived ephemerality on Snapchat is negatively related to privacy concerns and positively related to perceived enjoyment (Morlok et al., 2017). Research has found that social anxiety is negatively related to enjoyment. Thus, users with social anxiety might view levels of ephemerality as an important consideration when engaging with ephemeral social media content due to the possibility of increased social pressure, reduced privacy concerns, and increased enjoyment. Research has found that perceived ephemerality is associated with increased ephemeral engagement meaning that users will view and share more content when they perceived a platform as ephemeral (Morlok et al., 2018). Those with social anxiety should have higher perceived importance of ephemerality since they will be worried about how long that others can see their content for and thus, place more importance on using ephemeral features when engaging with social media content.

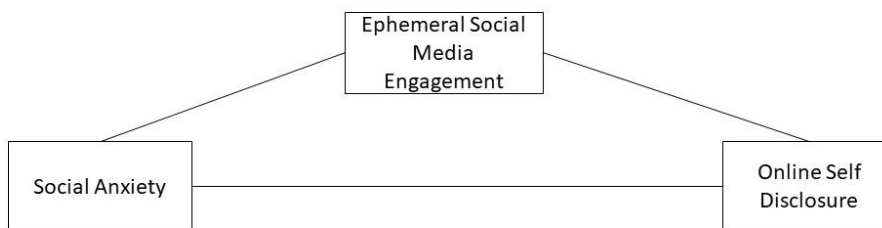
**H2a:** Social Anxiety will be positively related to perceived importance of ephemerality.

**H2b:** Perceived importance of ephemerality will be positively related to ephemeral social media engagement.

As previously mentioned, those with social anxiety view online communication as more valuable for private self-disclosure than offline communication (Green et al., 2016; Schouten et al., 2007; Valkenburg & Peter, 2007). Individuals with high social anxiety disclose online privately more than in public or offline. However, the study by Valkenburg and Peter (2007) focused exclusively on non-ephemeral instant messaging and Green et al., (2016) focused exclusively on Facebook. Those with social anxiety will be less inclined to actively participate on non-ephemeral social media platforms (Kruchten, 2021) and those with social anxiety are mostly comfortable privately disclosing online, especially when they feel that they have more control over their message permanence (Green et al., 2016). Thus, they will also be more inclined to self-disclose when they use a social media platform that is ephemeral (see figure 1 below).

**H3:** Ephemeral social media engagement will mediate the relationship between social anxiety and self-disclosure.

**Figure 1. Conceptual model of mediation for online self-disclosure.**



Ephemeral social media engagement should lead to more online self-disclosure, especially among those that perceive ephemerality to be more important. Ephemerality increases users' engagement with social media by making people feel more comfortable with sharing information (Bayer et al., 2016; Morlok et al., 2017; Roesner et al., 2014; Xu et al, 2016). Thus,

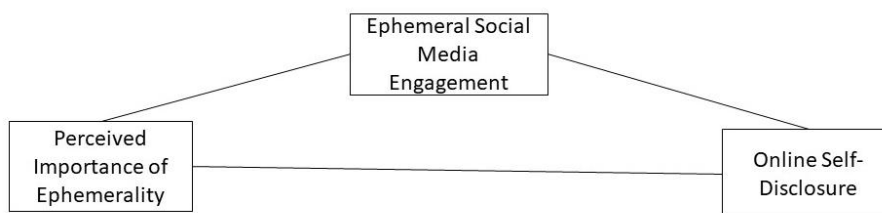


they will also be more inclined to self-disclose when they are actively and/or passively using ephemeral social media more (see figure 2 below):

**H4a:** Ephemeral social media engagement will be positively related to self-disclosure.

**H4b:** Ephemeral social media engagement will mediate relationship between perceived importance of ephemerality and self-disclosure.

**Figure 2. Conceptual model of mediation for online self-disclosure.**

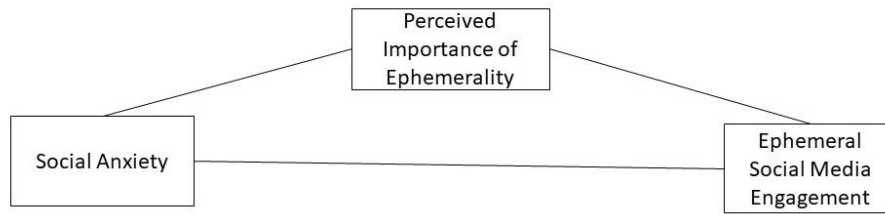


If perceived importance of ephemerality leads to more ephemeral social media engagement, then it should also lead to more self-disclosure among those with social anxiety. Perceived ephemerality motivates individuals to engage with ephemeral social media content (Coa & Setiawan, 2017; Kircova et al., 2020; Morlok et al., 2017). Research has found that perceived ephemerality is associated with increased self-disclosure intention (Ma et al., 2021). Social media users share more honest and intentional information through highly ephemeral platforms such as Snapchat (Choi & Sung, 2018; Kim et al., 2020). Thus, social media users should also be more inclined to engage with ephemeral social media and self-disclose when they perceive ephemerality to be of high importance (see figures 3 and 4 below).

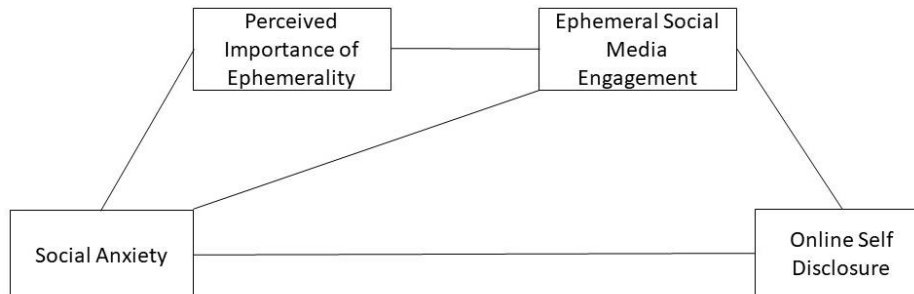
**H4c:** Perceived importance of ephemerality will mediate the relationship between social anxiety and ephemeral social media engagement.

**H4d:** Social anxiety will be indirectly related with self-disclosure through a sequential mediation of perceived importance of ephemerality and ephemeral social media engagement.

**Figure 3. Conceptual model of mediation for ephemeral social media engagement.**



**Figure 4. Conceptual model of serial-mediation for online self-disclosure.**



## CHAPTER 3: METHOD

This study was conducted using an on-line survey constructed and administered through the Qualtrics survey system. It contained items and scales that measure non-ephemeral social media engagement, ephemeral social media engagement, perceived importance of ephemerality, social anxiety, online self-disclosure, and control variables (such as age and gender).

Respondents were Mechanical Turk workers who were contacted through the Amazon Mechanical Turk system. Data were collected during the spring of 2022.

### Sample

An online survey of Mechanical Turk workers was conducted in Spring 2022. Social media users vary in terms of age and other demographic characteristics (Buhrmester et al., 2016). Mechanical Turk samples provide more variance in age, social media use, and levels of social anxiety compared to a convenience sample of college students (Buhrmester et al., 2016). The only qualification for participation in the study was that individuals be at least 18 years of age. Mechanical Turk requires a minimum age of 18 years. For the current study, a sample size of 129 participants was found to be necessary to adequately power the proposed study, based on the power analysis conducted in G-power's (version 3.1.9.7) using a medium effect size ( $d = .15$ ) (Faul, 2009). To avoid the impact of people dropping from the study, the researcher intentionally recruited more people. Thus, this survey aimed for a general sample of 500 respondents.

A total of 1,181 Mechanical Turk workers started the survey. However, a large number of participants were removed for failing to complete the survey, failing two or more attention checks, missing data, or rushing through the total survey. Participants (679) who failed to correctly answer two or more attention check questions were excluded from the data set by the

Mechanical Turk system. A total of 502 respondents were compensated for taking the survey. Four additional respondents were removed from the data set due to missing two or more responses within a set of items. The average completion time of the remaining 498 respondents was 68.4 minutes with a standard deviation of 609 minutes, indicating a higher tailed distribution due to outliers. The completion times were turned into standardized scores and any completion times that were greater than two standard deviations above and below the mean completion time were removed. It was found that six additional respondents had outlier scores two standard deviations above the mean completion time and were removed from the data set. After the outliers were removed, the mean completion time was 5.4 minutes and 492 respondents remained in the data set. Upon testing and completing the survey multiple times, the researcher found that the survey took a minimum time of three minutes and 40 seconds to complete. Thus, 267 additional respondents who took less than three minutes and 40 seconds to complete the survey were removed in order to ensure that they completed the survey thoughtfully and accurately. Ultimately, a total of 225 respondents (Age,  $M = 35.6$ ,  $SD = 10.24$ ; Gender, Male = 53.3%) were retained in the data set that was used for hypothesis testing.

### **Study Procedure**

Respondents clicked the link to the Qualtrics survey through Mechanical Turk interface. They read a consent form telling them that they must pass two of three attention check questions and complete the full survey to be compensated. If they agreed, they completed the survey. Participants were provided a cash incentive of \$0.25 if they completed the survey without answering more than one attention check items incorrectly.

The survey was ordered to first ask about respondents' non-ephemeral social media engagement followed by an attention check question. Then, respondents were asked about their

ephemeral social media engagement and their perceived importance of ephemerality. Respondents were asked about their levels of social anxiety followed by another attention check question. Next, respondents answered questions about their levels of online self-disclosure followed by a final attention check question. Lastly, demographic information -- age, location, and gender -- were included at the end of the survey along with respondents' randomly generated survey confirmation code. The survey questions were not randomized.

## **Measures**

### *Social Anxiety*

Social anxiety was measured with the Social Anxiety Questionnaire [SAQ] (Lakuta, 2018). This scale was chosen because it has a high reliability and is one of the most recent, clinically accurate measure of social anxiety. This scale contained items that measure five dimensions of social anxiety: negative view of the self, self-focused attention, safety behaviors, somatic and cognitive symptoms, and anticipatory and post-event rumination. Lakuta (2018) started with a pilot test of 17 questions and reduced the scale to ten items measuring the following five factors:

#### Negative View of the Self:

- “I think about myself as a socially unattractive person.”
- “I think I’m not interesting enough to be liked by others.”

#### Self-Focused Attention:

- “During social situations, I keep thinking about how I look.”
- “During social interactions, it is often hard for me to stop thinking about what I have just said and how it sounds to others.”

#### Safety Behaviors:

- “In social situations, I avoid eye contact”.
- “I try not to attract attention for fear of being negatively evaluated by other people.”

Somatic and Cognitive Symptoms:

- “In social situations, I am bothered by various unpleasant feelings and experiences, such as feeling hot, sweating, nervous trembling, palpitations, or difficulty concentrating”.
- “The anxiety which I feel in social situations significantly disrupts my occupational or academic functioning, or social activities or relationships”.

Anticipatory and Post-event rumination:

- “Before meeting people I don’t know well, I’m worried about what they can think of me and how I will be evaluated.”
- “I deliberate over social interactions long after they end, and think about how I acted and whether I was evaluated negatively by others.”

The ten items are rated on a five-point (scored 1–5) attitudinal-based response format “strongly disagree” to “strongly agree.” Prior researchers combined the dimensions into a total score, this study combined them into a total mean score since it did not affect the outcome of the results. Thus, these items were combined to form an index (Cronbach’s  $\alpha = .90$ ) with higher scores indicating higher levels of social anxiety ( $M = 3.51$ ,  $SD = .78$ ,  $Range = 1-5$ ).

*Online Self-Disclosure*

Self-disclosure was measured using an online self-disclosure scale originally developed by Schouten et al. (2007). Items within this scale assess the breadth in which individuals discuss certain topics (sex, personal feelings, and secrets) when communicating online. Respondents

were asked to report how often they share through social media the following types of information:

- “My personal feelings.”
- “Things that I am worried about.”
- “My secrets.”
- “Being in love.”
- “Sex.”
- “Moments in my life I am ashamed of.”
- “Moments in my life I feel guilty about.”

Respondents were asked to rate how much they disclosed to others online from the seven items. The items are measured on a five-point Likert scale with possible responses ranging from 1 (I tell nothing about this) to 5 (I tell everything about this). These items were combined to form an index (Cronbach’s  $\alpha = .86$ ), with higher scores indicating higher levels of self-disclosure online ( $M = 3.28$ ,  $SD = .91$ ,  $Range = 1-5$ ).

#### *Perceived Importance of Ephemerality*

Perceived importance of ephemerality was measured with four questions developed by the author. The items were:

- “It is important to me that messages I send to others on social media disappear eventually.”
- “It is important to me that information I post on social media doesn’t stay posted forever.”
- “The sooner information that I post disappears the more comfortable I feel.”
- “It doesn’t matter to me if information I post disappears or if it stays on-line forever.”

Responses were measured on a 5-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). These items were factor analyzed to assess their uni-dimensionality and internal consistency. Results of that analysis are reported in the Results chapter. These items were combined to form an index (Cronbach's  $\alpha = .67$ ), with higher scores indicating higher levels of perceived importance of ephemerality ( $M = 3.71$ ,  $SD = .74$ , Range = 1-5).

### *Non-ephemeral Social Media Engagement*

The social media engagement scale originally developed by Alt (2015) was used in this study to operationalize non-ephemeral social media engagement. Non-ephemeral social media engagement involves both passive and active social media use. One item describes just viewing content while the rest of the items involve social interaction and updating content. This measure focuses on time spent with non-ephemeral social media content and a variety of activities on social media platforms. The non-ephemeral engagement scale included the following items:

- “I read updates about what is happening with others (e.g., friends or family members) by using social media sites (e.g. Facebook, Twitter, Instagram).”
- “I respond to social or personal updates of others (e.g., friends or family members) in social media sites.”
- “I update personal information in social media sites.”
- “I hold conversations (chats) with others (e.g., friends or family members) in social media sites.”

The four items were measured with an 8-point Likert scale ranging from 1 (I do not use this platform) to 8 (multiple times daily). These items were combined to form an index (Cronbach's  $\alpha = .73$ ), with higher scores indicating higher levels of non-ephemeral social media engagement online ( $M = 6.30$ ,  $SD = 1.11$ , Range = 1-8).



### *Ephemeral Social Media Engagement*

The social media engagement scale originally developed by Alt (2015) and later adapted to ephemeral engagement by Chen and Cheung (2019) was adopted in this study to operationalize ephemeral engagement. This measure focuses on the time spent using ephemeral social media content and a variety of activities through ephemera social media content.

Ephemeral engagement involves both passive and active social media use. One item describes just viewing content while the rest of the items involve social interaction and updating content.

The ephemeral engagement scale included the follow items:

- “I read updates about what is happening with others through ephemeral content in social media.”
- “I respond to social or personal updates of others through ephemeral content in social media.”
- “I update personal information through ephemeral content in social media.”
- “I hold conversations (chats) with others (e.g., your friends or family members) through ephemeral content in social media.”

The four items will be measured with an 8-point Likert scale ranging from 1 (I do not use this platform) to 8 (multiple times daily). These items were combined to form an index (Cronbach’s  $\alpha = .85$ ), with higher scores indicating higher levels of ephemeral social media engagement ( $M = 6.10$ ,  $SD = 1.36$ , Range = 1-8).

### *Control Variables*

Social anxiety has a higher prevalence in females (Alkis et al., 2017; Asher & Aderka, 2018; Stein & Stein 2008). Social anxiety has an early onset, it typically begins to occur in

childhood and early adolescence (Stein & Stein 2008). Thus, the control variables in this study were age ( $M = 35.6$ ,  $SD = 10.24$ ) and gender (Male = 53.3%).

## CHAPTER 4: RESULTS

The analysis of the results in this study first involved descriptive analyses of the sample, including age and key variables. Then, initial analyses of the perceived importance of ephemerality measure and the pairwise correlations of all variables were included in this study. Next, simple linear regression analyses were utilized to analyze RQ1, RQ2, H1a, H1b, and H3a. Mediation analyses were used to test H2, H3b, and H3c. Lastly, a serial mediation analysis was used to test H3d.

**Table 1. Descriptive statistics of age and key variables.**

	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Range</b>
Age	225	35.66	10.24	21-68
Social Anxiety	225	3.51	.78	1-5
Online Self Disclosure	225	3.28	.91	1-5
Perceived Importance of Ephemerality	225	3.71	.73	1-5
Ephemeral Social Media Engagement	225	6.10	1.36	1-8
Non-Ephemeral Social Media Engagement	225	6.30	1.11	1-8

### Initial Analyses

The first step of the initial analysis was to assess the descriptive statistics among age, gender, and key variables in this study. See table 1 above to view the descriptive statistics of age ( $M = 35.6$ ,  $SD = 10.24$ ,  $Range = 21-68$ ), gender (Male = 53.3%), social anxiety ( $M = 3.51$ ,  $SD = .78$ ,  $Range = 1-5$ ), online self-disclosure ( $M = 3.28$ ,  $SD = .91$ ,  $Range = 1-5$ ), perceived importance of ephemerality ( $M = 3.71$ ,  $SD = .74$ ,  $Range = 1-5$ ), ephemeral social media

engagement ( $M = 6.10$ ,  $SD = 1.36$ ,  $Range = 1-8$ ), and non-ephemeral social media engagement ( $M = 6.30$ ,  $SD = 1.11$ ,  $Range = 1-8$ ).

The next step of the initial analysis was to assess the dimensionality and internal consistency of the Perceived Importance of Ephemerality Scale. Principal component analysis revealed a single factor (see table 2 below) comprised of 4 items reported on a 5-point Likert scale that explained 51.203% of the variance. It was found that the reverse coded item brought down the scale's reliability so only the first three items were included in this measure. The three-item index had a Cronbach's Alpha of .67.

**Table 2. Factor loadings and communalities for perceived importance of ephemerality**

	Loadings	
	Factor 1: Perceived Importance of Ephemerality	Communality
1. It is important to me that messages I send to others on social media disappear eventually.	.805	.648
2. It is important to me that information I post on social media doesn't stay posted forever.	.740	.548
3. The sooner information that I post disappears the more comfortable I feel.	.745	.526
4. It doesn't matter to me if information I post disappears or if it stays on-line forever.	-.571	.326
Eigenvalue	2.048	
Total Variance	51.203%	

*Principal components analysis with Varimax rotation*

The second step of the analysis involved a correlation analysis. Pairwise correlations of all the variables are reported below, in Table 3. The correlation analysis showed significant positive correlations between ephemeral social media engagement and non-ephemeral social media engagement ( $r = .722, p < .001$ ), perceived importance of ephemerality ( $r = .423, p < .001$ ), social anxiety ( $r = .245, p < .001$ ), online self-disclosure ( $r = .518, p < .001$ ). There was a significant negative correlation between ephemeral social media engagement and age ( $r = -.252, p < .001$ ). There were significant positive correlations between non-ephemeral social media engagement and perceived importance of ephemerality ( $r = .295, p < .001$ ), social anxiety ( $r = .146, p < .05$ ), online self-disclosure ( $r = .378, p < .001$ ). There was a significant negative correlation between non-ephemeral social media engagement and age ( $r = -.154, p < .05$ ). There were significant positive correlations between perceived importance of ephemerality and social anxiety ( $r = .404, p < 0.001$ ), and online self-disclosure ( $r = .456, p < .001$ ). There was a significant positive correlation between social anxiety and online self-disclosure ( $r = .498, p < .001$ ). There was a significant negative correlation between social anxiety and age ( $r = -.165, p < .001$ ). Lastly, there was a significant negative correlation between online self-disclosure and age ( $r = -.206, p < .001$ )

**Table 3. Correlations among all variables**

	1	2	3	4	5	6
1. Ephemeral Social Media Engagement						
2. Non-Ephemeral Social Media Engagement	.722**					
3. Perceived Importance of Ephemerality	.423**	.295**				
4. Social Anxiety	.245**	.146*	.404**			
5. Online Self-Disclosure	.518**	.378**	.456**	.498**		
6. Age	-.252**	-.154*	-.072	-.165**	-.206**	

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

### **RQ1. The Relationship Between Social Anxiety and Ephemeral Social Media Engagement**

RQ1 asked, how does social anxiety relate to ephemeral social media engagement?

Simple linear regression was performed to assess whether social anxiety predicted ephemeral social media use. (See Table 4). A significant equation was found ( $R^2 = .106$ ,  $F(3, 221) = 8.74$ ,  $p < .001$ ). The  $R^2$  value indicates that the variables included in this model accounted for 10.6 percent of variance of ephemeral social media use. Social anxiety is positively related with ephemeral social media engagement, ( $\beta = .209$ ,  $p < .05$ ). For the control variables: it was found that age predicted ephemeral social media engagement ( $\beta = -.218$ ,  $p < .001$ ). Gender was treated as a dichotomous variable (0 = Male, 1 = Female). Gender did not significantly predict non-ephemeral social media engagement ( $\beta = .017$ ,  $p = .785$ ).



**Table 4. Simple linear regression predicting ephemeral social media engagement based on social anxiety.**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	5.873	.551		10.599	<.001	4.752	6.922
1 Social anxiety	.365	.113	.209	3.245	.001	.142	.587
Age	-.029	.009	-.218	-3.374	<.001	-.046	-.012
Gender	.047	.174	.017	.273	.785	-.295	.390

$R^2 = .106$

---

a. Dependent Variable: Ephemeral social media engagement.

### **H1. The Relationship Between Social Anxiety and Online Self-Disclosure**

H1 predicted that social anxiety will be positively related to online self-disclosure. A simple linear regression was calculated to predict online self-disclosure based on social anxiety (as shown in Table 5). A significant equation was found ( $R^2 = .265$ ,  $F(3, 221) = 26.49$ ,  $p < .001$ ). The  $R^2$  value indicates that the variables included in this model accounted for 26.5 percent of the variance of online self-disclosure. Social anxiety significantly predicted online self-disclosure ( $\beta = .477$ ,  $p < .001$ ). For the control variables: Age was negatively related to online self-disclosure ( $\beta = -.129$ ,  $p < .05$ ). Gender was treated as a dichotomous variable. Gender did not significantly predict online self-disclosure ( $\beta = .032$ ,  $p = .579$ ). Hypothesis 1 is supported.

**Table 5. Simple linear regression predicting online self-disclosure based on social anxiety.**

Model		Unstandardized Coefficients		Standardized	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Coefficients			Lower Bound	Upper Bound
1	(Constant)	1.711	.333		5.135	<.001	1.055	2.368
	Social Anxiety	.556	.068	.477	8.156	<.001	.421	.690
	Age	-.011	.005	-.129	-2.196	.029	-.022	-.001
	Gender	.058	.105	.032	.556	.579	-.149	.266

$R^2 = .265$

---

a. Dependent Variable: Online Self-Disclosure

## **H2a. The Relationship Between Social Anxiety and Perceived Importance of Ephemerality**

H2a predicted that social anxiety will lead to more perceived importance of ephemerality. A simple linear regression was calculated to predict perceived importance of ephemerality based on social anxiety (as shown in Table 6). A significant equation was found ( $R^2 = .169$ ,  $F(3, 221) = 14.98$ ,  $p < .001$ ). The  $R^2$  value indicates that the variables included in this model accounted for 16.9 percent of the variance of perceived importance of ephemerality. Social anxiety significantly predicted perceived importance of ephemerality ( $\beta = .402$ ,  $p < .001$ ). For the control variables: it was found that age ( $\beta = -.003$ ,  $p = .962$ ) did not significantly predict perceived importance of ephemerality. Gender was treated as a bi-serial variable. Gender ( $\beta = -.078$ ,  $p = .203$ ) did not significantly predict perceived importance of ephemerality. Hypothesis 2a is supported.

**Table 6. Simple linear regression predicting perceived importance of ephemerality based on social anxiety.**

Model		Unstandardized Coefficients		Standardized	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Coefficients			Lower Bound	Upper Bound
1	(Constant)	2.445	.287		8.511	<.001	1.879	3.011
	Social Anxiety	.379	.059	.402	6.461	<.001	.264	.495
	Age	.000	.004	-.003	-.047	.962	-.009	.009
	Gender	-.116	.091	-.078	-1.276	.203	-.294	.063

$$R^2 = .169$$

---

a. Dependent Variable: Perceived Importance of Ephemerality

## **H2b. The Relationship Between Perceived Importance of Ephemerality and Social Media Engagement**

H2b predicted that perceived importance of ephemerality will lead to more ephemeral social media engagement. A simple linear regression was calculated to predict ephemeral social media engagement based on perceived importance of ephemerality (Table 7). A significant equation was found ( $R^2 = .230$ ,  $F(3, 221) = 22.021$ ,  $p < .001$ ). The  $R^2$  value indicates that the variables included in this model accounted for 23 percent of variance of ephemeral social media engagement. It was found that perceived importance of ephemerality significantly predicted ephemeral social media engagement ( $\beta = .411$ ,  $p < .001$ ). For the control variables: it was found that age significantly predicted ephemeral social media engagement ( $\beta = -.224$ ,  $p < .001$ ). Gender was treated as a bi-serial variable. It was found that gender did not significantly predict ephemeral social media engagement ( $\beta = .049$ ,  $p = .409$ ). Hypothesis 2b is supported.

**Table 7. Simple linear regression predicting ephemeral social media engagement based on perceived importance of ephemerality.**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error				Lower Bound	Upper Bound
1 (Constant)	4.288	.527		8.140	<.001	3.250	5.326
Perceived Importance of Ephemerality	.759	.110	.411	6.916	<.001	.543	.976
Age	-.030	.008	-.224	-3.780	<.001	-.045	-.014
Gender	.134	.162	.049	.827	.409	-.185	.453
$R^2 = .230$							

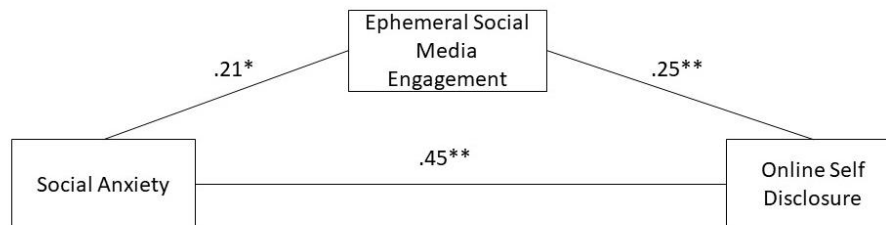
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a. Dependent Variable: Ephemeral social media engagement

### H3. Mediation Analysis of Social Anxiety, Self-Disclosure, and Ephemeral Social Media Engagement

H3 predicted that the relationship between social anxiety and online self-disclosure is mediated by ephemeral social media engagement. Thus, a parallel mediation path model was applied by using the PROCESS Macro and the Model 4 template offered by Hayes (2013). Using the bootstrapping technique (Preacher & Hayes, 2004), with 5,000 bootstrap samples, this model analyzed the 95% bias-corrected confidence intervals (CIs) associated with the indirect effects of non-ephemeral social media engagement. As shown in Figure 5, social anxiety indirectly increased online self-disclosure through ephemeral social media engagement ( $B = .05$ ,  $SE = .02$ ,  $CI [.0229, .1058]$ ). Hypothesis 3 is supported. It is worth noting that social anxiety still has a significant direct relationship with online self-disclosure after accounting for the mediating effect of ephemeral social media engagement ( $\beta = .45$ ,  $P < .001$ ).

**Figure 5. Mediation model of online self-disclosure**



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



#### **H4a. The Relationship Between Ephemeral Social Media Engagement and Online Self-Disclosure**

H4a predicted that ephemeral social media engagement will lead to more online self-disclosure. A simple linear regression was calculated to predict ephemeral social media engagement based on online self-disclosure (Table 8). A significant equation was found ( $R^2 = .275$ ,  $F(3, 221) = 27.90$ ,  $p < .001$ ). The  $R^2$  value indicates that the variables included in this model accounted for 27.5 percent of variance of online self-disclosure. Ephemeral social media engagement significantly predicted online self-disclosure ( $\beta = .497$ ,  $p < .001$ ). For the control variables, age did not significantly predict online-self disclosure ( $\beta = -.082$ ,  $p = .169$ ). Gender was treated as a bi-serial variable. Gender did not significantly predict online self-disclosure ( $\beta = .019$ ,  $p = .738$ ). Hypothesis4a is supported.

**Table 8. Simple linear regression predicting self-disclosure based on ephemeral social media engagement.**

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	1.498	.347		4.320	<.001	.815	2.182
	Ephemeral social media use	.332	.039	.497	8.400	<.001	.254	.410
	Age	-.007	.005	-.082	-1.378	.169	-.018	.003
	Gender	.035	.104	.019	.335	.738	-.171	.241

$$R^2 = .275$$

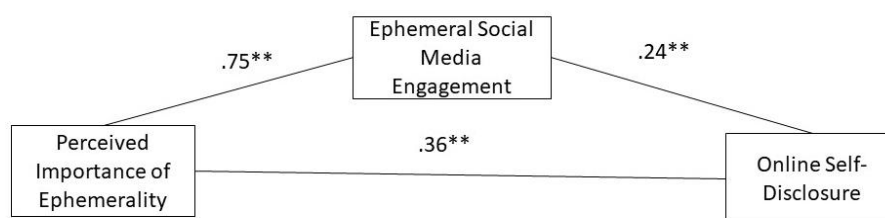
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a. Dependent Variable: Online self-disclosure

#### H4b. Mediation Analysis of Perceived Importance of Ephemerality, Online Self-Disclosure, and Ephemeral Social Media Engagement

H4b predicted that the relationship between perceived importance of ephemerality and self-disclosure will be mediated by ephemeral social media engagement. Thus, a mediator path model was applied by using the PROCESS Macro and the Model 4 template offered by Hayes (2013). Using the bootstrapping technique (Preacher & Hayes, 2004), with 5,000 bootstrap samples, this study analyzed the 95% bias-corrected confidence intervals (CIs) associated with the indirect effects of ephemeral social media use. As shown in Figure 6, perceived importance of ephemerality indirectly increased self-disclosure through ephemeral social media engagement ( $B = .18$ ,  $SE = .05$ ,  $CI [.1047, .3072]$ ). Hypothesis4b is supported. It is worth noting that perceived importance of ephemerality still had a significant direct relationship with online self-disclosure after accounting for the mediating effect of ephemeral social media engagement ( $\beta = .36$ ,  $p < .001$ ).

**Figure 6. Mediation model of online self-disclosure**

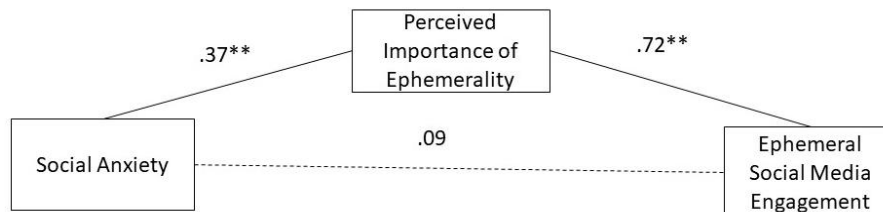


\*\* $p < .001$ . \* $p < .05$

#### H4c. Mediation Analysis of Social Anxiety, Ephemeral Social Media Engagement, and Perceived Importance of Ephemerality

H4c predicted that the relationship between social anxiety and ephemeral social media engagement will be mediated by perceived importance of ephemerality. Thus, a mediator path model was applied by using the PROCESS Macro and the Model 4 template offered by Hayes (2013). Using the bootstrapping technique (Preacher & Hayes, 2004), with 5,000 bootstrap samples, this study analyzed the 95% bias-corrected confidence intervals (CIs) associated with the indirect effects of perceived importance of ephemerality. As shown in Figure 7, social anxiety indirectly increased ephemeral social media engagement through perceived importance of ephemerality ( $B = .27$ ,  $SE = .08$ ,  $CI [.1360, .4803]$ ). Hypothesis 4c is supported.

**Figure 7. Mediation model of ephemeral social media engagement**



#### H4d. Serial Mediation Analysis of Social Anxiety, Self-Disclosure, Ephemeral Social Media Engagement, and Perceived Importance of Ephemerality

H4d predicted that social anxiety is indirectly related with self-disclosure through a sequential mediation of perceived importance of ephemerality and ephemeral social media engagement. Thus, a serial mediation path model was applied by using the PROCESS Macro and the Model 6 template offered by Hayes (2013). Using the bootstrapping technique (Preacher &

Hayes, 2004), with 5,000 bootstrap samples, this study analyzed the 95% bias-corrected confidence intervals (Cis) associated with the indirect effects of perceived importance of ephemerality and ephemeral social media use. As shown in Table 9 and Figure 8, social anxiety indirectly related with self-disclosure through a sequential mediation of perceived importance of ephemerality and ephemeral social media engagement ( $B = .02$ ,  $SE = .01$ ,  $CI [.0102, .0755]$ ).

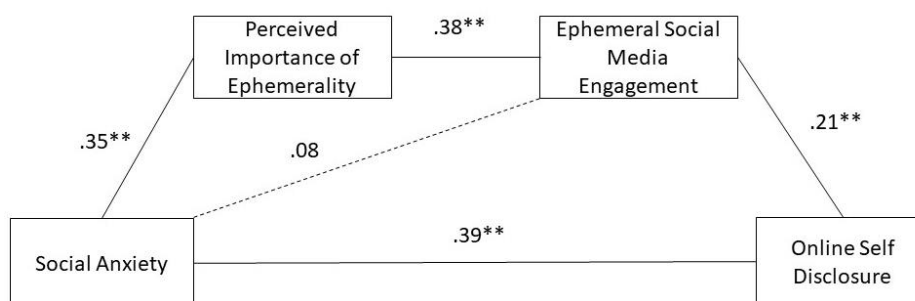
Hypothesis 4d is supported.

**Table 9. Indirect effects of social anxiety on self-disclosure through sequential mediation of perceived importance of ephemerality and ephemeral social media use.**

Self-disclosure			
Mediator	<i>B</i>	<i>SE</i>	Bootstrapping 95% Confidence Intervals
Perceived importance of ephemerality	.0747	.0333	[.0172 .1472]
Ephemeral social media engagement	.0173	.0206	[-.0253 .0589]
Perceived importance of ephemerality and Ephemeral social media engagement	.0294	.0149	[.0102 .0755]

*Note.* Bootstrapping results are bias-corrected and accelerated; 5,000 bootstrap samples. Age, gender, and non-ephemeral social media use are included in the model as control variables.

**Figure 8. Serial mediation model of online self-disclosure**



## CHAPTER 5: DISCUSSION

The conclusion section of this dissertation will describe the contributions, limitations, and future directions of the dissertation for research on social anxiety and ephemeral social media. First, this study found a direct relationship between social anxiety and online self-disclosure. Consistent with previous research (Green et al., 2016; Schouten et al., 2007; Valkenburg & Peter, 2007; Weidman et al., 2012) this study found that self-reported social anxiety was positively related to online self-disclosure. This provides support for the argument that social media can be a place where those with anxiety about communicating feel more comfortable or less threatened. As previously mentioned, the social compensation hypotheses describe how those with social anxiety will use the internet for communication-based benefits because they face challenges when communicating in-person (Desjarlais & Willoughby, 2010). Consistent with the social compensation hypothesis, those with higher social anxiety were more likely to engage with social media platforms and disclose online. This study extends this research by demonstrating a positive relation between social anxiety and self-disclosure through ephemeral content. Specifically, the relationship between social anxiety and ephemeral engagement was significant and positive. Ephemeral social media engagement mediated the relationship between social anxiety and online self-disclosure and these mediation effects occurred when controlling for non-ephemeral engagement. As social anxiety increased so did engagement with ephemeral social media content and self-disclosure through ephemeral social media content. Similar to prior research, this might occur because those with social anxiety are more likely to be active social media users when engaging with ephemeral social media platform features (Kruchten, 2021). The results of the mediation analysis showed that ephemeral social media engagement, indirectly related to online self-disclosure. In this mediation model, the researcher included non-ephemeral

social media engagement in the model as a control variable and found that it does not reduce the influence that ephemeral engagement has on self-disclosure. In summary, these findings indicate that those with higher social anxiety might be compensating online by engaging and disclosing themselves through social media more often and they are also likely to self-disclose online via ephemeral social media content.

These findings contribute to the need to belong theory. Those with social anxiety might use ephemeral social media to disclose when sharing personal social information to fulfill their need to belong and form closer bonds online through ephemeral social platforms. Ephemeral messaging and story sharing might allow socially anxious users to feel more comfortable in fulfilling these belongingness needs. Thus, ephemeral social media content may allow socially anxious individuals to better fulfill their belongingness needs because they might be more motivated to disclose information to close friends and loved ones. In this study, those with social anxiety reported frequently engaging with ephemeral social media, non-ephemeral social media, and disclosing online. Those with social anxiety might have been self-disclosing privately in this study because they prefer to communicate private information with close friends. Socially anxious individuals typically choose to self-disclose online with close friends in private, through direct text messaging (Green et al., 2016; Valkenburg & Peter, 2007). Individuals with social anxiety worry about scrutiny in social interactions with others but they care mostly about maintaining their closer relationships and will self-disclose within these closer relationships to fulfill their belongingness needs. Private self-disclosure can be helpful for individuals with social anxiety since they can disclose issues with their close friends and gain more social support through bonding social capital. Similar to previous research findings, ephemeral social media content was associated with increased social media engagement and self-disclosure (Ma et al.,

2021). Users with social anxiety would likely be more motivated to talk with their close friends about personal information on a platform that has higher ephemerality. Ephemerality may facilitate increased private online self-disclosure between social anxious users and their close relationships because individuals with social anxiety might feel like they have less worries about social scrutiny with others in an ephemeral social media interaction. Socially anxious users may perceive that they do not have to worry about their personal information being saved by others publicly like they do on non-ephemeral platforms. These users might perceive that the information they privately disclosed will eventually vanish if the other person they are sending information to does not actively save that personal information. Furthermore, socially anxious users might turn toward highly ephemeral social media platforms such as Snapchat because they allow users to talk with their closer friends more often since ephemeral social media content is associated with more privacy sensitivity and bonding social capital than archived text content (Habib, 2019; Phua et al., 2017). In summary, socially anxious users might be privately disclosing online more often, and they are most likely doing so through both non-ephemeral and ephemeral social media content to fulfill their belongingness needs.

Increases in self-disclosure can be viewed as beneficial for those with social anxiety when they have more control over who they are communicating with. Those with social anxiety are more comfortable when they know that their message is reaching a target audience (Green et al., 2016). Because ephemerality was associated with increased engagement and self-disclosure among those with social anxiety, social compensation might occur at a higher frequency on ephemeral social media platforms. Also, if individuals are self-disclosing through highly ephemeral social media content, they might believe that the receiver of their disclosed information might be more attentive to it. A dissertation study on information processing found



that ephemeral messages that are only able to be viewed once may lead to extended attention allocation, increased voluntary viewing time, and heightened focus on important information (Barnea, 2020). Thus, ephemerality might provide similar benefits as private self-disclosure because socially anxious ephemeral users might feel a greater degree of trust and privacy in their interactions with others through ephemeral social media content.

However, if individuals are relying more upon both non-ephemeral social media and ephemeral social media content for self-disclosure, then they might be even more likely to avoid self-disclosure offline. This could be problematic for individuals with social anxiety because they could face increased social anxiety during in-person situations where they may be typically required to self-disclose but are unable to do so. Research finds that social media users may prefer to use SNS over in person interaction. Relying too much on specific social media content, such as ephemeral social media content, to share personal information might become problematic when social media is unavailable in a social interaction situation. Also, just because individuals with social anxiety are self-disclosing more through ephemeral and non-ephemeral social media does not mean that they are always benefitting from it. They might share some form of personal information and face negative feedback from the social media audience that they disclose to. Therefore, increased reliance on ephemeral social media for self-disclosure might not be entirely beneficial for those with social anxiety.

This study also extends findings on social information processing theory regarding socially anxious social media users and ephemeral social media engagement. Those with social anxiety both self-disclose online and view ephemerality as an important facet of their social media use when communicating with others online. If ephemerality increases engagement like it did in this study and in prior research (Kircova et al., 2020; Ma et al., 2021), then ephemerality

might also lead to perceived closer interpersonal relationships among those with social anxiety due to reductions in cues when communicating through ephemeral platform features. Social media users with social anxiety place importance on the reduced social pressure associated with online communication ([Weidman et al., 2012](#)). Similar to prior studies, increases in online disclosure among those with social anxiety might have occurred because of the lack of nonverbal cues (such as facial expression, posture, and voice) associated with offline communication (Green et al., 2016). Therefore, those with social anxiety might have been relying upon the textual functions of both non-ephemeral and ephemeral social media content to disclose their information. Offline self-disclosure can also be very difficult for individuals with social anxiety since it typically involves immediately describing information about oneself to others. Socially anxious individuals must manage appropriate conversational turn taking when communicating offline. Also, unlike computer mediated communication, in-person communication involves immediate feedback which can be stressful for socially anxious individuals. Similar to prior studies, this reduction in nonverbal cues and immediacy when self-disclosing might allow them to feel less anxious when interacting with others and build closer relationships because they feel less pressure when discussing personally sensitive topics (Green et al., 2016). Those with social anxiety worry more about social scrutiny involved in their interactions. A reduction in nonverbal cues and speed of interactions can open socially anxious social media users up to more social interaction since they will worry less about being criticized for the way they look or sound during a social interaction through ephemeral features. Thus, when individuals self-disclose through ephemeral social media features, they can choose to do so through text if they are worried about the way they look or sound when communicating. Therefore, the socially anxious individuals in this study might be reducing nonverbal cues and they are able to take their time

responding since they will have a delay in feedback between messages, unlike offline communication.

This study also extends research on the IAP model. The findings of this study indicated that social anxiety was positively related to perceived importance of ephemerality. Social anxiety was also indirectly associated with online self-disclosure via a sequential mediation of perceived importance of ephemerality and ephemeral social media engagement. The findings of this mediation analysis suggest that individuals with a higher level of social anxiety are more likely to self-disclose online via ephemeral social media content when they view ephemerality as important in their interactions. Individuals with social anxiety could be self-disclosing through ephemeral social media content due to the controllability in their interactions and/or the increased engagement that ephemerality causes from viewers of ephemeral content. This could be because those with social anxiety have more intentions to self-disclose through ephemeral social media platform features because they perceive ephemeral social media platform features to have higher perceived controllability and usefulness (the degree in which a person believes that using a specific system helps improve performance) (Ma et al., 2021). Similar to research involving the IAP model, socially anxious users care about their controllability within interactions, and this might lead to some form of disinhibition. Socially anxious users' perceptions toward online features such as ephemerality might predict their communicative behaviors because they might feel less restrained when they engage and self-disclose through ephemeral social media content. Thus, ephemerality might allow users to perceive that they have more control over their disclosed personal information and might view it as beneficial in their interactions with others.

Consistent with research on perceived ephemerality and ephemeral social media engagement (Kircova et al., 2020), those who viewed ephemerality as an important aspect of their social media use were more likely to engage in ephemeral social media engagement than non-ephemeral social media engagement, or than those who viewed ephemerality as less important. This extends findings of prior research because it shows that not only do individuals who perceive ephemerality engage more on ephemeral platform features, but individuals who view ephemerality as important will choose to engage in ephemeral social media platform features as well.

If users are highly reliant upon ephemeral social media content, this might potentially cause issues with social media addiction and online vulnerability. Research on ephemerality has found that Facebook stories might be more addictive than archived social media content through Facebook news feeds (Yu & Chen, 2020). If ephemerality is just as engaging as Facebook on other social media platforms such as Instagram and Twitter, then this might lead to more problems with extensive social media use. Ephemeral social media could be potentially addictive for socially anxious individuals if it motivates them to keep coming back for more content. Also, if users overestimate the safety of their privacy through ephemeral features, they could face issues with cyberbullying. When personal information is shared more widely, it leads to more of a likelihood of cyberbullying victimization ([Chen et al., 2017](#)). Thus, it would be important for socially anxious users of ephemeral social media content to understand the limitations of ephemerality. Other users can find ways to bypass ephemeral features and archive content that was not meant to be saved. Ephemeral social media content users should be consistently cautious of who they are sending their content to because they might disclose sensitive information

through an ephemeral message that could be saved through another device, third party application, or screenshotting.

Social media literacy would be very helpful for preventing social media addiction and online vulnerability among socially anxious social media users that are not yet familiar with ephemerality on social media. Social media literacy involves “technical and cognitive competencies to allow users to use social media effectively for social interaction and communications on the web” (Vanwynsberghe et al., 2015, p. 85). Research finds that social media literacy can play an important role in preventing social media addiction and motivating safer online practices (Eskandari & Baratzadeh, 2020). Thus, some form of social media literacy surrounding how ephemerality functions on a variety of social media platform interfaces would be helpful for socially anxious users that want to adopt ephemeral content features and share more personal information online because they might face less issues with extensive use and privacy concerns.

Another contribution of this study is that it adds to what is known about social media affordances and the importance associated with the lack of permanence in online interactions. Snapchat, the originator of ephemeral social media content, is getting even more daily users than last year (Dixon, 2022) and social media platforms that did not previously have ephemeral social media features are now utilizing them. For instance, Twitter has recently released a new feature called “Twitter Spaces”, where users can host a room of up to 13 users who can have an ephemeral audio conversation similar to Clubhouse (with unlimited numbers of listeners). Thus, highly ephemeral content with control over who is able to contribute to the discussion might become a popular feature that other platforms adopt in the future.

## Limitations

The following section describes several limitations in this study including some of the possible concerns about the method, sample, and measurements utilized.

First, because this research was conducted with an online survey, respondents could have been dishonest in their responses or answered items incorrectly. Furthermore, correlation does not equal causation so there is no direct evidence that social anxiety leads to more perceived importance of ephemerality, ephemeral social media engagement, and self-disclosure through this study's findings. Future research should conduct experimental studies on how ephemerality affects those with social anxiety when using social media because the results of this study indicate that they view it as an important facet of their social media engagement.

Another limitation is that the sample did not examine adolescents' social media engagement. Younger users may be utilizing ephemeral social media platforms more often since the major age demographic on highly ephemeral platforms such as Snapchat, are typically younger users (Dixon, 2022). Additionally, using Mechanical Turk to recruit survey respondents may result in professional or trained respondents who frequently answer web surveys to make money. Using Mechanical Turk to collect data could potentially create issues with response quality and generalizability of the results (Dillman et al., 2014). For instance, on Mechanical Turk, there might be an overrepresentation of social media users than the actual population of those with social anxiety. Research on clinical representation within Mechanical Turk samples found that MTurkers have higher clinical symptoms than non-clinical samples (Arditte et al., 2016). Specifically, they found that MTurkers had higher symptoms of social anxiety and depression compared to non-clinical samples. Therefore, this survey population cannot be generalized to the population of clinically diagnosed social media users with social anxiety.

Additionally, after the researcher tested the survey multiple times, it was found that the survey took a minimum of four minutes to complete. A large portion of the MTurk respondents took less than four minutes to complete the survey and were removed from the data set accordingly. On one hand, this suggests that a large percentage of the MTurk sample might have rushed through the online survey. On the other hand, this survey completion time cutoff might have also been too strict. Some of the Mechanical Turk workers might have been more proficient in completing online surveys. Thus, a less strict cut off time for survey completion might be necessary for future research with Mechanical Turk workers when they are completing online surveys.

Another limitation has to do with the measurements in this study. The perceived importance of ephemerality measure had a reverse coded item that did not work with the scale when conducting a principal component analysis. After removing the reverse coded item, the alpha went up to an acceptable level, however, it was still low. Adding more items to the perceived importance of ephemerality measure and testing it in further research would be necessary. The measure used in this study was a general online self-disclosure scale that did not distinguish between different types of online self-disclosure such as private or public self-disclosure. Individuals with social anxiety have been known to privately self-disclose online and there is no way to conclude whether the socially anxious respondents in this study were self-disclosing privately or publicly through their ephemeral social media engagement. Conducting further research with more specific self-disclosure measures in relation to social anxiety and ephemerality would be necessary as well.

### **Future Research**

As previously stated, research finds that increased social anxiety is associated with increased use of certain platforms, such as Facebook and Instagram (Dobrea & Pasarelu, 2016; Sampasa-Kanyinga & Hamilton, 2015). This study conducted a survey that found that platforms with more ephemerality, such as Snapchat, are also associated with increased social anxiety. It could be that those with social anxiety are more likely to perceive ephemerality to be an important facet of their social media use, so it leads to them engaging and self-disclosing more. Future research should investigate whether perceived importance of ephemerality leads to some form of disinhibition because that could help explain why socially anxious users view ephemerality as important in their interactions with others. However, perceived importance of ephemerality and ephemeral social media engagement might cause more social anxiety. Ephemeral engagement is associated with social pressure (Chen & Cheung, 2019). Social media users might feel more social anxiety after using an ephemeral social media platform since highly ephemeral platforms can approximate face-to-face communication. For instance, Snapchat users are able to see when someone views a message, keeps a message opened, or begins to type due to high synchronicity. Higher levels of synchronicity might lead to more social anxiety among socially anxious ephemeral social media users (Chan, 2011). Unlike other social media apps, Snapchat sends out a notification on receivers' phones alerting them as to when a sender is beginning to type a message. Thus, future research should investigate whether social anxiety leads to more perceived importance of ephemerality and ephemeral social media engagement on a variety of synchronous and asynchronous platforms. Future research on ephemerality should also include perceived synchronicity as a mediating variable since it could impact socially anxious users' self-disclosure intentions.



Adding more measures to account for different types of social media platform use and self-disclosure would be another important extension of this research in future studies. Future research on social anxiety and ephemeral social media use should include more social media-based activities since ephemerality increases engagement online. Different types of self-disclosure were not included in this study such as private and public self-disclosure. Those with social anxiety value private online self-disclosure specifically so future research could look at how those with social anxiety may or may not self-disclose publicly or privately through ephemeral social media content. Also, the self-disclosure measure could have included more items about different subjects discussed when individuals are self-disclosing online. For instance, it's possible that people disclose differently about different topics. The researcher in this study used an established scale that did not distinguish among other topics other than two questions that address sexual information or romance (love and sex are more specific than the other disclosure behaviors). In future research, it might be useful to look at other topics that people may or may not disclose about online. Lastly, if ephemerality leads to more online self-disclosure, then an ephemeral self-disclosure scale might be helpful to future research on ephemeral social media use.

Future research should also consider the issues that could potentially be exacerbated by increased ephemerality. For instance, if individuals with social anxiety engage in more social media use when they both view ephemerality as important and engage with a more ephemeral platform, this could have negative consequences for their mental health. As previously discussed, many mental health problems associated with social media involve spending excessive amounts of time on social media platforms (Lin et al., 2015; Primack et al., 2017). If individuals are spending more time on platforms that are ephemeral, this might lead to more issues associated

with social anxiety, especially if they are passively using ephemeral social media content. For instance, socially anxious users could face more issues due to upward social comparison if they are just viewing other's social media stories and not interacting with anyone. FOMO could also play a role in ephemeral social media engagement. When users miss ephemeral content posted by their friend in social media, they could possibly feel excluded from their social circle which might lead to them intensifying their passive social media usage by spending more time browsing or checking for new updates to achieve some sense of gratification (Chen & Cheung, 2019). Therefore, FOMO might be associated with ephemeral social media engagement and/or perceived importance of ephemerality. In summary, individuals with social anxiety could face increased anxiety from upward social comparison and missing content and then continue to check their social media accounts more often to stay caught up on content, repeating a problematic cycle of use.

Future research should look into whether ephemeral social media engagement and self-disclosure through ephemeral platforms are associated with increased cyberbullying victimization. As previously mentioned, research has found that online public self-disclosure is associated with increased cyberbullying victimization. Individuals could be sharing content online through ephemeral platforms because they view these type of social media platforms as a safe place to disclose personal information due to the perception that their information will not typically be stored. This false sense of data security could lead them to possibly face more harassment as a result of disclosing information that they would not typically disclose publicly or through non-ephemeral social media platforms.

In conclusion, social media engagement, ephemerality, and self-disclosure are important elements in understanding the experiences of socially anxious social media users. As previously

mentioned, those with social anxiety are more likely to use social media to socialize and self-disclose online. This study found that social media users with social anxiety are socializing online and disclosing personal information. Interestingly, those with social anxiety also seem to view ephemerality as an important aspect of their social media engagement and will possibly be more likely to self-disclose online through ephemeral social media platforms.

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## **APPENDIX A: INFORMED CONSENT LETTER**

### **INFORMED CONSENT FOR EPHEMERAL SOCIAL MEDIA USE QUESTIONNAIRE**

**KEY INFORMATION:** Ephemeral social media content is social media messages, text, pictures, and videos that disappear upon initial viewing or after a short period of time. This study is about ephemeral social media use and anxiety. It will take approximately 10-minutes to complete the survey. Completing the survey without skipping any questions will reward you with \$0.25. You will not receive payment if you fail to complete the survey, miss two or more attention check items, are flagged as being non-human (i.e., a bot), fail to demonstrate satisfactory comprehension of the English language, or report conflicting information from a prior MTurk study.

The level of risk involved with this study is no more than that experienced during daily life. All of your responses will be confidential, and more information on how your data will be stored and protected can be found in the “Confidentiality Protection” section below. You must be at least 18 years-old to participate.

**INTRODUCTION OF THE RESEARCHER:** This study is being conducted by Michael Harmon, a Ph.D. student, and Dr. Rick Busselle, an Associate Professor, in the School of Media and Communication at Bowling Green State University.

**PURPOSE:** The purpose of this study is to investigate the relationships between social anxiety and social media use. The general benefits to society are to help us better understand certain types of anxiety and certain types of social media use. This study will benefit participants by providing insight into social scientific research and forcing individuals to be more aware of their social media use.

**PROCEDURE:** The survey will be conducted through the Internet. If you choose to participate you will be linked to an on-line questionnaire and be asked to answer questions about your social media use and how you feel about social media. You will use the computer keyboard and mouse or touchpad to enter your responses.

**VOLUNTARY NATURE:** Your participation is completely voluntary. You are free to withdraw at any time. However, if you decide to skip questions (or not do a particular task) or discontinue participation at any time without completing the survey, you will not be compensated. Your decision whether to participate will not affect your relationship with Bowling Green State University.

**CONFIDENTIALITY PROTECTION:** (a) Data Storage: If you participate, your responses (your data) will be stored on password-protected, secure server, and will be labeled with a random code. The researchers won’t make any attempt to connect your data to your identity. (b) Data Sharing and Access: Your responses will remain completely confidential. Only the researchers will see individual data. Your individual responses will not be associated with your identity. When the researchers share your data with other researchers or with the public, the data will not include any information that could identify you. (c) Possible Monitoring: Its best for you

to use your own computer rather than one owned or controlled by someone else, such as your employer, as they may monitor the information. If you choose to use a computer others have access to, be sure not to leave the browser open. (d) Email: Please be aware that, in general, email is not a very secure way to communicate, compared to phone calls or in-person conversations. (e) Web Browser: After you've finished the survey, you'll be reminded to clear the web browser's history and page cache. RISK: Risk in this study is no more than that experienced in daily life.

**CONTACT INFORMATION:** If you have questions about this particular study, you may contact Michael Harmon at [mjharmo@bgsu.edu](mailto:mjharmo@bgsu.edu) or Dr. Rick Busselle at [bussell@bgsu.edu](mailto:bussell@bgsu.edu). You also may also contact the Chair of the Bowling Green State University Institutional Review Board, at 419-372-7716 or [irb@bgsu.edu](mailto:irb@bgsu.edu), if you have any questions about your rights as a participant in this research.

**CONSENT:** If you do not consent to the procedure described above, please stop now. If you do consent, please select the "-->" button (below) to continue. By continuing, you indicate that, "I have been informed of the purposes, procedures, risks and benefits of this study. I have had the opportunity to have all my questions answered and I have been informed that my participation is completely voluntary. I agree to participate in this research."

If not, please close out of this window and return the HIT on MTurk so that interested Turkers may complete this task.







I update personal information through ephemeral content in social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I hold conversations (chats) with others (e.g., your friends or family members) through ephemeral content in social media.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. The following statements are about how important ephemerality is to you when using social media. Please answer each statement carefully.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
It is important to me that messages I send to others on social media disappear eventually.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is important to me that information I post on social media doesn't stay posted for ever.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The sooner information that I post disappears the more	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

comfortable I  
feel.  
It doesn't  
matter to me  
if information  
I post  
disappears or  
if it stays on-  
line forever.

5. The following statements are about your levels of anxiety in social situations and interactions. Please answer each statement carefully.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
I think about myself as a socially unattractive person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think I'm not interesting enough to be liked by others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During social situations, I keep thinking about how I look.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During social interactions, it is often hard for me to stop thinking about what I have just said and how it sounds to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In social situations, I avoid eye contact.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I try not to attract attention due to fear of being negatively evaluated by other people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In social situations, I am bothered by various unpleasant feelings and experiences, such as feeling hot, sweating, nervous trembling, palpitations, or difficult concentrating.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The anxiety which I feel in social situations significantly disrupts my occupational or academic functioning, or social activities or relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before meeting people I don't know well, I'm worried about what they might	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

think of me  
and how I  
will be  
evaluated.  
I deliberate  
over social  
interactions  
long after  
they end, and  
think about  
how I acted  
and whether I  
was evaluated  
negatively by  
others.

6. What was the previous question about?

- Anxiety in social situations and interactions.
- Sharing emotional information.
- How much attention I pay when reading social media posts.
- Reading news updates through social media.

7. For the following statements, think about the information you share through social media. Please answer each statement carefully.

	I tell nothing about this	I rarely tell about this	I sometimes tell about this	I mostly tell about this	I tell everything about this
My personal feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Things that I am worried about.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My secrets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being in love.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sex.

Moments in my life I am ashamed of.

Moments in my life I feel guilty about.

8. What was the previous question about?

- Looking for news on social media.
- Sharing emotional information.
- How much attention I pay when reading social media posts.
- The music I listen to online.

9. What is your age? (Please type a number).

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10. Where are you from? (City, State).

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11. What gender do you identify with?

- Male
- Female
- Non-Binary
- Prefer not to answer