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Exploring the Relationships of Social Media Usage and Symptoms of Anxiety and Depression in Adolescents

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Social media is a popular form of communication and entertainment among youth. Inconsistencies are present in the literature on the potential effects it can have on mental health. Depression and anxiety disorders are common among all age groups in the US, and this study aimed to determine the relationship social media has on symptoms of anxiety and depression. The Social Anxiety Scale for Adolescents (SAS) and the GAD-7 were used to measure symptoms of anxiety, as well as the CES-D scale to evaluate depressive symptoms in adolescents. The number of social networking sites and number of hours spent on social media are two variables that measure social media usage and were analyzed among a sample of Communities In Schools (CIS) students. The majority of the sample identified as persons of color and were considered to be of low socioeconomic status according to the district guidelines. An exploratory study using a single measurement, correlational design was conducted to explore the relationship between social media and mental health, and a survey was completed among CIS students in four middle schools and two high school in a local school district (N=84). Several linear regression analyses were conducted to analyze the variance in scores on the SAS, GAD-7, and CESD scales as explained by social media factors. The findings show that the amount of time spent on social media and symptoms of depression were significantly related to one another, yet there appeared to be no relationship between symptoms of anxiety and social media usage.
Exploring the Relationships of Social Media Usage and Symptoms of Anxiety and Depression in Adolescents

A Thesis

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In Partial Fulfillment

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Master of Science

in Social Work

By

Morgan Culpepper

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Master of Science in Social Work

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To my husband, McCade. Thank you for walking beside me and encouraging me through every dream I have, especially my dream of being a social worker.
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CHAPTER I
INTRODUCTION

The emergence of social media has brought rapid change around the globe, as people now have the opportunity to stay connected to those near and far online and have access to a wealth of knowledge at their fingertips (Kumar et al., 2019; Villanti et al., 2017). The discussion surrounding social media is a consistent pull between positive and negative rhetoric, where social media may foster community but can also create a false sense of identity that may lead to greater emotional and psychological challenges (Mayhew & Weigle, 2018; O’Reilly et al., 2018). Social media concerns are particularly relevant for youth, who report using online networking sites on a regular basis (Reer, Wai Yen Tang, & Quandt, 2019). Social media users have to navigate the struggle of finding a healthy balance of time online, such as staying connected to others versus becoming too dependent on networking sites to build relationships (Hawk et al., 2019).

The literature suggests that the relationship between social media usage and adolescent mental health is inconsistent; however, an unhealthy balance of social media (i.e., too much time on social networking sites) can affect symptoms of psychological disorders such as depression and anxiety (Barry et al., 2017; O’Reilly et al., 2018). Depression and anxiety in adolescents can be problematic for the individual for a host of reasons. Functioning with symptoms may impair and complicate everyday activities (e.g., schoolwork, household responsibilities) and result in poor judgment and experimentation with illegal substances (Dhir et al., 2018; Shensa et al., 2018).
The purpose of this study is to determine if a relationship exists between social media usage and symptoms of anxiety and depression in adolescents. Based on previous studies, the number of social networking sites and hours spent on social media can be moderators for symptoms of anxiety and depression (Primack et al., 2017; Shensa et al., 2018). In order to address the causes of psychopathological symptoms in adolescence, the following research questions were asked:

- Does the number of social networking sites one belongs to increase symptoms of anxiety or depression?
- Does the amount of time spent on social networking sites increase symptoms of anxiety or depression?

Results from this study will add to the existing research on adolescent mental health as well as social media considerations. These findings can be utilized in the creation of resources and in analyzing appropriate practices of social media usage among youth. This study also provides recommendations to school staff and community agencies working with students, as well as possible implications for current policies.
CHAPTER II
LITERATURE REVIEW

Mental Health

Living with a mental disorder is challenging and can put an individual at risk for a number of additional challenges. In fact, there is a relationship between depression and anxiety in youth and increased risk-taking behaviors (e.g., drug and alcohol abuse), behavioral or conduct problems, poor academic performance, and even suicide (Shensa et al., 2018; Woods & Scott, 2016). Additionally, an impaired mental state may impair the individual’s awareness of their perceived worth leading to a reduction in their self-esteem, therefore increasing their social media use inadvertently affecting their symptoms of depression and anxiety (O’Reilly et al., 2018; Reer, Wai Yen Tang & Quendt, 2019).

Youth between the ages of 12 and 18 are in a period of change that is called adolescence. During adolescence, the youth transitions from being a child to being a teenager. Individualization is the primary developmental task during this period and self-awareness dramatically increases (Akkin Gürbüz, Demir, Gökalp Özcan, Kadak, & Poyraz, 2017). Adolescents are developing an identity and learning problem solving skills. Many psychiatric problems emerge during adolescence as teenagers must learn to adapt to stressful life situation (Akkin Gürbüz et al., 2017). Some adolescents may find themselves unable to fully process trauma or pain they have experienced. Some adolescents may struggle to cope with and respond to stressors in a healthy way, leading to the development of mental health symptoms.
When stressful events are experienced, emotions may be internalized or externalized (Calheiros Velozoa & Stauderb, 2018). Internalized emotions may produce symptoms of anxiety and depression (e.g., feelings of hopelessness, worthlessness, irritability, excessive worry, inability to experience pleasure, etc.). Externalized emotions are frequently expressed as aggression and other disruptive behaviors (American Psychiatric Association [APA], 2013; Calheiros Velozoa & Stauderb, 2018). The behavior an adolescent is presenting can be an indication of their mental state and a result of the stimuli from their environment. Being able to understand and identify behavior can play a significant part in overall mental health (Belfort & Miller, 2018).

Because many adolescents personally suffer from mental illness, and many others know someone suffering from a mental illness, having discussions about mental health is important. In the general population, it is estimated that one fourth of Americans meet the criteria for a mental illness at any given time (Wong, Kady, Mewton, Sunderland & Andrews, 2014). Rates of depression and anxiety are increasing in all age groups and the effects of such disorders can be debilitating (Shensa, Sidani, Dew, Escobar-Viera & Primack, 2018). According to a recent national survey of children’s health, an average of 12.4% of adolescents between the ages of 12 and 17 had anxiety, and 8.2% had depression (Woods & Scott, 2016). Depression and anxiety are considered to be the most commonly occurring disorders with early onset in childhood and adolescence (Woods & Scott, 2016). Anxiety disorders are the most prevalent mental illnesses in the United States (Shensa et al., 2018) and a depressive disorder often hinders daily functioning causing an inability to complete daily tasks. In fact, depression often leads to disability (Dhir, Yossatorn, Kaur & Chen, 2018).
Depression

Mental health can be everchanging and the likelihood of experiencing instability is high over one’s lifespan (Primack et al., 2017). Symptoms of psychopathology can be identified as early as toddlerhood and lead to developmental problems and lifelong challenges to mental health (Cuellar, 2015). One of the most common disorders found among youth is depression, characterized as a persistent sad or irritable mood, where positive feelings are minimized, and negative feelings are amplified (American Psychiatric Association [APA], 2013). This is often exhibited through distress and shifting moods (Woods & Scott, 2016). Many symptoms of depression (e.g., tiredness and lack of energy, feelings of emptiness or persistent sadness, reduced appetite, insomnia or excessive sleep, etc.) often interfere with daily functioning (APA, 2013; Dhir et al., 2018). The symptomology tends to affect the whole person because when the mental state is impaired, physical functioning is also weakened (Zhu, Haegele, & Healy, 2019). While the severity of depressive symptoms is on a continuum, experiencing even mild symptoms of depression may be crippling to overall functioning (Woods & Scott, 2016). Impairment to daily functioning may appear as being inconsistent with normal routines, such as sleeping and eating or a reduction in academic or job performance (Dhir et al., 2019). An individual suffering from depression may not always exhibit symptoms, as depressive states tend to be episodic, where symptoms are only present for certain periods of time (e.g., for weeks at a time or during the winter months) (Shensa et al., 2018). According to a 2014 national survey, the overall prevalence of depressive episodes in adolescents are increasing and approximately 11.3% of episodes lasted at least 12 months (Woods & Scott, 2016). The stimuli individuals experience from their
environment may play a part in the increase of mental health symptoms and episodic durations.

Social media has become a milestone for youth to engage in as they transition from childhood to adolescence; however, exposure to the online community of social networking sites can be harmful (Shephard & Lane, 2019). Some adolescents may be unaware of triggers they have. However, many are able to recognize that online activity with social networking sites can amplify depressive symptoms (Calheiros Velozoa & Stauderb, 2018). When using social media in a depressed state, adolescents typically report feelings of anhedonia, worthlessness, difficulties concentrating, and recurrent thoughts of suicide (Shensa et al., 2018). Additionally, their overall self-esteem is lowered when being online more frequently (Akkın Gürbüz et al., 2017). While adolescents without depressive symptoms can spend one to three hours per day using social media, those with depressive symptoms can spend four or five hours using social media (Akkın Gürbüz, et al., 2017). The relationship of social media usage and depressive episodes appears to be positively correlated as one influences the other (Shensa et al., 2018). It is undetermined if the relationship is causal; however, feelings of loneliness may increase the amount of social media involvement in order to have needs met. Inadvertently, social media use may also lead to increased isolation and disconnection (Reer, Wai Yen Tang, & Quandt, 2019).

**Anxiety**

While anxiety is a normal physiological state, it can evolve into a mental health disorder (i.e., generalized anxiety disorder, social phobia) that manifests itself differently in every individual (APA, 2013). There are multiple definitions that speak to the
characteristics of anxiety. Anxiety can be defined as feelings of tension, worried thoughts and physical experiences such as increased blood pressure, with additional features of fatigue, exhaustion or even physical pain (Hardy & Castonguay, 2018). Other working definitions explain anxiety as a pervasive and unrealistic persistent state of mind overtly concerned with an irrational fear or worry of a difficult situation, threat, or activity (Dhir et al., 2018; Kumar, Natrajan, Bhadoria, & Das, 2019). In adulthood, an estimated 31% of Americans will experience an anxiety disorder during their lifetime, and many symptoms began appearing in childhood (Hardy & Castonguay, 2018). The symptoms of an anxiety disorder may be similar to those of depression and can disrupt daily functioning. Those with anxiety feel as though they are living with a constant apprehensive mindset that decreases the ability to fully process incoming stimuli, often resulting in misinterpretation of perceived threats (Kumar et al., 2019). An anxious state can put an individual in a constant apprehensive state of mind, resulting in potential irrational judgement or the thought that their disorder is inescapable (Wong et al., 2014). Many believe they will never completely heal from the excessive worrying (Dhir et al., 2018). Experiencing any number of symptoms of anxiety can be troubling, and the pressure of using social media could be detrimental to stable mental health.

The culture of social media and the pressure to constantly be connected and inundated with new information can be harmful to a person in an anxious state as this pressure will compound on any symptoms already present (Kumar et al., 2019). Usage of social media for an individual with anxiety can result in constantly checking their phone (Calheiros Velozoa & Stauderb, 2018) and increased anxiety while disconnected from social media, also called the “fear of missing out (FoMO)” (Barry, Sidoti, Briggs, Reiter,
& Lindsey, 2017). The content viewed on the internet may also influence or lead to symptoms of anxiety (Fardouly et al., 2018). Frequent access to images depicting traumatic events globally (e.g., accidents, natural disasters, terrorist attacks, etc.) are more likely to lead to developing an anxiety disorder (Hardy & Castonguay, 2018). It is common for individuals to belong to more than one social networking site and the additional content can lead to information overload intensifying symptoms, such as impaired concentration or restlessness (Barry et al., 2017). When exploring ways to manage symptoms, there are a number of environmental stimuli that can act as protective and risk factors.

**Contributing Factors to Anxiety and Depression**

A modern-day contributor to mental illness is the use of the internet. Specifically, social media has changed the way people communicate and altered the way relationships are formed (Primack et al., 2017). Adolescents today have easy access to content through smartphones, tablets, and portable computers. Social networking sites have become the most popular form of communication in the United States and the most popular mode of entertainment youth are using today (Belfort & Miller, 2019). Social media includes any form of communication done electronically where information is shared through personal messages, pictures, videos, and ideas (Kumar et al., 2019). Popular sites used today are Facebook, Snapchat, Instagram, YouTube, Twitter, TikTok, WhatsApp, and Tumblr (Pew Research Center, 2013). Billions of people around the world are using social networking sites and numerous studies explore the complex relationships between social media usage and mental health outcomes (Berryman, Ferguson, & Negy, 2018).
Mental illnesses have no bias to age, gender, race/ethnicity, or socioeconomic status. However, a number of factors exist that can that increase an individual’s predisposition to being diagnosed with depression or anxiety (Hardy & Castonguay, 2018). Literature suggests factors such as physical activity, sleep, social media use, and parent involvement and regulation of technology usage in adolescence are noteworthy in determining the likelihood one develops symptoms of depression or anxiety (Kumar et al., 2019). Physical activity, such as involvement in extracurricular activities or team sports, has proven to be a protective factor against mental illness, and youth who do not exercise regularly are about twice as likely to experience anxiety and depression (Zhu, Haegele, & Healy, 2019). In addition to a lack of physical activity, poor sleep quality is prevalent in adolescents with higher rates of mental illness, as they sleep less overall, have later bedtimes and rise times, and have a prolonged lack of energy following sleep deprivation (Barry et al., 2017; Woods & Scott, 2016). Individuals experiencing symptoms of depression, such as loneliness or a lack of motivation, often have coping mechanisms that can result in heightening their depression (Akkın Gürbüz et al., 2017). For example, staying in instead of participating in activities or exercising may lead a depressed individual to increase social media usage. Looking at an electronic screen for a prolonged period of time interferes with melatonin production and reduces sleep quality, which may also lead to more depressive feelings (Woods & Scott, 2016).

Specifically for adolescents, having a strong support system inside and outside of school made up of peers and invested adults can be an important protective factor to reduce developing mental health symptoms when using social media (Berryman, Ferguson, & Negy, 2018). Youth who report having healthy relationships with their
parents (e.g., conflict is minimal and they feel they are in a safe environment) tend to spend less time on social media, thereby allowing for fewer opportunities for conflict or potential negative exposure online (Barry et al., 2017; Fardouly, Magson, Johnco, Oar, & Rapee, 2018). Having regulated use was associated with higher self-esteem and more positive attitudes towards social media, resulting in fewer mental health symptoms (Primack et al., 2017).

**Social Media Usage**

Social media usage tends to differ among gender and socioeconomic status (Primack et al., 2017). When analyzing data on who is most likely to engage in extreme social media usage, research suggests those in lower socioeconomic groups spend more time online than their peers with an average of three hours more than those of a higher income (Mayhew & Weigle, 2018). One probable cause is that youth in a lower socioeconomic status are less likely to participate in extracurricular activities or be involved in the community, so they may have more time to use social networking sites (Mayhew & Weigle, 2018; Zhu, Haegele, & Healy, 2019). When social media usage is restricted to social networking sites, such as Facebook, Instagram, Snapchat, etc., girls have higher involvement through visual social media platforms and online messaging, but boys spend approximately twice as much time on videogames that often allow for online chatting (Calheiros Velozoa & Stauderb, 2018; Primack et al., 2017). For adolescents, when the amount of time spent online increases, the risks of an overall impaired mental state also increases (Busch, Manders, & de Leeuw, 2013).
Social networking sites have become a normal form of communication and relationship building amongst American youth. More than 90% of teens report using social media daily, and 24% admit to being online “almost constantly,” by repetitively checking new media feed and communicating with others through direct messages (Barry et al., 2017; Calheiros Velozoa & Stauderb, 2018). It is estimated that using social networking sites more than 60 minutes per day is linked to a decreased life satisfaction, and the majority of adolescents fall in this category due to easy accessibility and the intention to avoid disconnection, isolation, and FoMO (Shensa et al., 2018). Of individuals who use the internet excessively, those who reported symptoms of depression had higher rates of usage, averaging four to five hours a day online compared to one to three hours for those with no depressive symptoms (Akkin Gürbüz et al., 2017; Belfort & Miller, 2019). Similarly, those who reported sharing inappropriate content or engaging in harassing behavior had prevalent social media usage greater than three hours a day (Rice et al., 2015).

The potential harmful effects of using social media for a prolonged period of time mimic characteristics of depression and anxiety in teens (Busch, Manders, & de Leeuw, 2013). One study reporting parental attitudes regarding their child’s social media activity found usage to be correlated with symptoms of inattention, loneliness, emotional distress, excessive worry and an increase in comparing oneself to others, leading to poor self-esteem (Fardouly et al., 2018). When adolescents use social media to fulfill needs for mental support, they are inversely affected, and their symptoms may intensify. The unmet need for mental health support when using social media can lead to an increase in anxiety.
symptoms of excessive worrying, suicidal ideations and higher self-rated psychological distress (Memom et al., 2018). When professional help is not sought in times of distress, usage of online platforms may increase and can mimic addictive behaviors such as withdrawal symptoms, FoMO, loss of control and risk-taking behaviors such as skipping school, substance abuse and more frequent cyberbullying (Busch, Manders, & de Leeuw, 2013). Lastly, those who are considered to have compulsive social media usage are more likely to experience emotional exhaustion resulting in social media fatigue and elevated risks and symptoms of depression and anxiety (Dhir et al., 2018). Additionally, the number of social networking sites to which one belongs may influence mental health symptoms.

**Number of Social Networking Sites.**

The number of social networking sites available increases every day as new apps are developed, and individuals are able to join and create profiles across multiple sites. Adolescents may view using multiple networking sites as more opportunities to connect and discover a missing sense of belonging, but the more sites an individual belongs to, the more at risk they are for developing symptoms of depression and anxiety (Primack et al., 2017). When an individual increases the number of social networking sites they use, the opportunity to view negative content or experience negative interactions is broadened across multiple platforms (Busch, Manders, & de Leeuw, 2013).

Cognitive and behavioral skills are affected when using multiple social networking sites consistently, and it requires an individual’s multitasking skills to be tested (Primack et al., 2017). While being able to perform multiple activities at once can sound appealing, multitasking is associated with poor cognitive, emotional and mental
health outcomes due to an increased stress level and the pressure to stay connected online
(Hardy & Castonguay, 2018). Multitasking with any number of social networking sites can create obstacles to being productive and successful in school (Hardy & Castonguay, 2018). One consequence to using multiple social networking sites consistently is a disconnection with in-person human relationships that may cause a decline in an individual’s overall mental health (Primack et al., 2017). Exploring how the number of social media sites used and the amount of time is associated with symptoms of anxiety and depression in adolescence is worthy of studying to provide consistent data.

Elements of Social Media

To understand adolescent social media use holistically, motivation must be explored. Social integration, or the act of connecting and assimilating into a social community, is the driving force to using social networking sites (Shepherd & Lane, 2019). There are essentially two dimensions of social integration: 1) the bonding dimension that embraces connection and social supports, and 2) the competitive dimension that questions status and hierarchies of one’s social life, reputation, and value from others (Shepherd & Lane, 2019). Motivation behind social media usage in adolescents includes both the bonding and competitive dimension and can be better understood through the lens of social comparison theory.

Social Comparison Theory

Leon Festinger, the father of social comparison theory, initially proposed the idea that individuals explore their identity through an innate drive to evaluate their abilities by comparing themselves to their peers (Reer, Wai Yen Tang, & Quandt, 2019). Social networking sites are an easy and accessible way to compare oneself to others to
determine self-worth and social status, which is often done unintentionally. The atmosphere of high social comparison on networking sites is problematic and may increase feelings of exclusion or victimization (Barry et al., 2017). Social comparison theory explains that youth are reinforced to quantify their identity through social networking sites more consistently, therefore putting themselves at risk to develop mental health symptoms (Reer, Wai Yen Tang, & Quandt, 2019). One consequence to youth using social media for identity formation is the need to be re-affirmed and therefore spend more time online (Barry et al., 2017).

**Social Media Fatigue**

As social comparison theory explains how adolescents use social media to evaluate their value in society, those with low self-esteem or mental health concerns may continually check social networking sites and constantly be online (Dhir et al., 2018). Social media culture provides the opportunity for new content to be shared constantly and to be judged through the number of likes and comments (Reer, Wai Yen Tang, & Quandt, 2019). Through this process, social media culture essentially creates a need for affirmation that can only be fulfilled through an online presence, thus creating a dependency (Hawk, Van den Eijnden, van Lissa, & ter Bogt, 2019). Youth with frequent social media use may feel as though they have information overload and emotional exhaustion from prolonged connection online, also referred to as *social media fatigue* (Dhir et al., 2018). The discomfort and anxiety that can be experienced with social media fatigue is often accompanied with feelings of guilt, stress, isolation and FoMO (Woods & Scott, 2016). Impairments to overall productivity, psychological and physical health have also been found as a result of excessive use (Dhir et al., 2018). Social media fatigue can
manifest as symptoms of anxiety and depression, and natural adolescent development, explained by Erikson’s developmental theory may explain the prominence of such effects.

**Adolescent Development**

Erik Erikson’s developmental theory includes general progression of stages of development and coinciding crises from infancy to death (1980). The stage of adolescence characterizes identity versus role confusion as youth experiment and search to define their personal goals, values, and beliefs as they relate to society to avoid role confusion or an identity crisis (Erikson, 1980; Hardy & Castonguay, 2018). Neuroscience explains how the prefrontal lobes, responsible for behavior and personality formation, are still developing and teenagers lack the full ability to make sound decisions and evaluate the long-term effects the way that mature adults can (Belfort & Miller, 2019). Practically, this can contribute to inappropriate social media posts and attention-seeking behaviors.

The changes (e.g., hormonal changes, identity formation, independence, etc.) that occur during adolescence may create ambiguities for boundaries and responsible use of social media (Hardy & Castonguay, 2018). The level of responsibility that accompanies social media can be difficult for an adolescent whose decision-making skills are still developing. For example, youth who have social media accounts, regardless of the social networking site, have to be able to regulate the amount of appropriate personal disclosure they share and simultaneously filter the content they are viewing through who they chose to follow and the pages they search (Belfort & Miller, 2019). As users navigate the overlapping challenges of social media and outside factors, personal presentation
techniques (e.g., self-regulation and self-presentation) may be used to mediate negative effects.

**Self-Regulation**

Self-regulation is an important behavioral skill that develops during adolescence through additional responsibilities (e.g., increased workload at school, extracurricular activities, chores at home, etc.) and experiences with conflict (Elhai, Hall, & Erwin, 2018; Fardouley et al., 2018). Self-regulation is taking control of emotional and physical responses to stimuli and the ability to remain calm and manage feelings of anger in times of stress (Calheiros Velozoa & Stauderb, 2018). Using social media as an adolescent can be difficult when one is faced with negative content or forms of cyberbullying, as these experiences may decrease the ability to practice healthy self-regulation (Calheiros Velozoa & Stauderb, 2018). Healthy self-regulation may look like taking a break from social media, deleting pages or friends depicting harmful content, or seeking help from a mental health professional, parent, or trusted adult (Elhai, Hall, & Erwin, 2018). When an adolescent fails to adequately regulate social media activity, internal conflict increases leading to the development of depression and anxiety symptoms, such as excessive worry, irritability, social anxiety, or feelings of sadness (Berryman, Ferguson, & Negy, 2018).

**Self-Presentation**

One unique feature of social media is self-presentation, or the ability to control how one is perceived by their online peers, and users are able to document their life through a lens of their choosing (Hawk et al., 2019). Because social media is always available for constant connection, individuals have the ability to keep informed of what
peers are doing and make comparisons to their own lives (Reer, Wai Yen Tang, & Quandt, 2019). A potential negative effect is the opportunity to falsify information of one’s self-presentation, often exhibited through perfected images or overtly positive information (Hawk et al., 2019). One study analyzed participants’ social media posts compared to self-reported assessments and found there is a discrepancy between the inner mental state and the overtly expressed behavior (Arendt, Scherr, & Romer, 2019). For example, online users can filter any imperfection they see in themselves or skew an event or activity they were involved in when posting online. The inconsistency of self-presentation on social media can be harmful to adolescents using networking sites because of the fragility of identity development (Calheiros Velozoa & Stauderb, 2018).

**Vaguebooking**

Adolescents who are experiencing loneliness or have low self-esteem may participate in “vaguebooking” practices as an attention-seeking behavior (Arendt, Scherr, & Romer, 2019; Berryman, Ferguson, & Negy, 2018). *Vaguebooking* is a social media term referring to posts that contain little direct information and are designed for others to reach out and inquire how they are doing (Berryman, Ferguson, & Negy, 2018). Adolescents in crisis may use vaguebooking as a cry for help, while avoiding talking about their emotions outside of social media and ignoring professional help (Arendt, Scherr, & Romer, 2019). In fact, vaguebooking may influence the depressive symptom of rumination, where an individual will continue to worry because they do not think others are concerned with their feelings (Reer, Wai Yen Tang, & Quandt, 2019). Engaging in attention-seeking behavior through social media posts has an inverse effect rather than
the desired intent and can leave users with increased feelings of isolation and loneliness (Berryman, Ferguson, & Negy, 2018).

**FoMO**

*FoMO* is a new media term to describe the negative emotions individuals feel when disconnected from social networking sites (Reer, Wai Yen Tang, & Quandt, 2019). FoMO is the “fear of missing out,” where there is a persistent concern of being left out and/or that others are engaging in more rewarding experiences or in possession of more or something better (Reer, Wai Yen Tang, & Quandt, 2019). The constant availability of social networking sites results in consistent incoming alerts and messages and adolescents are pressured to be informed at all time, and FoMO arises when staying connected is unattainable (Woods & Scott, 2016).

FoMO has a number of associated harmful characteristics. The psychological demand of staying connected has been linked to social media addiction, lower self-esteem, greater feelings of stress, sleep disturbances and increased symptoms of depression and anxiety (Barry et al., 2017; Dhir et al., 2018; Reer, Wai Yen Tang, & Quandt, 2019). The effects of FoMO continue into an adolescent’s social and daily life as it is linked to engagement in risky behaviors (e.g., substance abuse), primarily to negate the sense of isolation associated with FoMO (Dhir et al., 2018). In order to avoid FoMO, youth may repetitively check their social media, and constant online connectivity is associated with increased feelings of isolation, lower self-esteem, and an amplification of FoMO (Primack et al., 2017).
Positive Outcomes of Social Media

Literature on social media suggests adolescent use can be harmful to mental health, but with protective factors social media can be a positive outlet with supportive influences (Wong et al., 2014). Belonging to a social networking site can reduce social isolation by providing a sense of belonging and provide peer support for those who feel marginalized in their own life (Arendt, Scherr, & Romer, 2019; Belfort & Miller, 2019). The internet has an abundance of resources for mental health concerns, but an adolescent may have difficulty locating appropriate sources. Youth who already experience symptoms of depression or anxiety can turn to social media for a supportive network who understand and can provide recommendations for online programs to offset negative emotions (Kumar et al., 2019). Those using social media to improve their mental health with online communities may reduce symptoms of depression in adolescents, and one study found significant improvements in anxiety when used as an intervention tool (Dhir et al., 2018, Wong et al., 2014).

A benefit to adolescents using social media when in an emotional crisis is the ability to remain confidential and control anonymity. For youth who feel unaccepted, whether at home or by their peers, having an online presence allows for identity experimentation and the opportunity to be seen and valued (Mayhew & Weigle, 2018). Social networking sites have been essential in spreading awareness and combatting any stigma around mental health (Hardy & Castonguay, 2018). Individuals who feel isolated in their own life can interact with others online who have a similar diagnosis or associated symptoms, and mental illness begins to be normalized (Hardy & Castonguay, 2018). Adolescents who have frequent suicidal thoughts or attempted suicides are more
apt to turn to social media for support than support in their physical community (Memon, Sharmal, Mohite, & Jain, 2018). However, content on social media can have triggering effects through exposure to negative behaviors such as self-harm (e.g., content discussing or depicting harmful behaviors such as cutting) (Arendt, Scherr, & Romer, 2019). While self-disclosure on the internet can be beneficial to a sense of belonging, it is only supportive to mental health when done responsibly and in moderation (Belfort & Miller, 2018). Adolescents are still developing self-regulation and may perceive online support from peers as a positive attention-seeking behavior and shallow relationship formation is a potential negative effect linked to decreased well-being (Dhir et al., 2018; Hawk et al., 2019).

**Negative Outcomes of Social Media**

Numerous negative outcomes have been addressed throughout this literature review. In summary, adolescent use of social media can present a number of harmful consequences, ranging from physical health (e.g., sleep deprivation, substance abuse) to mental health (development of a range of disorders) (Shensa et al., 2018). Sleep quality is a protective factor in the development of mental health disorders, and an essential characteristic to healthy adolescent development (O’Reilly et al., 2018). A common cause of a lack of quality sleep is an increase of social media usage, and 37% of adolescents report sleep deprivation due to social media use during the day and at night (O’Reilly et al., 2018). Using social media consistently is linked to development of mental health symptoms and increases opportunities for negative interactions, such as cyberbullying, and has been influential to the teen suicide rate in the United States (Arendt, Scherr, & Romer, 2018; Shensa et al., 2018).
Cyberbullying

Conflict among peers is an obstacle typically faced during the developmental stage of adolescence. Conflict that occurs face-to-face can be resolved by seeking guidance from a trusted adult, such as a teacher or a parent, opening up a conversation between the alleged victim and perpetrator. Conflict resolution becomes more complicated when it arises online through cyberbullying. Cyberbullying occurs through electronic or digital media by individuals or groups intending to cause harm or discomfort by ridiculing or communicating hostile or aggressive messages (Tokunaga, 2010). While it occurs amongst all age groups, adolescents are most often connected to incidents of cyberbullying, and an estimated 20-40% will experience online harassment at least once (Mayhew & Weigle, 2018). An explanation for the rise of cyberbullying is the notion of a social media hierarchy, where due to the lack of formalized roles online, adolescents are independent in engaging in behaviors to increase their status and ability to attract peers, traditionally in the form of searching for likes or followers one has on a social networking site (Shepherd & Lane, 2019). One example of exploiting the social media hierarchy is an individual preying on an outcast or peer they perceive as different to build status among other users. Research suggests that youth gain social status through engaging in aggressive behavior that conveys dominance over others (Shepherd & Lane, 2019), and adolescents of minority ethnicity and who identify as being homosexual are most at risk to online encounters that result in feelings of negative self-worth and inferiority (Rice et al., 2015). Perpetrators of cyberbullying perceive the act as having less consequences because it is done online with little to no monitoring and they have the
ability to comment or send messages confidentially through social networking sites (Mayhew & Weigle, 2018).

A unique characteristic of cyberbullying is the online anonymity of perpetrators, where social identity is concealed. Adolescents can take advantage of being anonymous online and may engage in harassing behavior (e.g., making inappropriate comments or arguing with others) (O’Reilly et al., 2019). An individual perceives themselves as being hidden behind their mobile phone or computer screen, which creates a space to react, think, and comment differently than one would in a face-to-face environment (Kumar et al., 2019). Using social networking sites results in a detachment of psychological and emotions, and when compounded with a lack of accountability, the propensity to make hurtful and harassing comments towards peers is more likely (LaRoe & Corrales, 2019). The effects of cyberbullying on teenagers is harmful to emotional regulation and overall mental health (Tokunaga, 2010). Victims of cyberbullying report internalizing negative interactions that lead to lower self-esteem, suicidal ideation, higher levels of depression and anxiety, and significant life changes at school (Dhir et al., 2018; Tokunaga, 2010). Harassment on social media from peers may be internalized at home and ignored while at school, but cyberbullying will often turn into bullying at school which can impede academic motivation and attendance and even lead to larger psychological concerns (Rice et al, 2015).

**Suicidality and Self-Harm**

The risks associated with adolescents using social media are serious, and continuous exposure to negative content or cyberbullying can even be fatal (Memon et al., 2018). The World Health Organization indicates suicide is the second leading cause
of death among youth, and the prevalence of suicides has steadily increased (Arendt, Scherr, & Romer, 2019). As the number of deaths by suicide among adolescents is continuing to rise, the amount of social media used has significantly increased in this demographic with strong links to depression and anxiety, leading to suicidality (Memon et al., 2018). While it can be assumed individuals who already experience symptoms of depression or anxiety are most at risk for social media being harmful to mental health, there is a prevalent risk of being exposed to inappropriate or gruesome content through pictures or videos that can be triggering to any user (O’Reilly et al., 2018). Youth in the stage of adolescence already face challenges that weigh on their mental health and many engage in self-harming behaviors as potential coping mechanisms, and as many as 14-21% of youth and young adults report self-harming (Memon et al., 2018).

Deliberate self-harm behavior is associated with decreased well-being and impaired mental health, and adolescents with these symptoms may act out in non-suicidal self-injury of cutting, burning, or scratching oneself without the intention of suicide to cope with their feelings (Belfort & Miller, 2018). Those who experience negative emotions and are contemplating self-harm look to social media for community and supportive guidance, but posts and groups surrounding self-harm tend to have reverse effects similar to attention-seeking behaviors where at risk users are more likely to engage in self-injury than before (Memon et al., 2018). Because youth look to social media guidance instead of a professional, support groups online are unable to provide evidence-based practices and coping mechanisms and instead include a wealth of content surrounding self-harm behavior, loneliness, and vast amounts of negative emotions. Evidence suggests self-harming youth are more active on social media, and they report
exposure to suicidal and self-harm content to be emotionally disturbing, causing increased feelings of self-loathing, self-harm behaviors, and suicidal ideations (Arendt, Scherr, & Romer, 2018; Memon et al., 2018). Despite the intention of youth who use social media as a support and as an outlet for their emotions, being triggered from online posts or triggers others is a constant reality.

**Conclusion**

The emergence of social media into American culture has created a new dimension to build relationships through more widespread communication and the opportunity for community online (Kumar et al., 2019, Villanti et al., 2017). The inclusion of social media during adolescence can be detrimental to mental health, and often leads to an increase of depressive and anxiety symptoms (Shensa et al., 2017). The literature review has explored how components of social integration lay the foundation for social media use, and social comparison theory creates a negative feedback loop of identity validation in adolescents (Reer, Wai Yen Tang, & Quandt, 2019), resulting in frequent use and additional networking platforms (Busch, Manders, & de Leuw, 2013; Calheiros Velozoa & Stauderb, 2018). How youth use social media is important, and this present study aims to explore time association and quantity of social networking sites as they relate to mental health symptoms of depression and anxiety.
CHAPTER III

METHODOLOGY

Purpose

The overall purpose of this study was to explore the relationship between social media usage and symptoms of depression and anxiety in adolescence. The research questions included a) “how does the number of social networking sites one belongs to affect mental health symptoms?” and b) “how will amount of time spent on social media affect mental health symptoms?” This study addressed the research questions by administering a student survey to both middle and high school students. The survey asked a series of questions regarding the amount of social media used. In addition, the questionnaire included items to record self-reported symptoms of depression and anxiety as they relate to social media. The research hypotheses are:

- The number of social networking sites used will be positively correlated with symptoms of depression.
- The number of social networking sites used will be positively correlated with symptoms of anxiety.
- Amount of time spent using social media will be positively correlated with symptoms of depression.
- Amount of time spent using social media will be positively correlated with anxiety symptoms.
**Research Design**

This exploratory study used a single measurement, correlational design. This study had minimal researcher interference, as the researcher did not administer the survey and was not present on campus while surveys were conducted. The survey instrument was created and administered using Google Forms. The opening page included a description of the purposes, benefits, and risks of the study. The opening page also explained how responses will be kept confidential and unidentifiable. After reading the opening page, assent to participate was acquired in order to complete the questionnaire (see Appendix C).

A link to the survey was emailed to all of the Communities in Schools (CIS) student success coaches. The email included a brief description of the purpose of the study. Success coaches then opened the survey for each participant and was instructed to allow the participant time and space to complete the questions. Success coaches were instructed to respect participants privacy, by allowing distance between the computer screen and themselves, in order to maintain confidentiality and avoid any ethical conflicts.

**Participants**

Participants included middle school and high school students (i.e., 6th through 12th grade) ranging in age from 12 to 18. Participants were recruited from several school campuses. Each participating school campus had a CIS student success coach with approximately 100 students on their caseload. Participants had already turned in a parent consent form (see Appendix B) to be a CIS case-managed student and were on a success coach’s caseload. A systematic sampling strategy was used as success coaches were
suggested to choose every 10th students off of their CIS caseload to participate in this study.

Success coaches then chose a minimum of ten students from their caseload. The assent form was printed and read to each student. Those who chose to participate in the study were then given access to the online survey. The opening page of the online survey again presented the assent form. Students completed the online survey on the success coaches’ computer. The survey was anonymous and had no place for the student to place their name or student identification number. No IP addresses or other potentially identifying information was collected.

The researcher was granted a waiver of parental consent through the ACU Institutional Review Board, and assent was attained, as described above, from the students who are under the age of 18. The waiver was attained due to the difficulty in obtaining parental consent in a timely manner and to respect the confidentiality of the participants. The researcher also acquired a waiver of documentation because the survey was completed online. Only the students who gave full assent and were able to complete the survey in English were able to participate in the survey.

**Data Collection**

Google Form and a spreadsheet were used for data collection and temporary storage. The researcher’s CIS email address was used to communicate with the success coaches and receive responses. Following completion of data collection, responses were downloaded as a Microsoft Excel spreadsheet. Responses were stored inside the principal investigator’s password protected Google Drive until downloaded to a password protected laptop.
Measures

This study measured how the independent variables, (1) amount of time on social media and (2) number of social media sites used, influenced the dependent variables of depression and anxiety symptoms. The symptoms are measured through the Social Anxiety Scale (SAS), Generalized Anxiety Disorder scale (GAD-7), and Center for Epidemiological Studies Depression scale (CES-D). Data on student demographics (e.g., grade level, gender, ethnicity/race,) social media usage (e.g., social media sites, frequency of usage, activity on sites), and symptoms of social anxiety, generalized anxiety, and depression was collected. The scales are self-reported and do not include clinical diagnoses or medical information.

Social Media Usage

Social media usage was recorded based on two surveys. All questions were included from the January 2018 Core Trends Survey (Pew Research Center, 2018), and four questions were included from the Pew Research Center August Tracking (Pew Research Center, 2013). These items asked participants to identify popular social media sites (i.e., Facebook, Snapchat, Instagram, YouTube, Twitter, TikTok, WhatsApp, Tumblr) they have used and the frequency to which they are active (see Appendix C, part B). Time association was measured through number of hours visited each day, and visits per site weekly. Level of participation on social media is operationalized as frequency of social media activities (e.g., posting a picture, “liking” or commenting on another status, post, or photo, updating one’s own status, and sending private messages).
Social Anxiety

The Social Anxiety Scale for Adolescents (La Greca & Lopez, 1998) was used to explore the participants’ emotions relating to their presence on social media and how that affects their social integration. Participants were asked to report their level of agreement (i.e., not at all, a little, a lot, all the time) to symptoms of social anxiety when using social media (see Appendix C, part C).

The social anxiety scale is modified from the Social Anxiety Scale for Children-Revised (SASC-R), which was created in the absence of a validated measure of social anxiety in adolescents (La Greca & Lopez, 1998). The scale was developed based on previous measures of social anxiety in adults and emphasized components of social avoidance, distress, and fear of negative evaluation (La Greca & Lopez, 1998). Since the SASC-R was published in 1993, practice-informed research has modified its components to best reflect social anxiety in youth appropriately.

Generalized Anxiety

In order to measure participants general anxiety when using social media, the generalized anxiety disorder scale (GAD-7; Spitzer, Kroenke, Williams, & Lowe, 2006) was included. Participants first identified whether they had accessed social media in the last two weeks. If so, the level of anxiety that resulted from social media use was explored through reported symptoms of anxiety (see Appendix C, part D). Access was measured by Likert scale items, including “none,” “several days (1-5 days),” “over half the days (6-10 days),” and “nearly every day (11+).”

The GAD-7 is a consistent scale used to measure anxiety in professional settings. It was initially developed due a lack in brief screening tools for generalized anxiety. The
questions were influenced by adult patients at care clinics, mental health professionals, and physicians. The initial scores on the GAD-7 were compared to the patient’s diagnoses from mental health professionals and concluded that the scale “has good reliability, as well as criterion, construct, factorial, and procedural validity” (Spitzer et al., 2006, p. 1092).

**Depression**

The Center for Epidemiologic Studies Depression Scale (CES-D; Radloff 1977) included general criteria experienced in a depressed state and was utilized to measure participants symptoms of depression. Student’s expressed their level of agreement to the presence (e.g., not at all, a little, a lot, all the time) of the depressed criteria (see Appendix C, part E).

The CES-D scale was chosen for its validity in measuring depression among children and youth and was found to have acceptable discrimination ability (Poulin, Hand, & Boudreau, 2005). The 12 questions included in the scale were reliable in predicting depressive symptoms in youth yet ignored the factor of irritability. Irritability is a common symptom of depression in adolescents but was not included in the CES-D scale, most likely due to the purpose of the scale being used for adults. Overall, it is a reliable and valid item that appears to be consistent among all demographics and appropriate for youth (Poulin, Hand, & Boudreau, 2005).

**Data Analysis**

A series of descriptive analyses were conducted to explain the characteristics of the sample. In order to determine which factors influenced outcome variables, a series of linear regression analyses were performed. These analyses addressed the basic question,
“what is the relationship between social media usage and symptoms of depression and anxiety in adolescence?” The impact of networking sites used and hours spent on social media were examined separately.
CHAPTER IV

FINDINGS

In order to explore the relationship between social media usage and symptoms of depression and anxiety, survey data was collected. Regression analysis and ANOVA tests were run to determine the impact of the number of social media sites used and number of hours spent on social media on symptoms of depression and anxiety in school aged children.

Description of Sample

Table 1 includes data on the participants' demographic information. The population of study participants were students in grades 6-12 ($N=84$), with the majority in grades 9-12 (66.7%). Descriptive statistics showed that of the 84 students in the sample, over half identified as female (64.3%) while the remaining were male (33.3%) or preferred not to say (2.4%). The sample consisted of mostly non-white participants, with only one fifth of students being white. Most students reported their race as other (36.9%) or Black or African American (32.1%). More than half of the participating students identified as Latino ($n=46$, 54.8%).
Table 1

*Characteristics of the Sample (N=84)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>5</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>7</td>
<td>8.3</td>
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<td></td>
<td>8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>16</td>
<td>19.0</td>
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<td></td>
<td>9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>14</td>
<td>16.7</td>
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<td></td>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>18</td>
<td>21.4</td>
</tr>
<tr>
<td></td>
<td>11&lt;sup&gt;th&lt;/sup&gt;</td>
<td>9</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td>12&lt;sup&gt;th&lt;/sup&gt;</td>
<td>15</td>
<td>17.9</td>
</tr>
<tr>
<td>Gender</td>
<td>Prefer not to say</td>
<td>2</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>54</td>
<td>64.3</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>28</td>
<td>33.3</td>
</tr>
<tr>
<td>Race</td>
<td>American Indian or Alaska Native</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>Black or African American</td>
<td>27</td>
<td>32.1</td>
</tr>
<tr>
<td></td>
<td>Native Hawaiian or Pacific Islander</td>
<td>4</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>31</td>
<td>36.9</td>
</tr>
<tr>
<td></td>
<td>White</td>
<td>18</td>
<td>21.4</td>
</tr>
<tr>
<td>Latino</td>
<td>No</td>
<td>38</td>
<td>45.2</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>46</td>
<td>54.8</td>
</tr>
</tbody>
</table>

**Descriptive Analyses of Major Variables**

The mean of the number of social networking sites used, shown in Table 2, indicates students reported using an average of 4.60 networking sites, with a mode of 6, and a standard deviation of 1.55 sites. Hours spent on social media ranged from 0-4 for each social networking site, with 0 meaning “I don’t use it” to 4 meaning “7+ hours.” Mean hours spent on social media were about 11 hours a day (M= 11.49, S=6.91).

Skewness statistics show that all variables had considerable skew with some showing positive skew and some showing negative skew.
Table 2

*Descriptive Statistics of Outcome Variables*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Mode</th>
<th>SD</th>
<th>Skew</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Networking Sites</td>
<td>84</td>
<td>0</td>
<td>8</td>
<td>4.60</td>
<td>6</td>
<td>1.55</td>
<td>-.633</td>
</tr>
<tr>
<td>Hours Spent on Social Media</td>
<td>84</td>
<td>0</td>
<td>31</td>
<td>11.49</td>
<td>7</td>
<td>6.91</td>
<td>.887</td>
</tr>
<tr>
<td>SAS Total</td>
<td>84</td>
<td>0</td>
<td>33</td>
<td>10.20</td>
<td>3</td>
<td>0.55</td>
<td>.991</td>
</tr>
<tr>
<td>GAD-7 Total</td>
<td>79</td>
<td>0</td>
<td>21</td>
<td>4.67</td>
<td>0</td>
<td>5.47</td>
<td>1.091</td>
</tr>
<tr>
<td>CES-D Total</td>
<td>84</td>
<td>0</td>
<td>60</td>
<td>15.89</td>
<td>7</td>
<td>1.55</td>
<td>1.112</td>
</tr>
</tbody>
</table>

The SAS total was based on the participants agreement with statements relating to social anxiety on social media and answer choices ranged from 0-3, 0 meaning “not at all” and 3 meaning “all the time.” The mean was between “not at all” and “a little” for scores on the social anxiety scale ($M=10.20$, $SD=.552$). The GAD-7 total was based on the participants agreement with statements relating to generalized anxiety on social media over the last two weeks, with a range of 0-3, 0 meaning “none” and 3 meaning “nearly every day (11+ days).” The mean GAD-7 total for general anxiety over the last two weeks is between “none” and “several days (1-5 days)” ($M=4.67$, $SD=5.47$). The CES-D total was based on the participants agreement with statements related to symptoms of depression on social media, rating from a 0-3, 0 meaning “not at all” and 3 meaning “all the time”. The CES-D total mean is between “a little” and “a lot” for reported depression symptoms ($M=15.893$). The mode on the CES-D was 7, indicating most participants scored considerably below the mean.

**Regression Analyses of Outcome Variables**

Table 3 aims to answer the research questions of this study: “how will amount of time spent on social media affect mental health symptoms?” and “how will the number of networking sites affect mental health symptoms?” To explain the variance in variables,
several linear regression analyses were conducted. As the table indicates, the only statistically significant relationship was between hours spent on social media and CES-D scores ($R^2 = .075, F 1, 82, = 6.64, p = .012$). The $R^2$ value indicates that hours spent on social media explains 7.5% of the variation in the CES-D scale.

The unstandardized coefficient (“B”) explains how for every one hour, or an additional social networking site, how much corresponding change there would be in the anxiety and depression scales. According to Table 3, social networking sites and SAS scores appear to be inversely related to one another (“B”= -.355). As the number of networking sites or hours spent on social media increases, the student’s score on the SAS scale would decrease and vice versa. Although there appears to be no relationship between anxiety and hours spent on social media, Table 3 shows that for every one additional hour spent on social media, the student’s symptoms of anxiety according to the GAD-7 score would increase (“B”=1.501). Symptoms of depression were also influenced by the independent variables. Increasing the number of social media sites used by one increased the participants symptoms of depression by one point, and Table 2 concluded that students are already experiencing depressive symptoms ($M=15.893$). Lastly, the CES-D scores increased by half a point for every hour spent on social media which could be problematic long-term (“B”=.483).

Symptoms of depression were also influenced by the independent variables. Increasing the number of social media sites used by one increased the participants’ symptoms of depression by one point, and Table 2 concluded that students are already experiencing depressive symptoms ($M=15.893$). Lastly, the CES-D scores increased by
half a point for every hour spent on social media which could be problematic for long-term (\(B\)=.483).

Table 3

Regression Results

<table>
<thead>
<tr>
<th></th>
<th>Networking Sites Used</th>
<th>Hours Spent on Social Media</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N)</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>(R^2)</td>
<td>0.004</td>
<td>0.002</td>
</tr>
<tr>
<td>(F)</td>
<td>0.322</td>
<td>0.154</td>
</tr>
<tr>
<td>“(B)”</td>
<td>-.355</td>
<td>0.054</td>
</tr>
<tr>
<td>(t)</td>
<td>-0.576</td>
<td>0.392</td>
</tr>
<tr>
<td>(p)</td>
<td>0.566</td>
<td>0.696</td>
</tr>
<tr>
<td><strong>GAD-7</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(N)</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>(R^2)</td>
<td>0</td>
<td>0.028</td>
</tr>
<tr>
<td>(F)</td>
<td>0.012</td>
<td>2.252</td>
</tr>
<tr>
<td>“(B)”</td>
<td>0.051</td>
<td>0.137</td>
</tr>
<tr>
<td>(t)</td>
<td>0.112</td>
<td>1.501</td>
</tr>
<tr>
<td>(p)</td>
<td>0.911</td>
<td>0.138</td>
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<tr>
<td><strong>CES-D</strong></td>
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<td></td>
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<tr>
<td>(N)</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>(R^2)</td>
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</tr>
<tr>
<td>(F)</td>
<td>1.421</td>
<td>6.635</td>
</tr>
<tr>
<td>“(B)”</td>
<td>1.026</td>
<td>0.483</td>
</tr>
<tr>
<td>(t)</td>
<td>1.192</td>
<td>2.576</td>
</tr>
<tr>
<td>(p)</td>
<td>0.237</td>
<td>0.012*</td>
</tr>
</tbody>
</table>

*p<.05
CHAPTER V

DISCUSSION

Experiencing symptoms of anxiety and depression is not only disruptive to the individual but can also have adverse effects on those around them. Being aware of different stimuli that can contribute to increased symptoms of psychopathology can be empowering to offset the crisis of mental disorders in the United States (Cueller, 2015). This study aimed to provide insight to the relationship of social media usage and its influence on symptoms of anxiety and depression in adolescence.

Descriptive Analyses

Historically, research studies lack a representative sample that includes persons of color. When investigating the sample demographics of studies used in the literature review, the majority were disproportionately white compared to Hispanic, Black or African American, or Asian. Of those who reported race and ethnicity demographics, all had at least a 50% sample of white participants with a few as high as 80-85%, and some had as little as 6.2% of representation from Black or African Americans (Barry et al., 2017; Elhai, Hall, & Erwin, 2018; Hardy & Castonguay, 2018). The sample of Hispanic participants was higher than Black or African American but did not exceed 26.1% in the studies used in the literature review (Shensa et al., 2018; Zhu, Haegele & Healy, 2019). The sample demographics in this study included a large number of persons of color, as 32.1% were Black or African American and 54.8% were Hispanic.
The literature suggested that those in lower socioeconomic groups and who belong to a minority race will average more time on social media than their peer counterparts (Mayhew & Weigle, 2018; Zhu, Haegele & Healy, 2019). The results in Table 1 show how the sample is majority persons of color, which is true of the majority of CIS students. The current data for reports from the 2019-2020 school year show that Hispanic and African-American or Black students account for 78.1% of CIS students (CIS, 2020). In addition, the CIS data reports showed that 87.5% of current students are eligible for free or reduced lunch, meaning they are considered to be of low socioeconomic status. Students in this study also reported an average of 11.5 hours on social media per day, which is considered to be “almost constant” use in adolescence (Barry et al., 2019, Calheiros Velozoa & Stauderb, 2018). Based on the literature, the findings of this study are consistent with the belief that youth in poverty or with low socioeconomic status spend more time on social media than other students (Mayhew & Weigle, 2018; Zhu, Haegele & Healy, 2019).

The variation in depression and anxiety scale sample sizes, found in Table 2, is also important to note. The GAD-7’s sample size was 79, and the SAS and CES-D both had 84 participants. For the participants to complete the GAD-7, they had to have used social media in the last two weeks. Participants who answered “no” to using social media in the last two weeks were directed to skip completing the GAD-7 scale. During data analyses of the GAD-7, the researcher used listwise deletion in cases of missing data. Approximately five students reported not having used social media, therefore explaining the variation in sample sizes among scales.
When analyzing the averages for the various anxiety and depression scales in Table 2, it is important to note the average number of student reported symptoms. The sample averaged a low number of anxiety symptoms according to the SAS scale and the GAD-7, meaning the participants were not considered to have an anxiety disorder and experienced little to no symptoms. The CES-D scale revealed students are experiencing symptoms of depression, as the average score was 15.893, and this study revealed that social media usage may affect depressive symptoms. Overall, the study population did not report having many anxious symptoms, however the average reported number of depressive symptoms were higher.

**Regression Analyses**

In order to test the hypotheses, multiple linear regressions were conducted. The series of tests sought to identify a relationship between the independent variables (i.e., the number of social networking sites and hours of social media) and dependent variables (i.e., SAS, GAD-7, and CES-D).

**Number of Social Networking Sites**

This study sought to examine how the number of social networking sites to which one belongs affects mental health symptoms. Table 3 included the regression analyses that showed there is not a significant relationship between number of social networking sites and mental health symptoms. The hypothesis that the number of social networking sites used will be positively associated with symptoms of depression is not supported by this research. Only 1.7% of the variability in mental health symptoms (i.e., CES-D scale) was explained by the number of social media networking sites used.
Last, the hypothesis that the number of social networking sites used will be positively correlated with symptoms of anxiety is also not supported by this research. The amount of variance in the GAD-7 scale that was explained by the number of social media sites is close to zero percent. The proportion of variability in the SAS scores that was explained by number of social networking sites used was only .4% and was not statistically significant.

The research done in this study concluded there were no significant relationships between social networking sites and symptoms of anxiety or depression. While it is uncertain how the participants used social media, the GAD-7 and SAS scores (shown in Table 2) revealed students experienced a minimal amount of anxiety symptoms. The lack of relationship could be explained by the literature on positive effects of social media. Adolescents may use social media as a tool to find support and interact with others online to offset depressive symptoms (e.g., feelings of loneliness or despair) (Kumar et al., 2019). One consideration when analyzing the data is the range of cultures included in the sample. Having a majority population of color is unlike traditional research studies, and it is difficult to generalize findings when the sample demographics do not appear to be similar. As CIS data shows that a majority of the students are considered to be of low socioeconomic status, stress and anxiety may appear differently for those living in poverty. The challenges of poverty often include the compounding stress to secure basic psychological needs and the individual’s threshold for anxiety may have a higher tolerance to stressors (Arendt, Scherr, & Romer, 2018; Mayhew & Weigle, 2018).
Hours of Social Media

This study sought to answer how the amount of time spent on social media affects mental health symptoms. Table 3 shows that the relationship between hours of social media use and CES-D scores is significant. Therefore, the hypothesis that the amount of time spent using social media will be positively associated with symptoms of depression is supported by the findings of this study and consistent with previous literature. Previous studies also found that there is a relationship between symptoms of depression and number of hours on social media (Akkın Gürbüz et al., 2017; Belfort & Miller, 2019). The direction of the relationship between hours spent using social media and depression is unknown. Therefore, it is not possible to infer a causal relationship between the two variables.

These findings are important to consider, despite the root of the relationship being undetermined, considering it leaves the opportunity for hours on social media and symptoms of depression to both positively and negatively influence one another. Literature suggests that unhealthy or inappropriate usage of social media can have grave consequences on the individual, as suicidal ideations or self-harm behaviors may be present or increased while on social media as well as opportunities for cyberbullying (Memom et al., 2018; O’Reilly et al., 2018). The World Health Organization (WHO) has determined suicide to be the second leading cause of death among adolescents and activity should be monitored for youth who have depressive symptoms (Arendt, Scherr, & Romer, 2019).

The second hypothesis that the amount of time spent on social media will be positively correlated with anxiety symptoms was not supported. Number of hours on
social media explained a low amount ($R^2=2.8\%$) of variability in the GAD-7 with a non-significant p value. Hours spent on social media only explained .2% of the variability in SAS (see Table 3). Based on these results, there was not a significant relationship between hours on social media and anxiety symptoms; and the hypothesis was not supported. Literature surrounding social media does not reveal a singular outcome, as there are positive and negative effects of belonging to online social networking sites (Barry et al., 2019; Hardy & Castonguay, 2018). Because this study revealed that the hours did not correlate with symptoms of anxiety, it could be assumed based on the literature review that some adolescents reduce social isolation through online networking and find peer support that does not hurt their mental health (Arendt, Scherr, & Romer, 2019; Belfort & Miller, 2019).

**Implications**

Exploring the relationship between social media usage and symptoms of anxiety and depression concluded that the number of hours spent on social media and symptoms of depression were related to one another. Even though the research found only one statistically significant hypothesis, the results can add to the existing knowledge on the effects social media has on youth. Adolescent depression and the amount of time on social media can negatively influence one another, and the negative effects are significant. The findings for anxiety and social media use resulted in no correlation and instead has the potential to be a resource, although the sample’s demographics were inconsistent with previous studies. Because this analysis is based on adolescent youth, these findings are important for adults with children or working with children to consider appropriate amounts of social media usage.
Implications for Policy

Policy surrounding social media usage is scarce as it is a relatively new development and continuously evolving. In 2017, Texas passed Senate Bill 179 known as David’s Law, named after a 16-year-old boy who suffered from online harassment and died by suicide. This Bill classifies cyberbullying punishable by law as a misdemeanor offense, and school campuses are able to pursue legal action for both on-campus and off-campus bullying (Senate Bill 179, 2017). The findings in this study implied that social media can have harmful effects on symptoms of depression in adolescence, and David’s Law is the first step in protecting vulnerable students against the potential negative outcomes. Implications on policy based on this study could potentially affect local school districts to educate their students on this law as well as educate on healthy social media practices.

CIS is a national agency that seeks to provide resources to at risk students and service delivery often includes behavioral support (CIS, 2019). The agency can use the findings from this study to develop policy on social media use as it relates to the mental health initiative they will be offering students in the coming years. Many campuses facilitate groups and creating curriculum for healthy social media behavior would be beneficial for students.

Implications for Research

While this study contributes to the literature on social media use and symptoms of depression among adolescents, there continues to be inconsistencies among studies. The study’s sample size was only generalizable to CIS, and a duplicated study could include both CIS students and those not eligible for services to compare results and clear up any
ambiguities. A study designed to analyze social media behavior for students with a diagnosis of depression or anxiety could result in more holistic and consistent data as well.

When investigating the data, the variables in this study show skewness. Choosing different measures, taking the steps to transform the data, or using non-parametric statistics are possible suggestions to replicate the study with a normal distribution. This study was unable to do so with the limited amount of time available due to the social distancing guidelines and school closures with COVID-19.

One observation was made while researching for the survey material used in this study. When evaluating for anxiety, there is a lack of reliable or valid items related to anxiety experienced on social media and instead the focus is on interpersonal anxiety in human relationships. Interpersonal anxiety includes elements of human interaction that are similar to interactions through technology but ignore the differences of online communicating such as direct messaging or commenting on posts, pictures, or videos. For future studies on social media or anxiety, an assessment should be developed that is inclusive to interacting via social media to properly evaluate symptoms of anxiety as they relate to the internet.

**Implications for Practice**

The findings in this study were not only important to consider for policy and research, but also for practice. The sample demographics were generalizable to the CIS population and results can be applied to case-managed students. First, the study revealed a high average of daily activity on social media, approximately 11 hours a day. Students often hear of the negative effects of social media, such as cyberbullying, but there is a
lack of education on creating healthy boundaries for oneself while online, and students are spending a significant amount of their day online. The rise in suicide among youth is a concern that CIS often encounters, and preventing suicidal ideations could start with addressing the high number of hours youth are spending online. The same is true for depressive symptoms, as students reported feeling depressed already, and social media had an effect on their symptoms.

CIS has transformed their services to better address mental health and have heavily focused their behavior interventions on anxiety in adolescents (CIS, 2019). The services targeting anxiety involve mindfulness practices, positive affirmations, and healthy coping mechanisms. The CIS participants in this study reported having little to no symptoms of anxiety, and it is possible that interventions from the program equip students for better symptom management. On the other hand, the sample reported having depressive symptoms and the behavior services at CIS often do not target for depression. It is recommended that the organization incorporate evidence-based practices for all students in addition to the services relation to anxiety.

The results concluded that there is a relationship between social media and depressive symptoms, and the participants were online almost constantly. This is concerning due to previous study findings that social media use by adolescent is linked to depression and ultimately suicidality (Memom et al., 2018). Suicidality is a priority concern among the public-school system and student success coaches with CIS heavily monitor and assess for suicidal thoughts due to the increasing rates of suicide among youth (Arendt, Scherr, & Romer, 2018). Evidence-based practices already exist for depression among youth, and the Teen Mental Health organization has free screening
tools as well as recommended interventions such as breathing techniques, feeling journals, and group activities.

CIS encourages group collaboration, and all staff are trained on the Teen Life curriculum, a program fostering a safe place for students to face everyday challenges and build relationships with their peers (Teen Life, 2020). For students experiencing depressive symptoms, social media appears to not be fulfilling the basic psychological need of human connection. Encouraging students to participate in the Teen Life groups offered on campus may provide the sense of community and peer support that is lacking. Overall, CIS behavior interventions are beginning to address mental health among youth; however, services should be inclusive to both symptoms of anxiety and depression and education on healthy social media behaviors.

**Limitations**

Several limitations of this study are important to consider. Participants in the study were case-managed students of a drop-out prevention program, CIS. In order to be in CIS, the student must be considered at risk and have an educational barrier to participate in the program and receive services. Educational barriers include: previously failing state testing requirements, being retained from promoting from a previous grade, being homeless, being a student of Limited English Proficiency, being in foster care, having incarcerated parents or being involved with the justice system themselves, being pregnant or a parent, or being in a family conflict or crisis (CIS, 2019). The limitation of this study is that all participants were considered at risk, according to the Texas Education Agency that governs CIS, and results could not be generalized to all students. The student’s at-risk status could have affected the participants’ responses to the anxiety
and depression scales, and opening the survey to the general population of students could produce different results.

A sample of this nature (e.g., the inclusion of multiple campuses and a wide range of participants from grades 6-12) brought a second limitation. Upon investigation of the normal distribution plot the sample’s data did not appear to be normally distributed. The effect of a skewed sample is unsure. Further, the restrictions and closures due to COVID-19 placed a time restriction on being able to analyze data and run statistical analyses.
CHAPTER VI
CONCLUSION

The purpose of this study was to evaluate the relationship between social media usage, including hours spent online and social networking sites used, and symptoms of depression and anxiety in adolescents. Social media is a popular form of communication and entertainment amongst all age groups, but the fragility of adolescence poses concern of its effects (Kumar et al., 2019). The research in this study concluded that the amount of time spent on social media and symptoms of depression were significantly related to one another, yet there appeared to be no relationship between symptoms of anxiety and social media usage. The data supporting depressive symptoms is important to consider due to the severity of negative outcomes related to self-harm and suicidal ideations (Memom et al., 2018). Youth living in poverty are particularly at risk, considering they are more likely to have higher rates of social media activity, which may lead to the development of depressive symptoms (Mayhew & Weigle, 2018). The participants’ demographics in this study were unlike others used in the literature review, as the majority of the sample were Hispanic and Black or African American.

The research findings were less conclusive for symptoms of anxiety yet provide insight into the effects of social media for further studies to explore. In fact, symptoms of anxiety appeared to be mildly inversely related to the number of social networking sites used. Belonging to one or multiple social networking sites can provide safe environments for youth to express themselves freely and with the opportunity for anonymity, thereby
creating positive emotions and potentially reducing symptoms of anxiety (Arendt, Scherr, & Romer, 2019; Belfort & Miller, 2019). There are also abundant resources available online for mental health and symptoms of anxiety, depression, and a number of other disorders for adolescents to utilize to benefit their well-being and overall health (Hardy & Castonguay, 2018).

The findings of the study also provided implications for policy, practice, and recommendations for additional research. The sample characteristics were representative of the CIS student population, and research findings are applicable to influence services and curriculum development. Students reported experiencing a number of symptoms of depression, and CIS services are lacking to provide support in that area, although provide essential interventions for anxiety. Overall, this study has addressed the importance of monitoring technology for vulnerable youth and the impact social media may have on individuals.
REFERENCES


Communities In Schools (CIS). 2020. CIS-NAV Data Reports


APPENDIX A

IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World
Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885

December 6, 2019

Morgan Culpepper
Department of Social Work
Abilene Christian University

Dear Morgan,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled “Exploring the Relationships of Social Media Usage and Symptoms of Anxiety and Depression in Adolescents”, was approved by expedited review (Category 7) on 12/6/2019 (IRB # 19-132). Upon completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs
APPENDIX B

Communities In Schools Parent Consent Form

CIS PARENT CONSENT / RELEASE OF INFORMATION
School Year 2019-2020

Consent to Participate:
1. I give permission for my child (name): _________________ to participate in the Communities In Schools (CIS) program for the 2019-2020 school year. Services my child may receive include but are not limited to supportive guidance/counseling, educational support, tutoring, mentoring, enrichment activities, referrals to other agencies, and other: _________________.
2. I give permission for my child to complete surveys and/or assessments administered by CIS to guide service planning and determine progress.
3. I acknowledge that this consent is voluntary and may be revoked at any time by informing CIS staff, in writing, except that prior consent will still apply to the extent that agencies have already acted in reliance of it.

Consent to Release of Information:
4. I give permission for CIS to provide and obtain the following information about my child (name): _________________ from the school, school district, the Texas Education Agency and/or the CIS National Office: grade reports, attendance records, test scores, disciplinary information, class schedules, identification numbers, free/reduced lunch status, health-related information, special education information, interventions and services provided, and other: TEA eligibility indicator for CIS services.
5. I acknowledge that the information provided and obtained may be used to plan and adjust services that will help my child, for tracking and reporting purposes, and to evaluate and determine the effectiveness of the CIS program.
6. I acknowledge that the records and information released under this consent will be kept confidential to the extent permitted by law and used only for the purpose indicated.
7. I acknowledge that the release of records under this consent is subject to any limitations placed by federal and state law.
8. I acknowledge that this consent allows release of data for the school year listed above. Data from this year will be retained for up to five years and may be shared during that time for evaluation purposes or to provide services that will help my child.
9. I acknowledge that the records released concerning the student may contain references to other persons (i.e., members of the student’s family).
10. I understand that the data and information collected on my child including documentation of services provided to my child is maintained in a secure computer database and a case file. I authorize CIS to maintain the information provided for the purposes noted above in the CIS computer database and case file.
11. I acknowledge that I have the right to inspect or obtain a copy of any record released by this consent upon request in writing to the releasing agency, subject to any applicable copying costs and legal limitations.

12. In addition, I give permission for CIS to provide and/or obtain the following information noted below from the following individuals or organizations:

<table>
<thead>
<tr>
<th>Individual/Organization</th>
<th>Information to be Released</th>
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Is my child eligible for free or reduced priced lunch? □ YES □ NO
CIS may use photograph(s) or video footage of my child for marketing purposes □ YES □ NO

My signature below gives permission for my child to participate in the CIS program. My signature authorizes CIS to obtain the above types of information related to my student and to provide the above types of information to the school, school district, Texas Education Agency, CIS National Office and/or the released agents identified above.

I release Communities In Schools and its employees, volunteers, or agents from liability for accidents, injuries, or illnesses that may occur to my child during his/her participation in the program. My child and I understand that we are voluntarily participating in the Communities In Schools program.

Parent/Guardian Name (Please print) ____________________________ Date: ____________________________

Parent/Guardian Signature: (Signature must be in ink) ____________________________

Telephone ____________________________ Email ____________________________

CIS Staff Signature: ____________________________ Date Received: ____________________________

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Updated: May 2019
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APPENDIX C

Student Survey

Introduction:
You have been chosen to take part in a research study. You must be enrolled in school and a participant of Communities In Schools on your campus. Please read this page carefully and ask any questions to your success coach that you may have regarding the procedures, your involvement, and any risks or benefits you may experience.

Purpose and Description:
The purpose of this research is to evaluate the relationships between social media usage and correlates of symptoms of anxiety and depression. The interaction between these traits will be explored through a survey questionnaire. You will be asked to answer questions about your demographic information (e.g., age, race) and your involvement and interaction with social media. Next, you will assess your feelings as they relate to social media usage. The survey will take no more than 15 minutes.

Risks and Benefits:
The primary risk with this study is a breach of confidentiality. However, we have taken steps to minimize this risk. We will not be collecting any personal identification data during the survey. There will be no place for your name or student number. In receiving your response, computer IP addresses will not be collected and there will be no tracing which campus the responses were from. All responses are received through the researcher’s password protected CIS Google Drive account. There are no other risks associated with this survey, including stress, psychological, social, physical, or legal risk, considered to be greater than any of those that are experienced in daily life. If, for any reason, you begin to experience discomfort or stress during this project, you may end your participation at any time without penalty or negative consequences. You may also request that any already gathered information be removed from the study.

Privacy and Confidentiality:
Success coaches will respect your privacy by allowing time and space to complete the survey and are asked to avoid looking at your computer screen. All recorded responses will be stored securely on a Google Drive and contain no identifiers. Additionally, the Institutional Review Board of Abilene Christian University has the right to access the informed consent forms and study documents at any time.

**Participant Rights:**

As there is no compensation associated with completion, you are not required to participate in the survey. Your participation in this research is completely voluntary. There will be no penalty for refusal to participate, and you have the ability to withdraw your consent and participation at any time. Please feel free to ask for a printed copy of this consent page to keep for your records.

**Contacts:**

For any questions about involvement in the study or to request information about the results of the study, you may contact the following researchers:

**Principle Investigator:**
Morgan Culpepper, B.S.
Mec15c@acu.edu
325-428-9214

**Alternate Investigator:**
Alan J. Lipps, PhD.
ajl07a@acu.edu

If you have concerns about this study you may contact ACU’s Chair of the Institutional Review Board and Executive Director of Research, Megan Roth, Ph.D. at megan.roth@acu.edu or (325) 674-2885.

**Student Assent:**

Click only after you have read all of the information.

I hereby give permission for my participation in this study.

___ Yes
___ No (Those who answer no will be taken to an “end of survey” page).
### A. Demographic Information

<table>
<thead>
<tr>
<th>What grade level are you in?</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>12th</th>
</tr>
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<tbody>
<tr>
<td>What is your gender?</td>
<td>Male</td>
<td>Female</td>
<td>Prefer not to answer</td>
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</tbody>
</table>

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<tr>
<th>What is the best description of your race? Choose only one.</th>
<th>American Indian or Alaska Native</th>
<th>Asian</th>
<th>Black or African American</th>
<th>Native Hawaiian or Pacific Islander</th>
<th>White</th>
<th>Other</th>
</tr>
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<table>
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<tr>
<th>Are you Hispanic or Latino?</th>
<th>Yes</th>
<th>No</th>
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</table>

### B. Social Media Usage

<table>
<thead>
<tr>
<th>Have you ever used any of the following social media sites?</th>
<th>Yes</th>
<th>No</th>
<th>I don’t know</th>
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<tbody>
<tr>
<td>Facebook</td>
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<td>Snapchat</td>
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<td>WhatsApp</td>
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<td>Tumblr</td>
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<tr>
<th>How often do you visit or use each site daily?</th>
<th>Less than 1 hour</th>
<th>1-3 hours</th>
<th>4-6 hours</th>
<th>7+ hours</th>
<th>I don’t use it</th>
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<tbody>
<tr>
<td>Facebook</td>
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</tr>
<tr>
<td>Social Media Platform</td>
<td>Everyday</td>
<td>3-5 days a week</td>
<td>1-2 days a week</td>
<td>Every few weeks</td>
<td>I don’t use it</td>
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<td>Tumblr</td>
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**How often do you visit or use each site weekly?**

**How often do you ________?**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Everyday</th>
<th>3-5 days a week</th>
<th>1-2 days a week</th>
<th>Every few weeks</th>
<th>Never</th>
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<tbody>
<tr>
<td>Post a picture on social media</td>
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<td>Post a “status” (written communication from your page)</td>
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<td>“Like” other people’s status, photos, or posts</td>
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<tr>
<td>Comment on other people’s status, photos, or posts</td>
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<tr>
<td>Send private messages/direct messages</td>
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**How do you access social media?**

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<tr>
<th>Access Method</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Smartphone or tablet</td>
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<tr>
<td>Desktop or Laptop computer</td>
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**How difficult would it be to give up the following in your life?**

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<tr>
<th>Difficulty Level</th>
<th>Very hard</th>
<th>Somewhat hard</th>
<th>Not too hard</th>
<th>Don’t know/Don’t have</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyday</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-5 days a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2 days a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every few weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Television- cable or streaming (i.e., television shows, movies, etc.)
Cellphone or Smartphone
The Internet
Social Media

C. Social Anxiety from Social Media Usage

When using social media, how often do you agree with the following statements?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>A Little</th>
<th>A Lot</th>
<th>All the Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I worry about what others say about me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I worry that others don’t like me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I’m afraid that others will not like me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I worry about what others think of me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel that others make fun of me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I worry about being teased</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel that peers talk about me behind my back</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>If I get into an argument, I worry that the other person will not like me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get nervous when I interact with new people</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I feel shy around people I don't know</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I get nervous when I talk to peers I don't know very well</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I only talk to people I known really well</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

D. Generalized Anxiety Disorder Scale (GAD-7)

Q.1- Answer must be “Yes” in order to proceed to question 2

<table>
<thead>
<tr>
<th>Have you used social media in the last 2 weeks?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
Q.2

<table>
<thead>
<tr>
<th>Feeling nervous, anxious or on edge</th>
<th>None</th>
<th>Several Days (1-5 days)</th>
<th>Over half the days (6-10 days)</th>
<th>Nearly Every Day (11+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not being able to stop or control worrying</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Worrying too much about different things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Trouble relaxing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Being so restless that it’s hard to sit still</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Becoming easily annoyed or irritable</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Feeling afraid as if something awful might happen</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

E. Depression Scale (CES-D)

<table>
<thead>
<tr>
<th>When using social media, how often do you agree with the following statements?</th>
<th>Not at all</th>
<th>A little</th>
<th>A lot</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was bothered by things that usually don’t bother me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I did not feel like eating; my appetite was poor</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt that I could not shake off the blues even with help from my family or friends</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt I was just as good as other people</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I had trouble keeping my mind on what I was doing</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt depressed</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt that everything I did was an effort</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt hopeful about the future</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I thought my life had been a failure</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt fearful</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>My sleep was restless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I was happy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I talked less than usual</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt lonely</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>People were unfriendly</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Item</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>I enjoyed life</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I had crying spells</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt sad</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I felt that people dislike me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>I could not get “going”</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>