



Factors Influencing Social Media Addictive Behavior: A Systematic Review

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ABSTRACT

Social media is a digital platform product that has received a positive response from people. Social media is no longer part of tertiary or primary needs but secondary needs. For users, social media has become part of their daily lives, and teenagers to young adults are the largest group of users, causing addictive behavior towards their users. Addiction to social media can be influenced by several factors such as psychosocial. Many researchers use the cross-sectional method in their research. This systematic review aims to analyze 12 international journals regarding the factors that influence social media addiction, and psychosocial (depression, anxiety, FoMO, and so on) are reported to have the most influence on social media addiction. The other variables are bullying, cyberbullying, self-esteem, and cultural influence. Types of social media addiction used in educational research are associated with decreased academic achievement due to poor sleep quality. The aspects of social media addiction are emotional, behavioral, affective, and cognitive. These findings provide recommendations for conducting more experimental research related to social media addiction in students.

Keywords: social media addiction; review; psychosocial

1. Main text

In recent years, the use of social media has become increasingly prevalent in everyday activities. There are more than 3.8 billion social media users, namely Facebook, Instagram, Twitter, Snapchat. As people spend a great deal of time online, there is a growing concern for social media users that such activities can eliminate functional traits leading to negative outcomes including problematic and addictive behaviors (Monacis, 2017; Griffiths, 2000). Addiction is also known as problematic behavior towards excessive use of a substance. Meanwhile, according to the American Society of Addiction Medicine is a major chronic disease of the brain, motivation, memory and related neural circuits. Addiction is characterized by an inability to consistently restrain oneself, disturbances in behavioral control, desire, diminished recognition of significant behavioral and interpersonal relationship problems and deregulated emotional states. Addiction is also known to affect nerve transmission so that there is a need for high motivation to change problematic behavior into healthy self-care behavior which includes effects on impulse control (Mahamid, 2018). In addition, there are other factors that are responsible for some addictive behaviors, namely genetic factors. Genetics provides a genetic predisposition for most addictive behaviors, environmental factors can enhance or maintain addictive use patterns and eliminate or minimize their negative consequences through cultural or community support and acceptance (Mahamid, 2018).

There has been much debate over the notion that social media use should be considered an addictive behavior, more specifically how social media is a variable of addiction. One theory states that the opportunity to open up is actually the most powerful factor in social media use (Tamir, *et al*, 2012). The use of social media is reported that around 75% of people in the age range of 18-29 years use the internet regularly. It has even been identified that 67% of internet users are social media consumers. Facebook is a social media with a number of users of 800 million, generating more than 700 billion messages every month, this shows high access in adolescents to young adults. Social media is closely related to one of the human needs, namely self-disclosure. Someone's social media posts are about 80% self-focused, involving talking about one's thoughts, feelings, or activities (Naaman, 2010). Posts that get likes, comments and other responses can affect the user's psychology.

Social media is very easy to access and has little clear risk when accessing it so that users do not realize that it is an easy source of addictive behavior patterns because individuals do not monitor their use which leads to negative results over time (Mahamid, 2018). There are not many professional guidelines such as how to use social media in a positive and non-addictive way for users. The method that has been conveyed by Media from the American Pediatric Association is to suggest using restrictions based on screen time hours (recommended less than 1 hour every day). However, these rules are no longer valid due to standards in the world of education which already involve technological tools in issues of life balance and goals and interactivity (APA, 2011). It is clear that avoiding exposure to social media and other technologies lies in self-control, both lifestyle and activity balance strategies. Some things that can be done to minimize exposure to social media are having regular physical activity/exercise, time socialization, adequate sleep, and educational involvement as well as leading to maturity and self-discipline in the use of social media (Mahamid, 2018).

Addiction is still a controversial variable due to complex cause-and-effect relationships. Addictions are prevalent, i.e. they can adversely affect the lives of many individuals and can be similar in many ways to the symptoms manifested in more established addictions (Banyai, *et al*, 2017; Dong, *et al*, 2012). There is no agreement and established clinical classification criteria for social media addiction (He, *et al*, 2017b). However, most researchers agree that many social media users exhibit addiction-like symptoms that cause some disruption to other lives (Turel, *et al*, 2012). Symptoms such as addiction are manifested by the following: salience (preoccupation with the behavior of using social media), modifying mood (shaping behavior to relieve or reduce unpleasant emotional states), tolerance (increasing engagement in behavior over time) to achieve the initial effects of mood swings), withdrawal (experiencing psychological and physical discomfort when the behavior is reduced or prohibited), conflict (deferring or neglecting social activities, recreation, education, work, home, friendships and needs of self and others) , and relapse (failed attempts to reduce or control the behavior) (He *et al*, 2017a)

This situation is caused by excessive use of social media. Driven by an uncontrollable motivation to do so and devote so much time and effort that it interferes with living in the real world (Dong, *et al*, 2014). The negative consequences of addiction in the area of cognition, affect the amount of time thinking about use, overestimating the positive consequences of use, and underestimating the negative consequences of use. Meanwhile, the negative consequences of emotional addiction lead to increased sensitivity to perceived stress, increase anxiety and result in difficulties in recognizing and managing negative feelings (Mahamid, 2018).

The relationship between social media addiction and variables is very interesting because it is reciprocal. Social media addiction can be influenced by several factors, namely cultural influences, stress due to being ignored by friends and technology stress (MA Fabris, *et al*, 2020; Homaid, *et al*, 2022), depression, intimidation, cyberbullying and self-esteem (Shafi, 2021), FoMo (MA Fabris, *et al*, 2020) , anxiety (Arikan, 2022) and social isolation (Mahamid, 2018). In addition, social media addiction can be influenced by control variables, namely gender, education level, and age (Mahamid, 2018). Addiction to social media can lead to psychological well-being of its users (MA Fabris, *et al*, 2020) and decreased academic achievement (Homaid, 2022).

2. Method

A systematic review goes through several processes, namely planning (the author identifies benefits and develops), reviews (searches journals, selects primary journals, assesses the quality of journals, extracts and synthesizes data), and performs reporting (Iswinarti&Surahman, 2022). Review planning by the author begins with creating research questions using a systematic review question formulation, namely SPIDER(*Sample, Phenomenon of Interest, Design, Evaluation, Research Type*). The research questions in this review are as follows; what are the factors that can influence social media addiction behavior and how are the dynamics of its influence on social media users? Next, the writer determines the search keywords and designs the search stages. The terms are taken from the research questions and expanded to form a comprehensive search word list. The search words used are addiction, social media, facebook, internet, social media addiction, depression, stress, self-esteem, and anxiety. These search words are used to find articles in the database *Publish or Perish, Science Direct, ResearchGate, and Wiley online Library*. In the next stage, all journals are checked for duplication by the author using Rayyan. The author screens all journals that have passed the duplication check based on title and abstract. Furthermore, an analysis of the full version of each journal is carried out. After the selection was made, 184 journals were found and only 12 journals discussed social media addiction and its predictor factors in adolescents and students. The graph of the flow of journal selection can be seen in Figure 1. The limiting points during the review process of this article are: (1) Journals discuss social media addiction, (2) types of quantitative and qualitative research, (3) English-language journals, (4) subject the research is students or students, (5) the research was conducted from 2017 to 2022. The journals that are not included in the criteria for article review are, (1) journals that discuss social media addiction outside the context of problematic user behavior, (2) are not written in the language English, (3) articles with literature review types, reports, reviews, books and research whose methods are not clearly reported.

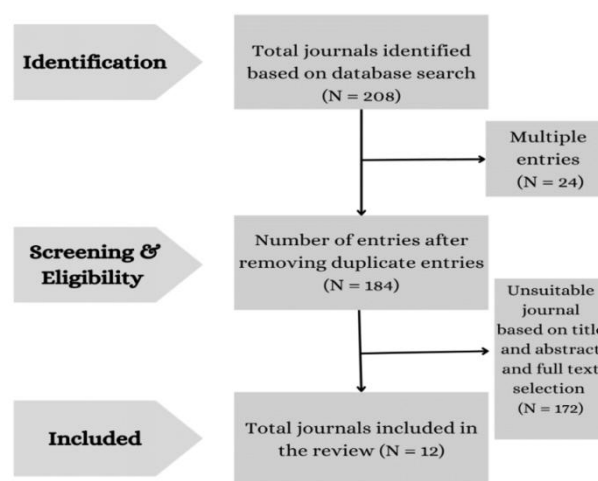


Figure 1: PRISMA Graph for Journal Selection Flow

3. Result and Discussion

Social media is a digital platform product that has received a positive response from people. Social media is no longer part of tertiary or primary needs but secondary needs. For users, social media has become part of their daily lives, and teenagers to young adults are the largest group of users (Marengo, *et al*, 2018; Rideout, *et al*, 2018; Settani, *et al*, 2018; Kemp, 2017; MA Fabris, *et al*, 2020). In the world of education and during the Covid-19 pandemic, the evaluation of social media is well recognized (Shin, *et al*, 2020) because it is able to play an important role in the teaching and learning process such as providing facilities for distributing assignments and holding group discussions (Homaid, 2022) an example is WhatsApp. Social media according to Wartberg (2020) that the platform is a broad term that includes social media such as social networks (SNS). The pandemic outbreak has given rise to excessive use of the internet, individuals communicate and interact with each other via social media (Dong, *et al*, 2020). The use of smartphones and social media around the world has also become excessive during the spread of Covid-19 and has serious implications for mental health (Zhao & Zhou, 2020) resulting in a state of dependence called social media addiction (Koc & Gulyaci, 2013).

Another effect of social media addiction is a decrease in academic achievement (Homaid, 2022). Problematic social media users tend to use platforms such as Instagram, Twitter, Facebook, WhatsApp for more than 6 hours. This causes users to feel exhausted in front of the smartphone screen. In addition, it causes stress on technology because of the high use of it to communicate or seek entertainment. Technological fatigue and stress are effects of addictive behavior and have an impact on decreased academic achievement (Homaid, 2022). The results of the study show that technological stress has a higher contribution to decreased academic achievement than fatigue. There is a cause and effect relationship between the research variables so that social media users and their negative consequences can be reversed. According to (Xu and Tan, 2012) the transformation from normal to problematic use of social networks arises when individuals who have poor real-life relationships perceive social networks as an important tool for relieving their stress and loneliness.

Table 1. List of Interrelated Variables Social Media Addiction in Young Adults

No	Author, Year	Subject	Variable	Information
1	MA Fabris, <i>et al</i> (2020)	472 youth participants; 50% of boys are around 13-14 years old. Age range from 1-19 years in Northern Italy.	FoMo, Stress (abandonment from friends), Social media addiction, Adolescent emotional well-being	This study reports that adolescents who have problems with emotional well-being can be triggered by FoMo. However, this FoMo can trigger emotional well-being directly or indirectly. In research, teenagers who have high FoMo will experience stress due to neglect from friends so that it affects them to access social media continuously (experiencing addiction). This causes emotional instability in adolescents. Social media addiction in this study acts as a mediation of the relationship between FoMo and stress on emotional well-being. Social media addiction can be said to have a unidirectional and positive relationship with the FoMo and Stress variables due to neglect by friends.
2	Monacis, L. <i>et al</i> (2017)	734 participants; 415 men and 319 women. Vulnerable age 16-40 years, but the average age is 21 years. Participants were divided into 2, namely adolescents (age 16-19 years) as many as 270, and young adults (ages over 20 years) as many as 464.	Attachment styles (anxious attachment attitudes) and addiction to social networks (SNS) such as Facebook are part of SNS.	This study examines a measure of social media addiction for Italian society. The other variable used is psychosocial problems, namely anxious attachment. In recent years, the use of social media has become increasingly prevalent in everyday activities. However, when people spend a lot of time online, Internet-related activities can lead to negative outcomes including problematic and addictive behaviors.
3	Shafi, R.M.A <i>et al</i> . (2021)	60 adolescent participants. Age range 13-17 years. Participants were divided into two groups. Group 1 is a sample of depressed youth = 30 people and group 2 is a sample of healthy teenagers = 30	Social media addiction, depression, self-esteem, bullying, cyberbullying.	Measuring predictors of social media addiction to 2 groups, namely the group of adolescents who experience depression and the control group. Based on the test results, it was reported that the risk of social media addiction was high for groups of adolescents who experienced depression while the control group did not show significant results. Adolescent girls are a higher risk group for social media addiction than boys. Adolescent girls are

		people.		more likely to use social media so they are more vulnerable to virtual comparisons. Teenagers experience increasingly high physiological stress so that many of their populations are vulnerable to problematic use of social media. Other predictors include cyberbullying, online comparisons, and many other stressful interactions that can paradoxically drive social media addiction in at-risk adolescents.
4	Homaid, A. A. (2022)	The age range is 18-27 years and over and the largest group is in the age range 21-23 years. He works as a student at Shaqra University in Saudi Arabia. The social media used are WhatsApp, Instagram, Twitter, Skype, Snapchat, and Facebook. The time spent accessing social media is more than 6 hours the highest.	The relationship between social media addiction and decreased academic achievement which is influenced by fatigue and technostress.	The test results show that addiction to social media has a positive effect on decreasing academic achievement. In addition, social media addiction has a significant positive relationship with technostress and technostress contributes 60% to decreased academic achievement while fatigue contributes 40%. Both mediation predictors showed a significant positive relationship between social media addiction and decreased academic achievement. Addiction to social media and its negative effects can be reversed, although in the end it becomes something complex. Research on social media addiction tends to be cross-sectional. The transformation from normal social media use to problematic in terms of addiction occurs when individuals have poor real-life relationships and perceive social networks as an important tool for relieving their stress and loneliness. The use of social media can also be influenced by culture. This is based on the level of stress experienced by the community.
5	Arikan, G, et al (2022)	375 student participants. Average age of 22 years from 2 universities in Turkey. Apart from involving students, the research also involved parents, age range 49-53 years.	Anxiety, depression, social media addiction and attachment styles.	Attachment in this case related to parenting illustrates that insecure attachment can form maladaptive, dysfunctional emotional regulation, and coping strategies that can lead to higher levels of depression and anxiety.
6	Mahamid, F.A et al, (2018)	744 young adult participants. The study was conducted at An-Najah National University (ANNU), Palestine.	Gender, education level, age, social isolation, stress.	Behavioral indicators of addiction include lost time, reduced alternative activities, continued use in the face of negative consequences, narrowing of the behavioral repertoire, and recognition of overuse while behavioral reactivity is minimal. In the area of cognition, addiction influences the amount of time thinking about use, overestimating the positive consequences of use, and underestimating the negative consequences of use, as well as minimizing the frequency and results of use. Emotional addiction causes increased sensitivity to perceived stress, increases anxiety, and results in difficulty recognizing and managing negative feeling states
7	Turela, O, et al (2018)	The research subjects were 274 university students in the United States. Over 18 years old.	Gender, GPA, Age, Facebook usage level, Social media addiction, time distortion	In excess Facebook users reported that they display distorted time judgments that are longer than they really are
8	Guizhijia, et al (2022)	1307 Chinese student participants, average age	Social anxiety for Social Media Users	Participants who are prone to interaction anxiety, addictive smartphone use, extraversion personality

		20 years.		traits, bad relationships with parents, unfavorable childhood lives and cyberbullying experiences tend to have higher levels of social anxiety related to social media use.
9	Demyrcy, <i>et al</i> (2014)	319 student participants, average age 20 years. Turkish students, there are 116 men and 203 women.	Smartphone use, quality of self, depression, and anxiety	Smartphone addiction because it is used for the internet and social media can be associated with depression, anxiety, and sleep quality. Excessive use can cause depression and anxiety thereby affecting the quality of sleep.
10	Hou, <i>et al</i> (2019)	250 student participants at Peking University, China. Average age 19-20 years.	Impact, mediation and intervention of social media addiction.	Social media addiction has an impact on mental health and decreased academic achievement which is mediated by self-esteem.
11	Khan, <i>et al</i> (2021)	232 student participants.	Social media addiction and self regulation.	The results of the study report that the contribution of social media addiction is quite high on mental health and individual academic achievement
12	Shensa, <i>et al</i> (2018)	1730 participants, age range 19 to 32 years.	Social media users, depression and anxiety.	Social media addiction is highly associated with depression and anxiety.

Social media addiction is also influenced by control variables such as time, gender, education level, and age (Homaid, 2022). When using social media one forgets the time, always feels new to using it but actually the time is spent hours. One of the characteristics of social media addiction is losing track of time because of the preoccupation with being immersed in other people's posts. Time is a factor influencing addictive behavior, according to Homaid (2022) that time spent as much as 6 hours per day will cause individuals to be psychologically and physically unhealthy. Another study used time distortion to measure social media addiction. In this study, 2 treatments were carried out, namely excessive social media users were given tasks to complete without accessing social media but using computers and the second group who were not addicted to social media were given tasks to complete and could access social media. The results show that the group at risk of higher time distortion means higher social media addiction, while the group that is not at risk of time distortion is not affected by the ease of accessing social media (Turel, *et al*, 2019). In addition, researchers assume that such task aspects can encourage desire and consistent abuse of those at risk of social media addiction (Michalowski & Erbllich, 2014). The total time used in the study was around 20-25 minutes (Turel, *et al*, 2018).

Psychosocial is also one of the individual factors for excessive use of social media caused by anxiety, stress, and depression (Shafī, *et al*, 2021). Conducted a study on the predictors of social media addiction in 2 groups, namely group 1 of depressed adolescents and the control group. Based on the test results, it was reported that the risk of social media addiction was high for groups of adolescents who experienced depression while the control group did not show significant results. Adolescent girls are a higher risk group for social media addiction than boys. Adolescent girls are more likely to use social media so they are more vulnerable to virtual comparisons. However, the results of this study are different from the research report conducted by Mahamid (2018) that men are at the highest risk compared to women. This can happen due to state conditions. Mahamid (2018) conducted research in the State of Palestine, including a geopolitical area with high pressure, causing the group to not have many opportunities for recreation or open socialization. The impingement that is done is accessing social media, because it is not difficult to access social media and the desire to satisfy satisfaction causes them to use social media continuously (Mahamid, 2018). This can be called the influence of culture and the location of a country.

Teenagers experience increasingly high physiological stress so that many of their populations are vulnerable to problematic use of social media. Other predictors, namely cyberbullying, self-comparison in cyberspace, and many other stressful interactions can paradoxically drive social media addiction in at-risk adolescents (Shafī, *et al*, 2021). Stress due to being ignored by friends is one of the predictors that causes social media addiction. How can this happen? In the following discussion, the research results show that there is a role for FoMO (*Fear of Missing Out*). FoMO can be interpreted as a widespread fear in which the individual does not want to feel left out of something that is busy on social media. The hallmark of FoMO is the desire to continue to be connected with what other people are doing (Przybylski, *et al*, 2013). Adolescents who have high FoMO levels tend to use social media more to balance their psychological needs (Oberst, *et al*, 2017). Supported by several previous studies, reporting that FoMO has a high effect on excessive use of social media (Al Menayes, *et al*, 2016; Blackwell, *et al*, 2017; Yossatom, *et al*, 2018; Van Rooj, *et al*, 2018). The consequences of these behaviors have a negative impact on emotional symptoms.

Based on the explanation above, it can be reported again that social media addiction is a causal process for its predictors. The use of social media is still debated in the literature regarding the operationalization of addiction to the behavior of using social media as an independent construct itself. This debate stems largely from its overlap with other internet-related behavioral addictions (Banyai, *et al*, 2017). There are several terms used in the literature to refer to the construct, including social media addiction, problematic use of social media, excessive use of social media, social media use disorder, and social network use disorder (M.A. Fabris, *et al*, 2020). However, there is a need for research because of the influence of technology; Social media has increased rapidly in recent years.

4. Conclusion

Social media addiction can be influenced by various factors such as psychosocial, self-esteem, cyberbullying, cultural influences, bullying, attachment attitudes, time distortions. Problematic behavior towards social media users causes an imbalance in individual life in the real and virtual worlds. This can affect individual psychological well-being and have an impact on social relationships. Therefore, this addictive behavior can be overcome with high self-control. These related findings can be followed up by students, lecturers, teachers, and parents.

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