

Effects of Social Media and Technology on Adolescents: What the Evidence is Showing and What We Can Do About It

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This manuscript discusses the effects of social media and technology usage on adolescents and their emotional and social development and provides recommendations for family and consumer sciences (FCS) professionals. Today's adolescents have been exposed to technology since childhood, and this exposure has led to several effects—both positive and negative. The paper will explain aspects of adolescent development, the implications that technology usage has on this development, and strategies for parents and professionals in promoting positive and safe social media and technology use among their adolescents or those with whom they work. Lastly, the paper will highlight the importance of the FCS profession and how we can address this issue.

Technology Usage Among Adolescents

Today's adolescents have been exposed to technology their entire lives through various means. This process starts with young children as they observe their parents' use of technology. As the children grow, they become active participants, whether through technology usage in school or for personal use. Many youths are active on cell phones and computers, utilizing different apps and features. Also, many are involved in online gaming platforms through various gaming devices.

Statistics prove the trend of the growing use of technology. According to a Pew Research study, 95 % of teens in the United States today have access to a smartphone, and 45 % say they are online almost constantly (Anderson & Jiang, 2018). When gender is considered, 50 % of adolescent girls are near-constant online users, while 39 % of adolescent boys are near-constant online users (Anderson & Jiang, 2018). Looking at specific amounts of screen time, research shows that online usage among youth equates to an average of more than six hours daily being used for entertainment purposes such as social media (Austin, 2019).

One of the primary issues of technology usage among today's youth is that of social media platforms. According to Guinta and John (2018), social media is “an electronic form of communication that provides a space for social engagement and interaction where users can both consume and create content” (p. 196). Eighty-one percent of teens use social media for various purposes, including communication, self-expression, sharing of experiences and ideas, planning, keeping up with current events, and gaming (Herold, 2018).

Some of the most popular apps among teens in recent years include Snapchat, YouTube, Instagram, TikTok, WhatsApp, Kik, Discord, Houseparty, Ask.fm, VSCO, REFACE, Omegle, Facebook, Pinterest, Twitter, and (Austin, 2019; Hurtado, 2020). Although many of the apps mentioned seem harmless, they may have inherent risks. Messages and pictures on Facebook, Snapchat, and Instagram are not always easily deleted after being received or sent. It is also becoming ubiquitous for kids to create fake accounts on Instagram or other platforms called “finstas.” According to Varma-White from a story for the *Today Show* (2019), teens' main reasoning for creating these accounts is for avoiding a parent's prying eyes. However, they could also be making them to show a different side of themselves—one that might display illegal

activities or activities that would not be acceptable to future colleges and employers, in addition to parents. Even apps that have been around for a while, such as Pinterest, can have questionable material as well—not only in a sexual manner, but also material concerning self-harm, suicide, and other violence (Spears, 2018).

Regulation of these applications continues to be an issue. In 1998, the *Children's Online Privacy Protection Act* (COPPA) was enacted by Congress. COPPA required the Federal Trade Commission (FTC) to issue and enforce regulations concerning children's privacy online. According to the FTC (2020), COPPA “imposes certain requirements on operators of websites or online services directed to children under 13 years of age, and on operators of other websites or online services that have actual knowledge that they are collecting personal information online from a child under 13 years of age.” Therefore, the legal age, presently, to search the web without parental consent is thirteen. This factor is why many sites, especially social media sites, require a member to be at least this age (Herold, 2018). Even so, many sites do not require parental consent, and age regulation is not always strictly enforced (USA Today Magazine, 2018).

Since the original enactment of COPPA, several bills have been proposed to amend it. Most recently, in 2020, a bill known as the *Preventing Real Online Threats Endangering Children Today* (PROTECT Kids) Act was introduced, which would extend all existing COPPA consent and requirements to users under the age of 16. Also, this Act would include mobile apps and add information collected from geolocation features and biometric data (Walberg, 2020). With more emphasis on protecting children and their information online, companies can expect to see more regulation and movement regarding these matters. Parents and professionals must also be informed and stay updated about these acts and whether they are being adequately enforced if they expect their children and students to be protected.

The Problem

To understand the issue of technology usage among adolescents, one must understand the development that happens during this period of life. Early scholars defined the adolescent period as ages 14-24. However, because of early initiation of puberty and the age at which high school ends, this stage is now being defined as ages 10-18 (Arnett, 2018). This period of life has many purposes. Known as the stage of curiosity, adventure, impulsiveness, intense emotions, and elation of moods, adolescence is a period of rapid physical, social and emotional changes that includes the phase of transition between childhood and early adulthood (Jena & Mohanty, 2015).

One of the aspects of emotional development during this period is that of adolescent egocentrism. Adolescent egocentrism is when adolescents have difficulty distinguishing their thinking about *their* thoughts from their thinking about the thoughts of *others* (Arnett, 2018). Essentially, adolescents tend to think that others see them the same way they see themselves. They tend to base decisions and behavior on having an *imaginary audience*, which involves continually thinking about themselves and how they might appear to others (Arnett, 2018). Social media could contribute to increased feelings of being the center of an imaginary audience, leading to more self-consciousness and, ultimately, anxiety.

Social implications are also evident with the increased use of social media. Adolescent preference for face-to-face communication has declined substantially. Only 32 % of teens say their favorite way to communicate with friends is in-person. Even when teens *are* together, there is a high likelihood of distraction from cell phones (Yorio, 2018). Studies have shown that even if a device is on “silent mode,” many people repeatedly check for texts or voice messages. Even

a mobile device's presence may cause distraction and thoughts outside a teen's immediate context (Przbylski & Weinstein, 2013).

Adolescent brain development is also a significant factor in understanding why technology can have such a tremendous impact during this time of life. Adolescents have more synapses than adults, which can lead to a higher capacity to learn but also a higher vulnerability to addiction. The part of the brain that controls addictive behavior is more active during adolescence, resulting in addiction being harder, stronger, longer, and faster (Jensen, 2017). Additionally, today's tech industry has designed its products to draw in users and influence them to spend long periods using social media and video game sites (Children's Screen Time Action Network, 2019). When the perfect conditions for strong addiction in adolescents are paired with persuasive technology designed to influence human thoughts and behavior, it is not surprising why we are seeing so much of this behavior in today's teens.

Not only is the adolescent brain more prone to addiction, but it is also more prone to behaviors such as risk-taking while lacking rational thinking and good decision-making skills (Jensen, 2017). This factor is significant because the part of the brain that controls these behaviors—the frontal lobe is not fully developed during this time (Jensen, 2017). However, the sections of the brain that control emotions are already developed (Jensen, 2017). Therefore, adolescents tend to be more emotional and often respond to things that others see as inconsequential (Jensen, 2017). Combining these factors with the Internet's influence often leads to amplified stress and anxiety during the adolescent period (Jensen, 2017).

The increase of technology usage among the adolescent population in conjunction with the developmental factors during this period makes this a relevant area of concern for parents and professionals. Higher incidences of mental illnesses, including depression, anxiety, and social isolation, are growing among this age group, and there are possible correlations between this factor and higher use of social media. Parents and those who work with youth need continuing education and support to help decrease the adverse effects of social media as they help guide adolescents through the utilization of these platforms.

What Research is Showing: Risks Versus Benefits

Risks

Research is showing many risks observed in adolescents in association with the use of social media. These include the following: cyberbullying, an increase in conflict, school outcome, mental health consequences, sexting, breach of privacy, exposure to online predators, and lack of sleep (Guinta & John, 2018; Muzaffar et al., 2018; Chandra, 2016).

Cyberbullying

Perhaps one of the most talked-about concerns presently is that of cyberbullying among teens. According to Guinta and John (2018), cyberbullying is the use of "electronic forms of contact to inflict willful and repeated harm to others" (p. 197). In a study from 2015, the average prevalence of cyberbullying in adolescents was 23 % (Guinta & John, 2018). In most cases, the youth know the perpetrator. However, anonymity can be one of the biggest challenges of this issue. Approximately 10 to 27 % of cases have an anonymous bully (Guinta & John, 2018). Many social media platforms are used for cyberbullying, including blogs, Twitter, social networking sites, and message boards. Cyberbullying is significantly associated with an increased likelihood of depression (Guinta & John, 2018).

Conflict

According to the Pew Research Center (2018), 31% of teens who use social media endorse fighting with friends over something that happened online. Sixty-eight percent say they have witnessed others create “drama” for many of the behaviors adults consider bullying (Anderson & Jiang, 2018). Females tend to be the main perpetrators of increased conflict online. Consequently, this “drama” has resulted in 58 % of teens unfriending someone on a social network site who they previously considered a friend (Chandra, 2016).

School Outcomes

Not only can social media affect a teen’s personal life, but it can also affect a teen’s education. Overall, there is a negative relationship between school outcomes and electronic media use, outcomes largely associated with students trying to multitask by using social media sites while in class or when doing homework (Guinta & John, 2018). The distraction of technology has been a significant issue in schools. Research has shown that students perform better without technology-based distractions. Kuznekoff and Titsworth (2013) found that students took better notes and scored better on an assessment when they did not have access to their cell phones. Beland and Murphy (2015) also reported that test scores improved when mobile phones were banned from schools.

Mental Health

Mental health has become a big concern as poor mental health continues to increase among younger populations. According to a 2016 study, adolescents who were high social media users were twice as likely to have received a diagnosis of depression and anxiety or needed treatment for mental health issues (Guinta & John, 2018). Consequently, we now have terms such as “Facebook depression” and “Facebook envy” in association with the effects of social media use. Facebook depression is “depression that begins with an extreme amount of social media usage and subsequent development of the classic symptoms of depression,” while Facebook envy develops as “users compare themselves with others” and can lead to damaging life satisfaction (Guinta & John, 2018, p. 197). Guinta and John (2018) found both Facebook depression and Facebook envy common among heavy users, and both were predictors for depression. However, it is crucial to know that it is mainly the *negative* social media experiences leading to these conditions. A 2019 study found that every 10 % increase in negative interactions on social media made study participants more likely to feel lonely. This finding is ironic given the fact that social media is supposed to make people feel connected (Primack et al., 2019).

Sexting

As mentioned previously, the teenage brain does yet contain the connections that aid in rational thinking skills. This factor is evident in the online behavior of sexting, which is “electronic communication of nude, seminude, provocative images, as well as erotic text messages” (Guinta & John, 2018, p. 197). Many teens do not think about the consequences of this activity, such as how quickly the images can be distributed without permission and how difficult or impossible it is to remove content once shared or posted. Victims can face embarrassment and humiliation as well as emotional distress. Those who share these images can face serious consequences such as school suspension and legal action like felony child pornography (Guinta & John, 2018).

Breach of Privacy

Many younger users of social media are naïve when it comes to factors such as privacy. When using platforms that encourage sharing so many different things, we see adolescents share information such as cell phone numbers, school names, relationship status, and pictures. Even enabling privacy settings on social media is not a guarantee for protection. Platforms continue to make efforts to protect user privacy. However, violations and unwelcomed content sharing are constant risks that users need to consider (Guinta & John, 2018).

Online Predators

Concern about adolescent user privacy on social media also leads to a more severe matter of exposure to online predators. According to the *Online Teen Safety Guide* (StaySafe.org, 2019), a predator is a “person who works to gain a youth’s confidence either in order to build an inappropriate relationship or to lure them into inappropriate behavior.” Approximately 750,000 predators are online looking to start inappropriate relationships with teens at any given time (StaySafe.org, 2019). These predators will gradually gather information about the teen to harass them or violate their privacy. Many of these actions have been linked to abductions, luring the teen into sexual situations, and subjecting the teen to sexual assault (StaySafe.org, 2019).

Lack of Sleep

Adolescents are still in a rapid state of development, which requires more rest. However, 44 % of cellphone-owning teens say that they regularly keep their phones on and active at night—leading to sleep that can be interrupted by calls, texts, and notifications (Herold, 2018; Twenge, Krizan & Hisler, 2017). The blue light emitted by smartphones and tablets also affects sleep. This light simulates daylight and can inhibit the body’s release of melatonin. Not only that, but technology also stimulates the brain, making it more difficult to fall asleep (Twenge, 2017). Consequently, most adolescents get less than seven hours of sleep at night (Twenge & Campbell, 2018).

Benefits

Although many studies highlight the negative aspects of social media, there are also some benefits to be mentioned. Some of these include the following: promoting diversity and inclusion, health, and self-esteem and well-being (Guinta & John, 2018).

Diversity and Inclusion

Using social media for collaboration and tolerance allows users exposure to new ideas and experiences outside of the classroom or their social norm. Social media can also be used to stay informed of current events and as a tool for promoting civic engagement. Overall, exposure to different groups allows adolescents a chance to learn, understand, and empathize with others who may be different from themselves (Guinta & John, 2018; Muzaffar et al., 2018).

Not only can social media provide exposure to others, but it can also foster an environment of inclusion while avoiding stigmatization for populations such as LGBTQI (Lesbian, Gay, Bisexual, Transgender, Questioning, or Intersex) and those with ongoing illnesses, conditions, and disabilities. Those with serious mental illnesses can also find comfort and coping skills from group networks, and social media platforms can be a way to reach many difficult-to-engage people (Guinta & John, 2018).

Health

Health communication and promotion can also be possible using social media. Groups can be a source of sensitive health information. With careful selection, users can find groups employed to improve health and advocate for healthier behaviors. Joining these groups can give social support and help with accountability, leading to higher success rates (Guinta & John, 2018).

When choosing appropriate sites for health information, it is essential to check for validity. According to the U.S. Department of Health and Human Services (2018), five quick questions are imperative to ask when visiting an online health site or downloading a new app:

- Who runs or created the site or app? Can you trust them?
- What is the site or app promising or offering? Do its claims seem too good to be true?
- When was its information written or reviewed? Is it up to date?
- Where does the information come from? Is it based on scientific research?
- Why does the site or app exist? Is it trying to sell something?

Sources of reliable health information can typically be found from websites sponsored by Federal Government agencies, large professional organizations, and well-known medical schools.

Well-being

The last benefit finding with social media can have conflicting research results. This includes the area of self-esteem and well-being. While *negative* experiences and feedback can lead to some of the risks discussed, *positive* feedback can enhance adolescents' self-esteem and well-being. Another benefit is for those who lack social skills—social media can offer an alternative route for communication and a virtual supportive community for those who find face-to-face interaction difficult (Guinta & John, 2018).

Recommendations

Many of the current recommendations for improving technology addiction and social media usage among teens start with the family's influence. One of the first things that can be done is to develop a *Family Media Use Plan* with parents and teens using shared decision making. If parents and teens work together to make the plan, each will be more likely to want to stay accountable. There are many online templates available to develop these plans. Some examples of tips could include the following (Guinta & John, 2018):

- Restrict social media during dinner, social gatherings, and in the bedroom.
- Encourage healthy sleep habits by limiting media use at bedtime.
- As a family, decide how much privacy to give children around social media platforms. Parents might want to become a member of the sites that their children are using.
- Discuss cases of adolescents getting in trouble due to social media use—including cyberbullying and sexting.

As adolescent social media use is becoming more prevalent, mental health, primary health professionals, youth development workers, educators, and parents should inquire about social media and technology use—especially when working with those who have generalized anxiety or depressive symptoms (Muzaffer et al., 2018).

Role of Family and Consumer Sciences in Addressing the Issue

Family and Consumer Science (FCS) professionals provide a perfect platform for educating others about the critical issue of technology use among adolescents. Many of the national standards could be used in correlation to this discussion. The FCS area of human development addresses many of the aspects of this issue. This area includes the following standards (NASAFACS, 2018):

- Analyze principles of human growth and development across the lifespan.
- Analyze conditions that influence human growth and development.
- Analyze strategies that promote human growth and development.

This critical issue will continuously evolve as technology changes. However, professionals in our field can be a great source of knowledge as well as models of appropriate technological behaviors. We can also be active participants in the research involved to find more solutions to address this issue.

FCS professionals in cooperative extension, youth development roles, and education can develop social media and technology programs to educate youth, parents, and communities. Our youth can also become involved through career and technical student organizations such as Family, Career, and Community Leaders of America (FCCLA). FCCLA members can be active participants in educating their peers and communities about healthy digital use by planning and carrying out programs and projects.

There are already some solid programs to utilize, such as *NetSmartz*. *NetSmartz* is an online safety education program associated with the National Center for Missing and Exploited Children (2021). Free resources and presentations are available to educate kindergarten through twelfth grade and parents, guardians, and community members. Our field is unique because we have professionals who work with all of these areas of the life span. No matter what age group we work with, we need to make sure that young people are being taught how to use social media in *positive* ways and adults are being better educated about how to guide their families. Social media can have benefits if used in the right way, and we can provide guidance to help our youth navigate it safely while experiencing these benefits.

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