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## **The Impact of Social Media on Adolescent Mental Health**

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**The Impact of Social Media on Adolescent Mental Health**

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Northwestern College

A Literature Review Presented

In Partial Fulfillment of the Requirements

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Dr. Pedersen

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### **Abstract**

The number of adolescents reporting mental health issues such as anxiety and depression has dramatically increased in the last two decades. As this trend coincides with the increase in social media use by adolescents, many researchers have studied the correlation between the two. This literature review examines the correlation along with the pros and cons of adolescent social media use outside and inside the classroom. Most recently, research is showing how social media is used impacts the state of an adolescent's mental health rather than the use of social media in general. Teachers and schools can help students learn how to use social media to foster positive relationships, communicate constructively with a diverse array of individuals, and promote passions and interests by integrating social media into the curriculum.

## **Introduction**

Today's adolescents have never known a world without digital technology. In fact, 95% of them have their own or have access to a smartphone (Anderson & Jiang, 2018a). A study by Anderson and Jiang (2018a) found that adolescents are increasing their amount of time spent online, with 45% of adolescents reporting being nearly constantly online. Adolescents are more inclined to communicate with their friends by text messaging, including direct messaging and instant messaging, rather than having a face-to-face conversation (Underwood & Ehrenreich, 2017; Lenhart et al., 2010). This is evident in the use of Snapchat, where adolescents can use pictures and text to converse. Along with Snapchat, YouTube and Instagram round out the top three social media platforms used by adolescents (Anderson & Jiang, 2018a).

Teachers and parents worry about the amount of time adolescents spend on social media and other mobile technologies. Research by George and Odgers (2015) found that teachers and parents most fear the effect these have on adolescents' social and emotional development (George & Odgers, 2015). For teachers to prepare for the social and emotional impact that social media can have in the classroom environment, they need to be aware of which social media platforms students are using, how they are using them, the possible mental health risks, and potentially beneficial applications of social media.

The purpose of this literature review is to prepare teachers for the effects that social media has on the social and emotional needs of students in their classrooms. It is important for teachers to have an understanding of both social media and its potential mental health effects, as studies have shown that up to 90% of adolescents who have experienced cyberbullying do not report these instances to teachers or parents because

they think the adults will not understand or do anything to help them (Gao et al., 2016; Pagnotta et al., 2018). And moreover, Pagnotta et al. (2018) warn that if issues like anxiety, depression, and cyberbullying are ignored, they can lead to substance abuse problems, poor grades and attendance at school, unhealthy relationships, unemployment, and even suicide.

Due to teachers' limited training about the effect of social media on mental health, this literature review will focus on providing information for teachers to prepare them for the challenges that social media brings to the classroom. Information will include the reasons that adolescents use social media, how adolescents develop and maintain online relationships as compared to offline relationships, and a general overview of cyber victimization. Opposing viewpoints will be discussed so that teachers can see the value along with the potential harm of social media. An overview of available resources will also be provided for teachers to use in their classrooms.

## **Review of the Literature**

### **Adolescent Identity Development and Mental Health**

Adolescence is a time of exploration of social interactions and the various roles of people within in a society which, in turns, allow for the development of individual identity and provide for a better understanding of both one's self and one's social surroundings (Reid & Boyer, 2013). While researching different types of learning environments for at-risk students, Splittgerber and Allen (1996) identified this time in a person's life as a period of seeking independence from authority figures, increasing sexual awareness, the development of interpersonal relationships, and acceptance in peer groups. If an adolescent is able to become competent in social interactions, have positive interactions with peers, and find ways to cope with stress, culminating in the development of their self-identity in a way conducive to positive mental health (Seeman, 1989).

In his research of adolescent mental health, prevention, and treatment programs, Kazdin (1993) defined the state of mental health as “an absence of dysfunction in the psychological, emotional, behavioral, and social aspects of a person's life.” Dysfunction happens when social and emotional problems, such as anxiety disorder and depression, prevent a person from experiencing their everyday life. According to Kazdin's research, the development of positive mental health requires that adolescents navigate their social environment competently by using personal and interpersonal resources. Risky behaviors such as substance abuse, unprotected sexual activity, adolescent pregnancy, violence, and dropping out of school are major threats to an adolescent's mental health.

Research done from 1985 to 2006 has shown that the number of adolescents reporting frequent feelings of anxiety or depression has doubled (Twenge, Gentile, et al.,

2009; Collishaw et al., 2010). A more recent study by Twenge, Joiner, et al. (2018) shows this trend continuing. They compared the mental health issues reported by adolescents in the iGen, Millennial, and GenX generations. The study found a 33% increase in depressive symptoms of adolescents when measured between 2010 and 2015. When disaggregated by gender the study's findings were even starker: a 58% increase in depressive symptoms among females during the five-year period.

Many studies have shown a similar difference in the rate of increase of depression based on gender in adolescence. In their 10-year study of the gender differences in clinical depression starting at 11 years old, Hankin et al. (1998) found that around age 14 the number of depressed male and female adolescents starts to increase quickly. However, the number of depressed female adolescents increases at double the rate of male adolescents. Nolen-Hoeksema and Girgus (1994) found the same results in their study and suggested that the difference might be due to the greater biological changes and an increase in social challenges that begin in early adolescence for females.

Some of the factors that can impact mental health for both male and female adolescents have stayed the same over the last 30 years. Kazdin's research in 1993 found that students felt pressure to do well in school and struggled with the workload necessary to be successful. In a 2013 study, Galloway et al. (2013) also found this pressure to do well in school when they measured the well-being and health of 4,300 high school students. Parental and home-life challenges have also continued to be a stressor for adolescents (Kazdin, 1993; Brown et al., 2016). The one thing that has changed in the last 30 years is the dramatic increase in the use of social media (Twenge, Joiner, et al., 2018).

### **Adolescents Using Social Media**

Social media consists of any form of electronic communication where people can share ideas, creativity, information, videos, and personal messages (Merriam-Webster, n.d.). For the purposes of this review, social media will include social networking sites, online forums, instant or direct messaging, and networked video games. Current platforms include, but are not limited to, Facebook, Snapchat, Instagram, Twitter, YouTube, Tumblr, and Pinterest. In their research of social media profiles and offline social activities, Donath and boyd (2004) observed that the various types of online platforms had differentiated purposes in much the same way as adolescent activities offline served different aims. A person can be friended and unfriended online with the same regularity of friendships forming and dissolving during adolescence. Commenting and interacting with a person's other friends on their Facebook page is much the same as going to a party with a friend and meeting their other friends. Posting to Instagram or Pinterest resembles decorating a locker with photos of happy memories. Gossip can travel on Twitter or Snapchat just as easily as it can by word-of-mouth. While researching how adolescents use social media, Ahn (2011) found that social media networking sites provide an online platform where adolescents are able to develop their identity both personally and socially. The process of deciding what information to include about themselves in their profile on different platforms helps adolescents understand who they are as an individual. Adolescents then continue discovering their identity by using social media as a place to be creative and expressive through writing, pictures, or video. Adolescents also see these platforms as a way to feel connected to other people, according to a study by Elmquist and McLaughlin (2018) on how adolescents use social media. Social media provides a place where adolescents can

gather with other people who have the same interests and beliefs in order to share ideas, information, and support. According to Donath and boyd (2004), the connections that are displayed on a social media profile indicate the type of person someone is offline. Social media profiles provide information about a person's character and identity based on social status, musical taste, hobbies, political affiliations, religious beliefs, etc. These researchers found that before meeting someone new offline, people will look at a social media profile to verify who the person is and to identify common social connections and interests.

When Anderson & Jiang (2018a) asked adolescents aged 13-17 what they believe the positive aspects of using social media are, the most chosen response was that it enabled or facilitated connection with friends or family. Adolescents also thought social media makes finding news or information easier. Another positive aspect is that social media provided a place to meet with other people who have the same interests. In fact, only 24% of the adolescents described social media as being mostly negative. The top response regarding the negative aspects of social media focused on the bullying and spreading of rumors that take place on social media. These students indicated social media harms offline relationships, reduces the amount of time people spend together in-person, and shows an unrealistic view of others' lives.

Video games are often neglected when discussing social media, but of adolescents who play video games, 75% play networked video games, making video games a part of the social media spectrum (Lenhart, 2015). Lenhart explained that research conducted by the Pew Research Center shows 84% of American adolescent males play video games, while only 59% of females play. More technologically advanced platforms and evolutions in game design have increased the amount of interaction and socialization among

players. Yee (2006) conducted a study of the interactions and socialization among adolescents ages 11-18 who played networked video games. Out of the approximately 1,700 adolescents who participated, 96.8% were male. About half of the adolescents who participated reported that the friendships they have in online gaming environments are comparable to or better than the friendships that they have in real life. Yee also found that 42% of the adolescent males have shared personal problems or secrets with online gaming friends that they would never reveal to their real-life friends. Male adolescents who participated in a focus group study conducted by Lenhart (2015) admitted that the reason they enjoy playing online games with strangers is that they can be and act as they want with them, which included such behaviors as swearing and trash talking.

### **Social Media and Mental Health**

As mentioned, many researchers have found that starting around 2011, a dramatic increase in cases of anxiety, depression, and other mental health issues began in American adolescents (Anderson & Jiang, 2018a; Lenhart, 2017; Twenge, Joiner, et al., 2018). These same researchers also found that smartphone use by adolescents more than doubled from 2011 to 2015. Twenge, Joiner, et al. (2018) conducted a study of the amount of time per day an adolescent spent engaged in online and offline activities to provide a basis for determination if it made a difference in the adolescent's mental health. They found that an increased amount of time spent using an electronic device (including smartphones, tablets, and game consoles) correlated with an increase in suicide-related outcomes: feeling hopeless, seriously considering suicide, making a suicide plan, or making a suicide attempt. Specifically, they found that adolescents were 34% more likely to experience one of these suicide-related outcomes if they spent 3 or more hours per day using a device as compared to using a device for 2 or fewer hours

per day. Important to note from the study was that the increase in symptoms of depression and suicide-related outcomes was only seen in the female participants.

Pagnotta et al., (2018) conducted a study to discover the social media habits of adolescents. They found an adolescent's social and emotional development changes based on how they present themselves and which information they disclose to their peers. How adolescents present themselves or how they view their peers can result in mental health issues. The research conducted by Pagnotta et al. discovered two potential social media stressors that can impact adolescent mental health. The first is Facebook depression, which is a form of depression that comes from a person spending an inordinate amount of time on social media looking at how much better others' lives are compared to their own (Dawson, 2017). The second stressor can come from the anxiety caused by the fear of missing out (or FOMO) because of the need to constantly check social media to find out what other people are doing without you (Underwood & Ehrenreich, 2017).

Bessiere et al. (2010) focused specifically on how psychological well-being is impacted when the internet is used for health purposes. They found that when people turn to strangers in online support groups for emotional support and discussion of health problems, there was an increase in symptoms of depression. People reported the fewest symptoms of depression when they had offline discussion with family and friends about their health problems. Dyson et al. (2016) also found potential dangers when adolescents become active in social media platform support groups. They reviewed 26 separate studies of adolescents and young adults ages 14-21. According to Dyson et al., long-term associations with social media support groups can decrease an adolescent's focus on coping strategies and instead have a normalizing effect wherein self-harming

behaviors such as anorexia become acceptable. Overall, Dyson et al. found that 11% of respondents reported that they belong to an online support group that has a negative impact on their self-harming behavior.

Some studies have shown mixed results. Houghton et al. (2018) also conducted a study of the relationship between time spent online and symptoms of depression. From the data, they noticed that when there was an increase in the amount of time adolescents spent on their smartphones, there was an equal increase in depression symptoms. But when they saw a decrease in depression symptoms over time, they did not see a corresponding decrease in time spent on smartphones. In a study specific to Facebook, Kross et al. (2013) found that people who were feeling depressed or lonely were more likely to spend longer periods of time on Facebook. The increase in time spent on Facebook correlated with a reduction of the participants' reported emotional well-being. However, Kross et al. also found that when participants reported being lonely or depressed and they increased their time on Facebook, but if the participants were interacting directly with other people, the participants actually felt better over time. This corroborates the findings of Padilla-Walker et al. (2019) which found in another study of the level of social media use compared to depressive symptoms: how social media is used contributes to the symptoms of depression rather than the use of social media in general.

Other researchers have found that social media can have a positive effect on adolescents. Some adolescents fear or otherwise have difficulty telling someone in person about their feelings of anxiety, depression, or sadness. Research by Underwood and Ehrenreich (2017) found that many adolescents use social media to connect with peers who provide feedback and encouragement for the physical and emotional

problems they are experiencing. Raskauskas & Huynh (2015) researched adolescents' coping strategies in response to stressful events and concluded that adolescents often turn to social media and the internet for advice and coping strategies. The help that the adolescents received from these sources led them to more quickly recover from the stressful event. Research on how adolescents communicate through different types of social media platforms by Elmquist & McLaughlin (2018) found that adolescents are better able to express themselves on social media and thus better able to find the support, understanding, and acceptance than they might otherwise find in person.

Kramer et al. (2014) conducted a study to determine if Facebook's News Feed algorithm displayed more positive or negative posts; in an analysis of over three million posts, they found that the number of positive messages displayed was more than double the number of negative messages. Social media platforms have begun to recognize the unique opportunity they have to help a person who is struggling with depression. During their research of several different social media platforms, Elmquist & McLaughlin (2018) discovered that many of the platforms have warnings or links that pop up when certain words are searched. For instance, on Tumblr, if the word "suicide" is entered, the results given to the user are links to lifelines, crisis intervention websites, and positive, supportive Tumblr dashboards.

The most recent research shows that social media itself does not cause mental health issues; but rather, that it is one of many factors that contribute to the symptoms and severity of the mental health issue. Coyne et al. (2019) conducted an 8-year longitudinal study of approximately 500 adolescents on the impact that the amount of time spent using social media has on mental health. Comparing data between adolescents in the study supported the theory that as time spent on social media

increases, the symptoms of depression also increase. However, when Coyne et al. compared longitudinal data of individual adolescents in the study, they found that an increase or decrease in one did not change the other. Coyne et al. pointed out that from a clinical standpoint, mental health issues such as depression and anxiety do not come from a single stressor (social media) but from a combination of factors such as a biological predisposition, chronic stress, traumatic events, chronic lack of sleep, etc. They recommend that more research be conducted on within-person data to examine what other factors are contributing to mental health issues in adolescents.

### ***Online vs Offline***

An important part of an adolescent's identity development begins with slowly separating themselves from their parents through social interactions with peers and strangers. In a review of existing literature, Nowland et al. (2018) identified social media as a way for adolescents to maintain and deepen their existing offline relationships as well as develop new friendships. According to Anderson & Jiang's (2018b) review of the Pew Research Center's survey of adolescents and technology use in 2018, 60% of adolescents in the U.S. report that they spend time online with their friends on a daily basis, compared to only 24% who say that they spend time with their friends in person (outside of school or school-related activities) on a daily basis. Anderson and Jiang noted that free time was a key factor in the lack of offline socializing. The adolescents shared that they and their friends have too many other things going on to be able to find time to get together offline. About a third of them cited a lack of transportation as the reason they do not spend time with friends in person.

Researchers have found that who a person interacts with online can make a difference in their well-being. For their study, Bessier et al. (2008) investigated the

differences in how people use the internet and the ways those differences impacted psychological well-being. Their study determined well-being based on how the participant regarded their current health, how satisfied they were with their lives and social circle, and how they felt about their future. Adolescents reported significantly more well-being when they used online communication, but only when they were maintaining existing offline relationships. Bessier et al. agreed with earlier research conducted by Kraut et al. (2002), who claimed that when online communications with friends and family were added to normal everyday offline social interactions, there was a positive effect on well-being. According to research by Peter et al. (2007), which looked specifically at instant messaging platforms, this is especially true for male adolescents.

Studies by both Coyne et al. (2020) and Nowland et al. (2018) noticed that one drawback to online socializing is that it can be used as a way for adolescents to escape or numb the emotions they feel in their offline world when they are having issues that they do not want to deal with. In the past, when adolescents had problems with peer pressure, taunting, or bullying, they could avoid or escape these issues by going home or withdrawing from social situations. However, social media can be accessed at any time of the day or night, from any location, and has the potential to be witnessed by a much larger audience than a typical offline situation. This can lead to a further separation of offline relationships, a withdrawal from offline social interaction (Nesi et al., 2017), an increase in feelings of loneliness or symptoms of depression (Nowland et al., 2018), and an increase in suicide-related outcomes (Twenge, Joiner, et al., 2018).

According to Donath and Boyd's (2004) research on the authenticity of social media profiles, if an adolescent is unhappy with their identity offline, they may decide to create a new identity when creating a social media profile. Offline, it can take a large

amount of time and effort to change a person's image and how peers perceive an adolescent's body image and associated character. With the online profile, however, a person can be who they want to be. However, as Donath and boyd pointed out, creating a new identity online does not change a person's original emotions, behaviors, or problems (2004).

Twenge, Joiner, et al. (2018) reviewed the data of two large national surveys given to U.S. adolescents every year over a 15-year time period, looking for possible causes in the increase in depressive symptoms and suicide-related outcomes. While they found that an increase in the use of social media correlated with an increase in symptoms of depression, they also noticed that this was only true for adolescents who had little offline social interaction. For those adolescents who reported greater amounts of offline social interaction, an increase in online social media use did not have an effect on their depressive symptoms. For adolescents already experiencing depressive symptoms, Twenge, Joiner, et al. found that an increase in the amount of time adolescents spend offline interacting with people, along with exercising, provides a decrease in symptoms of depression and suicide-related outcomes.

### ***Affirmations***

According to research by Reid & Boyer (2013), during the process of developing their identity, adolescents use feedback from peers to accept or reject their thoughts, feelings, actions, relationships, and even their personal appearance. When feedback is positive, it becomes an affirmation or a positive reinforcement that the adolescent is acceptable the way they are presented. Zhao et al. (2008) held a series of focus groups with adolescent and young adult Facebook users to find out how much of themselves they reveal in their profiles and online interactions. They found that social media

provides a place for adolescents to receive feedback when they lack the confidence to communicate with peers offline. This feedback process starts with the profile picture and basic information about their preferences, interests, and hobbies that adolescents choose to display, but as an adolescent gains confidence from responses they get on their page, they will add more information about themselves.

During their research on adolescents seeking reassurance on social media, Prinstein et al. (2005) found that even an adolescent who shows no depressive symptoms initially will see an increase in symptoms of depression over time. As the amount of feedback increased, the adolescents needed more and more affirmations in order to maintain their sense of self-worth. Prinstein et al.'s results for online social comparison and feedback-seeking behaviors agreed with Swann and Bosson's (1999) research on the same behaviors in offline social interactions. Eventually, people will begin to doubt the honesty, sincerity, and reliability of the affirmations that are given. This leads to the need for more affirmations, which can cause an eventual alienation of close friends and family (see also Joiner & Metalsky, 2001) and most often intensifies depressive symptoms (Prinstein et al., 2005).

In one survey, Nesi and Prinstein (2015) found that many adolescents had a constant need to check for feedback and to compare themselves with their peers. Later, Nesi et al. (2017) studied how adolescents use social media to seek out feedback about their appearance, behaviors, and popularity, and found that most adolescents seek out and indirectly solicit affirmations when they post on social media: adolescents compare the comments on their own and peers' photos and posts to judge their own self-worth. Since a person can select exactly what they wish to share on social media and many adolescents have this constant need for feedback, adolescents tend to post things that make

them look good. This misrepresentation can give an adolescent a distorted perception of their peers, causing a decrease in self-esteem and an increase in symptoms of depression. By contrast, in their study of self-esteem in adolescents and young adults and of how they view themselves, Gonzales and Hancock (2011) discovered that users felt better about themselves when looking at their own profile on Facebook than they did when looking at themselves in a mirror.

Nesi and Prinstein (2015) also found that an adolescent's gender makes a difference as girls are also more likely to participate in social comparison and feedback-seeking behaviors than boys. Girls post more pictures of themselves online than boys do and are then more likely to compare themselves to their peers, which can cause a decrease in their self-esteem for reasons stated previously. The subsequent study conducted by Nesi et al. (2017), built upon this result finding that girls felt more comfortable giving feedback (both positive and negative) to a wider range of peers (outside their close circle of friends and immediate family) online than they did in person. While the research showed that most boys do not turn to online interactions for social comparison and feedback, it also showed that when they do go online for reassurances, their depressive symptoms continue for long periods of time.

As previously mentioned, social media users attempt to emphasize the best things about themselves online. After their Facebook profile focus groups, Zhao et al. (2008) commented that the adolescents seemed to be competing to have the most Facebook "friends" as a measure of online popularity. The perceived popularity that an adolescent sees online with the number of followers or friends they have on social media is not necessarily the same as it is offline. According to Zhao et al., the profile that an adolescent creates online is their hoped-for identity. This is the person that they would

like to be offline but have yet to become. Nesi and Prinstein (2015) included popularity in their research looking at social comparison and feedback-seeking behaviors and depressive symptoms. Their results showed that students who were recognized by peers as unpopular tended to give and receive more negative feedback. Nesi and Prinstein pointed out that these results may corroborate the work of Valkenburg et al. (2006), who found that adolescents with lower self-esteem gave more negative feedback than positive to their peers. Those who gave negative feedback are more likely to then receive negative feedback, which continues to lower their self-esteem and may lead to an increase in symptoms of depression. Valkenburg et al. also found the opposite to be true: adolescents who were deemed popular by their peers gave positive feedback online and received more positive feedback as well. These adolescents reported high self-esteem, academic success, and very few symptoms of depression (2006). Interestingly, Valkenburg and team were also the only researchers to study the quality of the friendships that adolescents had. Popularity offline and the number of friends on social media did not affect self-esteem for those who had one or more positive, quality friendships offline (2006).

### ***Cyber Victimization and Cyber Bullying***

The most recent nationwide survey conducted by the Pew Research Center found that 59% of U.S. adolescents ages 13 to 17 have experienced some form of cyber bullying (Anderson, 2018). Of the adolescents who responded to the survey, 63% say that online harassment is a major problem for people their age. While there is a difference between cyber bullying and cyber victimization, the Pew Research Center did not distinguish between these concepts in their survey questions. According to research by Wright and Wachs (2020), cyber victimization happens when a person experiences aggressive

behavior through some form of technology, such as the internet, networked video games, or smartphones. Cyber victimization can take many forms, some of which include harassment, offensive name-calling, stalking, hacking, receiving explicit images, outing, and flaming. Cyber victimization can lead to cyber bullying, which is aggressive behavior repeatedly happening to a victim who may not be able to defend themselves. According to a meta-analysis of cyber bullying research by Kowalski et al. (2014), cyber victimization is related to anxiety, depression, loneliness, low self-esteem, low academic achievement, poor life satisfaction, substance use, and suicidal ideation.

Waasdorp and Bradshaw (2015) explored actual online messages associated with cyber bullying with some specific questions for the students in grades 9-12. The students were asked through which medium they had received messages, and the responses were: social networking sites (61.6%), text or instant message (39.6%), email (15.7%), and online gaming (14.2%). The most-reported topics of these messages included: dating partners (36.1%), friends (31.0%), sexual behaviors (31.0%), weight (26.4%), and physical appearance (21.9%). Of the students who reported having been cyber bullied, only 32.6% told a teacher or parent about the cyber bullying.

While researching the differences between traditional bullying and cyber bullying/victimization, Law et al. (2012) reported that traditional bullying includes exerting some form of power over the victim along with repeated, aggressive behavior toward a victim who may not be able to defend themselves. Traditional bullying can be physical (punching and kicking), verbal (yelling and name calling), and/or social (gossiping and spreading rumors). Waasdorp and Bradshaw (2015) also looked for a connection between cyber bullying and traditional bullying in their study, noting whenever cyber victimization occurred there was almost always traditional victimization

going on as well. Of the more than 28,000 adolescents in grades 9-12 who reported cyber victimization, 95% also reported one or more forms of traditional victimization. However, only 70% reported knowing who their cyber bully was. While victims were being bullied equally on- and offline, the bullies in these different environments were not necessarily the same people.

Unlike traditional bullying, studies have shown that cyber bullying victims often perpetuate cyber bullying. Pabian and Vandebosch (2016) conducted two surveys of 1,590 Belgian adolescents, waiting six months between surveys. They found that many of the adolescents who expressed anger about being a victim of cyber bullying in the first survey had become perpetrators of cyber bullying by the time they took the second survey. Holfeld and Mishna (2018) found that not only was cyber bullying perpetuated by its victims, but also by its witnesses. Holfeld and Mishna (2019) conducted follow-up research and found that cyber bullying becomes cyclical as adolescents use cyber bullying to retaliate or get revenge for being cyber bullied or witnessing cyber bullying.

A study by Wright and Wachs (2020) looked at the role that gender, expressed gender traits, and type of technology used had on adolescents' cyber victimization. They found that females who expressed feminine traits were at the greatest risk for cyber victimization, especially through the use of cell phones and social media. Males who expressed feminine traits also reported higher cyber victimization, but no specific form of technology was indicated. Holfeld & Mishna's study of the relationship between cyber victimization, internalizing symptoms (mental health issues such as anxiety, depression, and suicide-related outcomes), and externalizing problems (risky behaviors such as physical aggression, disobedience, cheating, and truancy) also indicates that females are most at risk (2019). Their study found that most of the adolescent girls who externalized

problems had prior issues with internalizing symptoms, and those same adolescent girls had problems with traditional victimization (verbal, physical, or social) followed by problems with cyber victimization (Holfeld & Mishna, 2019).

A longitudinal study by Auerbach et al. (2011) has shown that adolescents who have positive peer relationships report having fewer depressive symptoms and being better able to handle life stressors. Unfortunately, they also found that adolescents who have depressive symptoms report fewer friendships. In a study of the mental health of adolescents within their peer relationships, Stevens and Prinstein (2005) found that adolescents with symptoms of depression, especially females, tend to have very few friends, and those friends are peers who have similar depressive symptoms. Thus, when a depressed adolescent encounters a life stressor, in this case cyber victimization, the symptoms increase. Burke et al. (2017) found a bidirectional effect between cyber victimization and the symptoms of depression. This can cause a downward spiral over time, leading to suicide-related outcomes (Stevens & Prinstein, 2005), cyber retaliation (Holfeld & Mishna, 2019), or extreme externalizing behavior problems without the help of positive friendships (Burke et al., 2017).

### **Implications for Teachers and Schools**

According to the college freshmen participating in focus groups and interviews with Freitas (2017), while in high school they were constantly told that what they post on social media will ruin their chances of getting into college or finding a good job. Many of the lessons were about cyber bullying, the consequences of sexting, or scandalous pictures. Very few students reported positive experiences with lessons on social media while in high school. Freitas was able to identify that students would have liked being shown how social media helps them identify who they are, how relationships

develop, and how to view and interact with the world (2017). This supports what Mattson (2016) found in a comprehensive review of digital citizenship curriculum being taught in high schools. For the study, Mattson defined digital citizenship as the things that the students need to know and be able to do in order to effectively and safely navigate in a digital world. According to Mattson, the majority of the lessons were created from the perspective of an adult telling students how to behave online along with the punishments they face if they do not behave (2016). In Revell's (2002) research into how students view this type of curriculum found that many students ridiculed the programs and the messages portrayed. Mattson's review found all of the current digital citizenship curriculum focused on rules, restrictions, and the importance of having technology use monitored by an adult. In fact, all 254 of the activities, discussions, and assessments that Mattson critiqued could be completed with just one teacher computer in the classroom.

While the study by Freitas (2017) identified negative experiences that students have had in the classroom, Callaghan and Bower (2012) found positive effects arising from successful implementation of social media integration into content curriculum. Their study examined the behavior and learning demonstrated by students based on teacher implementation of lessons within social media platforms. Callaghan and Bower found that interactions on social media within the classroom led to more positive student-teacher relationships and classroom climate. Gleason and von Gillern (2018) also found teachers to be successful through the use of Twitter in the classroom. Their goal was to see if participation on social media could influence offline civic engagement. The students were taught how to find information about topics related to things happening in their community, evaluate, and then share the information on Twitter.

Students also learned how to have constructive communication on social media with people who have different viewpoints. Overall, Gleason and von Gillern found an increase in the number of students taking part in community activities through the utilization of social media. Using Twitter lowered the barriers to participation and allowed students to interact with community members from a safe space.

Students are not as receptive to a social media connection with teachers outside of the classroom. The Forkosh-Baruch et al. (2015) study of teachers' perception of a student-teacher relationship on social media revealed that while 68% of teachers were willing to connect with students on social media, only 33% of students were willing to connect with teachers. Herschkovitz and Forkosh-Baruch's (2013) study of student-teacher relationships explored the students' perceptions of teachers using social media. The students indicated that they would rather use the school's learning management system (LMS) or email to communicate about schoolwork than social media. Several students indicated that they felt it was inappropriate for a teacher to comment on a student's social media posts as it is their private life and not school-related. Finally, a few students admitted they felt a little more connected with the teacher they were friends with on social media. Most of the time, however, the students thought the teacher was trying too hard, which made the teacher seem "phony," and students subsequently lost respect for the teacher.

Research by Elmquist and McLaughlin (2018) suggests that while teachers do not need to be active or create accounts on social media platforms, they should become familiar with the types of social media their students are using. Teachers should also make an effort to be aware of the trending topics in social media. According to Elmquist and McLaughlin, the perception that a student forms about a trending topic may not be

correct but can still trigger internalizing symptoms or externalizing problems. A teacher engaging in discussions with students may be able to recognize a potential problem area and help students understand the content, remind them that school counselors are available to help, suggest coping strategies, or get immediate help for a student if there is a potential for harm. According to Lewis et al. (2012), teachers need to be aware of non-suicidal self-injury (NSSI) videos on YouTube. NSSI is the act of an individual purposefully damaging their own body (cutting, burning, etc.) for non-suicidal reasons (punishment, communicating a need, etc.). Lewis et al. examined the comments for the 100 most-viewed NSSI videos on YouTube. Collectively, the videos had more than two million views. About 40% of the comments were self-disclosure statements in which the commenter described their own NSSI experience. Other comments praised the quality of the video or the video's message and even fewer gave words of encouragement or thanks for sharing their NSSI story. Lewis et al. recommend that teachers be prepared to have open and informed conversations about NSSI with students. It is important for teachers to know how NSSI is represented on YouTube and the risk factors involved when a student watches the videos. Students will need to be directed to a mental health professional who can provide interventions and a safe space where the student can feel validated while sharing their experiences.

School-wide interventions aimed at helping students develop positive mental health with lessons covering social, emotional, and behavioral development are included in programs for social-emotional learning (SEL). Research by Barry et al., (2017) broadly defines SEL as learning how to recognize and manage emotions, navigate social interactions, discover and maintain positive relationships, respect the perspective of others, set short- and long-term positive goals, and practice responsible decision

making. Barry et al.'s study of the SEL program MindOut found that the school-wide intervention can have a positive effect on school climate but only if there is on-going training for the teachers to effectively implement the curriculum (2017). This is supported by the results of a study from Dowling et al. (2019) in identifying the effect that SEL interventions in school can have on the mental health of students. When SEL programs are implemented with fidelity, students reported lower levels of stress, fewer symptoms of depression, and a reduction in anxiety. Osborn et al. (2017) conducted a 4-week study on the implementation of SEL intervention lessons on growth mindset, gratitude, and value affirmation. The teachers for the study were required to go through an interview process to be selected and had 20 hours of training. The number of students reporting severe depressive symptoms decreased by 21.42% and students reporting anxiety symptoms decreased by 42.86%.

### **Conclusion and Future Research**

There has been a tremendous amount of research on adolescent mental health, the use of social media, and the correlation between the two. This review of research has shown that the way in which an adolescent uses social media has more of an effect on their mental health than the amount of time they spend using social media. However, most of the research has been quantitative, with questions asking students to recall their actions and emotions over time. Future research should include qualitative data having adolescents keep daily logs to record which social media platforms they used, what they did while on the platforms, and the amount of time in which they were online. Along with recording daily social media use, adolescents should be asked to log offline activities as well. Details such as the amount of time spent with peers offline (Kraut et al., 2002), involvement in sports or other activities (Twenge, Joiner, et al., 2018), risky behaviors (Kazdin, 1993), sleep habits (Coyne et al., 2019), and traditional bullying (Waasdorp & Bradshaw, 2015) have also been shown to have an impact on adolescent mental health.

Another focus for future research is digital citizenship curriculum in schools. The majority of the current digital citizenship curriculum was created to simply show students what to do online and explain to them the consequences of not following the rules (Mattson, 2016) without providing any positive experiences on social media. Teachers of all subject areas need research-based methods to incorporate social media into their curriculum (Gleason & von Gillern, 2018) rather than simply telling students how they should use social media (Mattson, 2016).

Finally, further study of SEL interventions need to include student participation in healthy support groups on social media. Research by Elmquist and McLaughlin

(2018) shows that students often feel more comfortable expressing themselves in social media support groups than in person settings. It should be noted, however, that Dyson et al. (2016) found that the topics of some support groups on social media actually encourage harmful behaviors. The SEL interventions offered in schools could help students identify positive, healthy support groups on social media.

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