

**What's Sparking the Madness? Exploration of Social Media Possibly Influencing
Aggression Amongst Online Users**

By

Tia Porterfield

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education School of Behavioral Sciences

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Abstract

The purpose of this dissertation is to address the research gap regarding social media platforms having a possible influence when provoking experiences of internal (i.e., emotions/feelings and cognitions) and/or external (i.e., behaviors) forms of aggression and problematic internet use in their online community members. A brief examination of the aggression-frustration hypothesis will construct a foundational theoretical framework of the emotional and behavioral processes that may occur in users while utilizing their preferred social media platform. Recent peer-reviewed literature will be examined to highlight the existing research gap. The present study will attempt to explore possible explanations behind users' motives for engaging in aggression and aggressive characteristic traits that are most commonly displayed in users. An exploration of social media usage and aggression identification will be surveyed. Survey tools that will be utilized is the Buss-Perry Aggression Questionnaire (BPAQ), Problematic Internet Use Questionnaire (PIUQ), and the Social Media Disorder Scale (SMDS). Implications to support needs for further research will be provided.

Keywords: social media, users, aggression, and problematic internet use

Copyright Page

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Dedication

This body of work is dedicated to all my loved ones who have supported me throughout my doctoral education journey.

Acknowledgments

I cannot express enough thanks to my assigned dissertation committee, Dr. Joseph Torres and Dr. Shannon P. Warden, for their continued support and encouragement throughout this challenging and rewarding dissertation process. I offer my most sincere appreciation for the learning opportunities provided to me throughout this entire experience.

In addition, my completion of this educational journey could not have been accomplished without the ongoing support of my mother, JoAnn Ray, and the love of my life, Dandre M. Wilkerson. The kind words and encouragement you both provided me with when times would get difficult are very much appreciated. My deepest and sincerest gratitude to you both.

Last but certainly not least, this body of work would not have been made possible without the will and guidance of my Lord and Savior. Ecclesiastes 3:11 (New International Version) “He has made everything beautiful in its time. He has also set eternity in the human heart; yet[a] no one can fathom what God has done from beginning to end”.

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List of Abbreviations

Buss-Perry Aggression Questionnaire (BPAQ)

Covertly Aggressive Content (CAG)

General Aggression Model (GAM)

Nonaggressive Content (NAG)

Overtly Aggressive Content (OAG)

Social Media Disorder Scale (SMDS)

Social Media Self-Control Failure (SMSCF)

Problematic Internet Use Questionnaire (PIUQ)

CHAPTER ONE: INTRODUCTION

Overview

Social media has dramatically evolved over the years, starting with basic chat rooms and now consisting of mobile applications that provide silly filters on photos along with the popular sharing of live videos. Kacker and Saurav (2020) identified how users want to stay interpersonally connected with their peers by knowing what they are doing on an on-demand basis to satisfy their basic human need for connection. Today, users take these expressive outlets as an opportunity to share their personal interests and opinions to connect with other users all around the world (Antonetti & Crisafulli, 2021). However, even though social media platforms (i.e., Tik Tok, Instagram, and Facebook) may glamorize the fun of engaging in what seems to be socially inclusive communities, there is a darker side to these social media platforms that warrants exploration. On those platforms, social media users have exposure to a plethora of content while online, some of which have the potential to develop into experiences of aggression that can occur either internally (i.e., emotions/feelings and cognitions) and/or externally (i.e., behaviors).

Background

Hameed and Irfan (2020) identified that 90.4% of the Millennial generation, 77.5% of the Generation X generation, and 48.2% of the Baby Boomer generation actively use social media. Paulin et al. (2014) suggested that the millennial generational group is far more progressive in the usage of social media than any other generational group due to their evolutionary exposure to interactive technology and portable mobile access to the internet, which has advanced over the years. Phanomtip et al. (2021) identified that the average social media user spends at least three or more hours a day on social media sites. As a result of this, notifications received based on

social media activity and online engagement that come from these sites have become part of users' daily life routines.

Social media platforms were initially constructed for users to share and view information for entertainment purposes. Since then, multiple purposes have emerged beyond mere entertainment. With increased use, it is conceivable that frequent engagement in social media activities is bound to have some sort of influence over the user, including in the user's internal emotional experiences or external behaviors. Unpleasant social media experiences, such as the sharing of unpleasant content, disagreements with other members on the platform, and limitations to freedom of expression may have a particularly negative influence on the internal emotional experiences and external behaviors of social media users. Among possible negative outcomes may be isolation, frustration, and even aggression.

Schoffstall and Cohen (2011) considered how technological advances have offered new ways for people to have more social involvement, adjustment to social changes, and even educational enlightenment. Nowadays cyber relationships are viewed as helping to reduce experiences of loneliness and social anxiety in some users. Social media use among online community members also has been linked to the emergence of aggression. The unexpected or quiet "intruder" in people's homes may lead to one's home becoming less of a sanctuary, which may further contribute to social media users' aggression. Aggressive cognitions or behaviors may occur on one occasion or intermittently throughout social media users' virtual experience. These types of interactions may not easily fall under a specific category. Understanding the true motives and consequences of cyber interactions involving aggression is very limited.

Knight et al. (2002) highlighted how users' experiences of aggression are not always limited to specific social media encounters but can stem from deeper-rooted past social

experiences that may have yielded similar reactions. Users' experiences can go as far back as early social environment interactions with peers, the users' response to frustrating events, along with authority figure influence on attitudes and conduct. Knight et al. (2002) found that there is a chain reaction of internal emotional arousal trigger responses associated with the heightened activity in the autonomic nervous system, which then prepares the mind and body to react to the experience. In a social media setting, there are numerous attempts made by both users and marketing of the social media platforms to arouse their audience for the need of attention to engage on these social websites; however, the motives of user engagement may not always be clearly stated to their audience.

Stockdale and Coyne (2020) found that from late adolescence to emerging adulthood users often change their reason for engaging in social media and that activity influences the behavioral outcomes that come as a result. The motive of staying connected with others and seeking information about other peers was relatively high along, and both did not strongly correlate to any negative outcomes. Consistent social media engagement was found to be utilized to alleviate boredom, which is also associated with problematic usage that caused other forms of emotional distress (i.e., anxiety, stress, and so on).

All users that engage on social networking sites are not all confirmed to be aggressive or have aggressive personality traits. The type of use while on social networking sites could potentially be a link for increased exposure to content that triggers aggressive cognitions and behaviors. For some people, the use of social media can contribute to problematic or even pathological issues that interfere with the user's daily life functioning, social connections, and academic or work performance. Finding meaning behind the underlying motivations of an individual's social network use may be the most important predictor of problematic social

networking engagement. While some researchers have argued that using social media to relieve stress or even manage moods may put people at risk for developing other problematic issues, these theories have not been fully confirmed.

Ultimately, the research seems to identify that social media is a major part of today's social climate that will not be dissipating any time soon. The steady increase of issues that stem from this particular virtual social interactive activity comes with a territory that needs further exploration. Social media is meant for users to connect and engage with one another, but the context of these social interactions or the overall social media experience may not always be pleasant depending on the individual users' involvement. The issues that will be further explored are social media users and their experiences with aggression and problematic internet use. At this time, it is not clearly understood whether certain social media platforms, user aggression characteristic traits offline or overall social media usage may contribute to aggressive outcomes in users overall.

Problem Statement

Aggression has been found in some cases to come as a result of "toxic" experiences in users' immediate social environments in their favorite online community platforms (Terizi et al., 2021). Little information exists to explain how all these users' social media experiences evolve into becoming toxic to start with. Of the limited existing research, a serial mediation analysis found that some users develop feelings of fear of missing out and have desires to avoid feelings of inferiority, which pushes users to lean more on using more aggressive social tactics while online (Abell et al., 2019).

Research has also been conducted on the "we" versus "they" debate when it comes to online users purposely utilizing aggressive tactics on social media platforms to create a divide in

the online community (Bykov et al., 2018). In this current study, exploring issues with users' internet usage and experiences of aggression could bring about new perspectives on how to view their social media experience. A breakdown of the types of aggressive users that are present online have been narrowed down into two separate groups, which are proactive users and reactive users (McCreery & Krach, 2018). Proactive users initiate aggressive interaction to start up controversy within the online community (McCreery & Krach, 2018). Reactive users typically defend themselves to their audience depending on the context of the online interaction (McCreery & Krach, 2018). Social media platforms market themselves to foster connections and inclusive social engagement among community members. However, an identified problem within the literature is the lack of reporting when it comes to social media platforms possibly playing a significant role in provoking aggression in users across these online social communities.

Purpose Statement

The purpose of this study will be to survey social media users to see if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users. The independent variable would consist of users identifying their degree of social media disorder, which is not related to a true clinical diagnosis but to a title of an evidence-based survey instrument when utilizing social media. Social media usage can consist of viewing content that is shared and posted by other online users; additionally, activity can include study participants' usage of social media application features such as commenting, liking, disliking, messaging, posting content, and so on. The dependent variable would consist of those same online users rating their degree of aggression or problematic internet use that they most identify with.

Significance of the Study

Li et al. (2020) found that tactics related to emotional appeal, which is intended to trigger a specific emotional response in others, seem to occur very often in social media. One of those many triggering responses seems to be users experiencing aggression. Peterson and Densley (2017) identified that aggression manifesting from social media use is highlighted as a societal issue because incidence rates taking place among the users that participate are growing annually. Malmasi et al. (2019) considered that there are increasing numbers of users sharing offensive media and content that is aggressive in context on social media daily. Exploration of the influence that popular social media platforms (i.e., Tik Tok, Twitter, Instagram, Facebook, Snapchat) may have when provoking aggression among users has not been widely studied in the literature. Investigating the influence that social media contributes to online users' experiences of aggression could provide deeper insights into what factors are generating this behavior and find meaning behind users' experiences.

Research Question(s)

RQ1: Is the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users?

Definitions

1. *Aggression* - broadly defined in the context of behavioral communication that uses language that is rude, offensive, insulting, hateful, or teasing in nature to spread the narrative of embarrassment, sadness, and separation from one user to the next (Sadiq, et al., 2021; Terizi, et al., 2021).

2. *Hashtags* - also known as metadata tags, are created by using a pound sign, or hash symbol, followed by a term or phrase that creates a hyperlink for users to explore what is being referenced to that particular term or phrase (Annapureddy & Ahamed, 2020).
3. *In-group user* - a user that is deemed to have a certain type of popularity within the social media platform (Antonetti & Crisafulli, 2021).
4. *Out-of-group user* - a user that is not widely known to the majority of members on the platform in any way (Antonetti & Crisafulli, 2021).
5. *Proactive users* - are users that initiate aggressive interaction online to start up controversy within the online community (McCreery & Krach, 2018).
6. *Reactive users* - are users that typically defend themselves to their audience online depending on the context of the online social interaction (McCreery & Krach, 2018).
7. *Social media* - is a general term that broadly labels internet applications that allow users to generate content and exchange information in the form of a blog, message board, picture, or video-based platform (Kaplan & Haenlein, 2010).
8. *Social Media Self-Control Failure (SMSCF)* - when individuals use social media sites to the point where it clashes with other important life events and/or experiences that may be cooccurring at the same time (Hameed and Irfan, 2020).
9. *Social network sites/Social media platforms* – a web-based service that allows space for the engagement of interpersonal virtual relationships with others publicly (Ellison, 2007).
10. *Tweet* – textual content published for public viewing and engagement (Inara Rodis, 2021).

Summary

Based on a review of the existing literature, a gap exists in the research when it comes to the lack of reporting of social media platforms possibly provoking users to experience internal and/or external forms of aggression and problematic internet usage. The intended purpose behind the creation of social media platforms is to connect users from across the world in a way that is meant to be enjoyable and fun. Even though a majority of social media applications are meant to encourage people to join, the generational group that seem to engage the most on these platforms is the millennial population on down. On most social media platforms, some users display aggressive tactics while online, but there is no clear understanding as to how or why this type of behavior is manifested. Further exploration of the literature, along with surveying social media users' experiences could potentially provide some insight into if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users.

CHAPTER TWO: LITERATURE REVIEW

Overview

Social media is not only a cultural phenomenon that has changed the progression of modern society, but it is well known to be a virtual community that connects users from all over the world (Barlett et al., 2018). Although social media platforms (i.e., Tik Tok, Facebook, Instagram, Twitter, Snapchat, and so on) may advertise the entertaining and exhilarating pursuit of virtual connection with others online, there is a much dimmer side to these social media platforms. On these social media platforms, users share comments or upload content that tends to evoke emotionally charged feelings (i.e., frustration, sadness, anger, and so on) that lead to unfavorable behaviors (Coyne et al., 2008).

Those unfavorable behavioral outcomes can take on many forms. One of those forms specifically is aggression, which can be an action that can be experienced either internally (i.e., emotions/feelings and cognitions) or externally (i.e., behaviors) depending on the context of the user's social media experience. Frequent engagement in social media content along with frequent online interpersonal interactions on these platforms opens doors to potential experiences that yield aggression (Coyne et al., 2010). Examining theoretical pathways of how that internal turmoil builds up and manifests is necessary to get a fluid understanding of how these specific cognitive and behavioral choices are displayed in certain online users.

Theoretical Framework

Breuer and Elson (2017) suggested that the development of aggression is rooted in the individual's experience of frustration. Frustration is not only viewed as an emotional experience, but it is deemed as a construct of interference with a goal response in a given scenario. Illustrating frustration as an observable event or external trait that causes a direct impact that

leads to an alternate feeling, such as aggression, gives an external viewpoint of how aggression is developed. This theory eventually was labeled as the frustration-aggression hypothesis (Breuer & Elson, 2017).

The frustration-aggression hypothesis was developed by John Dollard, Neal Miller, Leonard Doob, Orval Mowrer, and Robert Sears in 1939. Breuer and Elson (2017) provided examples of the frustration-aggression hypothesis by detailing how a person who loudly uses foul language when looking at an instruction manual after a few long hours of failure in constructing a newly purchased home decorative set, or a young child who throws a temper tantrum when noticing a favorite doll has been moved out of reach from the playroom area are both real-world examples of the connection between triggering stimuli rooted in frustration and aggressive responses that come after.

The universal definition detailed by Dollard and his colleagues back in the 1930s was criticized because of the lack of universal validity. However, their theory was valid in some given situations. Breuer and Elson (2017) concluded that reported assumptions were somewhat justified in a 1941 publication by Dollard et al. who demonstrated in other given situations that other observed behavioral outcomes may also come as a result of experiences of aggression.

As it relates to this current research study, users are frequently exposed to viewing or engaging with content on social media platforms, which may unavoidably expose them to triggering stimuli. Users may naturally experience potential frustration as an outcome of their exposure to social media. That frustration has the potential to build into unfavorable behavior, such as aggression. Aggression may be presented as either verbal (i.e., yelling, cursing, and so on) or physical actions (i.e., fighting, breaking objects, and so on). Further exploration of recent

literature could provide additional insight into the scope of experiences online users may have at this point.

Related Literature

Aggression is broadly defined as the act of engaging in behaviors that can be considered rude, offensive, insulting, hateful, or teasing and that often result in embarrassment, sadness, and separation from one individual to the next (Sadiq et al., 2021; Terizi et al., 2021). Researchers determined that high correlations exist between cyberaggression towards others, the act of traditional bullying, and users' internal experiences with aggression (Barlett, 2019). This correlation considers that the transmission of aggression is not limited to one environmental space, but it is an act that can be transferred into different settings, whether that be in-person or virtually (Alhabash & Ma, 2017).

Andone et al. (2016) suggested that smartphone usage has grown in popularity over the years. Out of 30,677 participants, with 16,147 being males and 14,523 females, tracked their mobile usage data and concluded that females typically used their smartphones for longer periods of time than their male counterparts. Females averaged about 166.78 minutes as compared to 154.26 minutes among their male counterparts. Older participants typically utilized their mobile devices less often and the purpose for usage was primarily for receiving information or making basic phone calls. Younger participants typically utilize their phones for much longer periods of time and the usage typically consists of entertainment and social interactions through social media applications (Andone et al., 2016).

Social Media

Inara Rodis (2021) found that social media is highly prevalent in today's world and certain social media platforms seem to dominate in user popularity. The four most frequently

used social media platforms that users seem to gravitate towards are Facebook, Twitter, Instagram, and Snapchat (Alhabash & Ma, 2017). Facebook first debuted its website back in 2004 and has since provided over one and a half billion users an opportunity to stay closely connected to other users all over the world (Facebook, 2016). Fardouly et al. (2015) explained that users can create public or semi-public Facebook profiles that can be customized with photos and/or textual information about themselves, which is supposed to mimic the similarities of taking magazine print images and editing them for publication in real-time.

Meshi et al. (2020) discovered that the average Facebook user typically spends about fifty or more minutes a day engaging in social activities while on the platform as compared to other competitive social media platforms. Mackson et al. (2019) identified that Instagram was purchased by Facebook back in 2012 and has gained massive attention from users. Instagram is a social media application that captivates users' by sharing photographic and video content. Oladimeji and Kyobe (2021) found that Instagram had over 800 million registered users and about 55 percent of those users are around the ages of 18 to 29 years old.

Inara Rodis (2021) shared how Twitter originated in 2006 and began as a website that consisted of a condensed blogging style of interaction among its users. Twitter is most popular for coining the term "tweet" (Inara Rodis, 2021). Users can connect and share written content in real-time, which can allow other users to respond in a matter of seconds. A tweet is typically published for public viewing, which suggests that the message is available for anyone to see and utilize the content as they please. The main component that has helped Twitter to stand out among other competitor social media sites is the spreading of content through the method of "retweeting". Thus, a retweet allows anyone to have the opportunity to share or respond to the content however they like (Inara Rodis, 2021). Retweeting content helps to attract attention to

posts made on that platform. Attracting that attention opens doors for users to engage with the content with “likes” or “replies”. Likes and replies on social media platforms are viewed to be very similar to in-person conversations. Depending on the context of the conversation, aggression can be among the different responses elicited from users.

Johnson et al. (2020) identified how most users on Twitter also use hashtags to gain attention and create interpersonal interaction with other users on the platform. Hashtags, also known as metadata tags, are created by using a pound sign, or hash symbol, followed by a term or phrase that creates a hyperlink for users to explore what is being referenced to that particular term or phrase (Annapureddy & Ahamed, 2020). This constant media activity may come through to users’ devices via notifications. For example, some Twitter users may have device settings such that whenever someone responds to their tweets or retweets, they are immediately notified of the activity (Inara Rodis, 2021). Thus, if a user’s tweet is linked with a hashtag and is shared out of context, then its original intent could have the potential to attract negative responses from other users on the platform. Negative responses could potentially lead to consequences that the original poster of the tweet may be forced to deal with later on.

Last but not least, Snapchat is a popular social media application that allows users to send and receive content, but it is done under a very limited time window. Once the content is viewed, the information shared will disappear if it is not saved during the given time provided (Alhabash & Ma, 2017). Grieve (2017) concluded that the photo messaging feature is the most favored component for users while using Snapchat. Users can create numerous on-demand photos and even videos with the addition of adding text to the content they just created.

Some other additions to the Snapchat application include adding emojis, free-handed designs, and face-altering digital filters to all videos and photos created. This content can be

delivered directly to a user's immediate contacts that are stored on their mobile device or added to their user profile as a "story" for all using the application to see. Similar to other social media platforms, a Snapchat story acts as a homepage for the individual user to display content for other users viewing and interactive pleasure (Grieve, 2017).

Triggering Events and Interactions On Social Media

Eraslan and Kukuoğlu (2019) considered how there are limited opportunities for some people to meet social expectations in person due to complicated life demands and increasing workloads. People tend to depend on social media to obtain social fulfillment and a connection with others. This new digital age that the world is presented with exposes people to predicaments that may not be typically exhibited in their daily life. Eraslan and Kukuoğlu (2019) highlighted that while on social media users typically gravitate towards audio and visual content through the media feature of 'sharing'. Sharing content typically consists of one user granting one or more user's access to certain social media content for viewing pleasure. When users do not grant other users access to shared content; however, the app may allow them access to that feature, the opposing user may perceive this action as social exclusion. This could trigger users to produce an unfavorable emotional response. Nowadays users prefer to share their issues on social media rather than camouflage the details away from their viewing audience. Users are provided the opportunity to respond in ways that can be aggressive without taking full ownership of their actions while online (Eraslan & Kukuoğlu, 2019).

Another example is when users are tagging other users by highlighting their username under certain content to draw their attention to the view. In certain situations, users may use this passive attempt to gain the attention of their peers by tagging them under triggering content with the intent to make the other feel angry or furious. Another triggering action on social media is

when users unfriend another user on their friend list. This action is typically common among users encountering displeasing experiences towards another peer in daily life for any particular reason. Nowadays, since social media is highly regarded in society, the first thing that most angry users do is unfriend users that triggered the displeasing experience due to the social media environment being only a click away when using a smartphone (Eraslan & Kukuoğlu, 2019).

Users also utilize opportunities to post a status directly or indirectly about a certain user or experience for all to see. The post is meant to draw attention, but the intent behind the post is that interpretations can get blurred. Some users may speak directly to a targeted user, but others may not fully disclose who or what the post intent is trying to convey. Last but not least, the demands of trends on social media can be a struggle for users to keep up with. Users deliberately may engage with other users that they “favorited” for the moment which will cause them to neglect others. This intentional act of social exclusion can be considered an indicator of aggression (Eraslan & Kukuoğlu, 2019). Collectively, it is a struggle to control these offensives in a large virtual space. Users feel comfortable acting in this way because they are in an environment that allows them to feel protected.

Social Media Influence

Meshi et al. (2020) suggested that all social media websites appear to act as social reinforcers in today’s technological society. Users regularly return to these platforms for considerable amounts of time for some type of gain, but whether or not that reinforcement is considered to be positive or negative depends on the individual user’s social media experience. Outcomes that may stem from social media use may vary but are not limited to the following: (1) admiration, which describes a user being driven to engage on the social media site by flattery or praise by other users, (2) negative social potency, which describes a user’s goal to be hurtful

towards another individual for personal gain, or (3) prosocial interactions, which describes one's motivation to have interpersonal relationships with others (Meshi et al., 2020).

A cross-sectional survey of 396 college students was provided to determine the intensity of use, time spent daily, and motivation for use when on their preferred social media platforms (Alhabash & Ma, 2017). The study determined that Instagram was deemed the most popular of the four social media sites based on the amount of time spent per user, per day. The frequency of usage was tied for first place between Snapchat and Instagram followed by a tie between Facebook and Twitter. Snapchat was founded to take the lead on usage motivations due to users finding the application to be more entertaining, convenient, and appealing, among other reasons for its popularity (Alhabash & Ma, 2017). All in all, each of these identified platforms has several unique program features that draw millions of people to use their application daily, but that popularity belies the aggression-related issues that may come about while using these particular platforms. Depending on the cultural norms of the social environment can influence the outcomes of participation in the user's interactive experience (Bond, 2004).

Ferreira et al. (2020) suggested that when it comes to actions, or behaviors, on social media that appear to be aggressive in nature, these behaviors may originate from a user's normative assumption of expectations that they attribute to a moral order of a particular crowd or social group. Hence, displays of aggression by a single user may seem to reflect the identity of a subgroup of a favored social media community whose members share or practice the same common belief system, or moral code, within their social media presence while online (Ferreira et al., 2020). In general, social media is a place for freedom of expression to take place. There is no social group or community that reigns superior on these platforms. Projection of what is morally right and wrong can easily take place among users, which can trigger frustration that can

result in displays of aggression. Some forms of aggression that violate platform policies may be penalized by the platforms, but a variety of social media engagement practices still need to be explored.

Typically, when there is a lack of control over an environment, unfavorable consequences are bound to result. Hameed and Irfan (2020) highlighted how social media users may be experiencing Social Media Self-Control Failure (SMSCF). SMSCF is when individuals use social media sites to the point where it clashes with other important life events and/or experiences that may be cooccurring at the same time. Data were collected from participants who were asked to reflect on how their social media usage impacts their current relationships with others. Participants were also asked to identify if there is an issue with separating how they interact online as compared to how they are in their daily life (Hameed & Irfan, 2020).

Social Media and User Behavioral Outcomes

Hameed and Irfan (2020) concluded that social media usage was an influential factor leading to interruptions with users' ability to stay focused and attentive to their different life tasks. Those interruptions consisted of some users lacking effort to detail when it comes to performing their work-related duties and causing other users to procrastinate when completing life responsibilities within a timely manner (Hameed & Irfan, 2020). Hameed and Irfan (2020) suggested that SMSCF could stem from users experiencing boredom which will draw users' attention to engage in social media usage. The issue with actually managing social media usage collides with being able to focus on other important areas of life, which can manifest in all sorts of behavioral outcomes. Users not being able to self-regulate or limit their issue of social media usage could potentially contribute to frustration. Furthermore, SMSCF is considered a probable cause of aggression displayed in users (Hameed & Irfan, 2020).

Correa et al. (2010) suggested that users personality types could determine behavioral patterns of usage on their preferred social media platforms. Users that are considered to have a more extroverted personality type are far more likely to use social media as opposed to a user with an introverted personality type. Extroverted users are associated with having more openness to trying out new social media experiences than their counterparts. Users that appear to have more emotional stability tend to use social media infrequently as compared to users that have constant struggles with internal worries and/or frustrations. Users that rate themselves as being extroverted and emotionally stable self-report that they have the highest contentment with life (Correa et al., 2010). Users that demonstrate behaviors of aggressive behavioral patterns in virtual spaces are observed to post less personal content when active online, have decreased social participation in online community group activities, and are viewed to be less popular than the average social media users that post regularly (Chatzakou et al., 2017).

Motives of Aggression and Social Media

In addition to SMSCF and personality, other social and behavioral factors linked to social media usage pertain to bullying. Kokkinos and Antoniadou (2019) declared that traditional bullies who are known to use aggressive social and/or physical tactics in their immediate environment take on a dominant and impulsive personality trait, but technology attracts aggressors that appear to be more socially anxious when in an in-person group setting. A factor analysis revealed that as opposed to traditional forms of bullying, such as direct in-person aggression from one person to the next, some people do not identify themselves according to the role that they played in the situation (i.e., bully, victim, or witness), but they identified themselves according to the type of aggression (i.e., sending rude messages, posting humiliating pictures, developing hostile websites, and so on) that they used instead (Law et al., 2012). Users

focusing on the motives of the transmission of the aggressive act rather than the role the individual had played in the experience externalizes identifying with stereotypes (i.e., bully, victim, and so on).

A few suggested motives for engaging in the act of aggression consist of the following: gaining attention from others, retaliation, or maintenance of a certain social position within a group, experiences of boredom, creation of drama/excitement, and/or avoidance of being bullied themselves (Hess & Hagen, 2006). Demirtaş-Madran (2018) found that feelings of jealousy are also highly correlated with negative social outcome experiences yielding aggression. This particular emotional experience is something that may not always be easily noticeable to others and may resurface in different ways, which can include direct or indirect forms of aggression.

Users are constantly posting and sharing their lifestyle content. Shahid et al. (2020) considered that users may experience recurrent feelings of aggression due to users making social comparisons to their peers while online. Social comparison has the potential to produce envious emotions in some users, which can lead to unfavorable and hostile behaviors. One sociocultural consequence that can stem from using social media is criticism of the user's self-image. Studies have shown that type of negative social interaction can have a detrimental impact on the emotional health of other users (Shahid et al., 2020).

Muise et al. (2009) suggested that certain social media platforms, such as Facebook, are responsible for producing jealousy and suspicion in their online community. The study examined approximately 308 undergraduate students, and all completed an online survey that consisted of their demographics, personality factors, and Facebook usage. A hierarchical multiple regression analysis concluded that frequent Facebook use significantly projected jealousy among members of the Facebook community. The suspected reason behind the results of this study is that the

Facebook platform exposes users to content that can be considered vague or unclear, which can incite ongoing Facebook usage needed to find more clarity.

Bogolyubova et al. (2018) found that more than 25.5% ($n=1705$) of the reported sample has encountered at least one or more types of hurtful online behavior. The study found that the most repeated act of harmful behavior is making a public post of demeaning messages or communicating threats when responding to other users' posts, which consisted of 17.9% ($n = 1206$) of the reported sample. Private messages that are sent that contain information that is insulting or threatening consisted of 9.9% ($n = 667$) of the reported sample and disclosure of users' private information for public access online consisted of 5.7% ($n = 385$). Male participants reported being more likely to engage in offending behaviors without any hesitation as compared to female participants. No gender differences were found in the act of leaking other users' private information online.

These highlighted personality types of social media users can be more noticeable online when making comment contributions under users' posts. This can be especially true if comments under posts leave an impression that draws negative attention that is believed to be opposing the popular majority within the online community (Chatzakou et al., 2017). Comments that are judged to be uncivil, or discourteous, are perceived to make a significant negative impact on other users' view of the content (Chen & Ng, 2017). Of course, on public social media platforms, users have the freedom to interact however they like, only as long as it does not violate the platforms community guidelines.

Cyberaggression and Social Media

One common community guideline pertains to freedom of speech. Sadiq et al. (2021) utilized a behavior analysis along with a qualitative research study to develop a narrative about

how social media is a platform that consists of freedom of speech for any user that enrolls, while at the same time there is a distinction of certain types of speech that can make a significant type of impact on those in the virtual community. It was determined that positive interactions online do not hinder the rapid increase in the negative attraction of cyberbullying, trolling, or even hate speech (Sadiq et al., 2021). All three behaviors are considered to be different variations of aggression demonstrated by social media users. There may be triggers of emotional responses in some audiences, but some content or online engagement may not be censored due to not fully meeting the content removal criteria of certain platforms' community guidelines.

Certainly, most positive social media content is not in danger of being removed, as it naturally matches the overall positive goals of the four social media platforms being studied in this current study. Li et al. (2020) reported how positive social media content gets widespread attention because users share certain content for viewer engagement and to maintain a certain status connection with their intended audience. Interestingly though, negative social media content seems to surpass the attention of positive social media content due to reactions made from emotionally evocative content that appears on these platforms. Li et al. (2020) found that tweets that highlight negative emotions are most likely to be retweeted by users while on Twitter because people give more of their attention to information with negative emotions than information with positive emotions. This phenomenon may occur because users are seemingly trying to find meaning and understanding behind those particular negative content responses. Existing studies struggled to define the appeal behind the influence of negative emotions surpassing positive emotions on certain social media posts.

Li et al. (2020) considered that some users try to draw their audience in by utilizing the tactic of emotional appeal, which is intended to trigger a specific emotional response in other

users. Some content that seems to gain that type of emotional appeal consists of written posts that contain a sad story, posts that contain certain types of music, or even videos depicting fear and/or horror. The emotional appeal seems to effectively persuade users to react in a certain way without making any major effort to draw in the users' cognitive process to influence the connection. That connection sets off a chain reaction from emotions to thought processes to behaviors, which may then be viewable by others or may negatively impact relationships with others (Li et al., 2020).

Although research on social media's influence on cognitions and behaviors is still relatively limited, Di Domenico et al. (2021) found that social media platforms are facing increasing amounts of pressure when it comes to users' struggles with maintaining autonomy and authenticity in the virtual realm. Two experimental studies concluded that when certain types of content are distributed on social media platforms, it is unclear whether the information presented is coming from a valid and reliable resource. Users are less likely to engage with certain content because of reduced feelings of trust, which appears to be consistent when the person sharing the content has a weak interpersonal relationship with their audience (Di Domenico et al. 2021). The internal feeling of frustration has the potential to develop into aggression due to not knowing the true meaning behind certain content and what its intended purpose is meant to serve. Having some type of social media credibility in online spaces can make a significant impact on how users interact and build connections while online. Although, on social media platforms, the sharing of certain content is inevitable when linked to the concept of trust.

When it comes to the spreading of misinformation on social media, Pascual-Ferrá et al. (2021) highlighted that during the start of the 2019 pandemic professionals recommended that everyone should wear face masks to combat the spread of the coronavirus disease to keep people

safe. While most people in the United States supported wearing facial masks as a preventative tool to combat the disease, there was a smaller percentage of people that fought against the recommendation. During the time of the mask mandates, social media engagement about the topic played a significant role in magnifying the public health issue that was present during that time. Constant debates about whether this mandate should have been supported had sparked users to engage in tactics of verbal aggression. Specifically, it was found on the social media platform, Twitter, that user's tweeted content with hashtags about anti-wearing mask along with using significantly more aggressive language to state their point of view (Pascual-Ferrá et al., 2021).

Pascual-Ferrá et al. (2021) found that tweets that supported mask-wearing recommendations had hashtags that were somewhat less aggressive. The study concluded that the tensions that each group had about the mask recommendation had raised doubt and uncertainty around the issue to others in the viewing audience. This online debate contained some misleading information, which caused confusion for some users to believe recommendations made by public officials. Public health agencies and other governmental institutions have been recommended to monitor misleading trending information on social media to provide truthful data-driven information and necessary recommendations to the public.

Altering forms of speech and communication of users would possibly hinder the authenticity of social engagement and deter others from engaging in the online community. Choi and Sung (2018) determined how there is a conflict with users being able to align their true, ideal, and actual selves when engaging in social media activities. The true self consists of qualities about the user that is concealed from the public eye, while the actual self is a public image that blends a few aspects of the true self into the public-present forefront. The ideal self-

meshes the two together, which is perceived to provide the user with a certain level of comfort to express themselves. Users select certain social media platforms based on their comfort to express themselves. Platforms such as Snapchat and Instagram are highlighted as being most commonly used because of the ideal environments in which users feel a level of comfort to express themselves freely while on those platforms (Choi & Sung, 2018).

Sumner et al. (2020) examined 10, 998 messages through a logistical regression analysis from the social media website, Twitter. There was a categorization of the type of content that was highly shared, or re-tweeted, on the platform. Less than one-third of the messages presented on the social media platform consisted of positive messages. The majority of the positive messages were less likely to be shared than any other post on the platform. Messages about topics related to superficial and sensitive topics, such as appearance and negative-affective emotional states, seem to take on the majority of the online community members interest (Sumner et al., 2020). Zampieri et al. (2019) highlighted that there are growing numbers of users sharing offensive language and content that is aggressive in context on social media.

Antonetti and Crisafulli (2021) considered that online community members that are labeled to be “routine aggressors” typically get banned for violating community guidelines. In some cases, users that get banned from social media identified that they are just stating their opinion about the content presented online; they do not necessarily see their speech as offensive or aggressive even though it may be considered unacceptable by the majority of users. That content, nonetheless, may be quickly banned depending on how it is presented and its impact on that social media community. If a user is more apt to post their personal opinions through text form (i.e., posts or comments), then it is less likely that the information will get easily discovered and taken down due to violation of platform guidelines (Antonetti & Crisafulli, 2021).

Antonetti and Crisafulli (2021) found that if the content is posted through a video outlet, there is more of a likelihood of it being reviewed and removed. Aggressive communication may be more likely to be reviewed and removed if it is directed towards an “in-group user”, which is a user that is deemed to have a certain type of popularity within the social media platform, rather than an “out-of-group user”, or a user that is not widely known or accepted by the majority of members on the platform (Antonetti & Crisafulli, 2021). McCreery and Krach (2018) considered that the source of aggression in most individuals is still something that is not clearly understood, especially among members that engage in frequent social interactions within online community platforms.

Oladimeji and Kyobe (2021) found that being part of a specific type of online community group can heavily influence users to act differently. In social groups there is sometimes a certain social order, or social role, that is ranked upon the members that are involved. There is the bully, which is the primary online aggressor. Then there are the supporters, which is a user that encourages negative behaviors made by the bully. Victims of aggression are usually in a position that receives the aggression but have struggles to defend themselves. The higher a user’s ego network, or rank they fall within their inner circle, determines the experience the user may have on social media. The outer layer of the inner circle would consist of weaker relationships that are prone to receiving conflict, while the inner circle is considered to have much closer bonds and stronger connections with other users while online.

Whittaker and Kowalski (2014) found that three studies assessed the frequency of cyberaggression among college-age students and analyzed the pathways through which cyberaggression occurs and highlighted the perceptions of cyberaggression. In Study 1, Study 2, and Study 3 the most commonly used venues for cyberaggression were through social media and

mainly in the comment section of social media sites. When the aggression was directed toward a stranger there was less of a negative connotation due to users not having a specific connection to the individual that was receiving that hostile feedback. Although, aggressive online comments directed toward peers with some sort of connection to the aggressor were perceived most negatively. Study 3 found that the social media website that was most common for this type of behavior was Facebook.

Proactive Users and Reactive Users

Research has, though, distinguished between proactive and reactive aggressive responses to social media. Online aggressive behaviors demonstrated by users may be prompted by proactive factors (i.e., initiating aggression) or reactive factors (i.e., responding to aggression) in nature (Law et al., 2012). Connor et al. (2003) identified that both of these forms of aggression impact male and female users seemingly in the same way. Influences of environmental upbringing, hostility, and unproductive ways of coping can trigger one of the two responses (Connor, 2003). Because these two forms of social interactions seemingly have an impact on some users, some social media platforms have considered monitoring and attempting to minimize such contact. For one, platforms would incur greater costs to limit users in this way. Thus, taking steps to curb proactive and reactive aggression in social media need further exploration.

In addition to research conducted by Connor et al., (2003) and Connor (2003), McCreery and Krach (2018) have also added to the scholarly literature regarding proactive and reactive aggression. Users that engage in aggressive behaviors online can be labeled as proactive online users and reactive online users. Reactive users seem to be users that try to defend themselves to their audience depending on the context of the online social interaction. Proactive users seem to

be the users who initiate the aggressive interaction and development of controversy within the community. Proactive users are viewed as having extroverted personalities online, but the likelihood of that may not be the same characteristic depicted of those individuals' personality in their day-to-day living experiences. A few personality character traits that seem to be similar with both types of aggressive users are their agreeableness to emotionally charged content and consistency to their internal emotional experiences that occur when engaging in interactions online (McCreery & Krach, 2018).

Also related is research conducted by Lokithasan et al. (2020), who found that both proactive and reactive aggressive users have a significantly positive relationship with demonstrating characteristics similar to that of a traditional bully. Out of the two forms of aggressors, proactive aggressors are thought to have more similarities to traditional bullies as compared to reactive aggressors due to the bold and direct demonstration of social interaction. Implications of this particular research study suggest that it could be useful to understand precursor events that trigger users to engage in proactive aggression as compared to reactive aggression tactics.

Narvaez and Elsner (2016) considered that the effect of certain types of media exposure can have on influencing aggression levels could be linked to user personality traits. In their study, 78 undergraduate students were divided into two groups. The first group consisted of the control group and the second group was the experimental group. A 2×2 factorial design was utilized to test content exposure and levels of aggression that come about as an outcome. The participants in this study completed two survey instruments, one of them being the Buss-Perry Aggression Questionnaire, before being exposed to the media content as well as afterward. The participants ($n = 78$) results concluded that verbal aggression was significantly present before

and after exposure. Overall anger and aggression levels present before and after exposure were closely ranked, which indicated that some participants had already had internal struggles with anger and aggressive $t(77) = 2.3769, p < 0.020$. The study concluded that exposure to negative media content did not increase aggressive behavior but had an effect on certain personality traits of participants. Those traits scored high in agreeableness, conscientiousness, and neuroticism.

Other Outcomes

Parvaresh and Tayebi (2018) considered that there is a significant relationship between the utilization of “impolite” social behavior and users’ moral identification within the online social realm. In a sense, some users may project what they may feel is morally right even though it may not come across the same way to other users while online. This brings about projections of aggressive language and content across different social media platforms (Parvaresh & Tayebi, 2018). There is minimal responsibility held to social media platforms themselves as contributing factors to those specific experiences. When those experiences happen, Nagle (2018) found that some social media users tend to have difficulty finding ways on how to respond to such aggression (i.e., racial slurs, graphic racist images, and violent threats) especially when it is presented by other users online. According to Ramiandrisoa and Mothe (2020) approximately 916 Facebook and 1,257 Twitter messages were decoded and separated into three categories, which consist of overtly aggressive content (OAG), covertly aggressive content (CAG), and nonaggressive content (NAG). More aggressive content was found under Twitter (OAG-361 and CAG-413) than under Facebook (OAG-144 and CAG-142) alone. That sample demographic only accounts for a small percentage of what social media users experience.

Ray and George (2021) explored multiple ideas to determine if there are any other possible links that online users may have when it comes to receiving aggression, such as online

hate, from other users when on social media. A prominent model used to determine if there was such a significant link between cause and effect was the General Aggression Model (GAM), which has gone through several modifications in recent times. This particular model considered how users could react (i.e., arousal of feelings and thoughts) to a given scenario (Ray & George, 2021). Once all of those factors are collectively processed, then it could lead to a selection of a significant behavior that can be life-changing to the individual. The GAM revealed one major social factor identified by users that led to the transmission of aggression to other users initially online—social rejection—which was instigated by social retaliation (Rost et al., 2016).

Mardianto et al. (2020) utilized a critical review method of several books and peer-reviewed journals to explore other realms of social media usage issues linked to aggression. They found that actions that take place outside of the computer screen can sometimes have an indirect link to online behaviors. Aggressive behaviors of online users were correlated with internal emotional experiences associated with feelings of displeasure (Mardianto et al., 2020). Vaterlaus et al. (2016) suggested that certain social media platforms, such as Snapchat, have the potential to enable some users to have deviant behavior in their interpersonal relationships with others. In this study, participants specifically addressed user aggression tactics that consisted of cheating on their significant other and cyberbullying as a result of capturing distributing or incriminating photos or videos on the platforms. Most users enjoy that Snapchat is an app that seems to erase content after a given point in time, but participants shared that some users that get into these toxic predicaments in their relationships with others experience detrimental consequences that last for very long periods of time (Vaterlaus et al., 2016).

Terizi et al. (2021) highlighted how frequent increases in aggression seem to be influenced due to toxic experiences in users' immediate social circles. The aggressive behavior

used online is passed along from one user to the next, which spreads this narrative of embarrassment, sadness, and separation from other online users through the social media platform. Cases involving interpersonal aggression in this manner often float under the radar because social media content distribution is not always closely monitored (Terizi et al., 2021). Fears of complete social rejection and the adverse impact that stems from social media retaliation is a major concern that impacts social media users consistently (Rost et al., 2016).

Abel et al. (2016) identified that users viewing social media causes them to relate their own lives to what is being presented on virtual platforms. Sometimes those feelings influence behaviors that impact their ability to make quality decisions. Struggles with social inclusion could impact how users may define or view themselves from an individual or worldly context. Results indicated that the usage of specific social media platforms can contribute to internal experiences of fears of missing out on what other users may experience. This source of feelings has the potential to lead to higher frequencies of experiences of irritability, anxiety, and inadequacy. There could also significantly impact users' self-esteem levels, which can trigger feelings of displeasure and increased levels of aggression (Abel et al., 2016).

Abell et al. (2019) attempted a social experiment regarding Facebook users and their relational tactics. Approximately 190 Facebook users completed a survey that consisted of reports of fears of missing out on group relations, efforts made to avoid being inferior in the online community group, interpersonal manipulation, and communication of aggression all occurring on the social media platform (Abell et al., 2019). A serial mediation analysis highlighted that users' personal feelings of fear of missing out and desires to avoid feeling inferior drives tend to direct them to use more aggressive behaviors. Also, users seem to want to gain popularity by keeping up with other peers online. Ultimately, seeking validation from peers

contribute to users using relational tactics that may hurt others emotionally and even in some cases physically (Abell et al., 2019). Limited information exists as to how different features on this specific social media platform also influenced or impacted these social interactive issues among users within their online communities at this time.

Bykov et al. (2018) determined that users are more prone to react and contribute their opinions to emotionally charged content in online social community spaces. An argument on a forum posed a “we” versus “they” debate, which analyzed how some social media contributors were pinned in the comments to be in a position to be forced to pick sides with one another. Social media contributors tend to use more aggressive forms of communication to dispute their point of view by using insulting rhetoric, discreditation of opponents, prosecuting, blaming, threatening, and even negative forecasting (Bykov et al., 2018). Users are more apt to take away the impact of how the social media interactions made them feel rather the themes of the messages themselves. Sparby (2017) suggested that still finding meaning, or understanding, behind aggressive social media content can uncover insight into users’ internal motivations when on social media.

For instance, Fraser et al. (2021) highlighted during a pandemic crisis that people all across the world were forced to stay at home and quarantine for their own self-protection, which then lead to a lack of connection to the outside world. People documented their experiences with how they were handling the isolation. Out of 74 college students (70% female and 55% White; 24% Pell-grant eligible) that had participated through online survey research by comparing their media usage from the year 2019 to 2020. Some hypothesized that the decreased usage of social media may suggest an increase in mental health issues for users or that social media users may be experiencing negative mental health outcomes because of engaging with social media. Many

online posts and stories consisted of sadness, anger, frustration and dread as they related to the unpredictable events of the virus that plagued the world (Fraser et al., 2021).

A deeper exploration of users perceived types of social attachment experienced is considered to understand users' connections with others via social media (Oldmeadow et al., 2013). People with intimate interpersonal connections with others (i.e., family members, friends, romantic partners) are most likely to direct aggression towards one another due to being in much closer relational contact (South Richardson, 2014). This perhaps suggests that comfortability with transferring aggression to those that they know versus communicating their frustrations to a stranger comes from users fear of the unknown of how the other individual may respond.

Users that have frequent engagement on social media will have different perceptions of others online (Chou & Edge, 2012). A few of those behavioral responses may fall under the following three categories: prosocial (e.g., connecting with others), asocial (e.g., withdrawing from others), and antisocial (e.g., aggression toward others) (Stubbs-Richardson et al., 2021). Mishna et al. (2018) identified that online connecting is pivotal when trying to develop a sense of community with other people outside of their usual comfort zone. However, some users lack the usage of social cues (i.e., no usage of profane language, sharing embarrassing or humiliating visual content, and so on). Others may perceive that their aggressive method of communicating is viewed as anonymous, which creates a virtual barrier to the users in the online world (Mishna et al., 2018).

Mishna and Krach (2018) identified that 1,350 out of the 5,004 (response rate 28.5%) responded to a survey that was sent out about their online social experiences. Nine focus groups and eight individual interviews were also incorporated for further investigation. Virtual aggression demonstrated by online users tends to fall in the categories of friends of friends 50%

of the time, random users 20% of the time, and intimate partners 18% of the time. The highest-rated method of aggression utilized was sharing video or photo content without the other user's permission (Mishna et al., 2018). Not much information was detailed about how other features of the platform could have impacted, or even influenced, the narrative of those documented experiences.

According to Chatzakou et al. (2017) about 1.6 million Twitter messages throughout a three-month period were evaluated. Increased signs of aggression had been identified to be significant with users coming from all types of racial backgrounds (Chatzakou et al., 2017). Hess and Hagen (2006) determined how the displays of aggression can also differ depending upon the gender of the individual. Women typically have a stronger desire to be more verbally aggressive with their peers as compared to their male counterparts, but males often lean towards displays of physical aggression while in social situations (Hess & Hagen, 2006). Craig et al. (2020) surveyed participants from 42 countries regarding their viewpoints when it comes to experiences of aggression and online social interactions with others on social media platforms.

Craig et al. (2020) used the Olweus bullying scale, which is a questionnaire that details how often participants experienced victimization of aggression virtually within the past month, was provided. Along with a 4-item demographic survey that measured how frequently participants engaged in online social activities was provided (Craig et al., 2020). Participants were provided a social media disorder scale to identify if their current online usage is identified as problematic. Along with gender and emotional maturity, the study considered influences over one's ability to regulate emotional processes and make appropriate selections with social behavioral choices. Young females within the study were measured to have more experiences

with direct virtual aggression than their male counterparts (Craig et al., 2020), which leaves additional room for the exploration of males and their overall social media experiences.

Collectively, aggression directed towards users appears to be most prevalent among the younger generation, primarily millennials on down, than any other generational group combined. Adolescents and young adults tend to be more vulnerable than any other age group due to the number of hours spent daily interacting on social media platforms (Alexandropoulou, 2021). This could be given that they have more technical experience and hands-on engagement with utilizing these continuously developing social media platforms. Considering the type of content being engaged with on the users desired social media platform, an examination of roles and influences of the social media platform itself during those hours spent on those platforms must be further explored to determine the true depth of the impact that it has on each user.

Musharraf and Anis-ul-Haque (2018) suggested that evidence-based research confirmed that the negative psychological impacts of virtual aggression on social media are significantly prevalent more than any in-person experiences involving aggression. Social media platforms provide more opportunities for routine aggressors, or perpetrators, to display their true internal experiences while remaining masked or unidentified to their peers. In addition, the perpetrator may or may not be given an instant opportunity to view their peers' immediate reactions to their aggressive behaviors displayed while online, which reduces their connection to deeply connected humanistic feelings such as empathy or even guilt.

Musharraf and Anis-ul-Haque (2018) considered that some social media users tend to be more attracted to viewing humiliating posts, damaging pictures, and embarrassing videos that often go viral. When content is difficult to avoid due to its viral spread across the platform, there is no physical constraint involved because the perpetrator has access to on-demand content.

Negative psychological and social outcomes that may come about from this experience are feelings such as sadness, anger, frustration, and distress, among others. Sparby (2017) concluded that though efforts are made to prevent these negative experiences from occurring, aggression stemming from online usage still remains as prevalent more so now than it has ever before.

Summary

Overall, social media has opened the world up to a new level of social and interactive experiences. According to the literature, the four most trendy and frequently used social media platforms are Facebook, Twitter, Instagram, and Snapchat (Alhabash & Ma, 2017). Carlyle (2017) suggested that nowadays the intent of most social media content and interactions can easily be distorted by users; thus, can cause a triggering response in those that do participate. Peterson and Densley (2017) considered how social media has opened the doors for users to deal with a new level of experiences of aggression. Aggression manifesting from social media is highlighted as a societal issue because incidence rates taking place among the users that participate are growing by the day (Peterson & Densley, 2017).

From a theoretical standpoint, Breuer and Elson (2017) considered how the development of aggression is rooted in the individual's internal emotional experience of frustration. As this particular theory relates to this current research study, users are constantly exposed to viewing or engaging with content on social media platforms which unavoidably provides exposure to triggering stimuli. Users will naturally react to content and communications presented on those platforms, which has the potential to produce outcomes leading to feelings of frustration. When there is limited control over an environment then unfavorable consequences are bound to come as a result. That feeling of frustration has the potential to build into unfavorable behaviors, such

as aggression. Aggression may be presented as either verbal (i.e., yelling, cursing, and so on) or physical (i.e., fighting, breaking objects, and so on) directed towards oneself or others.

The literature was able to identify that there is a generational impact that seems to specifically target younger populations, primarily the millennial population on down. Interpersonal displays of aggression have deeper-rooted motives that are not always clearly defined by the individual user. Further exploration of the comparisons and differences in the perspectives of male and female users' responses to aggression in different environmental spaces could provide deeper insights into the connections that occur between the two groups (Archer, 2004).

The literature falls short when it comes to the exploration of the relationship that the usage of popular social media platforms (i.e., Tik Tok, Twitter, Instagram, Facebook, Snapchat) can have when provoking aggression or problematic internet use among online members. This study will determine if there is a significant relationship that could bring about new information for ongoing research. A survey research study processed under a multiple regression analysis of online users' usage experiences will be conducted to provide deeper insights if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users and find meaning behind those social media experiences.

Investigating the connections that social media contributes to online users' experiences could provide deeper insights into what factors are generating this behavior and find meaning behind users' experiences. This research can contribute to future topics, such as the exploration of users' favorite social media platforms apps and/or websites that trigger users to experience aggression. In addition, evaluating users' favorite social media platforms apps and/or websites characteristics when disguising or displaying of social media suggestion boxes of people users

may know, displays of likes/dislikes/shares of the content presented, and community guidelines structured for members on the platforms could also be explored.

Chapter Three: Methods

Overview

This chapter details the specific methodology procedure to support this current research for this particular dissertation topic. The chapter begins by detailing the structure of the research design along with the specific research question that will be explored. A description of instrumentation along with implementation procedures will be incorporated. The procedure process will include the steps required to begin the research process started, proposed measures used for data collection, the process of selecting research participants, and detailed protocols when administering instruments. Lastly, the projected strategy to review statistical results found from the data collected and address the validity of measures used will be explored.

Design

The intended purpose of this study was to conduct quantitative survey research to understand if there is a relationship between active social media users that engage in popular social media platforms (i.e., Tik Tok, Twitter, Instagram, Facebook, Snapchat, and so on) possibly being triggered to have experiences of aggression or problematic internet use. To best examine these topics, the researcher chose to use a quantitative research design (Heppner et al., 2015). It is well-known that the constant engagement of online interactions with other members on these platforms opens doors to potentially anger-provoking experiences that can manifest into serious issues in users over time (Coyne et al., 2010). Surveying online users' usage directly when it comes to aggression, internet usage, and social media usage can conclude whether or not there is a significant connection.

Research Question(s)

RQ1: Is the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users?

Hypothesis(es)

Ha0: The degree of aggression or problematic internet use is not statistically significantly associated with the degree of social media disorder among online users.

Ha1: The degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users.

Participants and Setting

Participants for this study was composed of active social media users. Participants would be required to answer “yes” to two questions:

“I am at least 18 years of age” and “I consider myself as being a social media user”

The survey research tools will be administered online and will take approximately 10 minutes to complete. A sampling method will be selected to narrow the participant data pool and to reflect a subset of a large population with a focus on the outcomes of the research being conducted (Heppner et al.). Convenience sampling would be most sufficient for this study because participants are selected based on availability and willingness to take part in the research experience.

Instrumentation

To market the study and enlist volunteers to participate, marketing posts were distributed on Facebook groups through the researcher’s Facebook profile. Information distributed included the central purpose as to why this research is being conducted and how their feedback will contribute to this study. The researcher’s school email address was included for any direct needs

of contact at any time during the duration of this study. Individuals that are interested in contributing will then be directed to complete the next steps required for participation.

Participants must read and acknowledge the electronic informed consent form to continue forward with participation in the study. A criteria screener was utilized to classify all potential participants for their eligibility to partake in this study. The inclusion criteria consisted of participants who self-report as being at least 18 years of age or older and have an active enrollment in social media platforms. Exclusion criteria consisted of (a) being 17 years of age or under, (b) no enrollment in any social media platforms, or (c) refusal to acknowledge or sign electronic consent forms to participate in the study. Participants will then be instructed to complete the Buss-Perry Aggression Questionnaire (BPAQ) (see Appendix B), Problematic Internet Use Questionnaires (PIUQ) (see Appendix C), and Social Media Disorder Scale (SMDS) (see Appendix D).

Buss-Perry Aggression Questionnaire (BPAQ)

The Buss and Perry Aggression Questionnaire (BPAQ) was created back in 1992 with an attempt to measure four types of aggression, which consist of physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). Archer and Webb (2006) detailed that the BPAQ constructed on a five-point Likert scale, which appears as follows: never or hardly applies to me, usually does not apply to me, sometimes applies to me, often applies to me, and very often applies to me. The Cronbach's alpha values for each scale are physical (.82), verbal (.75), hostility (.80) and anger (.85). The questionnaire has a total of 29 aggressive actions that were pulled together from three main sources of past research (Archer & Webb, 2006).

This questionnaire correlates that there is the relationship that anger is the link between verbal aggression, physical aggression, and hostility. The four scales exhibit that there is internal

consistency and stability. Past research has determined that male participants typically score slightly higher in the areas of verbal aggression and hostility that take this questionnaire score slightly higher when it comes to engaging in verbal aggression and hostility. The scores are typically much higher for males when engaging in physical aggression. There were no major differences between males and females when it came down to scores for anger. Each of the different scales correlated differently depending on the participants personality traits (Buss & Perry, 1992).

Problematic Internet Use Questionnaires (PIUQ)

The Problematic Internet Use Questionnaire (PIUQ) is a Likert scale that was constructed to measure if issues with internet use or possibilities of internet addiction were present (Demetrovics et al., 2008). According to Kelley and Gruber (2010) the instrument was first published in 2006. The foundation for the development of this particular questionnaire stemmed from prior research studies and inspiration from Kimberly Young's Internet Addiction Test. The PIUQ consists of 18 questions falling under three subscales, which are obsession, neglect, and control disorder. The Cronbach's alpha value of the overall PIUQ is .87. For each of the subscales within the PIUQ there is a Cronbach's alpha value of .85, .74, and .76. The PIUQ was able to prove to be a reliable tool for measurement when assessing participants having issues coming from their current internet habits (Demetrovics et al., 2008). The construct validity of this survey instrument demonstrated significant correlations between the subscales (Kelley & Gruber, 2010).

Social Media Disorder Scale (SMDS)

van den Eijnden, Lemmens, and Valkenburg (2016) found that there was proof that issues stemming from social media were an ongoing problem within society that had not been fully

explored. For a long time, there was limited research and instruments that measured potential issues that stemmed from social media use. In recent years the Social Media Disorder Scale (SMDS) was created, and it consists of nine scaled yes/no questions. This dichotomous scale only provides general information to identify if there is a potential issue with social media usage and does not substitute for a full-on diagnosis. For medical diagnosis or treatment, a mental health professional must be consulted. Fung (2019) reported that the SMDS had good psychometric properties with a Cronbach's alpha of 0.753. The SMDS has been proven to have strong structural validity, suitable internal consistency, consistent convergent and criterion validity, sufficient test-retest reliability, and satisfactory sensitivity and specificity (van den Eijnden et al., 2016).

Procedure

This study went through full review and approval under the IRB to conduct research. Once approved, the researcher sent an e-mail to the Dean of the Online School of Behavioral Sciences Online department of Liberty University to distribute the proposed research study via email. Once the department head had reviewed the request, permission was granted. The survey was created online through SurveyMonkey.com. A link for the survey was distributed through social media posts stating the instructions for the survey was distributed. The survey must be completed in one sitting, so there will be no opportunities to close out and resume. The survey was open for completion within a 120-day timeframe of the proposed sendoff date; so, submissions after the given timeframe will not be accepted. Confirmation of completion will be provided after submission.

All volunteers were provided a detailed consent statement to explain their participation rights, which will outline any potential risks along with benefits of voluntary participation, along

with defining the purpose of their participation within this particular study. There will be an option for all participants to opt out of the study if they choose to do so, and the procedure that will occur if they choose to drop out at any given point in time. The duration of the study being conducted and the intended use of the data collected will also be outlined. Participants will complete a criteria screener/demographic questionnaire form (see Appendix A). The form will help to determine if the inclusion criteria for this study are met.

The survey research tools will be administered online and will take approximately 10 minutes to complete. A sampling method will be selected to narrow the participant data pool and to reflect a subset of a large population with a focus on the outcomes of the research being conducted (Heppner et al., 2015). Convenience sampling would be most sufficient for this study because participants are selected based on availability and willingness to take part in the research experience. Then participants will proceed forward to complete the Buss-Perry Aggression Questionnaire (BPAQ) (see Appendix B), Problematic Internet Use Questionnaires (PIUQ) (see Appendix C), and Social Media Disorder Scale (SMDS) (see Appendix D).

Data Analysis

Participants that fit the listed criteria under the inclusion rule will be instructed to record their responses to survey questions. The criterion, or dependent, variable will consist of participant responses reported under the Social Media Disorder Scale. The predictor, or independent, variables will consist of participant responses reported under the Buss-Perry Aggression Questionnaire and Problematic Internet Usage Questionnaire. The statistical procedure that will be conducted for this particular quantitative survey research study will be a collection of data through an online survey website to be tested as multiple regression analysis.

Multiple regression analysis identifies the relationship presented between two or more predictor variables (Heppner et al., 2015). The null hypothesis will conclude that the degree of aggression or problematic internet use is not statistically significantly associated with the degree of social media disorder among online users. The alternate hypothesis will conclude that the degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users. Incorrect conclusions of the relationship between the variables identified will be deemed as Type 1 errors, which suggested the rejection of the null hypotheses but in reality, it should be accepted (Heppner et al., 2015). Monitors for threats of validity will be explored.

The multiple regression analysis of this study is expected to have a low to moderate amount of internal validity. This study will be conducted in a non-laboratory setting. It will have potential exposure to threats to validity because less control is being held over the research environment, but the procedure and implementation protocols will be reinforced which will help to structure parts of the experiment. Following participants' completion of the survey, their final submission selections will be locked to ensure the reduction of duplications of surveys; participants will no longer be able to have any further access to the survey. Another possible threat to validity is the researcher's expectations of survey outcomes. It will be important to not have any expectations for specific results from the surveys. Causality and generalizability will be limited as there will be uncontrolled factors, but correlations between the independent and dependent variables will be able to be determined.

This study is expected to be slightly higher in external validity than internal validity because it is being conducted by a student researcher trained in Social and Behavioral Research through the Collaborative Institutional Training Initiative (CITI) program. However, threats to

external validity exist because of issues with student participation in the survey research. Participants may react in ways that would alter the outcomes of the study ultimately by trying to get the extra credit incentive included as a result of this study. Homogeneity of the sample population would potentially increase the validity of the study but would decrease generalizability along with the value of the actual findings of the study.

Summary

Overall, this chapter was intended to provide a step-by-step methodology procedure to support this current research. The start of this chapter consisted of describing the intended structure of the research design along with addressing specific research questions that will be explored. A description of the participants and the setting where this particular data collection will take place was also incorporated within this chapter. A detailed explanation of instrumentation to address the research questions outlined was also addressed. The procedural process included step-by-step instructions on how the research process will begin, the process of selecting research participants, and thorough instructions when administering the instruments used. Lastly, the projected strategy to review statistical results found from the data collected and address the validity of measures used will be explored.

CHAPTER FOUR: FINDINGS

Overview

This chapter features the data findings obtained from this quantitative research study to determine if there was a statistically significant difference between the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users. The chapter begins with identifying the descriptive statistics of the demographic data. Then the results of the multiple regression analysis used are also presented and explained in this chapter.

Research Question

RQ1: Is the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users?

Hypothesis(es)

Ha₀: The degree of aggression or problematic internet use is not statistically significantly associated with the degree of social media disorder among online users.

Ha₁: The degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users.

Descriptive Statistics

Data Cleaning

Participants who did not complete the survey in its entirety will be left out of some of the models presented later on in this chapter. These participants could be asked to fill out the survey again, but this will take time and money that the research cannot afford to spend at this time. What the research can do is model the responses among survey takers that have completed the survey in its entirety to address the above research questions. If complete survey responses are

used to address the above research question, the missing survey responses would be less troublesome. Poorly worded items on the survey can impact the quality of the data. As with missing survey responses, this is a challenging issue because there may not be a sufficient amount of time or money available to collect answers to replace answers to questions listed in the survey. For the most problematic survey items, the most realistic solution may be to go back to the survey collection process and filter these items out from further analysis.

Data Screening

Data screening was conducted for the following variables from the dataset collected: gender, age, race/ethnicity, hourly usage of social media, and social media platforms most frequented. Results of the survey indicated more female (N = 82, 68.9%) than male (N = 29, 24.4%) participants contributed to this study. The majority of participants that contributed to the study fell mostly within the 18-25 years of age category (N = 50, 42.0%) and 26-35 years of age category (N = 39, 32.8%). Participants that contributed to the study identified primarily as White or Caucasian (N = 65, 54.6%), Black or African American (N = 18, 15.1%), and Asian (N = 15, 12.6%). Participants reported hourly usage of social media consists primarily of 0-3 hours (N = 53, 44.5%) or 4-6 hours (N = 36, 30.3%) a day. The most frequently used social media platforms as reported by participants were Facebook (N = 68, 25.8%), Instagram (N = 66, 25.0%), and Tik Tok (N = 36, 13.6%) (see Table 1).

Table 1

Descriptive Statistics: Demographic Screener

	<i>N</i>	<i>%</i>
Gender		
Male	29	24.4
Female	82	68.9
Age		

18 - 25 Years Old	50	42.0
26 - 35 Years Old	39	32.8
36+	22	18.5
Race Or Ethnicity		
White Or Caucasian	65	54.6
Black Or African American	18	15.1
Latino Or Hispanic	4	3.4
Asian	15	12.6
Two Or More Ethnicities	7	5.9
Other/Unknown	3	2.5
Daily Usage		
0-3 Hours	53	44.5
4-6 Hours	36	30.3
6-9 Hours	17	14.3
10-12 Hours	4	3.4
13 Hours Or More	1	0.8
Social Media Platforms		
Facebook	68	25.8
Instagram	66	25.0
Tik Tok	36	13.6
Snapchat	21	8.0
YouTube	18	6.8
Twitter	13	4.9
LinkedIn	12	4.5
Reddit	7	2.7
Pinterest	6	2.3
What's App	6	2.3
Tumblr	2	0.8
Messenger	2	0.8
Discord	2	0.8
Slack	1	0.4
Nextdoor	1	0.4

Jobcase	1	0.4
Yammer	1	0.4
Quora	1	0.4

Note. N stands for the total number of individuals or observations in the sample, and % stands for percentage.

Results

Assumptions Testing

Data screening was fostered from the variables SMDS (Social Media Disorder), which is a dichotomous variable that has at least two groups (i.e., yes and no), BPAQ (Aggression), which is a variable with interval level of measurement, and PIUQ (Problematic Internet Use), which is another variable with interval level of measurement. A correlations chart, coefficients chart, model summary, scatterplots, and p-plot were generated. Testing of assumptions was conducted as follows:

The first assumption testing was used to determine if there is a liner relationship between the criterion variable, Social Media Disorder Scale, and predictor variables, Problematic Internet Use Questionnaire and Buss-Perry Aggression Questionnaire. Scatterplots have been constructed to test this assumption. The relationship between the independent variable and the dependent variable appears to be linear. Scatterplots show that this assumption has been met (See Figure 1 and Figure 2).

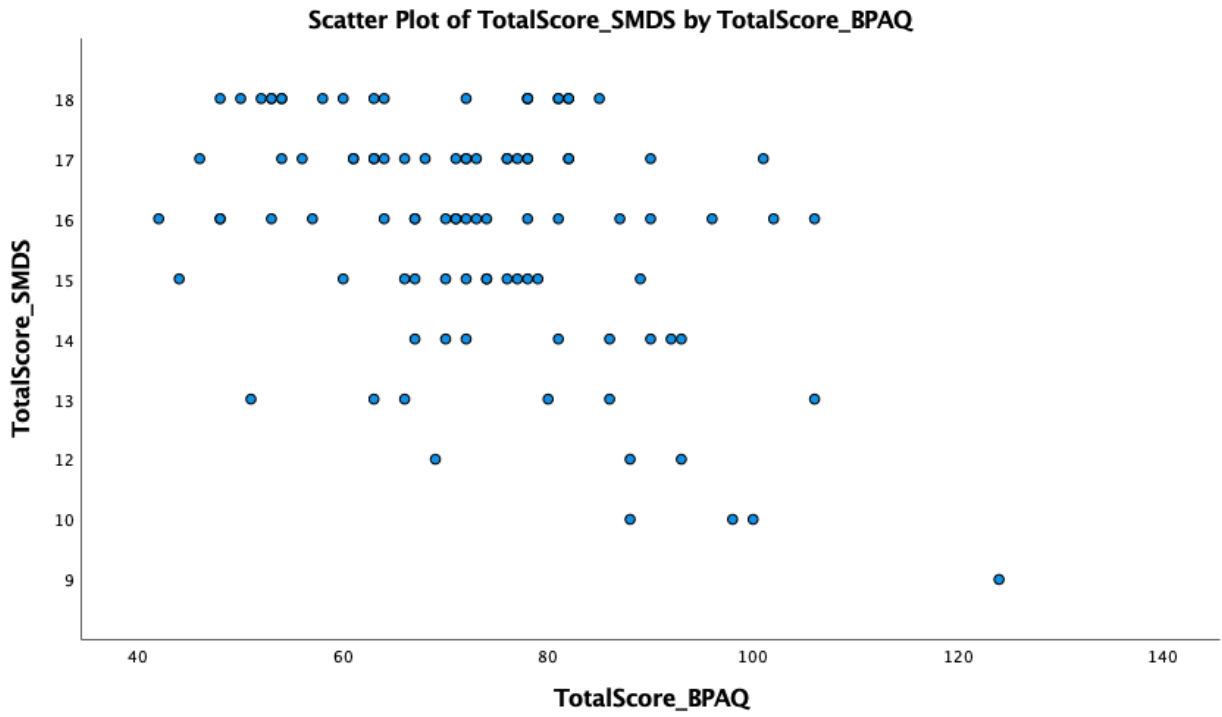
Figure 1

Scatterplot: Social Media Disorder Scale by Problematic Internet Use Questionnaire



Figure 2

Scatterplot: Social Media Disorder Scale by Buss-Perry Aggression Questionnaire



The second assumption testing was used to determine if there are multiple independent variables within the regression that is occurring at the same time, also known as multicollinearity. This assumption was tested by generating a Correlations and Coefficients^a table. There is no multicollinearity present within the data. Analysis of collinearity statistics show this assumption has been met, as VIF scores were well below 10, and tolerance scores above 0.2 (statistics = 1.16 and .86 respectively) (see Table 2 and Table 3).

Table 2*Correlations*

		TotalScore_SMD	TotalScore_PIUQ	TotalScore_BPAQ
Pearson Correlation	TotalScore_SMD	1.000	-.752	-.453
	TotalScore_PIUQ	-.752	1.000	.375
	TotalScore_BPAQ	-.453	.375	1.000
Sig. (1-tailed)	TotalScore_SMD	.	<.001	<.001
	TotalScore_PIUQ	.000	.	.000
	TotalScore_BPAQ	.000	.000	.
N	TotalScore_SMD	96	96	96
	TotalScore_PIUQ	96	96	96
	TotalScore_BPAQ	96	96	96

Table 3*Coefficients^a*

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	22.365	.688		32.526	<.001		
	TotalScore_PIUQ	-.111	.012	-.677	-9.555	<.001	.859	1.164
	TotalScore_BPAQ	-.026	.009	-.199	-2.808	.006	.859	1.164

a. Dependent Variable: TotalScore_SMDS

The third assumption testing was used to determine if the variance of error is alike across the values of the independent variables. This assumption was tested by generating a Model Summary^b of scores and the values were found to be independent. The Durbin-Watson statistic showed that this assumption had been met, as the obtained value was close to 2 (Durbin-Watson = 2.03) (see Table 4).

Table 4

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.774 ^a	.599	.590	1.314	2.030

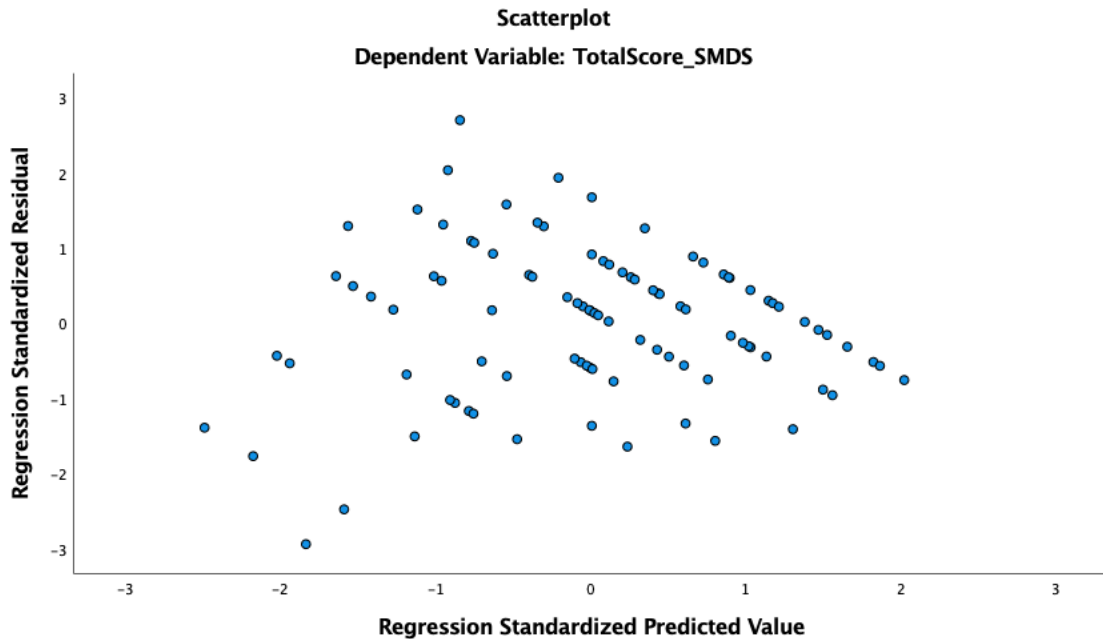
a. Predictors: (Constant), TotalScore_BPAQ, TotalScore_PIUQ

b. Dependent Variable: TotalScore_SMDS

The fourth assumption testing was used to determine if there is homoscedasticity of residuals. Homoscedasticity indicates that residuals are approximately equal for all predicted dependent variable scores. The variance of the residuals is constant. The plot of standardized residuals versus standardized predicted values showed no obvious signs of funneling, suggesting the assumption of homoscedasticity has been met (see Figure 3).

Figure 3

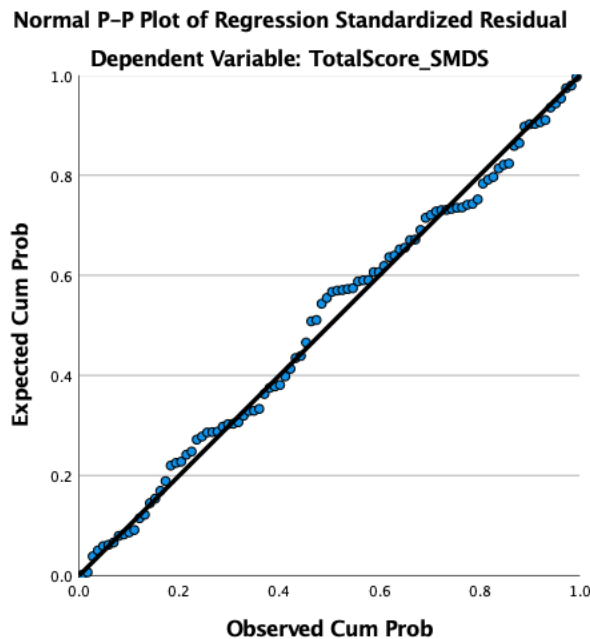
Scatterplot: TotalScore_SMDS Standardized Residuals Vs Standardized Predicted Values



The fifth assumption tested was used to observe if the residuals of the model are normally distributed. Residuals (errors) are tested by utilizing the normal probability plot, also known as a p-plot, of regression standardized residual to determine if errors are distributed normally. As observed from the data in the p-plot (see Figure 4) the data does seem to form a linear pattern, suggesting that the assumption has been met. No influential cases are biasing the model. Cook's Distance values were all under 1, suggesting individual cases were not disproportionately influencing the model.

Figure 4

Normal P-P Plot of Regression Standardized Residual



Hypothesis(es)

A multiple regression analysis was used to test the data above to determine if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users.

H₁₀: The degree of aggression or problematic internet use is not statistically significantly associated with the degree of social media disorder among online users.

H_{1a}: The degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users.

A model summary^b, ANOVA^a, and coefficients^a table (see Tables 5-7) were constructed to conclude if participants aggression scores or problematic internet use scores would influence the relationship between participants social media disorder scale scores. It was found that social media disorder did significantly predict problematic internet use scores, $B = -.111$, $p < .001$. The results indicated that as problematic internet use scores increased, social media disorder scores decreased. On average, for every 1-unit increase in problematic internet use scores, there was a

.111-unit decrease in social media disorder scores. It was found that social media disorder did also significantly predict aggression scores, $B = -.026$, $p = .006$. The results indicated that as aggression scores increased, social media disorder scores decreased. On average, for every 1-unit increase in aggression scores, there was a .026-unit decrease in social media disorder scores. The results concluded that it was necessary to reject the null hypothesis and accept the alternative hypothesis, which states that the degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users.

Table 5

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.774 ^a	.599	.590	1.314

a. Predictors: (Constant), TotalScore_BPAQ, TotalScore_PIUQ

b. Dependent Variable: TotalScore_SMDS

Table 6

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	239.842	2	119.921	69.459	<.001 ^b
	Residual	160.564	93	1.726		
	Total	400.406	95			

a. Dependent Variable: TotalScore_SMDS

b. Predictors: (Constant), TotalScore_BPAQ, TotalScore_PIUQ

Table 7

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	22.365	.688		32.526	<.001
	TotalScore	-.111	.012	-.677	-9.555	<.001
	_PIUQ					
	TotalScore	-.026	.009	-.199	-2.808	.006
	_BPAQ					

a. Dependent Variable: TotalScore_SMDS

Summary

In conclusion, this chapter was intended to provide a breakdown of the survey results gathered to support this current body of research. The start of this chapter consisted of uncovering the trends in the demographic data to get a better understanding of the participant pool that contributed to the study. Participant raw scores collected from their SMDS, PBAQ, and PIUQ contributions were converted to total scores to test multiple regression assumptions and address the research question highlighted within the chapter. A multiple regression analysis was then conducted. It was found that social media disorder scores did significantly predict problematic internet use scores ($B = -.111$, $p < .001$) and aggression scores ($B = -.026$, $p = .006$). The results determined for this study were that the null hypothesis was rejected, and the alternative hypothesis was accepted. Lastly, Chapter 5 will be a further discussion of the interpreted results, implications as well as limitations of the study, and recommendations for future research contributions.

CHAPTER FIVE: CONCLUSIONS

Overview

This chapter contains a discussion of the results of the statistical analysis from the previous chapter as it compares to related literature in previous research. The chapter begins by reviewing the null hypothesis and alternative hypothesis of this study. Then connecting reoccurring themes from previous literature to the findings uncovered from this study. Analysis of the theoretical framework presented in earlier chapters to the study's results will be processed. Implications stemming from the study's findings will also be analyzed. Limitations of this study will also be evaluated along with recommendations for future ongoing research will be provided.

Discussion

The purpose of this research study was to determine if social media users' degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users. The degree of social media disorder (i.e., SMDS) scores was the dependent variable, while the independent variable was measured by scores associated with aggression (i.e., BPAQ) and problematic internet use (i.e., PIUQ). The sample for this study was composed of 111 male and female participant contributions, but 96 of those responses were considered valid. The survey data addressed the following research questions:

RQ: Is the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users?

Null Hypothesis

H₁₀ was as follows: The degree of aggression or problematic internet use is not statistically significantly associated with the degree of social media disorder among online users. The results determined that the null hypothesis for this study was rejected. The null hypothesis

seems to align with Terizi et al. (2021) viewpoints consisting of users' frequent increases in aggression online seem to be influenced due to other toxic experiences in their immediate social environments that occur outside of the virtual atmosphere. Aggressive behaviors demonstrated by users while online have been considered to be prompted by proactive reasons (i.e., initiating aggression) or reactive reasons (i.e., responding to aggression) (Law et al., 2012).

Considerations on reviewing precursor events that trigger users to engage in proactive aggression or reactive aggression would be necessary. Lokithasan et al. (2020) found that both proactive and reactive aggressive users have a significantly positive relationship with demonstrating characteristics similar to that of a traditional bully. Out of the two forms, proactive aggressors are thought to have more similarities to traditional bullies as compared to reactive aggressors due to the bold and direct demonstration of the user's social interaction. Influences of environmental upbringing, hostility, and unproductive ways of coping can trigger one of those two types of responses (Connor, 2003). In turn those external experiences have potential to cycle back through the social media user and trickle over to their social media environment.

Alternative Hypothesis

H1_a was as follows: The degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users. The results from the multiple regression analysis indicated that all assumptions were satisfied, which lead to the rejection of the null hypothesis and acceptance of the alternative hypothesis, thus, confirming that there is a statistically significant relationship that is linked between users' social media usage, aggression experienced, and problems with internet usage.

Theoretical Framework and Research Findings

From a theoretical standpoint, Breuer and Elson (2017) concluded that the frustration-aggression hypothesis asserts that the development of aggression is rooted in the individual's experience of frustration. Frustration is not only viewed as an emotional response, but it is also deemed as a construct that interferes with a goal response depending on the individual's situation (Breuer & Elson, 2017). When it comes to this theoretical framework as it relates to this body of research, the results from this study indicated that the relationship between social media disorder and aggression ($B = -.026, p=.006$) as well as social media disorder and problematic internet use ($B = -.111, p<.001$) were both negative.

Analysis Testing Reliability

The results concluded that as aggression scores increased social media disorder scores decreased. The Cronbach's alpha value for the Buss-Perry Aggression Questionnaire (BPAQ) in this study was .872, which indicates that this survey instrument is reliable and has a high internal consistency. The BPAQ measures four types of aggression, which consist of physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). Typically, the Cronbach's alpha values for each scale within the BPAQ are physical (.82), verbal (.75), hostility (.80) and anger (.85) (Archer & Webb, 2006). The four scales combined exhibit that this questionnaire is known to have a strong internal consistency and stability.

The results also concluded that as problematic internet use scores increased social media disorder scores decreased. The Cronbach's alpha values for the Problematic Internet Use Questionnaire (PIUQ) in this study was .917, which indicates that this survey instrument is reliable and has a high internal consistency. The PIUQ is known to have a Cronbach's alpha value of .87 and has been proven to be a reliable tool for measurement when assessing participants having issues coming from their current internet habits (Demetrovics et al., 2008).

The Cronbach's alpha values for the Social Media Disorder Scale (SMDS) in this study was .791, which indicates that this survey instrument is also reliable and has a decent internal consistency. The SMDS has been proven to have strong structural validity, suitable internal consistency, consistent convergent and criterion validity, sufficient test-retest reliability, and satisfactory sensitivity and specificity (van den Eijnden et al., 2016). Fung (2019) reported that the SMDS has good psychometric properties with a Cronbach's alpha values of 0.753. The construct validity of this survey instrument demonstrated significant correlations between the subscales (Kelley & Gruber, 2010).

Demographic & Social Media Usage

This study's results may be due to how social media users view the norms of their social media environment, which influences the outcomes of participation in their interactive experience (Bond, 2004). Meshi et al. (2020) considered that all social media websites appear to act as a social reinforcer in today's technological society. Users are constantly returning to these platforms for considerable amounts of time for some type of gain, but whether that reinforcement is considered to be positive or negative ultimately depends on the individual user's social media experience. The two most frequently used social media platforms as reported by participants within this study were Facebook (N = 68, 25.8%) and Instagram (N = 66, 25.0%). Facebook has since provided over one and a half billion users an opportunity to stay closely connected to other users all over the world (Facebook, 2016). Mackson et al. (2019) identified that Instagram has also gained massive attention from social media users over the years.

The results reflect that social media platforms seem to mostly attract a younger demographic. Younger participants typically utilize their smartphones for much longer periods of time and the usage typically consists of entertainment and social interactions through social

media applications (Andone et al., 2016). More female (N = 82, 68.9%) than male (N = 29, 24.4%) participants contributed to this study. Andone et al. (2016) suggested that smartphone usage has grown in popularity over the years and concluded that females typically used their smartphones for longer periods of time than their male counterparts. In this study, the majority of participants that contributed were mostly within the 18-25 years of age (N = 50, 42.0%) and 26-35 years of age (N = 39, 32.8%) category. Oladimeji and Kyobe (2021) identified that about 55 percent of social media users registered to social media platforms, such as Instagram, are around the ages of 18 to 29 years old. Meshi et al. (2020) concluded that the average Facebook user typically spends about fifty or more minutes a day engaging in social activities while on the platform as compared to other competitive social media platforms. Similarly, participants in this study reported hourly usage of social media in general consists primarily of 0-3 hours (N = 53, 44.5%) or 4-6 hours (N = 36, 30.3%) in a day.

Triggering Social Media Events & Interactions

When reflecting back on the frustration-aggression hypothesis, frustration is not only viewed as an emotional response but also as a construct that interferes with a goal response in a given scenario (Breuer & Elson, 2017). Social media is not only a cultural phenomenon that has changed the progression of modern society, but it is well known to be a virtual community that connects users from all over the world (Barlett et al., 2018). Social media users are frequently exposed to viewing or engaging with content on social media platforms, which unavoidably exposes them to triggering stimuli. That trigger has potential to evolve and interfere with goal responses of enjoyment while engaging on social media.

Eraslan and Kukuoğlu (2019) highlighted that while on social media users typically gravitate towards audio and visual content through the media feature of 'sharing'. When users do

not grant other users access to shared content, the opposing user may perceive this action as social exclusion. This could trigger users to produce an unfavorable emotional response. Users are provided the opportunity to respond in ways that can be aggressive without taking full ownership of their actions while online (Eraslan & Kukuoglu, 2019).

When users are tagging other users by highlighting their username under certain content to draw their attention to the view. In certain situations, users may use this passive attempt to gain the attention of their peers by tagging them under triggering content with the intent to make the other feel angry or furious. Another triggering action on social media is when users unfriend another user on their friend list. This action is typically common among users encountering displeasing experiences towards another peer in daily life for any particular reason. Nowadays, since social media is highly regarded in society, the first thing that most angry users do is unfriend users that triggered the displeasing experience due to the social media environment being only a click away when using a smartphone (Eraslan & Kukuoglu, 2019).

Users also utilize opportunities to post a status directly or indirectly about a certain user or experience for all to see. The post is meant to draw attention, but the intent behind the post is that interpretations can get blurred. Some users may speak directly to a targeted user, but others may not fully disclose who or what the post intent is trying to convey. Last but not least, the demands of trends on social media can be a struggle for users to keep up with. Users deliberately may engage with other users that they “favorited” for the moment which will cause them to neglect others. This intentional act of social exclusion can be considered an indicator of aggression (Eraslan & Kukuoglu, 2019). Collectively, it is a struggle to control these offensives on such a large scale in a virtual space. Users feel comfortable acting in this way because they are in an environment that allows them to feel protected. Users could naturally experience

frustration as an outcome of their engagement on social media. That frustration has the potential to build into unfavorable behaviors, such as aggression.

Other Social Media Engagement Outcomes

The results from this study indicated that the relationship between social media disorder and aggression ($B = -.026, p=.006$) as well as social media disorder and problematic internet use ($B = -.111, p<.001$) were both negative. This new digital age that the world is presented with exposes people to predicaments that may not be typically exhibited in their daily life. Choi and Sung (2018) uncovered that typically most social media users choose to engage with favorable social media platforms based on their comfort level to express themselves freely while online. Eraslan and Kukuoglu (2019) considered how there are limited opportunities for some people to meet social expectations in person due to complicated life demands and increasing workloads. People tend to depend on social media to obtain social fulfillment and a connection with others.

Li et al. (2020) reported how positive social media content gets widespread attention because users share certain content for viewer engagement and to maintain a certain status connection with their intended audience. The more favorable the social media experience is to the social media user the less of the likelihood that issues with frustration developing and evolving into aggression are likely to occur. The study's findings contributed to the existing literature by asserting that social media users that identify little to no significant issues with their social media usage then there is less of a likelihood that issues with aggression and internet usage will likely occur.

Implications

This study provided insight into whether the degree of aggression or problematic internet use has a significant relationship with the degree of social media disorder among online users.

The research illustrated that rejection of the null hypothesis was necessary and it implies that the limited sample did provide a sufficient amount of evidence to make a definitive conclusion for this particular study. This research concluded that the degree of aggression or problematic internet use is statistically significantly associated with the degree of social media disorder among online users. Research implications to consider are that the outcome of results can stem from a plethora of reasons including an inadequate variety within the sample size, a low response rate of survey takers, and missing values due to survey submission error. Since there was a significant relationship highlighted in this study conclusions regarding the frustration-aggression hypothesis, which was developed in 1939, was asserted.

Clinical implications for future mental health professionals to consider as it pertains to this body of research is the importance of understanding how social media users define their relationship with social media as well as how does this involvement impact their ability to regulate their internet usage and aggression levels. All social media users' experiences with social media are likely to be different based on the way the individual describes their social media involvement. Social media is a virtual space for freedom of expression to take place. There are social media users that feel comfortable expressing themselves in a certain way while on certain social media platforms because they may feel that they are in an environment that allows them to feel protected. Developing an understanding as to what makes them feel a level of protection and how that type of protection influences social media behaviors could bring about new perspectives.

There is no social group or virtual community that reigns superior on any social media platform, but norms within every social media environment unintentionally develops based on the interactions the social media users that engage in these platforms. Li et al. (2020) considered

that some users try to draw their audience in by utilizing the tactic of emotional appeal, which is intended to trigger a specific emotional response in other users. The emotional appeal seems to effectively persuade users to react in a certain way without making any major effort to draw in the users' cognitive process to influence the connection. That connection sets off a chain reaction from emotions to thought processes to behaviors (Li et al., 2020).

For instance, some people do not identify themselves according to the role that they played in a given situation (i.e., bully, victim, or witness) while online, but instead they identified themselves according to the type of interaction (i.e., sending rude messages, posting humiliating pictures, developing hostile websites, and so on) they may have used instead (Law et al., 2012). Future mental health professionals can maximize on this opportunity to explore social media users' interpersonal connection with their social media environment, along with processing how social media users consider their social media engagement as being right or wrong within the norms of their social media environment. Those perspectives could then provide insight into how those social media users may view their ability to regulate their internet usage and aggression levels as a result.

Although research on social media's influence on cognitions and behaviors is still relatively limited, Di Domenico et al. (2021) found that social media platforms are facing increasing amounts of pressure when it comes to users' struggles with maintaining autonomy and authenticity in the virtual realm. When posts and content are distributed on social media platforms, it sometimes can be unclear whether the information presented is coming from a valid and reliable source. Users are less likely to engage with certain content because of reduced feelings of trust, which appears to be consistent when the person sharing the content has a weak interpersonal relationship with their audience (Di Domenico et al. 2021). Future mental health

professionals can explore how social media users define their level of trust when it comes to their social media engagement and interconnect how this view may impact their ability to regulate their internet usage and aggression levels.

Limitations

The first limitation of this study was the unequal sample sizes across gender and ethnicity groups. The study's design was constructed to recruit all social media users that meet the minimum age requirement, which is to be at least eighteen years of age and above. Convenience sampling was used for this study because participants are selected based on availability and willingness to take part in the research experience. Males only comprised of 24.4% of the sample size as compared to females that represented 82% of the population. There was also a very low response rate from participants identifying as Black or African American 15.1%, Asian 12.6 %, Latino or Hispanic 3.4%, and Two Or More Ethnicities 5.9%. Thus, the survey data is not broadly represented which narrows the conclusions of trends found within the study.

The second limitation was the discovery of missing data found within the study. The objective of the data collection process was to gather survey responses through an online data collection tool. For some participants, the survey website directed some participants to fill in certain pages and bypass other pages within the survey study. A few participants were unable to provide complete responses to some sections of the survey. This error within the system eliminated an opportunity for some survey takers to accurately contribute their responses to the overall study.

The third limitation found is how social media users' issues with social media are measured within this study. The survey instrument utilized to measure issues with social media usage was the Social Media Disorder Scale (SMDS). van den Eijnden, Lemmens, and

Valkenburg (2016) found that issues manifesting from social media were an ongoing problem within society that had not been fully explored. For a long time, there was limited research and instruments that measured potential issues that stemmed from social media use. The SMDS consists of nine scaled yes/no questions. This dichotomous scale only provides general information to identify if there is a potential issue with social media usage. Although the instrument has good psychometric properties with a Cronbach's alpha of 0.753 (Fung, 2019), the items listed on the scale are generalized and limited. The scale may not specifically identify problems or address issues found within growing social media platforms, so therefore participant selections on this scale are limited.

Lastly, the Cronbach's alpha values for the Problematic Internet Use Questionnaire (PIUQ) in this study was .917 and the Buss-Perry Aggression Questionnaire (BPAQ) in this study was .872, which both values indicate that each survey instrument was reliable and had a high internal consistency, but social media users may define issues with internet usage and aggression differently than what is defined within those survey instruments. The Buss and Perry Aggression Questionnaire (BPAQ) was created back in 1992 with an attempt to measure four types of aggression, which consist of physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992). The items within the survey instrument may be viewed as outdated and could sway how participants may process the questions presented. The Problematic Internet Use Questionnaire (PIUQ) was constructed to measure if issues with internet use or possibilities of internet addiction were present (Demetrovics et al., 2008). According to Kelley and Gruber (2010) the instrument was first published in 2006, which is moderately recent. The foundation for the development of this particular questionnaire stemmed from prior research studies and inspiration from Kimberly Young's Internet Addiction Test. Again, this survey instrument may

not fully highlight a broad spectrum of behavioral issues stemming from internet usage that are relevant in today's society.

Recommendations for Future Research

This body of research was meant to explore if there was a relationship between the degree of aggression or problematic internet use being significantly associated with the degree of social media disorder among online users. This study has potential to support future researchers and mental health professionals when it comes to understanding possible influences of social behavior in the world's growing technological society. Mental health professionals can take information presented within this study and explore how social media users define their relationship with their social media experiences on an individual scale. Based on the findings within this study, more research is recommended to further the understanding of the degree of aggression or problematic internet use significantly associated with the degree of social media disorder among online users. A few recommendations for future researchers to consider when performing ongoing research are as follows:

- 1.) Future researchers should thoroughly evaluate and test survey tools to make sure that limited issues regarding missing values or data collection errors have the potential to occur during the data collection process. This will help to reduce occurrences of data that are unable to be processed when running future statistical tests.
- 2.) Future researchers should consider utilizing multiple methods of marketing when using survey data collection to get a broader participation pool. The inclusion of more participants in the data collection process could provide more of an opportunity to make comparisons of responses or uncover any other additional findings.

- 3.) Future researchers may want to consider utilizing a different variation of survey and/or questionnaire instruments if continuing to peruse ongoing quantitative research that may suggest how social media users define or identify aggression or problematic internet usage.
- 4.) Future researchers may want to consider utilizing qualitative research methods to continue exploring different behavioral or social outcomes that may manifest from this body of research. Looking into how social media users define their social media experiences from their own narrative could bring about new information that could change clinical practice.
- 5.) Future researchers may want to consider qualitative research methods to understand how social media users define their proactive responses and reactive responses in their social media environment. Comparisons could be made based on definitions provided. Ongoing research may provide an opportunity to explore how social media users identify aggression or problematic internet usage when utilizing a variety of different social media platforms.
- 6.) Future researchers may want to explore how social media users' spiritual involvement or religious perspectives may influence social media behaviors that impacts choices when defining or identifying aggression or problematic internet usage when utilizing a variety of different social media platforms.

Summary

In conclusion, this chapter was intended to provide the finale outcomes for this body of research. The start of this chapter consisted of an overview of the study and then narrowed the focus of the examination to address the research question highlighted in the previous chapters. A

discussion of the results of the statistical analysis and the implications of those results is compared to previous research. A general review of SMDS, BPAQ, and PIUQ score contributions was discussed to address internal consistency and validity of scores. The chapter connected reoccurring themes from previous literature to the findings uncovered from the study. A review of the study limitations was also discussed. Lastly, recommendations for future research were provided.

REFERENCES

- Abel, J. P., Buff, C. L., & Burr, S. A. (2016). Social media and the fear of missing out: Scale development and assessment. *Journal of Business & Economics Research (JBER)*, 14(1), 33–44. <https://doi.org/10.19030/jber.v14i1.9554>
- Abell, L., Buglass, S. L., & Betts, L. R. (2019). Fear of missing out and relational aggression on facebook. *Cyberpsychology, Behavior, And Social Networking*, 22(12), 799–803. <https://doi.org/10.1089/cyber.2019.0071>
- Alexandropoulou, E. (2021). Social media and aggressive behavior: To which extent social media influences aggression. *Academia Letters*. <https://doi.org/10.20935/al812>
- Alhabash, S., & Ma, M. (2017). A tale of four platforms: Motivations and uses of facebook, twitter, instagram, and snapchat among college students?, *Social Media + Society*, 3(1). <https://doi.org/10.1177/2056305117691544>
- Andone, I., Błaszkiwicz, K., Eibes, M., Trendafilov, B., Montag, C., & Markowetz, A. (2016). How age and gender affect smartphone usage. *Proceedings of the 2016 ACM International Joint Conference on Pervasive and Ubiquitous Computing: Adjunct*. <https://doi.org/10.1145/2968219.2971451>
- Antonetti, P., & Crisafulli, B. (2021). “I will defend your right to free speech, provided i agree with you”: How social media users react (or not) to online out-group aggression. *Psychology & Marketing*. <https://doi.org/10.1002/mar.21447>
- Archer, J., & Webb, I. A. (2006). The relation between scores on the buss–perry aggression questionnaire and aggressive acts, impulsiveness, competitiveness, dominance, and sexual jealousy. *Aggressive Behavior*, 32(5), 464–473. <https://doi.org/10.1002/ab.20146>

- Barlett, C. P., DeWitt, C. C., Maronna, B., & Johnson, K. (2018). Social media use as a tool to facilitate or reduce cyberbullying perpetration: A review focusing on anonymous and nonanonymous social media platforms. *Violence And Gender, 5*(3), 147–152.
<https://doi.org/10.1089/vio.2017.0057>
- Bogolyubova, O., Panicheva, P., Tikhonov, R., Ivanov, V., & Ledovaya, Y. (2018). Dark personalities on facebook: Harmful online behaviors and language. *Computers in Human Behavior, 78*, 151–159. <https://doi.org/10.1016/j.chb.2017.09.032>
- Bond, M. H. (2004). Culture and aggression—from context to coercion. *Personality and Social Psychology Review, 8*(1), 62–78. https://doi.org/10.1207/s15327957pspr0801_3
- Boyd, D. M., & Ellison, N.B. (2007) Social Network Sites: Definition, History, and Scholarship, *Journal of Computer-Mediated Communication, 13*(1), 210–230.
<https://doi.org/10.1111/j.1083-6101.2007.00393.x>
- Breuer, J., & Elson, M. (2017). Frustration-aggression theory. *The Wiley Handbook of Violence and Aggression*, 1-12. Chichester: Wiley Blackwell.
<https://doi.org/10.1002/9781119057574.whbva040>
- Buss, A.H. and Perry, M.P. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*, 452-459.
- Bykov, I. A., Balakhonskaya, L. V., Gladchenko, I. A., & Balakhonsky, V. V. (2018). Verbal aggression as a communication strategy in digital society. *IEEE Communication Strategies In Digital Society Workshop (ComSDS)*. <https://doi.org/10.1109/comsds.2018.8354954>
- Carlyle, K. E. (2017). The role of social media in promoting understanding of violence as a public health issue. *Journal Of Communication In Healthcare, 162*-164.
<https://doi.org/10.1080/17538068.2017.1373907>

- Chatzakou, D., Kourtellis, N., Blackburn, J., De Cristofaro, E., Stringhini, G., & Vakali, A. (2017). Mean birds: Detecting aggression and bullying on twitter. *Proceedings Of The 2017 ACM On Web Science Conference*. <https://doi.org/10.1145/3091478.3091487>
- Chen, G. M., & Ng, Y. M. (2017). Nasty online comments anger you more than me, but nice ones make me as happy as you. *Computers in Human Behavior*, 71, 181–188. <https://doi.org/10.1016/j.chb.2017.02.010>
- Choi, T. R., & Sung, Y. (2018). Instagram versus snapchat: Self-expression and privacy concern on social media. *Telematics and Informatics*, 35(8), 2289–2298. <https://doi.org/10.1016/j.tele.2018.09.009>
- Chou, H.-T. G., & Edge, N. (2012). “They are happier and having better lives than i am”: The impact of using facebook on perceptions of others' lives. *Cyberpsychology, Behavior, And Social Networking*, 15(2), 117–121. <https://doi.org/10.1089/cyber.2011.0324>
- Connor, D. F., Steingard, R. J., Anderson, J. J., & Melloni Jr., R. H. (2003). Gender differences in reactive and proactive aggression. *Child Psychiatry and Human Development*, 33(4), 279–294. <https://doi.org/10.1023/a:1023084112561>
- Correa, T., Hinsley, A. W., & de Zúñiga, H. G. (2010). Who interacts on the web?: The intersection of users' personality and social media use. *Computers in Human Behavior*, 26(2), 247–253. <https://doi.org/10.1016/j.chb.2009.09.003>
- Coyne, S. M., Nelson, D. A., Graham-Kevan, N., Keister, E., & Grant, D. M. (2010). Mean on the screen: Psychopathy, relationship aggression, and aggression in the Media. *Personality And Individual Differences*, 48(3), 288–293. <https://doi.org/10.1016/j.paid.2009.10.018>
- Coyne, S. M., Nelson, D. A., Lawton, F., Haslam, S., Rooney, L., Titterington, L., Trainor, H., Remnant, J., & Ogunlaja, L. (2008). The effects of viewing physical and relational

- aggression in the media: Evidence for a cross-over effect. *Journal Of Experimental Social Psychology*, 44(6), 1551–1554. <https://doi.org/10.1016/j.jesp.2008.06.006>
- Craig, W., Boniel-Nissim, M., King, N., Walsh, S. D., Boer, M., Donnelly, P. D., Harel-Fisch, Y., Malinowska-Cieślik, M., Gaspar de Matos, M., Cosma, A., Van den Eijnden, R., Vieno, A., Elgar, F. J., Molcho, M., Bjereld, Y., & Pickett, W. (2020). Social media use and cyber-bullying: A Cross-national analysis of young people in 42 countries. *Journal Of Adolescent Health*, 66(6), 100-108. <https://doi.org/10.1016/j.jadohealth.2020.03.006>
- Demetrovics, Z., Szeredi, B., & Rózsa, S. (2008). The three-factor model of Internet addiction: The development of the Problematic Internet Use Questionnaire. *Behavior Research Methods*, 40, 563-574.
- Demirtaş-Madran, H. A. (2018). Relationship among facebook jealousy, aggression, and personal and relationship variables. *Behaviour & Information Technology*, 37(5), 462–472. <https://doi.org/10.1080/0144929x.2018.1451919>
- Eraslan, L., & Kukuoglu, A. (2019). Social relations in virtual world and social media aggression. *World Journal on Educational Technology: Current Issues*, 11(2), 140–149. <https://doi.org/10.18844/wjet.v11i2.4145>
- Facebook(2016). Newsroom: Company info: Stats. Retrieved from <http://newsroom.fb.com/company-info/>
- Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of facebook on young women's body image concerns and mood. *Body Image*, 13, 38–45. <https://doi.org/10.1016/j.bodyim.2014.12.002>

- Ferreira, P. da, Veiga Simão, A. M., Pereira, N. S., Paulino, P., & Oliveira, S. (2020). Online verbal aggression, social relationships, and self-efficacy beliefs. *New Media & Society*, 23(5), 960–981. <https://doi.org/10.1177/1461444820905531>
- Fraser, A. M., Stockdale, L. A., Bryce, C. I., & Alexander, B. L. (2021). College students' media habits, concern for themselves and others, and mental health in the era of covid-19. *Psychology Of Popular Media*. <https://doi.org/10.1037/ppm0000345>
- Fung S. F. (2019). Cross-cultural validation of the Social Media Disorder scale. *Psychology research and behavior management*, 12, 683–690. <https://doi.org/10.2147/PRBM.S216788>
- Grieve, R. (2017). Unpacking the characteristics of snapchat users: A preliminary investigation and an agenda for future research. *Computers in Human Behavior*, 74, 130–138. <https://doi.org/10.1016/j.chb.2017.04.032>
- Haliq, F., Hanurawan, F., Pali, M., & Atmoko, A. (2020). The paradox of facebookers in cyber-psychology (religiosity, prejudice, and aggression). *Proceedings Of The Proceedings Of The 19th Annual International Conference On Islamic Studies*. <https://doi.org/10.4108/eai.1-10-2019.2291732>
- Hameed, I, & Irfan, BZ. (2020) Social media self-control failure leading to antisocial aggressive behavior. *Human Behavior & Emerging Technologies*, 3, 296– 303. <https://doi.org/10.1002/hbe2.226>
- Hess, N. H., & Hagen, E. H. (2006). Sex differences in indirect aggression. *Evolution And Human Behavior*, 27(3), 231–245. <https://doi.org/10.1016/j.evolhumbehav.2005.11.001>
- Hepner, P. P., Wampold, B. E., Owen, J., Wang, K. T., & Thompson, M. N. (2015). *Research design in counseling* (4th ed.). Boston, MA: Cengage Learning.

- Inara Rodis, P. D. (2021). Let's (re)tweet about racism and sexism: Responses to cyber aggression toward black and Asian women. *Information, Communication & Society*, 1–21. <https://doi.org/10.1080/1369118x.2021.1962948>
- Johnson, N., Coelho, J., Hossain, M. F., Kissane, T., Frydrychowi, W., Praveen, M., Franco, Z., Hooyer, K., Annapureddy, P., & Ahamed, S. I. (2020). Understanding veterans expression of anger using social media analysis. *2020 IEEE 44th Annual Computers, Software, and Applications Conference (COMPSAC)*. <https://doi.org/10.1109/compsac48688.2020.00-12>
- Kacker, P., & Saurav, S. (2020). Correlation of missing out (FOMO), anxiety and aggression of young adults. *International Journal of Research -GRANTHAALAYAH*, 8(5), 132–138. <https://doi.org/10.29121/granthaalayah.v8.i5.2020.107>
- Kaplan, A.M., Haenlein M. (2010) Users of the world, unite! the challenges and opportunities of social media, *Business Horizons*, 53, 59-68, <https://doi.org/10.1016/j.bushor.2009.09.003>
- Kelley, K. J. & Gruber, E. M. (2010). Psychometric properties of the Problematic Internet Use Questionnaire. *Computers in human behavior*, 26, 1838-1845.
- Kokkinos, C. M., Antoniadou, N. (2019). Cyber-bullying and cyber-victimization among undergraduate student teachers through the lens of the general aggression model. *Computers in Human Behavior*, 98, 59–68. <https://doi.org/10.1016/j.chb.2019.04.007>
- Knight, G. P., Guthrie, I. K., Page, M. C., & Fabes, R. A. (2002). Emotional arousal and gender differences in aggression: A meta-analysis. *Aggressive Behavior*, 28(5), 366–393. <https://doi.org/10.1002/ab.80011>

- Krasnova, H., Veltri, N. F., Eling, N., & Buxmann, P. (2017). Why men and women continue to use social networking sites: The role of gender differences. *The Journal of Strategic Information Systems*, 26(4), 261–284. <https://doi.org/10.1016/j.jsis.2017.01.004>
- Law, D. M., Shapka, J. D., Domene, J. F., & Gagné, M. H. (2012). Are cyberbullies really bullies? An investigation of reactive and proactive online aggression. *Computers In Human Behavior*, 28(2), 664–672. <https://doi.org/10.1016/j.chb.2011.11.013>
- Li, L., Wang, Z., Zhang, Q., & Wen, H. (2020). Effect of anger, anxiety, and sadness on the propagation scale of social media posts after natural disasters. *Information Processing & Management*, 57(6), Article 102313. <https://doi.org/10.1016/j.ipm.2020.102313>
- Linder, J. R., Werner, N. E., & Lyle, K. A. (2010). Automatic and controlled social information processing and relational aggression in young adults. *Personality and Individual Differences*, 49(7), 778–783. <https://doi.org/10.1016/j.paid.2010.06.029>
- Lokithasan, K., Chua, A. F., Joanna, K. H., Subramanian, R., Kamarul Zaman, W., & Krishnan, S. (2020). The correlation between aggression, self-esteem and cyberbullying among undergraduates in malaysia. *Sains Insani*, 5(1), 205–211. <https://doi.org/10.33102/sainsinsani.vol5no1.189>
- Mackson, S. B., Brochu, P. M., & Schneider, B. A. (2019). Instagram: Friend or foe? The application's association with psychological well-being. *New Media & Society*, 21(10), 2160–2182. <https://doi.org/10.1177/1461444819840021>
- Mardianto, Chusniyah, T., Rahmawati, H., Nurmina, Pratama, M., & FattahHanurawan. (2020). Understanding cyber aggression in social media users with the social psychology paradigm. *Global Conferences Series: Sciences and Technology (GCSST)*, 4, 12–18.

- McCreery, M. P., & Krach, S. K. (2018). How the human is the catalyst: Personality, aggressive fantasy, and proactive-reactive aggression among users of social media. *Personality And Individual Differences, 133*, 91–95. <https://doi.org/10.1016/j.paid.2017.06.037>
- Meshi, D., Turel, O., & Henley, D. (2020). Snapchat vs. facebook: Differences in problematic use, behavior change attempts, and trait social reward preferences. *Addictive Behaviors Reports, 12*, Article 100294. <https://doi.org/10.1016/j.abrep.2020.100294>
- Mishna, F., Regehr, C., Lacombe-Duncan, A., Daciuk, J., Fearing, G., & Van Wert, M. (2018). Social media, cyber-aggression and student mental health on a university campus. *Journal Of Mental Health, 27*(3), 222–229. <https://doi.org/10.1080/09638237.2018.1437607>
- Muise, A., Christofides, E., & Desmarais, S. (2009). More information than you ever wanted: Does facebook bring out the Green-Eyed Monster of jealousy? *CyberPsychology & Behavior, 12*(4), 441–444. <https://doi.org/10.1089/cpb.2008.0263>
- Musharraf, S., & Anis-ul-Haque, M. (2018). Impact of cyber aggression and cyber victimization on mental health and well-being of pakistani young adults: The moderating role of gender. *Journal of Aggression, Maltreatment & Trauma, 27*(9), 942–958. <https://doi.org/10.1080/10926771.2017.1422838>
- Nagle, J. (2018). Twitter, cyber-violence, and the need for a critical social media literacy in teacher education: A review of the literature. *Teaching And Teacher Education, 76*, 86–94. <https://doi.org/10.1016/j.tate.2018.08.014>
- Narvaez, P. E. N., & Elsner., R. J. F. (2016). Effects of media with violent content on college students' aggressive reaction. *Journal of Psychology Research, 6*(8), 449–454. <https://doi.org/10.17265/2159-5542/2016.08.002>

- Oladimeji, A., & Kyobe, M. (2021). Factors influencing cyberbullying on instagram among university students. *2021 Conference on Information Communications Technology and Society (ICTAS)*, 139–144. <https://doi.org/10.1109/ictas50802.2021.9394974>
- Oldmeadow, J. A., Quinn, S., & Kowert, R. (2013). Attachment style, social skills, and facebook use amongst adults. *Computers In Human Behavior*, 29(3), 1142–1149. <https://doi.org/10.1016/j.chb.2012.10.006>
- Parvaresh, V., & Tayebi, T. (2018). Impoliteness, aggression and the moral order. *Journal Of Pragmatics*, 132, 91–107. <https://doi.org/https://doi.org/10.1016/j.pragma.2018.05.010>
- Pascual-Ferrá, P., Alperstein, N., Barnett, D. J., & Rimal, R. N. (2021). Toxicity and verbal aggression on social media: Polarized discourse on wearing face masks during the COVID-19 pandemic. *Big Data & Society*, 8(1). <https://doi.org/10.1177/205395172111023533>
- Paulin, M., Ferguson, R. J., Schattke, K., & Jost, N. (2014). Millennials, social media, prosocial emotions, and charitable causes: The paradox of gender differences. *Journal of Nonprofit & Public Sector Marketing*, 26(4), 335–353. <https://doi.org/10.1080/10495142.2014.965069>
- Peterson, J., & Densley, J. (2017). Cyber violence: What do we know and where do we go from here? *Aggression And Violent Behavior*, 34, 193–200. <https://doi.org/10.1016/j.avb.2017.01.012>
- Phanomtip, A., Sueb-in, T., & Vittayakorn, S. (2021). Cyberbullying detection on tweets. *2021 18th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON)*. <https://doi.org/10.1109/ecti-con51831.2021.9454848>

- Ramiandrisoa, F., & Mothe, J. (2020). Aggression identification in social media: A transfer learning based approach. *Proceedings Of The Second Workshop On Trolling, Aggression And Cyberbullying*, 26–31.
- Ray, A., & George, J. (2021). Online hate and its routes to aggression: A research agenda. *Proceedings Of The 54th Hawaii International Conference On System Sciences*. <https://doi.org/10.24251/hicss.2021.769>
- Rost, K., Stahel, L., & Frey, B. S. (2016). Digital social norm enforcement: Online firestorms in social media. *Plos One*, *11*(6), Article e0155923. <https://doi.org/10.1371/journal.pone.0155923>
- Sadiq, S., Mehmood, A., Ullah, S., Ahmad, M., Choi, G. S., & On, B. W. (2021). Aggression detection through deep neural model on twitter. *Future Generation Computer Systems*, *114*, 120–129. <https://doi.org/10.1016/j.future.2020.07.050>
- Schoffstall, C. L., & Cohen, R. (2011). Cyber aggression: The relation between online offenders and offline social competence. *Social Development*, *20*(3), 587–604. <https://doi.org/10.1111/j.1467-9507.2011.00609.x>
- Shahid, A., Javed, Z., & Rafique, R. (2020). Social comparison, envy and indirect aggression amongst high facebook users. *Pakistan Journal of Medical & Health Sciences*, *14*(3), 835–838.
- South Richardson, D. (2014). Everyday aggression takes many forms. *Current Directions In Psychological Science*, *23*(3), 220–224. <https://doi.org/10.1177/0963721414530143>
- Sparby, E. M. (2017). Digital social media and aggression: Memetic rhetoric in 4chan's collective identity. *Computers and Composition*, *45*, 85–97. <https://doi.org/10.1016/j.compcom.2017.06.006>

- Sumner, S. A., Bowen, D. A., & Bartholow, B. (2020). Factors associated with increased dissemination of positive mental health messaging on social media. *Crisis, 41*(2), 141–145. <https://doi.org/10.1027/0227-5910/a000598>
- Stockdale, L. A., & Coyne, S. M. (2020). Bored and online: Reasons for using social media, problematic social networking site use, and behavioral outcomes across the transition from adolescence to emerging adulthood. *Journal of Adolescence, 79*, 173–183. <https://doi.org/10.1016/j.adolescence.2020.01.010>
- Stubbs-Richardson, M., Sinclair, H. C., Porter, B., & Utley, J. W. (2021). When does rejection trigger aggression? A test of the multimotive model. *Frontiers In Psychology, 12*, Article 660973. <https://doi.org/10.3389/fpsyg.2021.660973>
- Strimbu, N., & O'Connell, M. (2021). Aggression and consistency of self in cyber trolling behavior. *Cyberpsychology, Behavior, and Social Networking, 24*(8), 536–542. <https://doi.org/10.1089/cyber.2020.0424>
- Sparby, E. M. (2017). Digital social media and aggression: Memetic rhetoric in 4chan's collective identity. *Computers And Composition, 45*, 85–97. <https://doi.org/10.1016/j.compcom.2017.06.006>
- Terizi, C., Chatzakou, D., Pitoura, E., Tsaparas, P., & Kourtellis, N. (2021). Modeling aggression propagation on social media. *Online Social Networks And Media, 24*, Article 100137. <https://doi.org/10.1016/j.osnem.2021.100137>
- Vaterlaus, J. M., Barnett, K., Roche, C., & Young, J. A. (2016). "Snapchat is more personal": An exploratory study on Snapchat behaviors and young adult interpersonal relationships. *Computers in Human Behavior, 62*, 594–601. <https://doi.org/10.1016/j.chb.2016.04.029>

- van der Eijnden, R.J.J.M, Lemmens, J.S., & Valkenburg, P.M. (2016). The Social Media Disorder Scale. *Computers in Human Behavior*, *61*, 478-487.
- Whittaker, E., & Kowalski, R. M. (2014). Cyberbullying via social media. *Journal of School Violence*, *14*(1), 11–29. <https://doi.org/10.1080/15388220.2014.949377>
- Zampieri, M., Malmasi, S., Nakov, P., Rosenthal, S., Farra, N., & Kumar, R. (2019). Predicting the type and target of offensive posts in social media. *Proceedings Of The 2019 Conference Of The North*. <https://doi.org/10.18653/v1/n19-1144>

Appendix A

Demographic Criteria Screener

1. What gender do you identify as?
 - A. Male
 - B. Female
 - C. Other
 - D. Prefer not to answer

2. What age range do you fall under?
 - A. 0 - 17 years old
 - B. 18 - 25 years old
 - C. 26 - 35 years old
 - D. 36+

3. Please specify your race or ethnicity.
 - A. White or Caucasian
 - B. Black or African American
 - C. Latino or Hispanic
 - D. Asian
 - E. American Indian or Alaskan Native
 - F. Native Hawaiian or Other Pacific Islander
 - G. Two Or More Ethnicities
 - H. Other/Unknown

- 4 Are you currently active on social media?
 - A. Yes

B. No

5. If so, which social media platforms do you currently use at this time?

_____ (Provide Answer In Space)

6. How often do you currently utilize your social media in a day?

A. 0-3 hours

B. 4-6 hours

C. 6-9 hours

D. 10-12 hours

E. 13+

Appendix B

Buss-Perry Aggression Questionnaire

For each of the following 29 statements, rate how characteristic this is of you.

Item	Extremely Uncharacteris- tic Of Me	Uncharacteris- tic Of Me	Neither Characteristic Nor Uncharacteris- tic Of Me	Characterist- ic Of Me	Extremely Characterist- ic Of Me
Other people always seem to get the breaks.					
When frustrated, I let my irritation show.					
At times I feel I have gotten a raw deal out of life.					
I am suspicious of overly friendly strangers.					
If somebody hits me, I hit back.					
Some of my friends think I'm a hothead.					
I often find myself disagreeing with people.					

I have trouble controlling my temper.					
I tell my friends openly when I disagree with them.					
I can't help getting into arguments when people disagree with me.					
My friends say that I'm somewhat argumentative.					
I have threatened people I know.					
When people are especially nice, I wonder what they want.					
I sometimes feel that people are laughing at me behind my back.					
I have become so mad that I have broken things.					

There are people who pushed me so far that we came to blows.					
I wonder why sometimes I feel so bitter about things.					
When people annoy me, I may tell them what I think of them.					
I flare up quickly but get over it quickly.					
Given enough provocation, I may hit another person.					
I sometimes feel like a powder keg ready to explode.					
I am an even-tempered person.					
I get into fights a little more than the average person.					

Once in a while I can't control the urge to strike another person.					
I know that "friends" talk about me behind my back.					
Sometimes I fly off the handle for no good reason.					
If I have to resort to violence to protect my rights, I will.					
I am sometimes eaten up with jealousy.					
I can think of no good reason for ever hitting a person.					<hr/>

Appendix C

Problematic Internet Use Questionnaire

Please indicate how much these statements characterize you.

Item	Never	Rarely	Sometimes	Often	Always
How often do you fantasize about the Internet, or think about what it would be like to be online when you are not on the Internet?					
How often do you feel tense, irritated, or stressed if you cannot use the Internet for several days?					
How often do you feel that your Internet usage causes problems for you?					
How often does the use of Internet impair your work or your efficacy?					
How often do you feel that you should decrease the amount of time spent online?					
How often do you think that you should ask for help in relation to your Internet use?					
How often do you choose the Internet rather than being with your partner?					
How often do you try to conceal the amount of time spent online?					
How often do you spend time online when you'd rather sleep?					
How often does it happen to you that you wish to decrease the amount of time spent online but you do not succeed?					
How often do you feel tense, irritated, or stressed if you cannot use the Internet for as long as you want to?					
How often do people in your life complain about spending too much time online?					
How often do you neglect household chores to spend more time online?					

How often do you choose the Internet rather than going out with somebody to have some fun?					
How often do you daydream about the Internet?					
How often do you realize saying when you are online, "just a couple of more minutes and I will stop"?					
How often do you dream about the Internet?					
How often does it happen to you that you feel depressed, moody, or nervous when you are not on the Internet and these feelings stop once you are back online?					

Appendix D

Social Media Disorder Scale

Social media refers to internet/mobile phone sites such as Facebook, YouTube, Twitter, Instagram, as well as to blogs.

During the past year, have you ...

Item	Yes	No
regularly found that you can't think of anything else but the moment that you will be able to use social media again?		
had serious conflict with your parents, brother(s) or sister(s) because of your social media use?		
often felt bad when you could not use social media?		
regularly lied to your parents or friends about the amount of time you spend on social media?		
regularly neglected other activities (e.g., hobbies, sport) because you wanted to use social media?		
tried to spend less time on social media, but failed?		
often used social media to escape from negative feelings?		
regularly had arguments with others because of your social media use?		
regularly felt dissatisfied because you wanted to spend more time on social media?		

Appendix E

Social Media Recruitment

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a Doctor of Education degree at Liberty University. The purpose of my research is to identify if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users. To participate, you must be at least 18 years of age and have an active enrollment on any social media platform. Participants will be asked to complete an anonymous online survey, which should take about 10 minutes. If you would like to participate and meet the study criteria, please click the link provided at the end of this post. A consent will be provided on the first page of the survey. Please review this page, and if you agree to participate, click “yes” to acknowledge that you have read the consent information, and then click the “next” button to proceed to the survey.

To take the survey, click here: <https://www.surveymonkey.com/r/W7PK6YW>

Appendix F

Recruitment Email

Dear Fellow Liberty University Students:

My name is Tia Porterfield, and I am a doctoral student pursuing an EdD in Community Care & Counseling, Traumatology cognate. The purpose of my research is to identify if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users. I am writing to invite eligible participants to join my study.

Participants must be at least 18 years of age and have an active enrollment on any social media platforms. Participants, if willing, will be asked to complete an online survey, which should take approximately 10 minutes total. Participation will be completely anonymous and no identifying information will be collected.

To participate, please click here <https://www.surveymonkey.com/r/W7PK6YW>. A consent is provided on the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please click “yes” to acknowledge that you read the consent form, and then click the “next” button to proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Tia Porterfield
Community Care and Counseling Doctoral Candidate

Appendix G

Permission from Dean of School of Behavioral Sciences, Online to Survey Students

June 18, 2022

Dear Dr. Kevin Van Wynsberg:

As a doctoral candidate in the School of Behavioral Health Sciences at Liberty University, I am conducting research as part of the requirements for my degree. The title of my research project is What's Sparking The Madness? Exploration Of Social Media Possibly Influencing Aggression Amongst Online Users and the purpose of my research is to identify if the degree of aggression or problematic internet use is significantly associated with the degree of social media disorder among online users. I am writing to request your permission to contact members of your staff and student population to invite them to participate in my research study. Participants will be asked to complete the following survey: <https://www.surveymonkey.com/r/W7PK6YW> . Participants will be presented with informed consent information prior to participating. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time.

Thank you for considering my request. If you choose to grant permission, please respond by email.

Sincerely,

Tia Porterfield
Community Care and Counseling Doctoral Candidate