Effect of social media on adolescent anxiety

Abstract

This paper asked how does the use of social media lead to increased anxiety in adolescent students? As technology developed over the past decade, social media platforms have increasingly become the main form of past-time, as well as communication, for adolescents. Social media include platforms such as Facebook, Twitter, Instagram, and SnapChat. These platforms provide adolescents a place to share their voice, as well as their day-to-day lives, with others, including family, friends and the online community. Over the past decade, there has been an alarming increase in the number of adolescents who have been diagnosed with mental health issues, specifically anxiety. Anxiety affects every person differently and can disrupt even day-to-day activities like attending school or extra-curricular programs. An extensive literature review was conducted to understand how different social media platforms affect anxiety levels in adolescent students. It was determined that while anxiety is linked to the use of social media, it is better correlated with the type of social media instead of the amount of social media use by adolescent students. Despite the limitations of sample size and methods of data collection that was found in the research, other factors like gender and the specific social media platform used was also found to affect anxiety levels of adolescents. Social media was found to have both positive and negative effects on anxiety levels in adolescent students, suggesting the type of social media use adolescents are engaged in, be monitored and limited, to maintain low levels of anxiety.

Keywords: social media, adolescents, anxiety, Facebook, Twitter, Instagram, socialanxiety, social networks

Introduction

In society today, adolescents engage in an increased amount of screen time due to the rapid evolution of technology. While screen time was once limited to watching television, it now includes using computers and cell phones, among other electronic devices. Due to the increase in the use of social media in the last decade, students are engaging in more screen time. The term ' screen time' is defined by the time an adolescent spends engaged in technology (Daugherty, Dossani, Johnson, & Wright, 2014). Levinson, Augustine, Larsen, & Rodebaugh (2012) define social media as, " social networking sites, chat rooms, and instant messaging services" (p. 191). Popular social media platforms used by adolescents include Facebook, Twitter, Instagram and Snapchat (Lenhart et al., 2015). The most popular of these social media sites is Facebook, which, according to Grieve, Indian, Witteveen, Tolan & Marrington (2013) had over 1 billion users in 2013. The increased amount of screen time by adolescents includes networking with family, friends and a new concept, the online community. Prior to the development of technology, social networking was defined as, " an individual's personal social connections and the social interactions that mostly occur face-to-face" (Grieve, Indian, Witteveen, Tolan & Marrington, 2013, p. 604). However, in recent years, the definition has been redefined to now include social networking sites on the internet, where a type of online community has been formed (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013). While screen time includes a variety of online interactions, social networking is one of the most popular interactions by adolescents through the use of social media platforms (ADD REFERENCE).

Between home use and school use of technology, " roughly half of children and youth [are] exceeding the public health screen time recommendation of 2 h per day or less" (Saunders & Vallance, 2017, p. 323). During adolescence, youth undergo physical and psychological developmental changes as it is a time when youth are trying to find who they are, making it important to understand the implications of social media on their mental health (Seema & Kumar, 2017). Adolescence is a stage of life where teenagers are choosing a way to identify themselves, forming peer relationships, and exploring with ways to portray their self-image (Glover & Fritsch, 2018). Many adolescents choose a social media platform to share their chosen identity since this does not require face-to-face interaction. As the amount of screen time increases in adolescents, the amount of mental health diagnoses are also increasing.

Mental health is a term that is being heard in the educational system at an increasing rate. According to The World Health Organization (2014), mental health is defined as " a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (p. 12). Furthermore, mental health consists of different types of mental health disorders, including anxiety (The World Health Organization, 2014). Due to a recent review of the definition of anxiety, anxiety disorders are now categorized by the abnormal and excessive levels of anxiety or fear that can be felt by an individual, and they are the more prevalent of mental disorders, affecting more than 25 million Americans (American Psychiatric Association, 2019). Symptoms of anxiety disorders can range from mild to

severe, and it is the severe symptoms that define these disorders as '
chronic' (World Health Organization, 2017). According to statistics, mental
health disorders affect one in five young people (Babic, Smith, Morgan,
Eather, Plotnikoff, & Lubans, 2017). Additionally, 50% of teens 13 to 18 years
of age meet the Diagnostic and Statistical Manual of Mental Disorders (DSM)
criteria for at least one disorder (Shatkin, 2019) and studies have found that
both boys and girls who engaged in high amounts of screen time are at risk
for mental health disorders. With over 60% of adolescents in Canada
exceeding screen time recommendations (Babic et al., 2015) and over 70%
of Western youth exceeding the same recommendations (Babic et al., 2016),
research has shown that mental health disorders, including severe anxiety,
can be connected to problematic use of smartphones and electronics (Elhai,
Hall, & Erwin, 2018).

With current research and statistics continuing to indicate a rise in anxiety
disorders in adolescent students, understanding the implications of screen
time for adolescents, with a focus on social media, is important in the field of
education. Through peer reviewed articles of studies conducted in the United
States of America (USA), Canada and Australia, this paper will outline
different platforms of social media and how their usage is connected to an
increase in anxiety in adolescents. This paper asks how does the use of
social media lead to increased anxiety in adolescent students?

Social media: what is it?

The term ' social media' covers a range of social networks including
Facebook, Twitter, and Instagram. According to a study conducted in

Australia, the main purpose for adolescence's use of social media platforms is to stay connected and develop a sense of belonging (Grieve, Indian, Witteveen, Tolan, & Marrington, 2013). With 72% of Americans owning a smartphone, it is no surprise that studies find that 92% of teens go online daily (Saloman & Brown, 2018) and they experience high levels of anxiety when separated from their phones (Elhai, Levine, Dvorak, & Hall, 2016). A USA study concluded that adolescents that are online everyday report using at least one social media platform, including Facebook, Instagram, Snapchat, Twitter, Google+, or Tumblr (Lenhard, Duggan, Perrin, Stepler, Rainie, & Parker, 2015), and 71% use multiple social media applications (Lenhard et al., 2015). Out of those adolescents, one out of four said that they were actually online " almost constantly" (Lenhard et al., 2015). With students constantly engaged in social media which focuses on displaying different aspects of their lives through pictures, posts, and videos, adolescents find themselves having to compete with their peers in terms of outwards appearance and materialistic items. Every day, adolescent students are subjected to updates on their peers' lives through the constant posting of photographs and videos. When an adolescent's smartphone is unavailable, they are unable to check their social media sites, leading to feelings of disconnectedness and isolation, which can lead to anxiety. Social media platforms are used for one main purpose, to stay connected with people. However, each platform is used differently. For the purpose of this paper, the focus will be on three social media platforms: Facebook, Twitter, and Instagram.

Facebook

Lenhard et al. (2015) found that Facebook remains the most commonly used social media platform by adolescents. In their study, they found 71% of teenagers aged 13-17 had a Facebook account (Lenhard et al., 2015). Facebook is a social platform where users create an account, listing their personal information, and adding a picture so others are able to see who they are. Users then add friends to their account so they can share videos, pictures, and posts regarding their day-to-day life. Facebook is beneficial for users to stay in touch with friends and family when they are unable to interact face-to-face. Through Facebook, adolescents are able to stay connected to their peers, developing relationships and interacting outside of the school environment.

Twitter

Out of the multiple social media platforms available to adolescents, 33% use Twitter (Lenhard et al., 2015). Twitter is mainly used to share opinions as each post has a limited character count. In addition to each post, users can share short videos and up to 4 pictures per post. Twitter allows you to follow peers or celebrities. In doing so, the user is notified when the individual they follow make posts, also called posting a ' tweet.' While Facebook allows users to stay connected to friends and family, Twitter allows its users to stay connected with celebrities and individuals of high social status.

Instagram

52% of adolescents in the USA actively use Instagram according to Lenhard et al. (2015). Instagram allows users to share videos and pictures, along with a description of the posts, taken by a mobile device (Gruno, Gibbons, &

Baker, 2018). Users are able to use hashtags, which are words or phrases that are written without spaces and are preceded by a #, to label the post under certain categories (Moreno, Ton, Selkie, & Evans, 2016). Users can then search Instagram using hashtags to find posts about health, fitness, food, etc, connecting them to a larger online community (Moreno, Ton, Selkie, & Evans, 2016). The concern with adolescents using Instagram is that this social media platform allows its users to " develop a digital identity that can be carefully constructed and digitally enhanced to the point of idealization, potentially creating a culture of unrealistic comparisons" (Glover & Fritsch, 2018, p. 173-174). It also enables users to remain anonymous as usernames are created so users can hide behind their profile (Moreno, Ton, Selkie, & Evans, 2016). This application places high importance on visual representation of people and objects as users are able to ' like' posts. The more ' likes' a post receives, the more popular the post. Through the use of this platform, adolescents are encouraged to maintain certain outward appearances and stay updated on current trends as they strive to obtain ' likes' on their posts.

Types of anxiety

For individuals who have an anxiety disorder, social networking sites are a tool that can be used to socialize and develop friendships as they do not require face-to-face interaction (Shaw, Timpano, Tran, & Joormann, 2015). Anxiety is felt by all individuals but when it becomes excessive and persistent, it becomes a disorder (ADAA, 2018). Students are under a lot of pressure, even at a young age, as they are expected to make friends, maintain good grades, and excel at extra-curricular activities such as sports,

dance or music. In addition, social media adds extra pressure as students are able to view their peers success in real time, leading to feelings of inadequacy. As adolescence is a time for physical, emotional and mental changes and development, it is important for educators to understand how anxiety is presented in adolescent students. The two specific types of anxiety experienced by adolescent students are social anxiety and general anxiety.

Social anxiety

Shaw, Timpano, Tran, & Joormann (2015) state that, " social anxiety is the tendency to feel nervous in social situations in which embarrassment may ensue, and it exists along a continuum, from shyness to the intense fear of negative evaluation" (p. 575). Social anxiety can be displayed through physical symptoms such as stuttering and sweating, and it affects roughly 12% of the population (Shaw, Timpano, Tran & Joorman, 2015). As students are expected to be social beings, the pressure to socialize can manifest into social anxiety, which is why many choose social media platforms to develop friendships. Using social media allows students to be themselves and avoid face-to-face interactions which includes immediate judgement or awkward social situations. Through social media, individuals can express their ideas and opinions without engaging in debate.

General anxiety

General anxiety disorder (GAD) is characterized by an individual's excessive amount of worrying over everyday tasks, often assuming the worst case scenarios will come true (ADAA, 2018). Over 6. 8 million US citizens are

diagnosed with GAD, and these individuals tend to worry about persistently about their health, wealth, and family, among other things (ADAA, 2018). Students with GAD tend to feel overwhelming amounts of fear and anxiety surrounding school and social status. These worries stem from the pressure put on them through the use of social media platforms. The more a student engages in social media, the more pressure they feel to look, act and represent themselves a certain way.

Summary of Findings and Recommendations

This paper set out to answer the question of how does the use of social media lead to increased anxiety in adolescent students? Since social media has become the most used form of communication to keep in touch with family and friends, it " has led to dramatic changes in interpersonal communication in our society as a whole" (Tunick, Mednick, & Conroy, 2011, p. 440). In fact, " social media sites play an important role in self-presentation" (Glover & Fritsch, 2018, p. 173). Furthermore, research shows that " adolescents who categorize themselves as the " least happy" said that [social media] makes them feel more popular and less shy while also making them feel less confident, worse about themselves, and more depressed" (Radovik, Gmelin, Stein, & Miller, 2017). While social media can increase anxiety in adolescents, it also enables them to express their mental health struggles and find peers who can relate. Even though social media can have unrealistic expectations for adolescents, in terms of popularity or physical appearances due to the focus on images, it also provides adolescents with a voice. Social media platforms allow adolescents to express themselves creatively and anonymously, if they choose, decreasing levels of anxiety

through virtual interactions. Studies point to multiple factors that contribute to anxiety levels in social media users. The amount of time that users spend on social media, the gender of the user, and the specific social media platform used were the most prevalent factors that affect anxiety levels in social media users.

An important point to make based on the research is that while social media use does lead to increased anxiety, more recent studies have shown it is due to social media fatigue (SMF) which causes users to experience anxiety (Dhir, Yossatorn, Kaur & Chen, 2018). SMF is when users of social media experience mental exhaustion due to the overstimulation from excessive use of social media interactions on multiple platforms (Dhir, Yossaturn, Kaur & Chen, 2018). SMF leads to deterioration of mental health and development of bad habits in those affected (Dhir, Yossaturn, Kaur, & Chen, 2018). Since SMF is a fairly new theory, additional research is required on this topic so that it can be more confidently linked to anxiety in social media users.

Amount of Time Spent on Social Media

Due to daily use of social media by adolescents, research concluded that the more time that was spent on social media, the lower the user's mood (Sagioglou & Greitemeyer, 2014), while Vannucci, Flannery, & McCauley Ohannessian (2017) found that " increases in social support achieved through social media use may enhance psychological wellbeing" (p. 163). This discrepancy in data is connected to the type of interactions the user is engaging in on social media. While time spent on social media should be monitored, research shows that the focus should not be on the quantity of

time spent on the internet, but rather the intent of the internet use that should be of concern (Sagioglou & Greitemeyer, 2014). When adolescents are using the internet for social support and developing peer relationships, anxiety levels can decrease whereas if they are using social media to pass the time, anxiety levels can increase due to the feeling of wasting time.

The term, fear of missing out (FOMO), where adolescents check their social media platforms constantly so that they do not miss out on information about their peers or current events, in fear of becoming socially isolated (Elhai, Levine, Dvorak, & Hall, 2016; Glover & Fritsch, 2018; Elhai, Levine, Alghraibeh, Alafnan, Aldraiweesh, & Hall, 2018) also contributes to anxiety levels in adolescents. FOMO has been linked to negative conditions, including depression and other mental and physical conditions (Dhir, Yossatorn, Kaur, & Chen, 2018). The more time spent engaged with social media, the greater chance that users will be experience FOMO (Elhai et al., 2018). The more time that adolescents spend on Instagram, Twitter and Facebook, the higher their chances are of experiencing anxiety. Due to the negative effects of FOMO such as perceiving their peers to have happier, healthier and better lives than themselves, leads adolescents to experience anxiety, self consciousness, and perfectionism, which, in turn, triggers compulsive use of social networking sites (Glover & Fritsch, 2018). Adolescents experience anxiety as they feel they are inadequate to their peers due to the misrepresentations that appear on social media platforms.

To counteract these thoughts of imperfection in adolescents, it is important to encourage them to limit their use of social media platforms, and to encourage them to maintain 1 or 2 social media accounts instead of using

multiple applications. It is also important to instill the values of truth and honesty in adolescents so they can feel confident in being themselves instead of misrepresenting their lives on social media.

Gender Specific Findings

A study was conducted to find the connection between social connectedness, anxiety, self-esteem and social identity in women. It was determined that social connectedness was negatively related to anxiety, yet positively related to self-esteem (Lee & Robbins, 1995). Studies also found that girls were more likely to engage in social media platforms, particularly those that focus on visuals, while boys were more likely to own game consoles and played video games more frequently (Lenhard et al., 2015). The same findings were found for adolescents with chronic illnesses. Females with chronic conditions were found to be more likely to use the Internet, specifically for socializing, than their male counterparts who were more focused on playing video games (Suris, Akre, Berchtold, Belanger & Michaud, 2010). Regardless of medical diagnosis, females engage in the use of social media and the internet more than their male peers.

While this paper focused on social media usage and anxiety in adolescents, it is important to note that studies showed, " pathologic video gaming has also been identified as a risk factor in the development of anxiety in youth ... [and] was found to predict increases in depression, anxiety, and social phobia" (Glover & Fritsch, 2018, p. 173). While males may not be participating in high uses of social media platforms, their excessive use of video games can lead to high levels of anxiety and depression since video

games can be played online with users from around the world. While this is not a popular social media platform with all adolescents, video games contain a social feature allowing users to avoid face-to-face interaction, similar to social media platforms. Adolescent male usage of video games should be monitored and limited as to decrease the risk for developing mental health conditions.

A recommendation for future research would be to study internet use in males and females, specifically their social media usage, to determine if their levels of anxiety are affected based on the way they use social networks. While females use the internet more, specifically for socializing, limited research studies were available to determine their specific interactions with social media and whether these interactions affected their anxiety levels, before, during and after the use of social media.

Effects of Different Social Media Platforms

Studies concluded that it was not the general use of the Internet that correlated to lower moods by users but the specific use of social media that affects the mood of the user (Sagioglou & Greitemeyer, 2014). Research also concluded that Facebook was the most common online social network used by adolescent students (Sagioglou & Greitemeyer, 2014; Lenhard et al., 2015). However, most interactions completed on Facebook were not social, they were mainly non-interactive, general browsing by users (Sagioglou & Greitemeyer, 2014). The non-interactive Facebook behaviour was shown to increase feelings of loneliness in users while viewing family and friend's photos were the cause of envy and affected the user's overall feelings of life

satisfaction, mainly due to the participation in virtual gossiping (Sagioglou & Greitemeyer, 2014). Because of the use of Facebook, users were found to experience multiple symptoms including envy, lowered self satisfaction, reduced satisfaction of basic psychological needs, and lower moods (Sagioglou & Greitemeyer, 2014). Since adolescence is a time when students experience physical and psychological changes, it is critical that their time engaged with social media platforms be monitored and limited as to avoid experiencing the before mentioned symptoms.

In relation to social anxiety, the use of Facebook was determined to be positive for users who were diagnosed with social anxiety (McCord, Rodebaugh, & Levinson, 2014). Research showed that adolescents with high social anxiety use Facebook more than adolescents with low social anxiety, and that levels of anxiety may affect motivations for Facebook use rather than the amount of use (McCord, Rodebaugh, & Levinson, 2014). Users of Facebook that have social anxiety who were more inclined to use Facebook to pass the time showed that later, they had higher levels of anxiety and depression whereas the same users who used Facebook to socialize, later experienced lower levels of anxiety and depression (McCord, Rodebaugh, & Levinson, 2014). Interestingly, experiencing anxiety using Facebook is a predictor for social anxiety in the user but social use of Facebook is not a predictor of anxiety in the user (McCord, Rodebaugh, & Levinson, 2014). This shows that anxiety is directly related to the type of Facebook usage adolescents engage in. Those students who have high anxiety levels are more likely to use Facebook than their peers who have lower anxiety levels. This increased usage of Facebook can increase their anxiety and depression

levels if students are using Facebook to waste time instead of for socialization purposes. If students are using social media multiple times a day, this will affect their anxiety levels and potentially interfere with their work ethic. It is important to keep in mind that these studies were conducted in the USA and Switzerland. While the findings are relatable to Canada, more Canadian studies are required to determine if the research findings are the same for Canadian adolescents.

Research connecting Twitter with anxiety in adolescents was more difficult to find, indicating that more studies need to be conducted in multiple countries to evaluate how the use of this social media platform is affecting mental health in adolescents. While there are many studies available discussing social media in general, more studies need to be focused on specific social media platforms to assess the effects each individual platform has on their users, specifically adolescents. Yang & Srinivasan (2016) conducted a study regarding life satisfaction and the pursuit of happiness of Twitter users. They were able to conclude that the topics of user's posts were an indicator of their overall life satisfaction. Users who posted about negative topics such as death, anxiety and depression, were more likely to identify as being overall dissatisfied with their lives, and the researchers determined there was a negative correlation between life satisfaction and anxiety in users, whereas users who posted about positive topics identified as being overall satisfied with their lives (Yang & Srinivasan, 2016). The study also concluded that current events in the world had little effect on life satisfaction of users, indicating that users determine their life satisfaction based on personal and local events (Yang & Srinivasan, 2016). While more research is needed with

a focus on adolescent use of Twitter, it can be concluded that the topic choice of posts by users is a direct reflection of the user's overall life satisfaction. When educators view their students' Twitter posts, they are able to get an understanding of how their students view their lives, and can intervene if necessary. This information can also be shared with parents and guardians so they can also monitor adolescent use of Twitter to gather a better understanding of how their child is feeling or situations they are going through.

Similarly to Twitter, there are very few research studies to connect Instagram to anxiety in adolescents. The few studies that are available are not Canadian based, indicating that more studies are needed to understand the use of Instagram by Canadian adolescents. One study did find that Instagram helps adolescents connect to a larger community online and helps adolescents foster relationships with peers who have similar interests (Moreno, Ton, Selkie, & Evans, 2016). Through the use of hashtags, adolescents can find other individuals who experience anxiety, building relationships on their common diagnosis (Moreno, Ton, Selkie, & Evans, 2016). While social media has many negative factors, building relationships and connecting to a larger online community, especially for those who have social anxiety, is a benefit of social media. Adolescents are able to lower their anxiety levels by avoiding face-to-face interaction and bond with peers through a variety of social techniques. Posting pictures, videos, or tweets on topics of interest to the individual allows other people to comment and connect, thus building friendships that the adolescent may not otherwise have formed.

Limitations in the Research

Variations in the usage of social media platforms, such as Facebook, Twitter and Instagram, as well as the varying levels of anxiety in adolescents leave room for error in research results. This section focuses on some of the limitations that were observed by researched on this topic, presently, and will suggest where corrections could be made.

Rapid Growth of Social Media

Technology evolves rapidly in today's society. New applications are developed and launched every day, and upgrades are made to existing applications constantly. For this reason, there is a constant need to keep research up to date. Sagioglou & Greitemeyer (2014) focused on Facebook in their article but in the 5 years since the article was published, Facebook has been upgraded and changed many of its features. McCord, Rodebaugh, & Levinson (2014) had difficulty collecting data on the many unique features of Facebook as they are constantly changing and upgrading, making it difficult to understand the findings as a whole. This requires new research to be conducted to ensure the data is still relevant as each change is made to the social media platform.

Methods of Data Collection

Since social media is an online platform, the majority of researchers use the internet to collect data. Through this method, many participants were asked to complete surveys. Suris, Akre, Berchtold, Belanger, & Michaud (2010) used this approach but this leaves room for bias as participants are self-

reporting the data. McCord, Rodebaugh, & Levinson (2014) sent an email to their participants with the link to the survey. Again, participants had to self-report, which could result in bias as they may view social interactions differently than the researchers, leading to skewed data. This also requires researchers to trust that the participants are recording honest data. To ensure data is accurate, observations of the participants by the researchers could be made, if the study allows for it.

Sample Size

When conducting research, it is important to ask a variety of participants so that all ages, genders and ethnicities are included, ensuring the findings are not skewed or biased. McCord, Rodebaugh, & Levinson (2014) had a relatively small sample size respond to their survey link, leaving males and ethnic minorities underrepresented. Radovik, Gmelin, Stein, & Miller (2017) also reported a small sample size as the participants were limited to 2 clinic sites. Due to the small sample of participants, the results could be inaccurate as the more participants that are included, the more accurate the results are. When conducting further research, additional participants and clinic sites should be considered. Instead of emailing a link to selected participants, researchers could post on social media platforms, reaching a wider range of individuals.

Conclusion

Anxiety is the most prevalent mental health condition in adolescents (Glover & Fritsch, 2018) so it is important to understand the causes of the anxiety and know strategies to decrease the anxiety levels in adolescents. Studies

have shown that the pressure placed on adolescent students to be social actually heightens their anxiety which is why students turn to social media for social tasks (Glover & Fritsch, 2018). Excessive usage of social media increases levels of anxiety in adolescent students, especially if the student is using social media platforms without purpose. While additional research is required to address how each specific social media platform affects adolescents, social media usage should be monitored and limited so that anxiety levels can remain low in adolescents, and so they can be experience happier moods and positive social interactions.

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