PERCEPTIONS OF DATA PRIVACY IN THE AGE OF SOCIAL MEDIA ADDICTION

By

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Abstract

In the 21st century, social media addiction has become more prevalent with the ubiquity of online communication in everyday life. Individuals often feel a strong obligation to keep up online in both personal and professional respects, to the point that they are consumed with digital media for multiple hours each day. In the trade-off of social utility – the perceived benefits of social media to an individual provided by media platforms – individuals' privacy is forgone as they share large quantities of personal data. This project explores whether social media addiction and social utility can lead individuals to disregard concerns for their data privacy. Using a two-part quantitative survey, addictive social media behaviors and attitudes towards data privacy are compared to answer this question: do individuals who exhibit signs of social media addiction prioritize their social utility over their personal data privacy? Derived from past research on Facebook addiction, the first part of the survey evaluates participants' inclination toward symptoms of social media addiction. The second part allows participants to rate their knowledge and concern for the data they share with the public while using specific platforms, such as Facebook and Instagram. This research found that young adults aged 18-25 are most likely to exhibit social media addiction. Within the addicted subsample, 20 percent of participants were deemed unconcerned about their data privacy. Various patterns emerged regarding age, gender, and time spent online as related to addictive use, suggesting specific groups that may be at risk of social media addiction. Future research will explore the distinctions between platforms that allow them to be addictive and probe further into the motivations behind protecting personal data.

Keywords: social media addiction, personal data privacy, social utility, platforms, Facebook, Instagram

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Introduction

Social media has rapidly gained popularity and become intertwined with culture since its beginnings in the early 21st century. It is a component of everyday life, branching together work, school, and personal relationships like no invention before it. This research addresses two concerns that have sprung from the proliferation of social media in daily life: social media addiction and online data privacy.

Social media addiction, within the context of this research, is a compulsive or uncontrollable motivation to use social media at a regularity that it is disruptive to other areas of life. The social utility of different platforms, such as Facebook or Instagram, can be entrancing to individuals, each for their own motivations. Individuals who become consumed by their social media are at risk for developing social media addiction (Andreassen, Pallesen, Griffiths, 2017).

The utility that comes from online platforms is related to the second interest at hand, data privacy. While using social media, individuals provide personal information to both the public and the company hosting the platform. There are benefits and risks associated with sharing personal data online. These benefits are the same as social utility, such as faster communication, relationships sustained across great distances, or increased professional opportunities. At the same time, there are a multitude of risks and potential consequences associated with using online platforms. Among those most applicable to using social media may be stolen or lost information, damaged reputation, or cyberbullying.

So, what if an individual with social media addiction becomes so consumed by their platforms, enticed by perceived social utility, that they lose vigilance over protecting their data privacy from these risks? The concern may be that individuals are inadvertently putting themselves at risk for various forms of online exploitation, such as the consequences listed

above. This research explores how this issue may be affecting the university student population. A two-part quantitative survey was distributed to a sample of university students that compares a respondent's proclivity to social media addiction and their level of concern for their data privacy.

The study of social media addiction is in its early days. It is still mixed in with many related topics, such as mobile phones and online gaming. Despite various accounts in academic research, social media addiction has yet to be fully contextualized as a significant issue. Online gaming addiction has recently been recognized by the World Health Organization and it is predicted that more tech and media-related cases will follow (WHO, 2018). Similarly, the public is just beginning to learn, resulting from many recent data scandals, what it means for their online data to be accessed by the social media platforms they use. This proof of concept study seeks to explore whether there is any connection between these two topics and propose a new understanding for the motivations behind social media use.

Previous studies on social media addiction and perceptions of data privacy are discussed first. Following the literature review, there is a detailed description of the method used to learn more from the targeted sample of university students. The results and discussion sections reveal themes and patterns that emerged from the survey and make any connections to the past literature, highlighting the gaps in knowledge that came to attention through the data analysis. By combining past research and ideas found in this study, this thesis contributes to a new perspective on whether social media addiction may influence individuals to prioritize their social utility over their data privacy and proposes how individuals may achieve healthier, better informed interactions with their social media accounts.

Literature Review

This literature review will employ sources from a variety of contexts and disciplines of study to investigate and break down the relationship between social media addiction, social media utility, and data privacy concerns. It will establish relevant definitions as they relate social media sites and characteristics of social media addiction. Gender and age are significant topics within both sections speaking to social media addiction and data privacy. Other considerations elaborated on in this review include platform design for engagement and the Facebook Terms of Service.

Previous Studies on Social Media Addiction

Since social media has grown more popular, more academic studies have been undertaken each year to examine its implications on everyday life. More recently, as social media has become essential to modern communication, research has emerged that aims to frame the issue of social media addiction.

Defining Social Media Addiction

Andreassen, Pallesen, and Griffiths in "The Relationship Between Addictive Use of Social Media, Narcissism, and Self-esteem" define social media addiction as, "being overly concerned about social media, driven by an uncontrollable motivation to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas" (2017, p. 287). Other studies share similar definitions, some more detailed or negatively driven than others. The definition provided by Viola (2014, n.p.) relates: "Social media addiction represents a constellation of uncontrollable, impulsive, and damaging behaviors caused by persistent social media usage that continues despite repeated negative consequences." In more specific psychological terms, Hawi and Samaha define social media addiction as "the

compulsive use of social media sites that manifests itself in behavioral addiction symptoms. The symptoms include salience, mood modification, tolerance, withdrawal, conflict, and relapse" (2017, p.577). These definitions are combined and used to guide this research: "social media addiction is a compulsive or uncontrollable motivation to use social media at a regularity that is disruptive to other areas of life".

Another study by Andreassen, Torsheim, Brunborg, and Palleson (2012), "Development of a Facebook Addiction Scale" outlines the creation of a short questionnaire of 18 items, divided by the six elements of addiction. The researchers administered 6 qualitative surveys measuring Facebook Addiction, Addictive Tendencies Scale, Online Sociability Scale, Facebook Attitude Scale, Behavioral Approach System and Behavioral Inhibition System Scales, and a Sleep questionnaire, but their focus was the Bergen Facebook Addiction Scale (BFAS). The 18 BFAS questions are divided into 6 categories comprised of 3 questions relating to the symptoms of addiction: salience, mood modification, tolerance, withdrawal, conflict, and relapse. The surveys were initially distributed to 423 post-secondary students. Three weeks later, the BFAS was re-administered to 36.2 percent of the students to verify their survey instrument. The higher that individuals score on the scale, the more likely they are to have Facebook addiction. Andreassen et al.'s study did not examine specific cut-offs for categorization of problems with Facebook addiction. They noted that other studies assessing behavioral addictions have adopted a polythetic scoring scheme, such as scoring 3 or above on at least 4 of the 6 items. This method has been validated in similar studies done in Poland, Portugal, and Bangladesh (Atroszko et al., 2018; Pontes et al., 2016; Mamun et al., 2019).

Related Addiction Studies

Kumar and Mondal's study on Internet Addiction use the same model as Andreassen et al. to outline elements of addiction. They list warning signs of internet addiction, some of which overlap with concerns brought up by Andreassen, such as repeated, unsuccessful attempts to cut back on use, and use of the internet to escape from personal problems (2018). This study shows the crossover between internet, technology, and social media related addictive characteristics.

In "Craving Facebook? Behavioral Addiction to Online Social Networking and Its Association with Emotion Regulation Deficits" (Hormes, Kearns, Timko, 2014), tests of other addictive behaviors, such as alcohol craving, gambling, and problem drinking, were substituted in terms of social media use to see any parallel answers to the same type of behavioral questions. Instead of "have you ever felt the need to cut back on your drinking?", the respondents were asked, "have you ever felt the need to cut back on the time you spend on Facebook?" This study showed the transferability of addiction symptoms to social media but lacked specificity to the nature of social media itself. The study concluded that pathological social media use may stem from poor emotional regulation, also found in individuals susceptible to other addictive behaviors (Hormes, Kearns, Timko, 2014).

Labelling Addiction

Following the 2012 publication of the BFAS model, conversation arose in the academic community about social media addiction. Mark D. Griffiths responded to Andreassen's study, critiquing the measure and recommending changes to their model. He acknowledged that the BFAS is a good start to creating a psychometric tool to measure addiction, however, he raised concerns about what people are addicted to in comparison to what the BFAS measures. The same measures are used for mobile phones and general internet addiction, so he concluded that

categorizing it as “Facebook Addiction” would not prove to be relevant over time. Griffiths suggested that it be labelled as “Social Networking Addiction” to be more inclusive of other platforms.

Andreassen and Pallesen responded to Griffiths to address his concerns. They argued that Facebook was the most popular social media platform in 2012, during the time of the study, which led it to being almost synonymous with “social networking”. They suggest that researchers may substitute any site with Facebook in this measure. Andreassen and Pallesen (2013) acknowledge the “specificity challenge” and that future research may focus on specializing measures to different platforms in order to investigate individualized elements of addiction.

To contrast this discussion around the adequate label for addiction, researcher of human-technology interaction, Sherry Turkle argues that a better term to use is *seduction*. She states that our brains are uniquely vulnerable to the lure of our smartphones and media. According to Turkle, our brains crave the stimulation that we receive from the “beep” of receiving a notification (Wikiel, 2014). Rather than being addicted, we are seduced by the latest message to pop up. The Discussion section will address these suggestions and unpack their implications for the current research project and future endeavours.

Age as a Category of Analysis

Many sources have indicated that young adults are a significant demographic associated with having social media addiction. Andreassen and colleagues describe the users that are most susceptible to social media addiction as young adults, female, single, having a lower education, students, low income, displaying narcissistic traits, and having negative self-esteem (2017, p.

288). Monacis, de Palo, Griffiths, and Sinatra (2017) also found that females and younger adults tend to exhibit addictive behavior to social media most.

Younger Millennials, including university-aged students, are more likely to use a mix of social networks with the average 18-to-21-year-old using 3.7 social networks out of seven platforms (MIP, 2015, sect. 5). In a study conducted at Pace University, about 90 percent of students were found to be on social media sites daily (Lawler & Molluzzo, 2009). These studies conducted in 2015 and 2009 have dated statistics but keeping in mind that millennials are roughly considered to be born between 1981-1996, they were relative to each study's publication (Pew Research Center, 2019). As universities have since populated with "post-millennials" born 1997 onwards, it is to be expected that their upbringings were inundated with the same, if not more, internet exposure.

By using university students as the survey demographic for the current study, there is the opportunity for ambiguity in age. It is important to consider the inclusion of mature students in the sample, as it may lead to interesting questions about a generational difference in relation to social media addiction. The theme of young adults as subject to social media addiction shown in the literature will be monitored in the survey sample for similar findings and any additional questions surrounding a generational divide will be considered.

Gender and Addiction

By taking a step back from social media and applying a wider lens to the issue of addiction, whether men or women are more likely to develop addictive behaviors can be reviewed. The distinctions between men and women suffering from addiction stem from biological and sociological differences (American Addiction Centers, n.d.). Both the physical

make-up and mental dispositions of each gender play into their propensity to develop either substance or behavioral addictions.

In the case of substance addiction, men are more often found to be abusers of alcohol and illicit drugs than women (Hughes, Wilsnack, Kantor, 2016; NIDA, 2018). However, research suggests that women use opioid prescriptions more frequently, often to treat anxiety (NIDA, 2018). Substance addiction can be tremendously destructive to the body, more-so than some behavioral addictions.

Behavioral addictions, such as gambling, compulsive shopping, or social media use, also incur negative consequences on an individual. Developing a behavioral addiction may also be associated with mental health disorders, such as bipolar disorder, anxiety, or depression (American Addiction Centers, n.p.). Unfortunately, behavioral addictions are more often easily concealed than substance abuse and are more likely to go untreated (American Addiction Centers, n.p.).

There are misconceptions about certain behavioral addictions in relation to which gender dominates certain conditions. For example, gambling may be perceived as male-dominated but in fact, 25 percent of gamblers in America are female (American Addiction Center, n.p.). Similarly, females more often are perceived to be compulsive shoppers: CNN reported that approximately six percent of females suffered from the affliction— but so did 5.5 percent of men (Landau, 2012). Research has found less significant disparity between the amount of male and female victims of behavioral addiction than substance abuse.

The American Psychological Association's (APA) *Addiction Syndrome Handbook*, published in 2012, reported inconclusive data as to whether there is a gender difference in

internet addiction (Shaffer, Nelson, LaPlante, 2012, p. 343). They suggest that low self-esteem, fear of rejection, and need for approval associated with depression is linked with increased internet use (Shaffer, Nelson, LaPlante, 2012, p. 343).

While it can be concluded that males more frequently have substance addictions than females, the same cannot be said about behavioural addictions. As discussed in prior sections, females demonstrate a greater likelihood for developing social media addiction. The sociological components affecting females, noted by the APA above, are arguably manifested in the online culture where females feel pressured to post their most visually appealing content. Future research will continue to provide insight on gender roles as they relate to the interactions that feed into the development of social media addiction.

Platform Design for Engagement

Pathological social media users are not exclusively to blame for their high level of social media consumption – the platforms are designed to maximize time spent online. Companies employ a variety of methods to make their products engaging for as long as possible.

Adam Alter, a Marketing professor at the New York University Stern School of Business and author of *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*, compares checking social media to using a casino slot machine – humans are motivated by the potential feedback from others online, as they would be by pulling the lever on the slot machine and anticipating a reward. In 2012, Facebook introduced a feedback experiment known as the “like button”. Users were gambling every time they shared a photo or status update and were driven by the feedback of others in the form of a “like” (Alter, 2017, n.p.).

Tristan Harris, a former Design Ethicist at Google, explains how the like button feedback was even more intoxicating: when the reward was intermittent and variable, meaning that it would come unexpectedly, users became addicted to the sensation even quicker (Harris, 2016, n.p.). Facebook was the first major platform to introduce the like button, but many other platforms have since implemented similar functions (Alter, 2017). Harris and Alter's overview of the like button resonates with Sherry Turkle's take on how the "beep" of a notification seduces the user.

While working at Google, Harris's role involved considering how technology hijacks the psychological vulnerabilities of users. In his article, he identifies several ways that networking sites are designed to prey on users' attention. In addition to the like button, Harris explains how platforms carefully curate site functions to target the blind spots of people's perception.

For example, when a friend uploads a photo to Facebook, they are suggested to tag the faces of friends. Receiving the notification "Mike has tagged you in a photo" propels a user to feel the social approval associated with being tagged online, when Mike was truly only responding to Facebook's suggestion. Through design choices like this, Facebook controls the multiplier for how often millions of people experience social approval on their site (Harris, 2016).

Alter and Harris note that different sites have their own version of a "bottomless bowl": Facebook has an endless feed, Netflix automatically moves on to the next episode, Tinder encourages users to keep swiping in search of a better option (Alter, 2017, n.p.). Users benefit from these applications and platforms but struggle to use them in moderation (Alter, 2017).

Users are often told that they may unsubscribe at any time if they are unsatisfied, but media sites want to make that process as difficult as possible. Harris compares the selection of choices on a social media site to those that a magician would provide for a spectator. Like a magician guiding his audience to make the decision intended for a trick, sites are designed to guide users towards a preferred interaction on the site. This is another way that these sites keep users hooked.

Harris concludes by reinforcing his belief that we need our technology and social media to put our values first. In an ideal world, he imagines human-centric design that allows users to operate in tandem with media, rather than working around it. He also stresses that people's time is valuable, and we should protect it with the same rigor as privacy and other digital rights (Harris, 2016). Harris and Alter provide refreshing perspectives on social media use and the influence it takes on daily life. In a rapidly changing online environment, Harris and Alter's research provides a strong starting point for individuals to ask critical questions about their time spent online.

Previous Studies of Data Privacy

Social Media and Data Privacy

Defining the channels of communication known as social networking sites or social media sites is crucial to this research. Rafique in "Personal Information Sharing Behavior of University Students via Online Social Networks" defines social networking sites as "web sites that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (2017, p.3). The same study reveals commonly disclosed information that makes individuals personally identifiable

from others: any information about an individual maintained by an agency, including (1) any information that can be used to distinguish or trace an individual's identity, such as name, social security number, or date and place of birth and (2) any other information that is connected to an individual, such as medical, educational, financial, and employment information (2017, p.3). While these are defining qualities of social networking sites, they also encompass the types of data that can be collected from users.

A similar definition was found in "A study of the perceptions of students on privacy and security on social networking sites on the Internet" which defines social networking sites "as a location at which consumers create a home page or personal space, on which they blog on Web logs, post files, and share files, ideas and information with other individuals and other networks and sites on the Internet" (Lawler & Molluzzo, 2009, p.1). A combination of the two definitions on social media sites will lead the direction of this research, as "an online location that allows individuals to construct a profile, that they may share publicly or semi-publicly, containing files, ideas, and information about themselves". For the purposes of this research, social networking sites will be referred to as "social media sites", or specifically Facebook and Instagram.

Qualitative Studies of Data Privacy

Studies of the perception of data are becoming more frequent and concentrated as internet and tech companies collect more information on a regular basis. One such study, "With Great Data, Comes Great Responsibility" (Salazar & Woodward, 2017), discusses the findings of a focus group comprised of university students. Their findings show that university students have a high level of concern over their data privacy but lack the knowledge to protect themselves. It goes further to state that despite a concern by the majority, only 21 percent have ever actively sought out information about privacy rights (Salazar and Woodward, 2017).

Gender and Privacy

A more specific demographic than university students, female teenagers are most likely to have private or semi-private restrictions on their profiles, according to Lewis (2008). He states that they appear not to be cavalier about disclosing information. Lewis's study (2008), "The Taste for Privacy", states that there is a greater proportion of private profiles among demographic groups that are at greater risk of personal harm because of information disclosure; more specifically, he suggests that gender is a significant predictor of privacy settings and that females are likely to have stricter privacy settings than males for this reason. In a longitudinal study regarding views of information privacy, Regan, Fitzgerald, and Balint found evidence aligning with Lewis's results, in that females across generations have greater concern for privacy than males (2013, p. 93).

Generational Views of Privacy

As a result of the age range applicable to a university student demographic, there are a few caveats to consider in relation to views of privacy, much the same as social media addiction. Recent generations have grown up with social media sites and cell phones, whereas Generation X and earlier were introduced to these technologies later in life. Regan, Fitzgerald, and Balint in their study, "Generational views of information privacy?", found that older generations, individuals ranging from the Greatest Generation (1910 – 1924) until Generation X (1965-1980), are slow adopters and are more cautious of computer data collection than younger generations (2013, p. 97). Their quantitative survey found that amongst all generations, shared computer data was considered a serious threat in 1996, around the time that email and online transactions became popular; however, concern then declined in 2006 as the online services became more commonplace (Regan, Fitzgerald, Balint, 2013, p. 97).

In Bietz et al.'s recent study "Privacy perceptions and norms in youth and adults", privacy perceptions of young adults aged 21 and below are compared with adults aged 21 and above (2019, p. 96). In a quantitative analysis, they found that both demographics rate privacy as a significant concern when considering GPS location sharing and internet search history; however, they make different decisions about sharing online based on the social context (Bietz et al, 2019, p. 99). Young adults are more likely to expose information based on the relationship between the sender and receiver and the content of the message overall (p. 100). In contrast, adults are hesitant to share information in general, but especially if it is health-related information (p. 100). Overall, Bietz et al. does not conclude that adults have greater concern for privacy than young adults because they have found young adults to be more comfortable and efficient in using privacy controls, such as blocking, creating private accounts, and obfuscation through falsifying information (p. 100).

Other studies are skeptical of establishing such broad, undefined age categories and push for more narrowly defined age segments in the future (Regan, Fitzgerald, Balint, 2013, p. 84). As a result of the current study's small sample size, there is limited data to compare older Millennials and Generation X with the well represented 18-25 age demographic. An extended longitudinal study would provide a greater understanding of the generational differences between privacy concern.

Staying Vigilant Online

Lewis continues that students are aware that the information they post is public, but the possible consequences of sharing may not be recognized by all. He states that as a technology becomes popular, the excitement outstrips a user's precautionary habits and they become complacent about their privacy settings (2008, p. 96). This statement resonates with Salazar and

Woodward's focus group, which found that most students claimed to have never personally been negatively affected by an organization misusing, sharing, or losing their personal information (2017, p. 198). It could be argued that because some individuals have not been directly affected, they are not urged to be more protective of their online profiles. The idea of sharing online becomes normalized and the risk perceived is less threatening. The phrase "excitement outstrips precaution" is representative of the idea that the social utility gained from their use is compelling enough that they are not as attentive towards their privacy (Lewis, 2008, p. 96).

A few respondents in Salazar and Woodward's focus group admitted to being careless with their data privacy and did not think twice about entering information into their devices and networks. Many people have accepted that technology changes so quickly that they cannot keep up with how their data is being collected or used on a going basis. They used this reasoning to justify dismissing their privacy settings.

In 2015, the Office of the Privacy Commissioner of Canada conducted focus groups exploring concern for online privacy. In the report of the findings, they note that participants in these groups noted they sense a loss of privacy in the digitized environment and expect that their personal information is being monitored, stored, or shared. Some of the participants stated that they are comfortable giving up their privacy if there is a perceived benefit, but those who have experienced a privacy breach, such as identity theft or a damaged reputation, are more concerned (2015, p. 5).

Danah Boyd, technology and social media scholar, has found in her work that users do not believe privacy is entirely about restricting access but being able to control who has access and how or when information spreads (Boyd & Marwick, 2018, p. 1158). Using the Facebook setting to allow only "friends of friends" to search your profile is a good example of this. She

notes, like Tristan Harris, that it is becoming hard to opt out of accounts because they are intertwined with everyday life, for example, using an email account to access a rideshare application or acquire a coupon for the grocery store. Boyd states there are plenty of people who approach these services with the mindset that they are intentionally doing so, but many do not recognize the ways in which their data may be collected and shared (Boyd & Marwick, 2018, p.1158).

Some users may subscribe to the belief that they are only an obscure collection of zeros and ones. They may ask, "Of the 2 billion people using Facebook, why would *my* information be of interest to others?" Adam Penenberg, investigative journalist and professor at New York University, employed an ethical hacking firm to perform a "penetration test" of his devices and accounts, starting with only his name and byline. In a week, they had pulled up a shocking amount of information, including Penenberg's social security number, utility bills, phone records, and mother's maiden name (Penenberg, 2013). He learned that information trafficking websites would be able to sell this data easily and without an individual's awareness. In the article detailing his experience, Penenberg reflected that the test provided beyond a reasonable doubt that anyone's data can be accessed and exploited regardless of perceived privacy.

Deborah Tannen adds to the harsh reality of online privacy in her 2016 article discussing the blurred lines between public and private in the face of advancing communication technology. She alludes to the sabotaged campaign of a former presidential candidate in saying that if their private documents cannot be protected, there is limited hope for citizens susceptible to average security breaches, such as a hacked Instagram account.

Facebook and Instagram Terms of Service

Each of the platforms studied in this research, Facebook and Instagram, are owned by Facebook Inc. and fall under the category of "Facebook Company Products", which also includes Messenger, Oculus, WhatsApp, and other in-app services, portals, or features. The Terms of Service can be easily found online and includes details about their services, data policy, community partnerships, and additional previsions. Users may edit their advertisement preferences and learn more about privacy settings in the Terms of Service.

Facebook and Instagram have a shared Data Policy, including all other company products unless otherwise noted. There are nine main sections: (1) What kinds of information do we collect? (2) How do we use this information? (3) How is this information shared? (4) How do the Facebook companies work together? (5) How can I manage or delete information about me? (6) How do we respond to legal requests or prevent harm? (7) How do we operate and transfer data as part of our global services? (8) How will we notify you of changes to this policy? (9) How to contact Facebook with questions.

In addition to the basic information that users provide while using the site, such as contact information, page interactions, personal messages, hashtags used, and visual content, Facebook collects the metadata associated with this information. Facebook also collects purchase information if users make a transaction, including credit card or other financial information. Users location, device attributes, Wi-Fi and Bluetooth connections, and cookies are all collected by Facebook. Unless a user has taken measures to block Facebook from accessing their information, they are likely unprotected from many types of data collection.

Some highlights within the Data Policy include sections regarding information shared with third parties and Facebook's justification for collection. Facebook shares information with a

variety of third parties, such as partners using business analytics, advertisers, service providers, researchers and academics, and law enforcement.

The policy reinforces that Facebook "does not sell any of your information to anyone, and we never will." It continues to emphasize that they impose strict restrictions on how partners use and disclose the data provided.

For example, advertisers are notified about how their ads are performing and only receive a user's personal information if granted permission by the user. This paragraph of the policy does not delve further into how permissions are granted, whether by an opt-in function or another method. The policy states, regarding sharing with researchers and academics, that the information shared is used to "conduct research that advances scholarship and innovation that support our business or mission", as well as "enhances discovery and innovation on topics of social welfare, technological advancement, public interest, health and well-being" (Facebook Inc. Terms of Service, 2018). By clicking ahead to the Facebook Research site, there is a lengthy list of ventures that Facebook companies are invested in, such as augmented reality, computational photography, machine learning, and others.

The Data Policy lays out Facebook's data collection practices in a straightforward manner, without giving too many details that might go above a user's basic understanding of the platform. Apart from the final sections on how to query Facebook and how to manage your information, the Data Policy concludes by providing a few explanations justifying their use of personal account information. Facebook promotes their ability to personalize their products for each user by making suggestions based on engagement. For example, they suggest events that users may be interested in based on friend's activity or geographic location.

The policy states that Facebook uses information in order to promote safety, integrity, and security on their products by verifying accounts, combatting harmful conduct, and detecting and preventing spam. They further clarify their methods as enabling the Facebook companies to "research and innovate for social good". Like their explanation for providing information to researchers and academics, this section of the policy reiterates Facebook's interests in general social welfare resulting from the company's research endeavours.

The simple act of going through the Terms of Service and Data Policy pages may be an eye-opener for some users about how their information is being collected on Facebook and Instagram. It is widely accepted that users skip over the Terms of Service when signing up for a new account, which reveals the minimal level of concern that users display towards the use of their information.

The definitions outlined in this review will guide the scope of this research and be used to contextualize the survey data. While the following survey combines questions and themes found in the above-mentioned literature, it also delves more deeply into demographic analysis as it relates to who is most susceptible to social media addiction and demonstrates a lack of concern for their privacy.

Methods

Demographic Information

The 2018 Pew Research Center report on social media platform use states that Facebook and Instagram are the second and third most popular social media sites. While the most popular site is YouTube, Facebook and Instagram are the focus of this study. YouTube was not a focus of this report because it possesses different qualities than those that Facebook and Instagram share. For example, YouTube is primarily a video-streaming service that is available to the public.

YouTube is likely the most popular platform because of its broad audience, while Facebook and Instagram are tailored to an individual's friend group and sharing content is more closed-circuit. The annual report states that 80 percent of U.S. adults aged 18-24 use Facebook and 70 percent use Instagram. Eighty-one percent of the Instagram users in this age demographic state that they use Instagram daily, and 55 percent state that they check it multiple times per day (Pew Research Report, 2018). This information guided the demographic focus for this study.

This research served as a proof of concept study that was distributed to approximately 110 students, which resulted in 28 responses, thus achieving over 20 percent response rate from face-to-face solicitation in classrooms. The classrooms included in the sample were chosen because each of the professors volunteered to share the survey with their students. Twenty-one females and seven males responded to this survey. Twenty-seven of the 28 respondents are post-secondary students, all attending Thompson Rivers University. Twenty-one of the 28 respondents are aged 18 - 25. In comparison, Andreassen's Facebook Addiction Scale had 423 students in a quantitative study. Salazar and Woodward's focus group contained 18 students from the Information Sciences, Law, and Agriculture disciplines.

The studies found in the literature review speaking to the university demographic as significant provide rationale for my choice of population. Andreassen et al. describes the demographics of users that are most susceptible to social media addiction as related to lower age, female, and being a student (2012). Monacis, de Palo, Griffiths, and Sinatra also found that females and young adults tend to exhibit addictive behavior most (2017). The largest population within the current sample is females aged 18-25. As a result, there will be significant evidence from the survey that is comparable to the literature review for the female demographic.

Survey Instrument

This research survey consists of four parts. Part 1 begins with five demographic questions identifying gender, age, student status, nationality, and most used social media site. See Appendix A for the full survey questionnaire.

Part 2 of the survey is derived from Andreassen's Bergen Facebook Addiction Scale (BFAS). It employs 18 questions on a 5-point scale that address the 6 elements of the addiction model: salience, mood modification, tolerance, conflict, withdrawal, and relapse. Andreassen and colleagues suggest a polythetic scoring scheme: if a person scores 3 or above on at least four of the six elements, they have a high likelihood of being addicted to Facebook. For the purposes of this study, the questions have been re-worded to include Instagram.

In the analysis, responses rated "very often" and "often" or "very rarely" and "rarely" have been collapsed to measure a larger population of similar responses. Differentiating between "very often" and "often" may be explored in future research.

Part 3 and 4 questions are modeled after Salazar and Woodward's focus group questions. Part 3 of the survey consists of five questions about individuals' habits in relation to their privacy settings. Part 4 of the survey includes seven questions about knowledge and experience regarding online privacy. They have been modified to fit in a 5-point Likert scale. Part 3 and Part 4 lack a definitive scale because the questions were derived from a qualitative study. The measurement of concern for data privacy is best shown on a spectrum rather than a scale. In this study, to be designated as unconcerned, the participant will answer above the minimum threshold of 50 percent on Part 3 and Part 4: #2 and #7. To be designated as concerned, the participant will answer above 75 percent on Part 4: #1, 3, 4, 6.

Results

Part 1: Demographics

This study consists of 21 female respondents (75%) and 7 male respondents (25%) (see Table 1). The largest age category within the sample is 18-25 and 96 percent of the sample are students at post-secondary institutions.

Table 1

Male	Female	Age			Student	
25% (7)	75% (21)	**18-25**	**26-35**	**36-45**	**Yes**	**No**
		75% (21)	14.29% (4)	10.71% (3)	96.43% (27)	3.57% (1)

Respondents identified their nationality as Canadian (92.85%) and First Nations (3.57%) (see Table 2).

Table 2

Nationality		
Canadian	**First Nations**	**N/A**
92.85% (26)	3.57% (1)	3.57% (1)

There are more Instagram users than Facebook, at 57.14 percent. In the "other" column, one respondent indicated they use Reddit most (see Table 3).

The 18 – 25 age category is split almost evenly between Instagram and Facebook users, with Instagram slightly higher at 55 percent of total users. Instagram also has more users in the 26 – 35 and 36 – 45 age categories.

Table 3

Most Used Social Media Platform						
	Male	**Female**	**Age 18 - 25**	**Age 26 - 35**	**Age 36 - 45**	**Total Users**
Facebook	3.57% (1)	35.71% (10)	32.14% (9)	3.57% (1)	3.57% (1)	39.29% (11)
Instagram	17.86% (5)	39.29% (11)	39.29% (11)	10.71% (3)	7.14% (2)	57.14% (16)
Other (Reddit)	3.57% (1)	0.00	3.57% (1)	0.00	0.00	3.57% (1)

Part 2: Social Media Addiction

Part 2 questions are organized in groups of 3, each representing one of the 6 elements of addiction: salience, mood modification, tolerance, conflict, withdrawal, and relapse. They are prompted by the question, "Throughout your day, how often do you…?"

Questions 2.1-3 represent salience (see Table 4). On #2.1, 48.15 percent of respondents stated they sometimes "spend time thinking about using social media". Following in #2.3, 51.85 percent of respondents stated that they sometimes "think about what has happened online recently". This is contrasted by the response to question #2.2: "Think about how to free up more time to use", which is rated "very rarely" at 55.56 percent and "rarely" at 44.44 percent.

Table 4

Salience	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
2.1. Spend time thinking about or plan to use Facebook or Instagram?	14.81% 4	18.52% 5	48.15% 13	14.81% 4	3.70% 1
2.2. Think about how you could free more time to spend on Facebook or Instagram?	55.56% 15	44.44% 12	0.00% 0	0.00% 0	0.00% 0
2.3. Think about what has happened on Facebook or Instagram recently?	14.81% 4	22.22% 6	51.85% 14	11.11% 3	0.00% 0

Questions 2.4-6 represent mood modification (see Table 5). On #2.4, 55 percent of the sample confirmed that they often "spend more time than intended using Facebook or Instagram". A total 81.48 percent of respondents stated that they rarely "feel they wanted to use Facebook or Instagram more", when asked in question #2.5. The majority of the sample, at 88.89 percent, answered "very rarely" or "rarely" to question #2.6, indicating that they did not feel they wanted to use social media more to get the same pleasure from it.

Table 5

Mood Modification	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
2.4. Spend more time on Facebook or Instagram than initially intended?	14.81% 4	0.00% 0	14.81% 4	55.56 % 15	14.81% 4
2.5. Feel that you wanted to use Facebook or Instagram more?	40.74% 11	40.74% 11	14.81% 4	3.70 % 1	0.00% 0
2.6. Feel that you wanted to use Facebook or Instagram more to get the same pleasure from it?	33.33% 9	55.56% 15	7.41% 2	3.70 % 1	0.00% 0

The tolerance stage of addiction is represented from questions 2.7-9 (see Table 6). The responses to question #2.7, "use social media to forget about personal problems" are somewhat spread across the scale. In question #2.8, "use to reduce feelings of guilt, anxiety, and depression", 48.15 percent of respondents indicated that they very rarely do so. Responses to question #2.9 reveal that 37.04 percent of respondents often use social media to reduce restlessness.

Table 6

Tolerance	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
2.7. Use Facebook or Instagram to forget about personal problems?	33.33% 9	18.52% 5	18.52% 5	22.22% 6	7.41% 2

2.8. Use Facebook or Instagram to reduce feelings of guilt, anxiety, depression, and helplessness?	48.15% 13	18.52% 5	18.52% 5	11.11% 3	3.70% 1
2.9. Use Facebook or Instagram to reduce restlessness?	14.81% 4	14.81% 4	25.93% 7	37.04% 10	7.41% 2

Questions 2.10-12 reflect the level of withdrawal from social media use that respondents' experience (see Table 7). All three questions have widespread response, which may suggest that respondents have varying motivations or perspectives on trying to reduce time spent online. Most respondents stated that they very rarely hear from others that they should reduce their social media use, noted by question #2.10. Questions #2.11 and #2.12 ask similarly, how often do you "try to cut back from social media without success?" and "try to use social media less but manage not to do so?". In both circumstances, respondents' answers were widespread; however, in #2.11, 30.77 percent indicated that they "often" tried to cut back without success.

Table 7

Withdrawal	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
2.10. Hear from others that you should reduce your use of Facebook or Instagram, but not listened to them?	44.44% 12	18.52% 5	18.52% 5	18.52% 5	0.00% 0
2.11. Try to cut down on your use of Facebook or Instagram without success?	23.08% 6	38.46% 10	3.85% 1	30.77% 8	3.85% 1
2.12. Try to use Facebook or Instagram less, but managed not to do so?	23.08% 6	26.92% 7	26.92% 7	19.23% 5	3.85% 1

The conflict section receives similar responses across the board in questions 2.13-15. In all three cases, the majority of the respondents indicated that they rarely experience any of the signs of conflict, such as becoming restless without use, becoming irritable without use, or feeling bad if they could not use (see Table 8).

Table 8

Conflict	Very rarely	Rarely	Sometimes	Often	Very often
2.13. Become restless or troubled if you have been prevented from using Facebook or Instagram?	40.74% 11	37.04% 10	18.52% 5	3.70% 1	0.00% 0
2.14. Become irritable if you have been prevented from using Facebook or Instagram?	55.56% 15	37.04% 10	3.70% 1	3.70% 1	0.00% 0
2.15. Feel bad if you, for different reasons, could not log on to Facebook or Instagram for some time?	37.04% 10	40.74% 11	18.52% 5	3.70% 1	0.00% 0

The final stage of the addiction model, relapse, is explored in questions 2.16-18 (see Table 9). Responses varied on question #2.16, asking whether they use social media so much that it has a negative impact on their job or studies. Respondents indicated by 33.33 percent each, that they “very rarely” but also “sometimes” used Facebook or Instagram to the extent of disruption in their daily lives. In question #2.17, it is revealed that 38.46 percent of respondents sometimes give less priority to hobbies and leisure because of Facebook or Instagram. In question #2.18, responses are scattered on the lower half of the scale, indicating that the majority of the sample claim they do not ignore their partner, family members, or friends because of Facebook or Instagram.

Table 9

Relapse	Very rarely	Rarely	Sometimes	Often	Very often
2.16. Use Facebook or Instagram so much that it has a negative impact on your job/studies?	33.33% 9	18.52% 5	33.33% 9	14.81% 4	0.00% 0
2.17. Give less priority to hobbies, leisure activities, and exercise because of Facebook or Instagram?	30.77% 8	15.38% 4	38.46% 10	11.54% 3	3.85% 1

2.18. Ignore your partner, family members, or friends because of Facebook or Instagram?	33.33% 9	33.33% 9	29.63% 8	3.70% 1	0.00% 0

Part 3: Privacy Habits

Part 3 of the survey asks five questions in relation to common practices while using privacy settings (see Table 10). The overall privacy precautions taken are high. Questions 3.1,2,3,5 all receive "very rarely" and "rarely" responses. The sample indicates that they are conscious about their sharing habits and their privacy settings. There is no illogical behavior demonstrated by these responses.

Table 10

Part 3	**Very rarely**	**Rarely**	**Sometimes**
3.1. Share your location?	62.50% 15	16.67% 4	8.33% 2
3.2. Share your contact information, such as phone number or email address?	62.96% 17	18.52% 5	18.52% 5
3.3. Post personal information without considering who had access to it?	48.15% 13	25.93% 7	22.22% 6
3.5. Update your privacy settings so that anyone may view your profile and information?	55.56% 15	22.22% 6	18.52% 5

Question 3.4 asks: "how often do you update your privacy settings so that only certain people may view your profile?" Responses are spread, with 25.93 percent of respondents indicating "rarely" but also 25.93 percent of respondents indicating "very often" (see Table 11). The other responses are mixed. The individual responses show no significant pattern in gender, age, or most used social media platform in relation to this question.

Table 11

PART 3	Very rarely	Rarely	Sometimes	Often	Very often
3.4. Update your privacy settings so that you may allow only certain people to view your profile?	11.11% 3	25.93% 7	22.22% 6	14.81% 4	25.93% 7

Part 4: Privacy Knowledge and Experience

Part 4 of the survey is comprised of seven questions that relate to the respondent's knowledge and experience relating to data privacy. There is a 100 percent combined response to "agree" and "strongly agree" to question #4.1, asking whether they are aware that their information is collected by the platforms that they use (see Table 12).

Table 12

PART 4	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.1. I am aware that the social media sites I use collect my information.	0.00% 0	0.00% 0	0.00% 0	48.15% 13	51.85% 14

Questions #4.2 and #4.3 create a divide between whether respondents are comfortable with the platforms collecting their information or if they are worried about it (see Table 13). There are varying responses on question 4.2 about whether they are comfortable, but 55.86 percent of respondents indicated they "agreed" or "strongly agreed" to question #4.3 about being worried about the information that is collected.

Table 13

PART 4	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.2. I am comfortable with social media sites using the information I provide through my use of their site.	18.52% 5	22.22% 6	29.63% 8	22.22% 6	7.41% 2
4.3. I worry about the information that social media accounts collect about me.	3.70% 1	14.81% 4	25.93% 7	29.63% 8	25.93% 7

Question #4.4 has spread responses to the statement: "I have changed my social media use after learning what information sites collect about me", while question #4.5 received 62.97 percent of respondents stating they have not had a negative experience with an online organization misusing, sharing, or losing their personal information (see Table 14).

Table 14

PART 4	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.4. I have changed my social media use after learning what information sites collect about me.	3.70% 1	33.33% 9	22.22% 6	22.22% 6	18.52% 5
4.5. I have been negatively affected by an online organization misusing, sharing, or losing my personal information.	25.93% 7	37.04% 10	22.22% 6	7.41% 2	7.41% 2

Responses to question #4.6 indicates that most people, 77.77 percent, have refused to provide their information online before (see Table 15). This result is consistent with Part 3 of the survey, which largely reflected that people were cautious about their privacy settings.

Table 15

PART 4	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.6. I have refused to provide an online organization with my personal information before.	7.41% 2	7.41% 2	7.41% 2	44.44% 12	33.33% 9

The statement "I believe that private social media accounts are truly private", in question #4.7 received a 100 percent response pointing towards "strongly disagree" and "disagree" (see Table 16). Combined with the response from question 4.1 (see Table 12), this reflects that people are aware that their information is being collected and that it is never entirely private. The level of awareness indicated by these comparable responses may suggest that if participants are still posting online, they are accepting of the risks posed.

Table 16

PART 4	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4.7. I believe that private social media accounts are truly private.	62.96% 17	37.04% 10	0.00% 0	0.00% 0	0.00% 0

Hypothesis 1

Twenty out of the 27 respondents, 74 percent of the sample, scored 3 or higher in a minimum of 4/6 sections of the social media addiction scale. This classification places them in the highest likelihood of demonstrating social media addiction behaviors. There are 5 males and 15 females in this subsample. Sixty-five percent of the addicted sample are Instagram users and 75 percent are in the 18 – 25 age category.

Table 17 (below) shows the results of the addicted respondents who also met the minimum threshold for Parts 3 and 4 of the survey. The Part 2 column indicates the amount of sections in which they scored above 3. The higher that score is, the higher their likelihood of exhibiting social media addiction. Andreassen's study suggests that scoring 3 or above identifies a participant as addicted.

The questions in Part 3 and 4 are derived from Salazar and Woodward's qualitative study and have been modified to fit into a scale. For this reason, there is not a distinct number that demonstrates whether a participant is concerned or unconcerned about their data. It is a spectrum more than a numerical value; however, for the purposes of this study, the assigned values indicated below will be used.

In the Part 3 column, the higher their score is, the less protective they are of their data privacy. They must be higher than 0.50 to qualify for "unconcerned". The column Part 4: 4.2 and 4.7 represents whether a respondent is concerned for their privacy. The higher their score, the less concerned they are for their privacy. They must be higher than 0.50 to qualify as "unconcerned". The column Part 4: 4.1, 4.3, 4.4, 4.6 again represents how concerned a respondent is for their privacy, but if they score higher, they are more concerned. To qualify as "concerned" they must score higher than 0.75.

To accept this hypothesis, Part 3 and Part 4: 4.2, 4.7 must exceed 0.50, and Part 4: 4.1, 3, 4, 6 must be lower than 0.75.

Table 17

	Part 2: Social Media Addiction	Part 3: Privacy Settings	Part 4: 4.2, 4.7 Privacy Knowledge	Part 4: 4.1, 3, 4, 6 Privacy Knowledge
M2 – 18 – IN	4/6	0.65	0.90	0.55
M5 – 26 – IN	3/6	0.55	0.60	0.65
F2 – 18 – IN	4/6	0.60	0.60	0.70
F18 – 18 - FB	4/6	0.60	0.60	0.70

Male (M) Female (F) # - Age Category (18) 18-25, (26) 26-35, (36) 36 - 45 – Instagram (IN), Facebook (FB)

Of the 20 respondents who demonstrated a high likelihood of social media addiction, M2, M7, F2, and F17 accept the hypothesis when compared to parts 3 and 4 of the survey, measuring concern for data privacy. The remaining 16 respondents demonstrated addicted traits but did not meet the minimum threshold of parts 3 and 4. This indicates that, despite their addicted behavior, they are relatively more aware of their online data privacy.

Hypothesis 2

Individuals who do not confirm the first hypothesis could still be considered at risk for social media addiction and have potential to be unconcerned for their privacy. If an individual spends a significant amount of time using social media, which would be revealed by their answers to the salience, mood modification, and relapse sections of the survey, they may be using social media to an extent that is disruptive to other areas of their life. The second hypothesis isolates these three sections of the addiction scale to see if excess time spent online equates to decreased concern for privacy. The isolated addiction sections are compared to Part 3 of the survey, which covers privacy setting habits.

In the salience section, it is revealed that throughout the day, 48.15 percent of respondents sometimes spend time thinking about or planning to use social media and 51.85 percent of respondents sometimes think about what has happened online recently (see Table 4).

One hundred percent of respondents indicated that they rarely think about how they could free up more time to spend on Facebook or Instagram. This response is comparable to the next section on mood modification.

In the mood modification section, there is a similar pattern (see Table 5). In question 2.4, 55.56 percent of respondents indicated that they often spend more time than intended on Facebook or Instagram. Subsequently, in question 2.5, 81.48 percent of respondents rarely feel that they want to use social media more. Following question 2.6, 88.89 percent of respondents stated that they rarely want to use social media more to get the same pleasure from it. The emerging theme is that individuals who are using Facebook or Instagram regularly are using it more than they intend and then do not want to use it more.

As a result, 53.57 percent of those who admitted that they spent more time on social media than intended also stated that they did not want to use it more. This could imply that they are not enjoying their use, or overuse, and notice only after they are finished. Future qualitative research would provide insight into this emergent theme.

Questions 2.16, 2.17, and 2.18 identify with the relapse stage of addiction (see Table 18). There was a widespread response to question 2.16, asking if they used social media so much that it has a negative impact on their job or studies.

Table 18

Relapse	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
2.16. Use Facebook or Instagram so much that it has a negative impact on your job/studies?	33.33% 9	18.52% 5	33.33% 9	14.81% 4	0.00% 0
2.17. Give less priority to hobbies, leisure activities, and exercise because of Facebook or Instagram?	30.77% 8	15.38% 4	38.46% 10	11.54% 3	3.85% 1

2.18. Ignore your partner, family members, or friends because of Facebook or Instagram?	33.33% 9	33.33% 9	29.63% 8	3.70% 1	0.00% 0

Question 2.17 also had widespread answers, with 38.46 percent of participants stating that they sometimes gave less priority to hobbies because of social media. There is significant variability in answers in the relapse section, which further research could address.

From these three sections, it can be resolved that most respondents use Facebook or Instagram on a regular basis, are sometimes distracted from their daily lives, and are not interested in spending additional time using social media.

To identify a relationship between time spent using social media and habits that are deemed relevant for data privacy, the addiction questions from Part 2 will be compared to Part 3, which relate to privacy setting practice.

Part 3 of the survey asks 5 questions in relation to common practices while using privacy settings. As shown in Tables 10 and 11, the overall privacy precautions taken are high. In questions 3.1 and 3.2, most respondents indicated that they very rarely share their location and contact information. The survey specified that “very rarely” equated to less than once per month and “very often” was considered daily.

A limitation to this part of the study is that Facebook and Instagram do not explicitly share your information with others, unless you do so yourself, but if location services are not turned off, they track your location whenever the application is open on a mobile device. This opens the possibility that people are inadvertently sharing their location data. Most respondents ranged between “very rarely” to “sometimes” on question #3.3, stating that they did not frequently post personal information without considering who had access to it.

Relating to question 3.5, 55.56 percent of the sample stated that they very rarely updated their privacy settings so that anyone may view their profile and information. The comparison to question 3.4 reveals that people are selective about who they allow to view their profile. There was a strong indication that there was a sensitivity among respondents about who may view personal information, with both "rarely" and "very often" earning 25.93 percent of the sample (see Table 19).

The responses here indicate that people are selective about who is seeing their information, but at the same time, location settings may be ambiguous according to each platform. This proof of concept study may lead to more questions about individual platforms and location settings.

Table 19

Part 3: Privacy	**Very rarely**	**Rarely**	**Sometimes**	**Often**	**Very often**
3.4. Update your privacy settings so that you may allow only certain people to view your profile?	11.11% 3	25.93% 7	22.22% 6	14.81% 4	25.93% 7
3.5. Update your privacy settings so that anyone may view your profile and information?	55.56% 15	22.22% 6	18.52% 5	3.70% 1	0.00% 0

Throughout section 3, most respondents indicated that they do not share information frequently or without consideration for who will see the information. Despite respondents in Part 2 indicating that they use Facebook or Instagram often, responses in Part 3 reflect that they are cautious about the information they are sharing. This disproves the hypothesis that respondents

who scored high on the isolated sections of Part 2, reflecting a large amount of time spent on social media, would also score high on Part 3, reflecting a low concern for privacy.

Discussion

Hypothesis 1

This survey found that 20 of the 27 respondents demonstrate addictive behavior towards social media. This addicted subsample consists of 75 percent female and 25 percent male respondents. Studies done by Andreassen, Moluzzo, and Monacis all agree that socially addictive behaviors are most often seen in females. Comparing the ratios of each gender within this sample, 15 of the 21 females and five of the seven males in this sample identified as addicted to social media. Seventy-one percent of both genders identified as addicted. Despite past studies suggesting that females are more likely to exhibit addictive behaviors, this survey found that gender was not a significant predictor of socially addictive behavior. In a larger sample with equal gender representation there may be a greater distinction between males and females. In order to confirm or contrast the literature, a larger survey sample would need to be completed.

Seventy-five percent of the addicted subsample belong to the 18 – 25 age category. This finding supports the studies by Andreassen, Moluzzo, Monacis, and MIP that state young people are most susceptible to social media addiction. Due to the substantial literature relating social media addiction and younger age, this result is unsurprising. The remaining 25 percent of addicted respondents represent the two older age categories.

Instagram was the most used social media site amongst those identified as addicted. At 65 percent of the subsample, Instagram is the platform most correlated with its users' demonstrating social media addiction. This result, combined with that above stating 75 percent

of addicted users are aged 18-25, runs parallel to the Pew Research Report which stated that 70 percent of U.S. adults aged 18-24 use Instagram. Notwithstanding the gender analysis, the survey sample accurately reflects the current demographic information known about individuals with social media addiction.

Within the subsample of 20 respondents that identified as addicted, only four met the criteria on Parts 3 and 4 of the survey to be considered as "unconcerned" about their data privacy. Two female and two male respondents indicated that they were rarely concerned for the information that they were sharing online (see Table 18). Three of these four respondents stated they used Instagram most and landed within the 18-25 age category. This aligns with the studies which found that young people are susceptible to social media addiction and use Instagram most often. In a larger sample with equal gender representation, it could be more easily determined if females or males are more careful of their privacy.

Salazar and Woodward's focus group, from which the privacy questions in Part 3 and 4 were derived, found that university students have a high level of concern over their data privacy but often lack the knowledge to protect themselves. Apart from the four confirmed respondents in this study that distinctly lacked concern for their privacy, the remaining sample exhibited varying levels of concern. There were a handful of respondents that stated that they are aware of information disclosure online, and many respondents that stood within a grey area of indifference. Because of the heavily represented 18-25 age category in this sample, these findings are weighted towards a young generation. This reveals a gap in knowledge relating to older generations and calls for further research in the form of a longitudinal study, as suggested earlier in the literature review. Future research may also look to differentiate the varying levels

of attention and underlying causes of concern that individuals demonstrate towards their data privacy.

Hypothesis 2

The second hypothesis sought to find a connection between spending more time using social media and a disregard for privacy settings. This idea is simpler than the first hypothesis, in that it only compares isolated sections of Part 2 and Part 3 of the survey. Individuals who perhaps did not qualify as "addicted" could be considered at risk if their responses indicated they were spending significant amounts of time on social media. Individuals using social media frequently are also providing significant quantities of data about themselves, which calls into question their level of care about privacy.

Using three time-related sections from the addiction portion of the survey – salience, mood modification, and relapse – it was found that spending significant amounts of time on social media is a common practice for the respondents in this sample. This result did not align with the privacy-related questions to confirm a link between time spent and lack of precaution. Most respondents stated that they rarely shared their location and contact information and that they were also sensitive about who they allow to view their profiles.

Considering the concept of "time spent online", as referred to by Tristan Harris, an individual might be more likely to have poor time management skills rather than pathological social media use. The challenge is determining where to draw the line between an average amount of time spent online and excessive use that is disruptive to a user's daily life. This might be determined on a case by case basis for an adult, as it is more common for children's internet

use to be monitored and for advisory limits to be set by childcare professionals. The average time spent online for adults is reported in several surveys and has been steadily increasing each year.

Although the hypothesis could not be confirmed, this analysis opened a host of possible questions to be investigated in future research. It is noted in the Results section that this survey was targeted at Facebook and Instagram users and, while these platforms do have access to location sharing, it is not used explicitly as it is on some other social networking platforms, such as Snapchat, Foursquare, Find My Friends, or others. This leads to questions about whether respondents are open to sharing their location on other applications. If these location-based applications were substituted into the survey, it may yield different results regarding the frequency that individuals are sharing their whereabouts. Another possibility for future research is whether individuals become complacent over time while applications generate location and other data in the background of daily use.

Limitations & Future Research

The respondents self-selected to answer the questionnaire and as such, this research is self-reported, so there is potential for discrepancies within an individual's perception of their use and their actual use. This applies to both parts of the survey. In relation to social media addiction, individuals may not have noticed their use or other symptoms addressed by Part 2 of the survey. In the case of privacy settings, individuals may think they are more protected than they truly are. Salazar and Woodward's focus group revealed that people were concerned for their privacy, but in a rapidly changing technological environment they often lacked the knowledge necessary to effectively protect themselves on a consistent basis. With further research stemming from Salazar and Woodward's work and patterns within this study, detailed knowledge of privacy controls could be a key theme to take up with participants in a qualitative format, such as

interviews or focus groups where open-ended questions such as “Define data privacy in your own words”, would allow for further investigation into this theme.

Future surveys may also be constructed to map specific user behavior, for example, interviewing an individual about the status of their notification settings. This would question both an individual’s knowledge of their settings and their willingness to receive the seductive “beep” that distracts and entices users. Additionally, employing the use of a time tracking application, such as Screen Time for iOS or Digital Wellbeing for Android, may allow researchers to collect concrete data and allow respondents to reflect on their use from a stronger empirical perspective.

In Salazar and Woodward’s focus group, most students stated they had not had negative experiences with a website misusing, sharing, or losing their personal information. Similarly, in the current study, 62.97 percent of respondents noted they rarely had negative experiences with websites. Following in Part 4, there were widespread responses to “I have changed my social media use after learning what information sites collect about me”. In connection with Lewis’s study, the responses to these two questions indicate that there may be a link between a lack of care for online sharing and an individual’s experience with a site. Lewis suggests that as a new site or technology becomes popular, the excitement outstrips precautionary habits and people become less careful about their privacy. The Canadian Privacy Commissioner report also found that individuals who have been a victim of identity theft or a damaged reputation due to a privacy breach are more concerned with their privacy online. Without a negative experience prompting the urgency for users to protect their information, privacy may be given up more

easily. Further studies may explore the motivations behind being protective of data privacy in a qualitative study.

Another key limitation to this study is the focus on Facebook and Instagram. While the confined scope does allow for more concrete findings within a given sample, individuals with social media addiction are likely to use more than one platform. To accurately assess an individual's proclivity to use social media in excess, multiple platforms would need to be considered.

Multiple sources regarded university-aged students as between the ages of 18-25, often labelled as "young millennials". This may be the most common age category that attends post-secondary institutions, but within the current survey there was a smaller population above that age range. University-aged students could vary greatly between samples depending on the level of their education, from a certificate or diploma all the way up to a doctorate degree. Mature students would also factor into a diverse age sample. These diverse samples still contribute valuable data but, by focusing on students in future studies, there is potential for ambiguity in age as a category of analysis. The literature review noted that using well-defined age categories would allow for greater specificity and may reveal significant generational differences.

The need to consider multiple platforms was addressed in the debate between Andreassen and Griffiths, detailed in the literature review. Griffiths argues that the psychometric tool used to evaluate addiction needs to measure the specific aspects of a social media site that are addictive rather than use generalized statements, such as Andreassen's BFAS does. At the same time, Griffiths suggests that "Facebook Addiction" will become an obsolete term and it should be replaced with "Social Networking Addiction". These two arguments almost contradict

themselves in that he is arguing for specificity in the first and generality in the second. In response, Andreassen suggests that researchers may substitute any site with Facebook and that there should be scales developed for different platforms in the future.

This research used the term "social media addiction" to be inclusive of Facebook and Instagram, considering Andreassen's suggestion to substitute any site with Facebook, or in this case, add Instagram. Questions arose throughout the process of this research about the specificity challenge, as it was realized that what made Facebook addictive would not be the same as what made Instagram or any other platform addictive. As noted by Alter and Harris, Facebook is notorious for its "bottomless bowl" or endless news feed, whereas engagement on Instagram is driven by likes and the desire for social approval (Alter, 2017). A future project could potentially analyze the features of platforms that compel people to keep using them, such that the types of platforms that are most addictive can be identified. However, trends in social media platforms can change at a fast pace and create an obstacle when developing a time relevant study, as noted by Griffiths. More specifically, identifying the features of an addictive platform may prove to be more useful than comparing platforms themselves.

In the past few years, Facebook Inc. has been under fire for several different scandals, from the Cambridge Analytica data scandal to security breaches leaving 540 million accounts unprotected in the cloud (Dreyfuss, 2019). The social platform has continued to stand among the most popular social media sites by repairing their image and incentivizing users to stay online. In August 2018, Facebook and Instagram rolled out a new feature that allows users to manage their time spent on social media, which includes daily reminders, notification limits, and a time-tracker that shows how much time you've spent on the applications (Damiani, 2018). The goal of

this new feature, as per the statement released by Facebook, is to encourage users to engage with their platform in healthy ways, rather than engaging in "passive scrolling" that studies have shown produces negative health effects (Damiani, 2018). This feature allows users to set a time limit for use, but it does not have a "hard stop" feature. It is the user's responsibility to adhere to their time limits, but Facebook hopes that this feature will allow users to have positive, intentional experiences while using their applications.

In future research, applying the time-tracking tool would allow researchers to measure more specific data and it would enable participants to reflect on their actual use in comparison to their perceptions of it. The social media addiction scale may develop questions to be more time-based for this reason. If Facebook intends for users to have more positive experiences online, a follow up comparison survey would be needed to see if their tracking feature has made an impact in user experience and played a role in decreasing social media addiction.

The implementation of this feature may be Facebook's attempt to retain public appeal. In the wake of their too-frequent data and privacy scandals, Facebook Inc. must maintain popularity with their tech-literate users, and by extension, maintain a consistent stock price. Whether Facebook has implemented these features with good intentions for its users is unclear, but as individuals gain a better understanding of the implications of data and social media in the future, they may become more conscious online and take more measures to protect themselves. The more informed that users are about their data privacy and social media use, the greater potential they have for a healthy internet experience.

References

Alter, A. (2017, February 28). How technology gets us hooked. Retrieved from https://www.theguardian.com/technology/2017/feb/28/how-technology-gets-us-hooked

Alter, A. (2017, June 03). Tech Bigwigs Know How Addictive Their Products Are. Why Don't the Rest of Us? Retrieved from https://www.wired.com/2017/03/irresistible-the-rise-of-addictive-technology-and-the-business-of-keeping-us-hooked/

Andreassen, C.S., & Pallesen, S. (2013). Facebook Addiction: A Reply to Griffiths (2012). *Psychological Reports, 113*(3), 899-902. https://doi.org/10.2466/02.09.PR0.113x32z6

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. *Addictive Behaviors, 64*, 287–293. https://doi-org.ezproxy.tru.ca/10.1016/j.addbeh.2016.03.006

Andreassen, C.S., Torsheim, T., Brunbord, G.S., & Pallesen, S. (2012). Development of a Facebook Addiction Scale. *Psychological Reports, 110*(2), 501-517. https://doi.org/10.2466/02.09.18.PR0.110.2.501-517

Atroszko, P. A., Balcerowska, J. M., Bereznowski, P., Biernatowska, A., Pallesen, S., & Schou Andreassen, C. (2018). Full length article: Facebook addiction among Polish undergraduate students: Validity of measurement and relationship with personality and well-being. *Computers in Human Behavior, 85*, 329–338. https://doi-org.ezproxy.tru.ca/10.1016/j.chb.2018.04.001

Bietz, M. J., Cheung, C., Rubanovich, C. K., Schairer, C., & Bloss, C. S. (2019). Privacy perceptions and norms in youth and adults. *Clinical Practice in Pediatric Psychology, 7*(1), 93–103. https://doi-org.ezproxy.tru.ca/10.1037/cpp0000270

Damiani, J. (2018, August 01). Facebook And Instagram Just Introduced A Time-Tracking Feature. Retrieved from https://www.forbes.com/sites/jessedamiani/2018/08/01/facebook-and-instagram-just-introduced-a-time-tracking-feature/#661dfe537e3c

Dimock, M. (2019, January 17). Defining generations: Where Millennials end and Generation Z begins. Retrieved from https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/

Dreyfuss, E. (2019, April 05). Facebook Won't Stop Being Sketchy. Retrieved from https://www.wired.com/story/security-roundup-facebook-wont-stop-being-sketchy/

Gaming disorder. (2018, September 14). Retrieved from https://www.who.int/features/qa/gaming-disorder/en/

Griffiths, M.D. (2012). Facebook Addiction: Concerns, Criticism, and Recommendations—A Response to Andreassen and Colleagues. *Psychological Reports*, 110(2), 518-520. https://doi.org/10,2466/01.07.18.PR0.110.2.518-520

Harris, T. (2016, May 18). How Technology is Hijacking Your Mind - from a Former Insider. Retrieved from https://medium.com/thrive-global/how-technology-hijacks-peoples-minds-from-a-magician-and-google-s-design-ethicist-56d62ef5edf3

Hawi, N. S., & Samaha, M. (2017). The Relations Among Social Media Addiction, Self-Esteem, and Life Satisfaction in University Students. *Social Science Computer Review*, *3*(5), 576. Retrieved from https://ezproxy.tru.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edb&AN=125221194&site=eds-live

Hormes, J. M., Kearns, B., & Timko, C. A. (2014). Craving Facebook? Behavioral addiction to online social networking and its association with emotion regulation deficits. *Addiction*, *109*(12), 2079–2088. https://doi.org/10.1111/add.12713

Hughes, T. L., Wilsnack, S. C., & Kantor, L. W. (2016). The Influence of Gender and Sexual Orientation on Alcohol Use and Alcohol-Related Problems: Toward a Global Perspective. *Alcohol Research: Current Reviews*, *38*(1), 121–132. Retrieved from https://search-ebscohost-com.ezproxy.tru.ca/login.aspx?direct=true&db=mnh&AN=27159819&site=eds-live

Kumar, M., & Mondal, A. (2018). A study on Internet addiction and its relation to psychopathology and self-esteem among college students. *Industrial psychiatry journal*, *27*(1), 61–66. doi: 10.4103/ipj.ipj_61_17

Kuss, D. J., & Griffiths, M. D. (2017). Social Networking Sites and Addiction: Ten Lessons Learned. *International Journal Of Environmental Research And Public Health*, *14*(3). https://doi.org/10.3390/ijerph14030311

Landau, E. (2012, January 03). Compulsive shopping: When spending is like substance abuse. Retrieved from https://www.cnn.com/2011/12/19/health/mental-health/shopping-addiction-compulsive-buying/

Lawler, J. P. & Molluzzo, J. C. (2009). A study of the perceptions of students on privacy and security on social networking sites (SNS) on the Internet. Retrieved November 3, 2016, from EDSIG Proceedings: http://www.proc.conisar.org/2009/3732/CONISAR.2009.Lawler.pdf

Lawler, J. P., Molluzzo, J. C., & Doshi, V. (2012). An Expanded Study of Net Generation Perceptions on Privacy and Security on Social Networking Sites (SNS). *Information Systems Education Journal*, *10*(1), 21–36. Retrieved from https://ezproxy.tru.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1136734&site=eds-live

Lemmens, J. S., Valkenburg, P. M., & Peter, J. (2009) Development and validation of a game addiction scale for adolescents. Media Psychology, 12, 77-95.

Lewis, K. , Kaufman, J. and Christakis, N. (2008), The Taste for Privacy: An Analysis of College Student Privacy Settings in an Online Social Network. Journal of Computer-Mediated Communication, 14: 79-100. doi:10.1111/j.1083-6101.2008.01432.x

Mamun, M. A. A., & Griffiths, M. D. (2019). The association between Facebook addiction and depression: A pilot survey study among Bangladeshi students. *Psychiatry Research*, *271*, 628–633. https://doi-org.ezproxy.tru.ca/10.1016/j.psychres.2018.12.039

Mannheim, K. (1952). The Problem of Generations. In P. Kecskemeti (Ed.), Essays on the Sociology of Knowledge (pp. 276-320). London: Routledge and Kegan Paul.

Marwick, A., & Boyd, D. (2018). Understanding Privacy at the Margins. *International Journal of Communication, 12*, 1157-1165. Retrieved from https://ijoc.org/index.php/ijoc/article/viewFile/7053/2293.

Mintz, S. (2007). Reflections on Age as a Category of Historical Analysis. *The Journal of the History of Childhood and Youth, 1*(1), 91-94. doi:10.1353/hcy.2008.0003

MIP. (2015). How Millennials get news.. Retrieved December 10, 2016, from American Press Institute: https://www.americanpressinstitute.org/publications/reports/survey-research/digital-lives-of-millennials/

Monacis, L., De Palo, V., Griffiths, M. D., & Sinatra, M. (2017). Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *JOURNAL OF BEHAVIORAL ADDICTIONS*, *6*(2), 178–186. https://doi.org/10.1556/2006.6.2017.023

NIDA. (2018, July 12). Substance Use in Women. Retrieved from https://www.drugabuse.gov/publications/research-reports/substance-use-in-women/

Penenberg, A. L. (2013, October 26). I challenged hackers to investigate me and what they found out is chilling. Retrieved from https://pando.com/2013/10/26/i-challenged-hackers-to-investigate-me-and-what-they-found-out-is-chilling/

Pontes, H., Andreassen, C., & Griffiths, M. (2016). Portuguese Validation of the Bergen Facebook Addiction Scale: an Empirical Study. *International Journal of Mental Health & Addiction*, *14*(6), 1062–1073. https://doi-org.ezproxy.tru.ca/10.1007/s11469-016-9694-y

Priv.gc.ca. (2015). *Exploring the Privacy Concerns and Priorities of Canadians - Office of the Privacy Commissioner of Canada*. [online] Available at: https://www.priv.gc.ca/en/opc-actions-and-decisions/research/explore-privacy-research/2015/pcp-can_201503/#heading-001-2.

Rafique, Ghulam Murtaza. 2017. "Personal Information Sharing Behavior of University Students via Online Social Networks." *Library Philosophy & Practice* 1-24. *Library, Information Science & Technology Abstracts with Full Text*, EBSCO*host* (accessed September 10, 2018).

Regan, P., FitzGerald, G., & Balint, P. (2013). Generational views of information privacy? *Innovation: The European Journal of Social Sciences*, *26*(1/2), 81–99. https://doi-org.ezproxy.tru.ca/10.1080/13511610.2013.747650

Rothchild, N. (2018). Is Troublesome Facebook Use a Behavioral Addiction? *American Journal of Medical Research, 5*(1), 73–78. https://doi.org/10.22381/AJMR5120186

Salazar, M., & Woodward, B. (2017). With Great Data, Comes Great Responsibility: University Students' Perceptions on Data Privacy. *Issues in Information Systems*, *18*(1), 191. Retrieved from https://ezproxy.tru.ca/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=125260221&site=eds-live

Shaffer, H. J., Nelson, S. E., & LaPlante, D. A. (2012). *APA Addiction Syndrome Handbook.* Washington: American Psychological Association. doi: https://www.siis.net/documentos/Digitalizados/APAAddictionSyndromeHandbookvol.1.pdf

Smith, A., Anderson, M., Smith, A., & Anderson, M. (2018, September 19). Social Media Use 2018: Demographics and Statistics. Retrieved from http://www.pewinternet.org/2018/03/01/social-media-use-in-2018/

Staff, R. B. (n.d.). What Is Process Addiction & Types of Addictive Behaviors? Retrieved from https://americanaddictioncenters.org/behavioral-addictions

Tannen, D. (2016, October 28). Why what you say in private looks bad in public, even if it isn't. Retrieved from https://www.washingtonpost.com/posteverything/wp/2016/10/28/why-what-you-say-in-private-looks-bad-in-public-even-if-it-isnt/?utm_term=.e461c351255a

Wikiel, Y. (2014). The Psychology of Social Media. Retrieved from https://www.realsimple.com/work-life/technology/social-media-psychology

Appendix A

Survey Questionnaire

Data Privacy in the Age of Social Media Addiction

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Supervisor: Dr. Tracy Penny Light

This research study will be identifying and examining the relationship between social media addiction and data privacy concern. The objective is to collect data on individuals who may or may not exhibit symptoms of social media addiction and their dispositions towards data privacy and sharing personal information online. The data collection will be through an online survey. The information gathered here is intended for use in an undergraduate thesis project and research applications including conference presentations and journal publications. The benefit of this study to the participant will be to enhance awareness of their online behavior and the repercussions of this behavior. This survey will take approximately 15 to 30 minutes to complete.

Part 1

I am

- Male
- Female
- Other

What is your age?

- 18 – 25
- 26 – 35
- 36 – 45
- 46 – 55
- 56+

Are you a student at a post-secondary institution?

- Yes
- No

What is your nationality?

_____

Which social media site do you use most?

- Facebook
- Instagram
- Other _____

Part 2

Throughout your day, how often do you..

1: Very rarely 2: Rarely 3: Sometimes 4: Often 5: Very often

1. Spend time thinking about or plan to use Facebook or Instagram?
2. Think about how you could free more time to spend on Facebook or Instagram?
3. Think about what has happened on Facebook or Instagram recently?
4. Spend more time on Facebook or Instagram than initially intended?
5. Feel an urge to go on Facebook or Instagram more and more?
6. Feel that you wanted to use Facebook or Instagram more to get the same pleasure from it?
7. Use Facebook or Instagram to forget about personal problems?
8. Use Facebook or Instagram to reduce feelings of guilt, anxiety, depression, and helplessness?
9. Use Facebook or Instagram to reduce restlessness?
10. Hear from others that you should reduce your use of Facebook or Instagram, but not listened to them?
11. Try to cut down on your use of Facebook or Instagram without success?
12. Try to use Facebook or Instagram less, but managed not to do so?
13. Become restless or troubled if you have been prevented from using Facebook or Instagram?
14. Become irritable if you have been prevented from using Facebook or Instagram?

15. Feel bad if you, for different reasons, could not log on to Facebook or Instagram for some time?
16. Use Facebook or Instagram so much that it has a negative impact on your job/studies?
17. Give less priority to hobbies, leisure activities, and exercise because of Facebook or Instagram?
18. Ignore your partner, family members, or friends because of Facebook or Instagram?

Part 3

When using social media, how often do you:

1: Very rarely 2: Rarely 3: Sometimes 4: Often 5: Very often

Ex: 1: Very rarely = less than once per month 5: very often = daily

1. Share your location?
2. Share your contact information, such as your email or phone number?
3. Post personal information without considering who had access to it?
4. Update your privacy settings so that you may allow only certain people to view your profile?
5. Update your privacy settings so that anyone may see your profile and information?

Part 4

Please use the scale below to indicate your response to the following statements:

(1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree (5) Strongly Agree

1. I am aware that the social media sites I use collect my information.
2. I am comfortable with social media sites using the information I provide through my use of their site.
3. I worry about the information that social media sites collect about me.
4. I have changed my social media usage after learning what information sites collect about me.
5. I have been negatively affected by an organization misusing, sharing, or losing my personal information.
6. I have refused to provide an organization with my personal information.

7. I believe that private social media accounts are truly private.

Thank you for participating in this survey. If you would like to be receive information about the findings of this survey, please submit your email address below. Be advised that if you disclose your email your answers will be kept anonymous and labelled with a non-identifying number.

Email: _____