

# The Impact of Social Media and the COVID-19 Pandemic on Adolescent Mental Health: A Literature Review

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## Abstract

Recent research indicates that adolescents and college students today are heavily reliant on their smartphones and other devices. While technology has made communication and accessing information easier, it also has its downsides. This reliance on technology can contribute to behavioral addictions and may lead to increased depressive symptoms and anxiety. Adolescents are vulnerable to the influences of social media. Studies show that time spent on social media, the types of sites visited, and a lack of in-person interactions with peers can all contribute to higher levels of depression and anxiety. The COVID-19 pandemic has further intensified these issues. For example, a study by Son et al. (2020) found that during the pandemic, 71% of participants experienced increased stress and anxiety, 91% had concerns about their own and their loved ones' health, 89% struggled with concentration, 86% faced disrupted sleep patterns, 86% had reduced social interactions due to social distancing, and 82% felt anxious about their academic performance. This paper reviews the literature on social media use and the impact of the COVID-19 pandemic on adolescent mental health. It highlights the urgent need for greater education for both parents and policymakers about managing social media use among adolescents and college students.

**Keywords:** social media, COVID-19 pandemic, adolescent mental health

## 1. Introduction

In recent years mass media and health professionals have warned the population of the inherent possible danger that social media is having on young children and adolescents (Bilgin et al., 2020; Choukas-Bradley et al., 2022; Ripon et al., 2022; Twenge, 2017; Van den Eijnden et al., 2018). It is clear from a review of the literature that smartphones and the abundant use of social media by young children and adolescents is having a negative impact on their wellbeing and mental health. Additionally, in March 2020 the COVID-19 pandemic impacted the world creating shutdowns from businesses to schools resulting in isolationism where adolescents and college students became more dependent on their devices and social media (Mousavi, 2023; Samji et al., 2022; Son et al., 2020).

Adolescence is a time of great change of biological, social, and psychological change which involves identity development, both personally and sexually, self-expression, friendship development, and peer acceptance (Caner et al., 2022; Garthe et al., 2022; Keles et al., 2020; Santrock, 2019, Twenge, 2017). As adolescents seek social and peer acceptance social media provides an opportunity to reach out and interact with peers at anytime and anywhere (Caner et al.). In the world of adolescents, the measurement of peer acceptance tends to be in the form of social media “likes,” “views,” and the number of “friends,” one acquires according to Caner et al. The increased time spent on social media platforms adolescents are involved in constant social comparison with their peers and others online, adding to psychologically negative affects such as body image, life experiences, and abilities (Bilgin et al., 2020; Caner et al., 2022; Choukas-Bradley et al., 2022; Dam et al., 2023; Ferguson, 2024; Ripon et al., 2022; Santrock, 2029; Twenge, 2017; Van den Eijnden et al., 2018). Caner et al. (2022) reports a correlation between time spent on social media and depression, lowered academic achievement, negative views of body image, risky behaviors, and eating disorders. This review will explore the literature to determine the extent research supports this effect on adolescents from social media use and negative affect. Additionally, this review will explore the literature concerning the impact the COVID-19 pandemic had on adolescents when most schools were shutdown and resulted in online learning isolating most students from their peers.

## 2. Social Media

Today, the adolescent world revolves around smartphones, gaming, and social media (Bahnweg & Omar, 2023; Bilgin et al., 2020; Caner et al., 2022; Choukas-Bradley et al., 2022; Dam et al., 2023; Ferguson, 2024; Girela-Serrano et al., 2022; Houghton et al., 2018; Keles et al., 2020; McCrory et al., 2022; Mougharbel et al., 2023; Ripon et al., 2022; Van den Eijnden et al., 2018). According to Keles et al. (2020), "social media refers to the various internet-based networks that enable users to interact with others, verbally and visually" (p. 80). Technology is a double-edged sword: on the one hand, in many ways, it has simplified our lives through communication and information at our fingertips, but on the other hand, this technology may have laid the foundation for behavioral addictions such as “internet addiction and social media addiction” according to Ripon et al. (2022, p. 2). These behavioral manifestations have led to an increase in adolescent depressive symptoms and an increase in anxiety among adolescents and college

students (Bilgin et al., 2020; Caner et al., 2022; Choukas-Bradley et al., 2022; Dam et al., 2023; Ferguson, 2024; Houghton et al., 2018; Keles et al., 2020; Liu et al., 2022; McCrory et al., 2022; Mougharbel et al., 2023; Mousavi et al., 2023; Nesi et al., 2022; O’Keeffe & Clarke-Pearson, 2011; Price et al., 2022; Richards et al., 2015; Ripon et al., 2022; Twenge, 2017; Van den Eijnden et al., 2018). A report by the World Health Organization (as cited in Houghton et al., 2018) issued in 2001 projected that mental health problems would become a significant issue of disability among children and adolescents by 2020. Numerous research in the literature appears to support this prediction (Caner et al., 2022; Choukas-Bradley et al., 2022; Garthe et al., 2022; Houghton et al., 2018; Keles et al., 2020; Ferguson, 2024 et al., 2019; McCrory et al., 2022; Mougharbel et al., 2023; Nails et al., 2023; Price et al., 2022; Ripon et al., 2022; Twenge, 2017; Van den Eijnden et al., 2018).

Van den Eijnden et al. (2018) found that social media use, in addition to gaming, may produce the perception of social competence, perhaps enhancing adolescent social relationships. On the other hand, their results suggest that heavy social media use harms adolescents' life satisfaction; therefore, leading to psychological negative impacts. Regarding school performance, heavy social media has a slight negative impact on Grade Point Average (GPA). Moreover, Van den Eijnden et al. report that GPA was negatively impacted for girls only.

Adolescence is a developmental change that intersects biological, cognitive, and socioemotional processes in the transition from childhood to adulthood, which creates an environment where adolescents are vulnerable (Choukas-Bradley et al., 2022; Caner et al., 2022; Keles et al., 2020; Santrock, 2019; Yin et al., 2022). As discussed, issues of adolescent mental health increased by the heavy use of social media and by the vulnerability of adolescents due to the intersection of biological, cognitive, and socioemotional processes in the transition from childhood to adulthood.

### **3. Adolescent Vulnerability**

The developmental stage known as adolescence is wrought with upheaval. Adolescence begins the transition from childhood to adulthood, where biological changes occur both physiological, psychological, hormonal, and socially that potentially could make them vulnerable to influence (Caner et al., 2022; Mougharbel et al., 2023; Yin et al., 2022). According to Mougharbel et al., "Early adolescence involves pubertal changes that elicit substantial biological, cognitive, physical, social, and emotional changes, making this a critical period for the development of mental health problems" (p. 2). This intersection of biological, cognitive, and socioemotional processes may create the perfect environment for influence from social media, especially for adolescent females (Mougharbel et al., 2023).

#### *3.1 Timeframe*

Adolescence is also a time when issues of identity are explored and developed. According to Santrock (2019), "Identity is who a person believes she or he is, representing a synthesis and integration of self-understanding (p. 138). According to Erikson (as cited in Santrock, 2019), adolescents seek answers to questions such as Who am I?, What will I do with my life?, and

How am I alike or different from others? Additionally, issues of sexual orientation and sexual identity and the management of such issues are standard beginning during early adolescence and often are not a straightforward process (Santrock, 2019). Pubertal changes happen during early adolescents where physical development proceeds more rapidly outpacing emotional development leaving adolescents extremely vulnerable and susceptible to the influence of social media. Keles et al. (2020) found that adolescents with limited self-regulation capacity become vulnerable to peer pressure by heavy social media use, placing them at greater risk for mental health issues (p. 81).

### *3.2 Physical Development*

Adolescence is also a critical time where brain development is still growing. One of the key issues to consider is the adolescent brain (Bahnweg & Omar, 2023; Santrock, 2019). The area of the brain responsible for regulating thought, actions, and emotion in young adolescents is not fully developed until 24-26 years of age (Bahnweg & Omar, 2023). An area of importance is the limbic system, more specifically the amygdala. The amygdala regulates emotion, and adolescents can have strong emotions. Since their prefrontal cortex is not completely developed, most often adolescents cannot control these emotions (Santrock, 2019). Dopamine, a neurotransmitter that has a greater production from the limbic system during early adolescence is related to risk taking and reward seeking, which may allow for greater misuse of social media. For instance, the constant need for “likes” on social media posts is a reward seeking practice and could be a cause of great distress if those needs are not received.

Plasticity is a critical issue for adolescents, especially younger adolescents. The malleability of the young adolescent brain creates an environment where adolescents are easily influenced by their peers and things around them, especially things they may see or hear on social media. Early adolescence is a time when teens seek greater autonomy and independence from parents or caregivers, spending more significant amounts of time with peers searching for friendships, allowing for greater influence (Garthe et al., 2023). Developing these relationships, mainly if negative interactions occur, may create stressful feelings leading to a sense of social isolation, increasing episodes of depression and anxiety.

### *3.3 Body Image*

Another vulnerability of adolescence is the issue of body image. Adolescents are highly influenced by the media’s representation of body image, and they engage in social desirability resulting in unrealistic expectations (Bahnweg & Omar, 2023). Having unrealistic expectations of their physical body image from viewing images online has enhanced adolescents' negative views of themselves, increasing depressive symptoms, anxiety, and negative social behaviors. According to Bahnweg & Omar, college females constantly exposed to body images with unrealistic expectations were more likely to engage in “body surveillance” with harmful consequences (p. 3).

Adolescents in recent years are frequently using the internet, social media, and TikTok in an apparent effort to “self-diagnosis” for various symptoms (Bahnweg & Omar, 2023). The notion here is that adolescents perceive their issues, search the internet or TikTok, then receive

numerous images and videos displaying various mental and physical disorders and try to self-diagnose themselves even with issues they do not have. Bahnweg & Omar report many of the common disorder's adolescents appear to identify with ADHD, OCD, and autism (p. 4). The main issue with the internet and social media platforms is the algorithms used in such devices "learn" what users are interested in and then flood their screens with similar content. For example, Bahnweg & Omar found that TikTok users may view videos and content "stating that if you are organized and like structure, you may have obsessive compulsive disorder (OCD), not realizing that those that truly have OCD are unable to function because of the compulsions" (p. 4). In other words, adolescents view these videos and images, become convinced based on their incorrect self-diagnosis, and present themselves to health professionals proclaiming they have these disorders; thereby, increasing their depressive and anxiety issues.

#### **4. The Impact of Social Media**

Recent research has revealed that mental health issues among adolescents ages 10-19 have increased 14%, with 95% reporting access to a smartphone (Choukas-Bradley et al., 2022; Mougharbel et al., 2023). One study found that "50% of all mental health issues are established by the age of 14 and 75% by the age of 18" (Keles et al., 2020, p. 79). Another study by Richards et al. (2015) reported that 87% of American adolescents between the ages of 12-17 use the Internet, while 51% stated they use it daily. As early as 2015, American data suggest that 60% of adolescents ages 13-17 report having at least one social media site, according to Richards et al. These issues have resulted most in children and adolescents described as anxiety disorder and depression. According to the Royal Society for Public Health, & Young Health Movement (as cited in Keles et al., 2020), these mental health issues have increased 70% in the past 25 years for this age group. Many studies suggest that increased anxiety and depression create more significant risk for adolescent development that may lead to higher school dropout rates, substance use including drugs and alcohol, behavioral issues, risk of cardiovascular disease, and greater risk of suicide (Caner et al., 2022; Choukas-Bradley et al., 2022; Garthe et al., 2022; Keles et al., 2020; Mougharbel et al., 2023; Yin et al., 2022).

##### *4.1 Theories Concerning Social Media*

Choukas-Bradley et al. (2022) suggests a social media transformation framework involving several components related to social media: visualness, quantifiability, availability, publicness, and permanence (p. 685). In other words, according to Choukas-Bradley et al. visualness pertains to the availability of the content of photos and videos available and to which users focus on their own and their peer's physical appearance. Quantifiability allows time for viewer feedback to gain a verifiable metric. Availability relates to the ease and accessibility of content that can be viewed at anytime and anywhere. Publicness is that the content uploaded is available to a large audience. Permanence simply means that the content always has some relative assurance of permanent accessibility. It would appear taking these five components together in the context of social media in the constant of availability of uploaded content over time could lead to the issues faced by adolescents.

#### *4.2 Facebook Depression*

According to Richards et al. (2015), the term “Facebook depression” was first introduced to describe the negative effects of social media on the lives of adolescents (p. 1153). Among the variables associated with social media and depression is gender. Most research has found correlations between heavy social media use and depression expressed differently among boys and girls (Liu et al., 2022; Nesi et al., 2022; O’Keeffe & Clarke-Pearson, 2011). Nesi et al. found that girls may be predisposed to an overly sensitive and an emotional response to social stressors, seeking greater approval and feedback from social media “likes” which may lead to greater risk of depression. Some studies have also reported that boys have some degree of maladjustment related to social media use, while the overall greater weight negatively impacted girls (Keles et al., 2020; Liu et al., 2022; Mougharbel et al., 2023). Mougharbel et al. (2023) found that girls were most negatively affected psychologically with heavy social media use “because they are more emotionally interested in friendships, and body appearance, and tend to be more involved in self-disclosure, and more likely than males to experience low emotional self-efficacy and lack of negative emotional management” (p. 7). These issues may lead girls and females to become more vulnerable with heavy social media use to experience greater levels of depression and anxiety.

#### *4.3 TikTok*

In recent years, the rise in popularity of TikTok, with over 1 billion users active monthly, is the most popular social media platform with an average age range from 12-17 (Bahnweg & Omar, 2023). According to the World Health Organization (as cited in Bahnweg & Omar, 2023), in 2021, 1 in 7 adolescents between ages 10-19 were reporting mental health issues such as depression, anxiety, and behavior disorders (p.1). One area of possible concern with social media platforms, including TikTok users, is keeping track of the number of likes post’s receive. Such actions have great influence regarding self-esteem where users receiving fewer likes from their posts may experience lower self-esteem and may exacerbate psychopathology such as depression and anxiety (Bahnweg & Omar, 2023).

Another area of concern with social media platforms and TikTok is the issue of body image. For example, adolescents may take images of themselves as if they are in person, and then after filtering the image post a “corrective” that appears more attractive. According to Bahnweg & Omar (2023), these postings may seem harmless, but in the long run may develop negative feelings concerning their appearance which may lead to depressive symptoms. Bissonette and Szymanski (as cited in Behnweg & Omar) found that adolescents and college females that viewed positive body images and videos via social media and TikTok were more likely to be negatively impacted. Simply, this “viewing” increased their attention to social comparison to the images viewed and their own lived experiences, resulting in increased depression and anxiety. Ripon et al. (2020) found that females had a greater addiction to social media platforms such as Facebook with 40% reporting that social media, especially Facebook had become a negative issue.

Bilgin et al. (2020) found that addiction to social media from adolescents increases when the overall stress within the family dynamic increases. Some adolescents may increase their online

presence due to daily stress within the home, school, or other stressors. Since adolescence is a time when adolescents attempt to seek independence from the family and place, they prioritize friendships with their peers as of greater importance. This results in adolescents prioritizing social media communicating with friends and a lack of interest in face-to-face communication with parents and caregivers. Social media viewing and communication becomes problematic, further appearing to increase adolescent mental health issues.

One study found that engaged social media use may have a positive effect on adolescents perceived social competence by maintaining their social relationships (Van den Eijnden et al., 2018). Van den Eijnden et al. also reported that misguided social media use leads to a negative sense of life satisfaction. Most research studies on adolescent social media use, especially younger adolescents indicate the higher risk these young people have for developing depression and anxiety (Caner et al., 2022; Choukas-Bradley et al., 2022; Ferguson, 2024; Houghton et al., 2018; Keles et al., 2020; Liu et al., 2022; McCrory et al., 2022; Mougharbel et al., 2023; Nesi et al., 2021; O’Keeffe & Clarke-Pearson, 2011; Ripon et al., 2022; Van den Eijnden et al., 2018). Consequences of heavy social media use have repercussions on school performance, especially adolescents with additional issues such as attention-deficit hyperactivity disorder, which may further distract them by their social media use. Many adolescents use social media late at night possibly negatively affecting the quality of their sleep (Van den Eijnden et al., 2018). Bilgin et al. (2020) found that social media addiction leads adolescents to suffer from such issues as the difficulty to concentrate on academics, lack of control of their anger, being at risk for increases in depression, anxiety, sleep problems, and a lack of self-respect. In addition, adolescents may begin to engage in cyberbullying or the concept of cyber-victimization.

Girela-Serrano et al. (2022) suggest an often-overlooked area is socio-cultural aspects of adolescents in context. Adolescent age, gender, socioeconomic status, the educational level of the parents, and ethnicity may have profound impacts for factors leading to adolescent heavy use of social media which in turn set up an environment for mental issues including depression and anxiety. These factors especially the socioeconomic status of the parents may impact the degree of parental involvement in monitoring adolescents use of social media and other technologies in a safe and healthy way (Ferguson, 2024; Girela-Serrano et al., 2022; Houghton et al., 2018; Mougharbel et al., 2023; Richards et al., 2015). The heavy use of social media considering, from a developmental perspective, the vulnerability of adolescents may create an environment for abusive behavior such as cyber-victimization.

#### *4.4 Cyber-Victimization*

Cyber-victimization is another issue faced by adolescents because of their heavy social media use. Cyber-victimization is defined as individuals being bullied from online digital devices (Garthe et al., 2022; O’Keeffe & Clarke-Pearson, 2011; Richards et al., 2015). Adolescents experience cyber-victimization via social media either by receiving posts that appear harmful, shameful, false, harassing, or antagonistic content about themselves or others, adding to an increase in anxiety and depression, according to Garthe et al. Garthe et al. report recent research that at least 61% of adolescents ages 10-18 have experienced cyber-victimization. Middle school students, before the COVID-19 pandemic, reported 54.4% having experienced cyber-

victimization and 50.7% during the pandemic, which supports other studies that cyber-victimization declined during the pandemic (Vaillancourt et al., 2021). These studies suggest that cyber-victimization correlates to feelings of anxiety. Perhaps the lack of face-to-face contact during the COVID-19 shutdown reduced interactions may “fuel or perpetuate bullying” (Garthe et al., 2023, p.841). Richards et al. state that cyber-victimization or cyberbullying may result in "depression, anxiety, isolation, and in some cases suicide" (p. 1153). One study found that the frequency of Facebook use was a direct correlation to being a victim of cyber-victimization (Liu et al., 2022; Richards et al., 2015). In other words, social media is a means by which this victimization leaves the schoolyard and invades home life.

The role of parental support is also a topic of research related to adolescent social media use. Mougharbel et al. (2023) found that parental support is key as influencers to check on social media use, especially young adolescents. Adolescents that perceive low parental support reported feelings of a disconnection with parents, which serve as a catalyst for heavy social media use in an attempt for social interaction. As noted by Garthe et al. (2023) increased time online puts adolescents at greater risk for cyber-victimization; thereby, increasing depression, anxiety, and social stress.

## 5. Impact of COVID-19

Layering the growing adolescent psychological distress phenomenon came the COVID-19 pandemic in 2020 (Caner et al., 2022; Mougharbel, 2023; Ripon et al., 2022). Adolescents and college students who already experienced a great deal of their lives on and through their devices because of the pandemic suddenly were physically separated from face-to-face encounters, while remaining socially connected via social media (Caner et al., 2022). During the lockdowns, school closures, and social distancing, students were forced to remote learning. In addition to the already emerging negative impacts of the excessive heavy use of social media, students "experienced further stressors including illnesses or deaths in their families or communities, loss of social experiences, and isolation" (Garthe et al., 2022, p. 840). Nails et al. (2023) found that adolescents and college students reacted to the sudden loss of social connections with their peers from face-to-face encounters by excessive social media use (Facebook, TikTok, Instagram, Snapchat, etc.), resulting in greater instances of depression and anxiety. To further exacerbate this depressed mood was a decline in physical activity, sunlight, and other activities that are normal for these age groups (p. 6). In March of 2020, the outbreak of the COVID-19 virus plunged the world into a crisis resulting in mitigation responses such as shutdowns, lockdowns, and the closing of schools, colleges, and universities. These strategies especially had negative impacts for adolescents and college students who were forced to immediately migrate from face-to-face classes to online classroom delivery (Caner et al., 2022; Garthe et al., 2022; Nails et al., 2023; Ripon et al., 2022; Samji et al., 2022; Son et al., 2020; Yin et al., 2022).

One area of focus for researchers is that of technology related to social media: the popularity and growth of Facebook, TikTok, and other platforms. According to Ripon et al. (2022), adolescents tend to be the primary users of social media such as Facebook and other social



media network sites either by smartphones, laptops, tablets, or computers leading to what researchers call Facebook addiction (Ferguson, 2024; Nails et al., 2023). Facebook addiction is defined as any social media platform that creates problems for their users along the lines of “psychological, emotional, social, school, or work difficulties” (Ripon et al., 2022, p.2).

### *5.1 Transformation Framework Related to COVID-19*

During the COVID-19 pandemic and subsequent shutdowns it could be argued that the Choukas-Bradley et al. (2022) transformation framework’s five components visualness, quantifiability, availability, publicness, and permanence could possibly relate to the impact the COVID-19 pandemic reinforced the negative impacts of social media on adolescent mental health. Adolescents and college students during the shutdown were isolated from their peers and friends and became increasingly more dependent on their devices and social media (Caner et al., 2022; Mougharbel, 2023; Nails et al., 2023; Ripon et al., 2022). Among adolescents and college students one of the most notable effects were concerns about their own health and that of loved ones (Son et al., 2020). Isolationism led to the reliance to their devices and social media leading to negative outcomes.

### *5.2 College Students*

Son et al. (2020) conducted one of the first studies during the COVID-19 outbreak interviewing college students in the United States. This study reveals several areas of concern related to mental health because of COVID-19. Son et al. found from a sample of 195 college students: 71% reported increase stress and anxiety, 91% reported fear and worry for their own health and of their loved ones, 89% reported increased difficulty concentrating, 86% reported interrupted sleeping patterns, 86% reported decreased social interactions due to social distancing, and 82% reported anxiety related to their academic performance. Another area of concern was 44% of this study reported increased levels of depressive thoughts, while 8% reported suicidal thoughts, which is an increase pre-pandemic.

An interesting area of concern is the changes in their living environment which resulted in 68% reporting that living with family members created anxiety with a sense of loss of their independence. Financial difficulties are also reported with 59% stating that concerns with finances created stressors including the impact the pandemic had on their own and their families’ difficulties with finances. Such issues were loneliness, uncertainty, hopelessness, academic achievement, and overthinking the pandemic (Son et al., 2020).

Son et al. (2020) reported that adolescents cope with stress and anxiety stating some attempt to seek help from others, but most relied on various self-management methods. One of the negative self-managing coping skills is that 23% reported avoiding watching the news about the pandemic and other issues reported. Other coping self-management skills reported were sleeping longer, often finding other distractions by doing other things, and drinking and smoking. About 29% reported positive self-management skills such as meditation and breathing exercises, spiritual activities, keeping up with routines, and attempts at positive reframing.

Ripon et al. (2022) found that during the COVID-19 pandemic, adolescents, because of the

shutdowns and isolation, had a greater “addiction” to Facebook, whereby most of their daily activities were conducted online (p. 12). In other words, the lack of physical contact with their peers increased the likelihood of employing the internet and social media daily. Ripon et al. reported the lack of physical activity during the COVID-19 pandemic was also a contributing factor leading to what is considered an addiction to social media, including Facebook and TikTok. If adolescents use social media such as Facebook and TikTok frequently as a stress reliever and a substitution for physical contact, according to Ripon et al. they are more likely to become addicted to social media platforms. Another interesting revelation was that if an adolescent lost a family member due to COVID-19 they were more addicted to Facebook. Another factor tied to social media issues was family income. Ripon et al. reported that families with annual income less than \$25,000, enhanced from physical contact because of shutdowns were more likely to become addicted to Facebook and other social media platforms.

An exhaustive meta-analysis conducted by Samji et al. (2022) found that mental health issues such as depressive symptoms and anxiety, while existing pre-pandemic, were exacerbated during and after the pandemic dramatically. This review consisted of 116 studies from 127,923 children and adolescents. These studies revealed that depressive symptoms and anxiousness increased as compared to before the pandemic in terms of worsening general mental health. According to Samji et al. “These symptoms were common among older children and adolescents and girls, which parallels pre-pandemic distributions” (p. 181). One conclusion from this study found mental health issues with COVID-19 were due to the pandemic shutdowns and the sense of isolation which restrict “physical exercise, access to entertainment, positive familial relationships, and social support” (p. 173).

### *5.3 COVID-19 Information*

Mousavi et al. (2023) examined the impact of the knowledge of COVID-19 through social media engagement and how the experience of the quarantine benefited adolescent well-being. If the knowledge was accurate concerning COVID-19 via social media engagement, there was a strong correlation to better well-being related to depression, anxiety, and loneliness. Mousavi et al. found that frequent social media use by adolescents with good information, as opposed to accurate results, resulted in increased levels of anxiety.

Psychopathology, including depression and anxiety, increased greatly due to the daily changes created by the pandemic (Price et al., 2022). Social distancing and school closures forced adolescents to online learning in addition to their apparent “addiction” to social media. This resulted in news about the pandemic mainly from the internet and social media sources that profoundly impacted their psychopathology.

According to Price et al. (2022), the term “doomscrolling” was created during the pandemic which is exposure from searching social media for news or information about the pandemic resulting in negative affect (p. 1339). Negative effects impacted adolescents to a greater degree with prior childhood maladjustments. For instance, those adolescents are already experiencing depression and anxiety before the COVID-19 pandemic from either social media use or other issues. Price et al. found that adolescents experiencing elevated levels of depression and anxiety prior to the pandemic were most likely to view social media; thereby, exacerbating

their psychopathology.

## 6. Discussion

The research literature is replete with studies that establish the negative impact social media platforms contributed to and have been exacerbated by COVID-19 on adolescent mental health. Most studies suggest mental health issues such as depression, anxiety, and other psychopathology reported prior to the COVID-19 pandemic with younger adolescents at higher risk (Bahnweg & Omar, 2023; Caner et al., 2022; Choukas-Bradley et al., 2022; Ferguson, 2024; Houghton et al., 2018; Keles et al., 2020; McCrory et al., 2022; Mougharbel et al., 2023; Ripon et al., 2022; Van den Eijnden et al., 2018). At issue is not only the quantity of social media use, which is high, but also the quality of social media viewed (Mougharbel et al., 2023). It is clear from the literature with the enormous availability and heavy social media use by adolescents and college students that could be labeled an addiction (Caner et al., 2022; Choukas-Bradley et al., 2022; Garthe et al., 2022; Keles et al., 2020; Mougharbel et al., 2023; Ripon et al., 2022; Van den Eijnden et al., 2018; Yin et al., 2022).

To begin to understand this phenomenon one must first look at adolescence as a developmental stage in the lifespan. Santrock (2019) states, “Growing up has never been easy” (p. 9). Technology has evolved to the point that enormous information floods our smartphones and computer devices constantly. Adolescence is a time of rapid growth from a biological, cognitive, and social emotional perspective. During this crucial time, adolescents seek independence during the transition from childhood to young adulthood. Since the adolescent prefrontal cortex is not fully developed until ages 24-26 (Bahnweg & Omar, 2023), this creates the opportunity for emotionally vulnerable adolescents to be at high risk for mental health issues such as depression, anxiety, and suicidal thoughts. These mental health issues may allow even greater adverse health issues “such as cardiovascular diseases, behavior problems, and substance use disorder (Mougharbel et al., 2023, p. 2).

Many studies reported the increase of mental health issues such as depressive symptoms and anxiety during and after the COVID-19 pandemic (Garthe et al., 2022; Caner et al., 2022; Nails et al., 2023; Ripon et al., 2022; Samji et al., 2022; Son et al., 2020; Yin et al., 2022). During the COVID-19 pandemic the shutdowns and school closings created an environment of isolation to reduce virus spread ‘based on government and health experts’ recommendations. These included social distancing and the lack of social physical contact leading to an increase in mental health issues such as depressive symptoms, the lack of social contact, and increases in anxiety symptomatology. Social media and other technology platforms at the beginning of the pandemic were a source for vital accurate information concerning possible protection from the virus. As the pandemic became more of a political issue as opposed to a health issue, increasingly inaccurate information began to flood social media (Mousavi et al., 2023). Mousavi et al. found that social media use resulted in mixed messages. Social media use allows users to interact with family members and friends. For adolescents, social media use correlated with “internalizing symptoms” from a sense of “missing out” on activities with their friends (Mousavi et al., p. 111). In other words, if adolescents were seeking out accurate

information their outcomes were more positive. Since this is not always the case, much effort is needed, especially in times of crisis such as the COVID-19, for parents or caregivers and perhaps policymakers for better guidance during such times to avoid the voluminous disinformation coming from social media.

### *6.1 Implications for Future Research*

It is clear from a review of the literature that much education is needed regarding the use of social media among adolescents and college students (Bahnweg & Omar, 2023; Bilgin et al., 2020; Choukas-Bradley et al., 2022; Girela-Serrano et al., 2022; Caner et al., 2022; Houghton et al., 2018; Keles et al., 2020; Ferguson, 2024; McCrory et al., 2022; Mougharbel et al., 2023; O’Keeffe et al., 2015; Ripon et al., 2022; Van den Eijnden et al., 2018). The literature also makes it clear that adolescents are not during this stage of their mental development capable to distinguish correct information from disinformation which may result in depressive, and anxiety ridden outcomes, especially for girls (Choukas-Bradley et al., 2022). Most agree parents should be more vigilant about evaluating social media sites that their children are utilizing ensuring they are age appropriate. Choukas-Bradley et al. suggest that adolescent girls, as related to body image issues, it’s not the time spent on social media, but more importantly how that time is used viewing various sites. Additionally, greater legislation would strengthen safeguards by social media companies and websites from the hazards by age-inappropriate adolescent use. Generally, all social media users may benefit from being educated on the proper uses of social media sites and the hazards that some sites pose not only for adolescents but for all individuals. Perhaps in this way the depressive symptomatology, anxiety, and other psychopathologies may begin to decline.

In one recent study, Bono et al. (2023) employed an intervention which explored trait changes in gratitude “as a protective factor and changes in perceived stress as a mediating risk factor for anxiety and depression” (p. 4). The gratitude intervention was comprised of two components, the first a psychoeducation program which teaches the science of gratitude involving acknowledging teens other’s strengths, the use of journals, and thank you letters as effective ways to appreciate others. The second component was a web-based app which allowed teachers and teens to express thanks in class, additionally to do in provide to avoid competitive or negative outcomes as is most common on social media. Bono et al. found that engaging teens in personal and interpersonal expressions of gratitude was effective for supporting their mental health and well-being. By engaging in developing gratitude habits, it was found to be beneficial by helping adolescents develop a broad orientation for coping with their daily challenges. This intervention was found to be beneficial to both males and females reporting benefits from social and general anxiety to their total emotional well-being.

## **7. Conclusion**

Smartphones, social media, and other technology platforms are great innovative tools that are advantageous for many areas of our daily lives. The research is also clear that excessive use of social media, including the sites visited that outcomes may not meet the desired intent.

Adolescents are very vulnerable and susceptible to influence. Social media thrives on traffic use and constantly reinforcing that content over and over.

According to Caner et al. (2022) approximately 25% of adolescents are addicted social media. Adolescents, as discussed are a vulnerable population due to this period of development, perception of low family income, the vulnerability of adolescent females, the constant consumption of social media influencers sharing diet and other nutritional information which lead to social comparing to social appearance anxiety (Caner et al., 2022; Mougharbel et al., 2023; Santrock, 2019; Twenge, 2017; Yin et al., 2022).

A review of the literature suggests, that exposure to social media, time spent on social media,, ones activity on social media, their investment, and addiction are correlated to depressive symptoms, anxiety, in addition to psychological distress (Bahnweg & Omar, 2023; Caner et al., 2022; Keles et al., 2020; Liu et al., 2022; Mougharbel et al., 2023; Nesi et al., 2022; O’Keeffe & Clarke-Pearson, 2011). Therefore, it clear that the overuse, and sometimes misuse of social media by adolescents and college students may have an adverse effect on mental and psychological well-being, including academic performance much more work is needed in the form of education and parental involvement in order for adolescents to reduce depressive symptomology and anxiety to live healthy happier lives.

## References

- Bahnweg, E., & Omar, H. (2023). Effects of TikTok on adolescent mental health and wellbeing. *Dynamics of Human Health*, 10(1), 1-7. Retrieved from <https://journalofhealth.co.nz/?pageid=2905>
- Bilgin, M., Sahin, I., & Togay, A. (2020). Social media addiction in adolescents and parent-adolescent relationship. *Education and Science*, 45(202), 263-281. <https://doi.org/10.15390/EB.2020.8202>
- Bono, G., Duffy, T., & Merz, E. L. (2023). Gratitude and adolescents’ mental health and well-being: Effects and gender differences for a positive social media intervention in high school. *Education Science*, 13(320), 1-16. <https://doi.org/10.3390/educsci13030320>
- Caner, N., Efe, Y. S., & Basdas, Ö. (2022). The contribution of social media addiction to adolescent LIFE: Social appearance anxiety. *Current Psychology*, 41, 8424-8433. <https://doi.org/10.1007/s12144-022-03280-y>
- Choukas-Bradley, S., Roberts, S. R., Maheux, A. J., & Nesi, J. (2022). The perfect storm: A developmental-sociocultural framework for the role of social media in adolescent girls' body image concerns and mental health. *Clinical Child and Family Psychology Review*, 25, 681-701. <https://doi.org/10.1007/s10567-022-00404-5>
- Dam, V.A. T., Dao, N. G., Nguyen, D. C., Vu, T. M. T., Boyer, L., Auquier, P., Fond, G., Ho, R. C. H., Ho, C. S. H., Zhang, M. W. B. (2023). Quality of life and mental health of adolescents: Relationships with social media addiction, fear of missing out, and stress

- associated with neglect and negative reactions by online peers. *PLoS ONE*, 18(6), 1-14. <https://doi.org/10.1371/journal.pone.0286766>
- Ferguson, C. J. (2024). Do social media experiments prove a link with mental health: A methodological and meta-analytic review. *Psychology of Popular Media*, 1-6. <https://doi.org/10.1037/ppm0000541>
- Garthe, R. C., Kim, S., Welsh, M., Wegmann, K., & Klingenberg, J. (2022). Cyber-victimization and mental health concerns among middle school students before and during the COVID-19 pandemic. *Journal of Youth and Adolescence*, 52, 840-853. <https://doi.org/10.1007/s10964-023-01737-2>
- Girela-Serrano, B. M., Spiers, A. D. V., Ruotong, L., Gangadia, S., & Toledano, M. B. (2022). Impact of mobile phones and wireless devices use on children and adolescents' mental health: A systematic review. *European Child & Adolescent Psychiatry*, 1-32. <https://doi.org/10.1007/s00787-022-02012-B>
- Houghton, S., Lawrence, D., Hunter, S. C., Rosenberg, M., Zadow, C., Wood, L., & Shilton, T. (2018). Reciprocal relationships between trajectories of depressive symptoms and screen media use during adolescence. *Journal of Youth and Adolescence*, 47, 2453-2467. <https://doi.org/10.1007/s10964-091-y>
- Keles, B., McCrae, N., & Grealish, A. (2020). A systematic review: The influence of social media on depression, anxiety, and psychological distress in adolescents. *International Journal of Adolescence and Youth*, 25(1), 79-93. <https://doi.org/10.1080/02673843.2019.1590851>
- Liu, M., Kampr-DeMarco, J., Jhang, J., Xiao, J., Dong, D., & Xue, P. (2022). Time spent on social media and risk of depression in adolescents: A dose-response meta-analysis. *International Journal of Environmental Research and Public Health*, 19, 1-17. <https://doi.org/10.3390/ijerph19095164>
- McCrorry, A., Best, P., & Maddock, A. (2022). "It's just one big vicious circle": Young people's experiences of highly visual social media and their mental health. *Health Education Research*, 37(3), 167-184. <https://doi.org/10.1093/her/cyac010>
- Mougharbel, F., Chaput, J. P., Sampasa-Kanyinga, H., Hamilton, H. A., Colman, I., Leatherdale, S. T., & Goldfield, G. S. (2023). Heavy social media use among adolescents: The Moderating role of sex, age, and parental support. *Frontiers in Public Health*, 1-11. <https://doi.org/10.3389/fpubh.2023.1190390>
- Mousavi, S. Z., Barry, C. T., & Halter, B. M. (2023). Relations of adolescent knowledges of COVID-19, social media engagement, and experiences during the quarantine/lockdown with well-being. *Journal of Child and Family Studies*, 32, 110-121. <https://doi.org/10.1007/s10826-022-02465-0>
- Nails, J. G., Maffly-Kipp, J., DeShong, H. L., Lowmaster, S. E., & Kurtz, J. E. (2023). A crisis in college student mental health? Self-ratings of psychopathology before and after the

- COVID-19 pandemic. *Psychological Assessment*. 1-9. Advance online publication. <https://dx.doi.org/10.1037/pas0001241>
- Nesi, J., Rothenberg, W. A., Bettis, A. H., Massing-Schaffer, M., fox, K. A., Telzer, E. H., Lindquist, K. A., & Prinstein, M. J. (2022). Emotional responses to social media experiences among adolescents: Longitudinal associations with depressive symptoms. *Journal of Clinical Child and Adolescent Psychology*, 51(6), 907-922. <https://doi.org/10.1080/15374416.2021.1955370>
- O’Keeffe, G. S., & Clarke-Pearson, K. (2011). Clinical report: The impact of social media on children, adolescents, and families. *Pediatrics*, 127, 800-804. <https://doi.org/10.1542/peds.2011-0054>
- Price, M., Legrand, A. C., Brier, Z. M. F., van Stolk-Cooke, K., Peck, K., Dodds, P. S., Danforth, C. M., & Adams, Z. W. (2022). Doomscrolling during COVID-19: The negative association between daily social and traditional media consumption and mental health symptoms during the COVID-19 pandemic. *Psychological Trauma: Theory, Research, Practice, and Policy*, 14(8), 1338-1346. <https://doi.org/10.1037/tra0001202>
- Richards, D., Caldwell, P. H., & Go. H. (2015). Impact of social media on the health of children and young people. *Journal of Paediatrics and Child Health*, 51, 1152-1157. <https://doi.org/10.1111/jpc.13023>
- Ripon, R. K., Al Zubayer, A., Rahman, Q. M., Khan, A. H., Rahaman, A., Hasan, T., Bhuiyan, R. A. M., Khan, K. A., Chowdhury, A. U., & Hossain, Z. (2022). Factors associated with Facebook addiction among university students amid the COVID-19 pandemic: Findings from an online cross-sectional study. *PLoS ONE*, 1-12. <https://doi.org/10.1371/journal.pone.0272905>
- Samji, H., Wu, J., Ladak, A., Vossen, C., Stewart, E., Dove, N., Long, D., & Snell, G. (2022). Review: Mental health impacts of the COVID-19 pandemic on children and youth—a systematic review. *Child and Adolescent Mental Health*, 27(2), 173-189. <https://doi.org/10.1111/camh.12501>
- Santrock, J. W. (2019). *Adolescence*. McGraw-Hill.
- Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students’ mental health in the United States: Interview survey study. *Journal of Medical Internet Research*, 22(9), 1-14. <https://doi.org/10.2196/21279>
- Twenge, J. M. (2017). *IGEN: Why today’s super-connected kids are growing up less rebellious, more tolerant, less happy and completely unprepared for adulthood*. Atria.
- Vaillancourt, T., Krygsman, A., Farrell, A. H., Landon, S., & Pepler, D. (2021). School bullying from before and during COVID-19: Results from a population-based randomized design. *Aggressive Behavior*, 47(5), 557-569. <https://doi.org/10.1002/ab.21986>
- Van den Eijnden, R., Koning, I., Doornwaard, S., Van Gurp, F., & Ter Bogt, T. (2018). The impact of heavy social media on adolescents’ psychological, social, and school

functioning. *Journal of Behavioral Addictions*, 7(3), 697-706.  
<https://doi.org/10.1556/2006.7.2018.65>

Yin, O., Parikka, N. P., Ma, A., Kreniske, P., & Mellins, C. A. (2022). Persistent anxiety among high school students: Survey results from the second year of the COVID pandemic. *PloS One*, 1-16. <https://doi.org/10.1371/journal.pone.0275292>

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