Why Adolescents Are Addicted to Social Media

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Abstract. This review is based on empirical research to find out how people get addicted to social media. Then based on the general addiction process, the possible process of getting addicted to social media would be suggested, and Tiktok would be chosen as an example to analyze how people get addicted to short video social media. This literature review would also put emphasis on how social media addiction affects adolescents both in their academic life and mental health. Then, this literature review would critically examine the reasons for social media addiction from family background, schooling environment, and mental health three aspects, and the effects of social media addiction. Finally, this literature review would aim to find prevention for adolescents' social media addiction and possible solutions which are suitable for adolescents to overcome the negative effects of social media addiction.

Keywords: Social media addiction; adolescent's mental health; interventions.

1. Introduction

Nowadays, social media is an inevitable component of people's lives. However, it turns out that social media, which is supposed to be a convenient tool for people sharing lives and communicating online, is a downfall. Many people are addicted to their phones and scrolling through various types of social media all day long. As a result, a new term comes up for such a kind of addiction. From the perspective of adolescents, many of them cannot stay away from social media and even cannot stand for class duration. Some adolescents even feel anxious if they are prohibited from using social media. As a result, many adolescents must alleviate their social media overuse or addiction to ensure they will not be distracted by social media addiction during classes or while doing their homework.

Current studies mainly focus on what kind of how social media affects adolescents' academic performance, mental health, and prevention. However, the details and process of how adolescents get addicted to social media are not explained clearly. In order to narrow down the social media scope, TikTok is selected from all those trending social media apps. This is because Tiktok has a fixed mode of use, which is scrolling for videos, or making videos, instead of other forms of use that may mix with texting functions, posting pictures, and videos. Tiktok is designed for users to watch short videos or create short videos. So this literature review would mainly focus on students who could not stop scrolling for the short videos. Therefore, this literature review will focus on: (1) the rationale behind addiction; (2) what makes adolescents' social media (especially TikTok) addiction; (3) how social media addiction affects adolescents' academic achievement; and (4) finding effective interventions to help adolescents alleviate or even water down their social media addiction, to improve their efficiency.

2. Method

This literature review would use ProQuest, web of science, Scopus, and PudMed as the main resources. Only peer-reviewed articles would be used in this literature review and papers before 2010 would not be referenced because of the rapid change in social media and internet usage. The keywords input in both search engines are mainly "overuse and addiction", "addiction and diagnose", "factors induce social media addiction" "adolescents' social media addiction", and "social media addiction and academic performance".

3. Literature review

3.1 The Formation of Addiction

3.1.1 Three stage model of the addiction formation

To explain addiction, the above immediate gratification should be mentioned. Immediate gratification means that an individual cannot resist the temptation of the reward and choose to get the immediate pleasure to fulfil one's desire straight away [1]. The opposite gratification is called delayed gratification, which requires the individual to wait for a longer time and obtain a more valuable reward [2]. As a result, individuals who always choose to get immediate gratification instead of waiting for the more valuable one appear to have a weaker ability in self-regulation or self-control, so they are not sophisticated in either redirecting or suppressing their desire [3]. Therefore, those individuals who do not have the strength to resist impulsivity may easily get into overuse. Then, this is the start of falling into addiction.

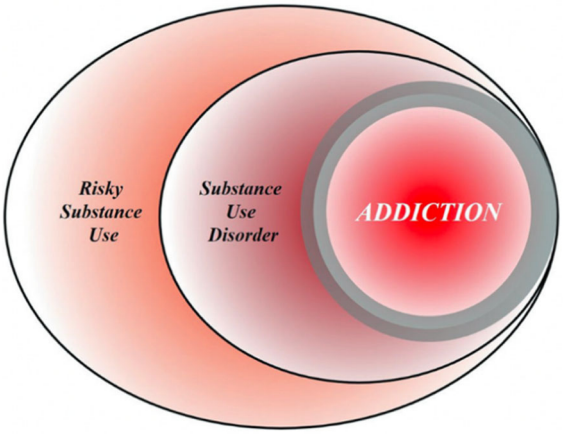


Fig. 1 The heuristic Venn diagram of the formation of addiction [4]

According to Heilig et al. [4], addiction is classified into the following three stages:

Stage 1 As Fig. 1 shows above, before being addicted to something, people will first get risky substance use or hazardous substances use, which means a comparatively high frequency or quantity of a certain consumption but still has not become a disorder yet [4]. This behavior is formed because the individual cannot resist or impose themselves to obtain the substance they want immediately. However, risky substance use could turn into a substance use disorder if people have easy access to those substances [5]. For example, when people are in risky substance use of alcohol already while living near alcohol stores, the barriers to acquiring, using, and abusing those substances are lowered, thus facilitating substance use initiation and potential abuse [5].

Stage 2 If the substance abuse gets more severe, the behavior could be diagnosed as a substance use disorder (SUD) or substance abuse [4]. This indicates that individuals who are diagnosed with mild, moderate, or severe use disorder by therapists or doctors would use substances in an excessively risky, dangerous manner [4].

Stage 3 Then, the most severe one is addiction. Individuals who find it difficult to self-regulate themselves to consume substances are in addiction. However, as Heilig et al., [4] suggested, the boundary for addiction is still not clear, and there is not any clear definition for dividing SUD and addiction.

Therefore, as Fig. 1 shows, among high-risk people, a subgroup will meet the criteria for SUD, and among people with SUD, a further subgroup would be classified as being addicted to the substance [4]. However, the boundary between addiction and SUD remains blurry.

From addiction to social media addiction, especially among adolescents. Social media addiction is always linked with internet addiction and cellphone addiction. Sometimes it is hard to define which

addiction the adolescent has. However, Andreassen et al. [6] proposed that social media addiction symptoms are mainly shown as being overly concerned about social media, driven by an uncontrollable motivation to log on to or use social media, and devoting so much time and effort to social media that it impairs other important life areas. From this part, the formation of social media addiction follows the three stages.

3.1.2 TikTok as an example

For social media addiction, the most common social media form is short video applications like TikTok, which was the most frequent download app in the global world in 2019 [7]. This app aims to keep users' attention as long as possible [8]. Therefore, from the users' health perspective, such kind of purpose could bring overuse of TikTok.

The progress of TikTok attracting users started with the personalized recommendation algorithm and immediate gratification [7]. By liking the short videos, the algorithm would keep giving similar liked videos so that the user would keep receiving the videos they like. As a result, applying the actions for TikTok addicts, the videos are similar to the award, and scrolling videos could be seen as giving themselves immediate gratifications, which bring them dopamine instantly [9]. Then, the individuals could not control themselves to get immediate gratification, so gradually, their overuse of TikTok became a social media addiction. A reciprocal conclusion was concluded in Su et al.s' [10] research, they tested the fMRI and believed that adolescents who already have social media addiction showed weaker self-control ability. A similar result was concluded by [9], lower self-control ability has more difficulty shifting attention away from favourite video stimulation. Viewing personalized video clips recommended by TikTok activates the default mode network and ventral tegmental area, which triggers the individual to mind wandering and extend the time in scrolling it [10].

As a result, the proposed social media (short video type) addiction model in this review could be seen as Fig. 2.

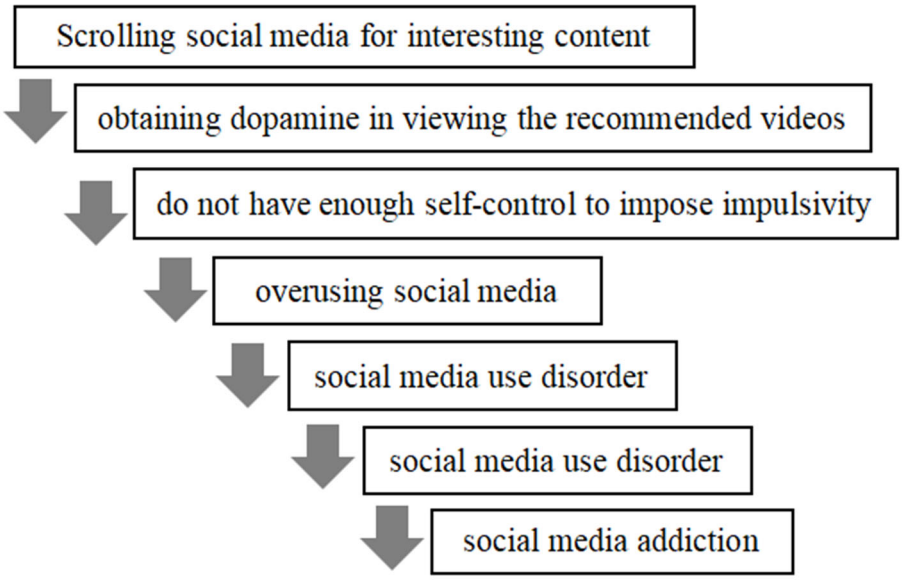


Fig. 2 Social media (short video type) addiction model

3.2 The Influencing Factors of Adolescents' Social Media Addiction

3.2.1 Childhood and Family bounds

For many adolescents, their addiction triggers need to consider three aspects, the family environment. First, the family environment from childhood is an important factor, and negative childhood experiences would have a negative impact on happiness [11]. However, happiness and life satisfaction could function as social media prevention for adolescents. Adolescents who feel more unhappiness and dissatisfaction in their childhood get more easily addicted to social media [11]. Similarly, a good mother-adolescent relationship could help adolescents' reflective system, which

would benefit self-monitoring and prevent internet addiction since internet addiction includes social media addiction [12].

3.2.2 Negative Friendships

Negative friendships could also affect adolescents' social media addiction in school. Huang et al. [13) suggested that peer relationships positively moderate negative emotions and social media addiction. In specific, it is very common for students to maintain their friendship through social media, so in order to maintain every relationship that emerges in real life, the time of using social media would increase enormously, which would increase the hazard of getting social media addiction [13]. Yang et al. [14] also believed that adolescents with a higher level of social media addiction would have greater interpersonal relationships in real life and online.

In addition, Chung et al. [15] suggested that poor academic performance, depression, even suicidal ideation, disorganized family, for example, parents with lower education levels, family members having internet addiction, and using restrictive parenting styles would all induce internet addiction and social media addiction. Leung & Lee [16] believed that as posting content on social media is a leisure activity for adolescents, the more content they create, the more they become addicted to social media.

3.2.3 Depression, anxiety, and stress

Malak et al. [17] discussed that adolescents who have depression or anxiety more easily get addicted to social media. To be specific, social media could help them stay away from what they feel anxious or stressed about for a certain amount of time. So as they spend more time scrolling their social media, the more time they can keep away from their depression, anxiety, and stress. Therefore, this makes social media become a placebo for their mental issues so that those adolescents are more easily get addicted.

3.3 The Impact of Social Media Addiction on Adolescents' School Life

3.3.1 social media addiction directly affects academic performance

To find out the social media addiction long-term effect, Luo et al. [18] use the Bergen social media addiction scale (BSMAS) [6], which is based on Griffiths' six criteria [19] to determine whether adolescents have social media addiction. They reported that the students who have social media addiction would tend to have poor academic achievement, and male students would get a bigger risk of being addicted to social media. In addition, Leung & Lee [16] also found that severe social media addiction would also result in adolescents learning engagement, which would be missing classes, avoiding social events, and skipping school. Moreover, heavy social media use would be an obstacle to face-to-face interactions in school connectedness, while school connectedness is a crucial factor in academic performance [20]. Neel & Fuligni [21] indicated that when adolescents feel a sense of belonging at school, they value their learning more. Hence, adolescents' academic outcomes are more likely to improve for students who feel connected to the school. What is more, social media addiction would also affect learning efficiency. People who have problematic use of social media would frequently open their social media in the middle of everything. Otherwise, they may feel anxious or even appear abstinence reaction [10]. As a result, for adolescents, frequently checking social media would result in a low attention rate and short focus time, negatively influencing learning efficiency.

3.3.2 Social media addiction affects mental health

Social media overuse would be attributed to lower academic achievement. Boer et al. [22] believed that attention deficit Hyperactivity Disorder-Symptoms (ADHD) and social media use are related to either social media overuse or addiction. Specifically, the addiction-like behaviors of ADHD adolescents would increase their ADHD symptoms. In Malak et al.'s [17] research, they proposed that social media addiction has an indirect impact on academic performance; it also directly affects students' stress levels and anxiety levels, and both of them could directly influence academic performance. Moreover, students' stress levels contributed directly to their anxiety, resulting in

depression [17]. What is more, Stockdale and Coyne suggested that the use of social networking sites increases the risk of cyber-aggression and cyberbullying among teens and young children, especially narcissists, who are more inclined to engage in aggressive behavior and self-promotion and may use social networking sites to promote themselves [23].

4. Interventions of Adolescents' Social Media Addiction

To alleviate or quit social media addiction, the method should be formulated according to the cause of addiction. However, negative childhood experiences and family bonds are factors that are hard to modify after the child grows up. As a result, the general alleviate method could be better to deal with these causes. For example, Dogan et al. [24] suggested some possible ways to decrease the addiction level to Facebook. To be specific, notifications of excessive time use, limiting time use, providing rewards based on time usage, and self-monitoring the time use. Those methods are suitable for not only adults but also adolescents. Among all these methods, notifications are the most effective way to help users limit their time usage on Facebook. Similarly, the notifications could also be utilized in other social media addictions.

Turning to the second cause mentioned in 3.3, negative friendship, to avoid or lower the chance for adolescents to maintain their friendship online. Therefore, schools or parents could utilize social media as a study tool. For example, Ashraf et al. [25] suggested that social media could be an open learning tool that facilitates adolescent engagement through group discussion and teamwork collaboration, which would positively influence adolescents' academic performance. This could gradually change the purpose of using social media and connecting adolescents friends through teamwork at the same time. Therefore, it is much better than forcing addicted adolescents to quit social media immediately.

However, if social media addiction is caused by mental problems such as depression, anxiety, and stress, then the method should first emphasize those mental problems. For very hard for adolescents to quit playing social media, especially adolescents who have already used social media as a placebo [17].

5. Limitation and further discussion

This literature review mainly focuses on the process of how people get addicted to short video social media, this is because a lot of social media have mixed all the functions such as messaging people, posting pictures and videos, and live to stream. As a result, since many kinds of social media are mixed with all those functions, analyzing the cause of people's addiction is very difficult, and the corresponding solution would be different. Therefore, further direction could put emphasis on why people get addicted to texting and messaging friends on social media, why people get addicted to scrolling posts on social media, etc. This would largely narrow down the addicts' performance so that the motivation and cause of addiction would be found easier. Then the solution would be formulated more accurately through analysis.

6. Conclusion

After all, the process of social media addiction could be analyzed from the addiction. The solution for quitting social media addiction could also reference quitting other kinds of online addiction, such as internet addiction, phone addiction, and even game addiction. This is due to the fact that any form of addiction could bring immediate gratification for the addicts, and the dopamine would be generated from it so that addicts would find it hard to quit the substance. The short video social media just fit this process, so no matter whether adults or adolescents, as long as the users have less self-control or self-regulation to suppress or transfer the cravings, they would get addicted to social media. For adolescents, poor academic performance would reciprocally interact with each other. Adolescents who have difficulties in friendship, family relationships, and mental situations would have a higher

risk of social media addiction. Specifically, Tiktok is among the most popular social media worldwide. It differs from the original social media, which emphasized getting people in touch online; it focuses on spreading short videos and attracting people to watch them. Although Tiktok still keeps the contact function, the main time spent by Tiktok users is still scrolling the short videos. This is due to the fact that Tiktok uses big data calculations to calculate users' favourite videos and push them to their phones. As a result, the short videos could be regarded as a temptation and the more videos the user likes and the more accurate the Tiktok would get, the stronger the temptation would be. In addition, dopamine is obtained by scrolling through new videos in seconds, so it is not easy for users to stop obtaining immediate gratification by simply scrolling on their phones.

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