

The Impact of Social Media Addiction on Adolescent Physical and Mental Health

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Abstract:

As social media has gradually penetrated into the lives of teenagers, its influence on teenagers has gradually become one of the topics discussed in society. It is said that technology changes lives, but the improper use of social media would bring negative outcomes to adolescent. Due to the late emergence of social media, there are not many studies on this, but it can be divided into positive and negative effects on teenagers. Generally speaking, the negative effects outweigh the positive ones. The existing literature rarely has a general overview, and most of it uses a specific aspect as a starting point to discuss. This paper adopts the method of literature review, the author takes social media addiction as the starting point of this paper after consulting the literature and summarizing and integrating the previous viewpoints to discuss the harm of long-term use of social media to adolescents' physical and mental health. At the end of this paper, some specific measures are given.

Keywords: Adolescent; social media addiction; physical health; mental health.

1. Introduction

Science and technology can change the lives of teenagers and make them understand the world more clearly. Social media, as a product of the information age, has an important impact on young people's lives. Social media, indeed, represent online platforms that empower users to engage in selective interaction and self-presentation, either instantaneously or across various time frames and these platforms are valuable not only for the content generated by user but also for the sense of connection they foster among individuals [1]. The role of social media in communication and interaction with others is becoming more significant in people's daily lives. For teenagers, it

serves as a key platform for socializing, connecting, and learning, making it an essential part of their everyday routines. More and more social media are coming into adolescents' lives. Adolescents spend a lot of time on social media sharing photos, sharing their lives, or connecting with someone in order to satisfy their emotional value. A survey indicates that 22% of adolescent access social media over 10 times daily, while more than half say they log in multiple times each day [2]. However, teenagers' use of social media will have an impact on their physical and mental health. This process is imperceptible and is a quantitative change process. People are divided in their opinion regarding the impact of social media

on adolescents' physical and mental health. The literature shows that adolescent who addict to social media can generate depression, have limited self-control, and are vulnerable to peer pressure. Examples include bullying, privacy issues, etc [2, 3]. In the other literature showing that long-term use of social media can cause damage to their body, sleep quality was linked to time spent on social media at night [4]. Based on the current research status, the author will further explore the influence of social media on adolescent health, focusing on both physical and mental well-being.

2. Literature Review

2.1 Definition of Main Variables

Physical health is defined as the body functioning normally and not impaired, having no disease, and the ability to adapt to changing external conditions [5]. Mental health refers to the ability to have good relationships with others, maintain a positive attitude toward yourself and others, and manage sadness at the same time [6]. Social media addiction refers to the behavior of using social media for a long time and monitoring it for a long time by giving up other activities [7].

2.2 The Effects of Social Media Addiction on Physical Health

Reasonable use of social media by teenagers can make them understand the changes in the development of the world and make new friends through social media. However, the physical health damage caused by prolonged use of social media was mainly due to sleep quality and cervical spine problems.

2.2.1 Sleeping quality

Prolonged use of social media at night will lead to reduced sleep time for teenagers, and lack of sleep will lead to dozing off, wandering, listlessness, and other phenomena in class the next day, affecting learning and, more importantly, health. According to the National Sleep Foundation, which analyzed data from 312 articles, adolescents should get between eight and 10 hours of sleep per night [8]. Another study found that a 17 percent increase in adolescents' sleeping less than seven hours in 2015 compared to 2009 was associated with over two hours of social media use daily [9]. A lot of adolescents are addicted to social media. They have limited time to use social media during the school day and usually access it only after they return home. However, with parental restrictions in place, many are not allowed to use their phones for extended periods. Therefore, they will secretly hide in their rooms to

play with their phones because social media is an important channel for them to keep in touch with friends, so they are willing to sacrifice sleep time to socialize. An online survey revealed that only 5% of participants reported never using social media at night [10].

2.2.2 Cervical spine problems

Many teenagers turn on social media and immerse themselves in it for a long time, ranging from tens of minutes to as long as an hour or two, and basically stay in the same position for a long time, like lying on a sofa or bed, or keeping their heads down for a long time. Tang points out that social media addiction has an effect on ill-health symptoms, like musculoskeletal pain [11]. Some scholars pointed out that the use of mobile phones for a long time can lead to changes in the spine, there will be normal pain, and the future may lead to the risk of lumbar disc herniation [12]. In a survey on the impact of Internet addiction on cervical spine problems, 39 students from Jonggol High School were selected. Nearly half of the students said they had Internet addiction, and more than half of these students said they would have spinal problems [13].

2.2.3 Vision problem

Similarly, the damage to teenagers' vision problems caused by prolonged use of social media has also become a social concern. Myopia has become an important adolescent public health problem [14]. Myopia among teenagers is also on the rise in many countries. In 2020, Zhang et al. investigated the nearsightedness of 1,059,838 students (5-20 years old) in Huaifang City, Shandong Province, China, and found that the proportion of young people in the city with myopia reached 75.35% [15]. According to the literature, myopia is very common in East Asia, and the myopia rate of 17-18-year-olds who complete high school in developed countries in East and Southeast Asia reaches 80-90% [16]. According to Scott's investigation, the vast majority of teens say they use social media at night [10]. The blue light emitted by mobile phones can irreversibly affect a teenager's vision. Blue light is emitted by backlit digital screens, mainly from mobile phones, computers, etc. Long-term exposure to these devices will increase the damage to the eye [17].

2.3 The Impact of Social Media Addiction on Mental Health

Social media is a platform for adolescent to share their lives and learn about the world. More and more adolescents cannot live without it. Reasonable use of social media can have a positive impact on teenagers, but long-term use will have a negative impact on their mental health. A lot of literature on this phenomenon. Study on excessive

smartphone use have connected it to negative effects, such as diminished social interactions, increased social isolation, and mental health issues, including anxiety, depression, and stress [18]. In order to make themselves more popular when using social media, teenagers are prone to have high-risk sexual behaviors, such as posting sexy photos, which will bring them sexual harassment and cyberbullying [19]. Gupta suggests that social media use can affect identity, as well as adolescent depression, anxiety, and personality disorders [20]. In this paper, the author will discuss three aspects: social anxiety, self-esteem, and depression.

2.3.1 Social anxiety

Social anxiety, also known as anxiety disorder, is a fear of interacting with others in social situations and of being judged by others [21]. In real life, many teenagers are afraid to socialize with people offline because face-to-face communication will bring them much discomfort, so they tend to use social media to socialize. Adolescents with social anxiety who are afraid of face-to-face interactions and other people's negative evaluations can affect how they build relationships with each other, leading to more frequent and passive use of social media [22]. Social media is an opening platform. Users can add friends according to their preferences and share aspect of their everyday lives with them, but adolescent make social comparisons when they use social media. The longer they use it, the worse their anxiety will be [23]. Amedie gives an example in his study: Someone took a selfie at the gym and shared it on Facebook, initially receiving some likes and comments from her friends, but later received so many negative comments and personal attacks that she had to delete the picture [24]. Also, Amedie points out that even though the photo has been deleted, someone will screenshot and spread it on the internet, which causes the sender to fall into anxiety [24].

2.3.2 Self-esteem

Among the many studies on the link between social media and adolescent self-esteem, most concur that adolescents' self-esteem is influenced by the large time they spend on social media [25]. Teenagers who are unable to control their time on social media are prone to addiction and have a harmful impact on self-esteem [26]. When teens share content on social media, they struggle with their image because they want to be validated through social media likes and comments [27]. According to Lee et al., adolescence is highly sensitive, especially among peers [28]. Self-esteem is influenced by others' reactions, and teens frequently compare the number of opinions and likes they receive with those of their peers, but if others' numbers

are better than their own, this can lead to a drop in their self-esteem, otherwise, vice versa [29]. It is not easy to improve self-recognition by liking comments on social media. The openness of social media gives users the power to choose what they like. As a result, prolonged use of social media increases teens' expectations of likes and reviews, and once the quantity of comments and likes does not meet expectations, they fall into self-doubt negatively affecting self-esteem.

2.3.3 Depression

Adolescence become a crucial stage on teenager's mental health development. Adolescence is the early stage of depression, and young people spend so much time on social media that they have less time to be physically active [30]. In a survey study, the authors found that adolescents with depression use social media more frequently, and they try to relieve their symptoms through social media, but with negative effects [31]. Social interaction is the main purpose of social media, but the lack of real life interaction on social media and the low quality of online interaction tend to increase the risk of depression [32]. Passive use of social media (i.e. scrolling through news or friends' feeds) can undermine happiness, reduce belonging and increase loneliness, all of which have been linked to depression [33].

Also, cyberbullying become a dominant reason of adolescents' depression. Cyberbullying sends harassing messages, nasty comments, humiliating photos, etc., to teenagers by increasing their exposure [34]. Bozzola says the number of teens who are cyberbullied is increasing every year, and cyberbullying is linked to increased levels of depression [35].

3. Conclusion

To sum up, the primary purpose of the research was to analyze the impact of social media on adolescents' physical health and mental health and argue that being addicted to social media has some negative impact on them. Through the literature review, we concluded that in terms of physical aspects, social media addiction can negatively affect adolescent sleep quality, cervical spine problems, and vision problems. In terms of psychology, it can have a negative impact on social anxiety, self-esteem, and depression in adolescents. In the process of consulting the literature, the author found that many scholars also put forward other aspects of the influence, and the understanding of this paper is not too deep. At the same time, this paper only discusses the negative aspects, ignoring the positive aspects. In addition, the literature review lacks the support of data investigation, and the conclusions drawn by em-

pirical research after actual investigation and data analysis are more convincing.

In order to make teenagers have good physical and mental health, The authors make three observations. First of all, social media platforms should strengthen the control of social media, regulate the use time of teenagers, implement real-name authentication, and launch youth models. Second, government schools should strengthen children's education, set up relevant courses to let teenagers correctly view and use social media, and provide timely psychological counseling for students with psychological problems. Thirdly, parents should reasonably arrange the time for their children to use mobile phones instead of giving them no time at all. Social media, as a method for teens to keep in touch with their classmates after class, plays a crucial role in interpersonal relationships.

References

- [1] Carr, C. T., & Hayes, R. A. (2015). Social media: Defining, developing, and divining. *Atlantic journal of communication*, 23(1), 46-65.
- [2] Schurgin, G., & Clarke-Pearson, K. (2011). Clinical report—the impact of social media on children, adolescents, and families. *Pediatrics*, 127(4), 800-804.
- [3] Kaur, S., Kaur, K., & Verma, R. (2022). Impact of social media on mental health of adolescents. *Journal of Pharmaceutical Negative Results*, 779-783.
- [4] Boniel-Nissim, M., Tynjälä, J., Gobiņa, I., Furstova, J., van den Eijnden, R. J., Marino, C., ... & Gariépy, G. (2023). Adolescent use of social media and associations with sleep patterns across 18 European and North American countries. *Sleep Health*, 9(3), 314-321.
- [5] Koipysheva, E. A., Lebedinsky, V. Y., & Koipysheva, M. A. (2018). Physical Health (definition, semantic content, study prospects. *European Proceedings of Social and Behavioural Sciences*, 50.
- [6] Bhugra, D., Till, A., & Sartorius, N. What is mental health?. *International Journal of Social Psychiatry*, 2013, 59(1): 3-4.
- [7] Zivnuska, S., Carlson, J. R., Carlson, D. S., Harris, R. B., & Harris, K. J. Social media addiction and social media reactions: The implications for job performance. *The Journal of social psychology*, 2019, 159(6): 746-760.
- [8] Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., ... & Hillard, P. J. A. \National Sleep Foundation's sleep time duration recommendations: methodology and results summary. *Sleep health*, 2015, 1(1): 40-43.
- [9] Twenge, J. M., Krizan, Z., & Hisler, G. Decreases in self-reported sleep duration among US adolescents 2009–2015 and association with new media screen time. *Sleep medicine*, 2017, 39: 47-53.
- [10] Scott, H., & Woods, H. C. Fear of missing out and sleep: Cognitive behavioural factors in adolescents' nighttime social media use. *Journal of adolescence*, 2018, 68: 61-65.
- [11] Tang, C. S. K., & Yogo, M. Depression as a mediator between social anxiety and social networking addiction. *J. Ment. Health Clin. Psychol*, 2019, 3: 10-15.
- [12] Warda, D. G., Nwakibu, U., & Nourbakhsh, A. Neck and upper extremity musculoskeletal symptoms secondary to maladaptive postures caused by cell phones and backpacks in school-aged children and adolescents. In *Healthcare*, 2023, 11(6): 819.
- [13] Sunarjo, P., Laksmításari, B., Anestherita, F., Wardhani, R.K., Harini, M., Setiono, S., & Agung, I. Musculoskeletal Pain Description in Adolescence with Internet Addiction: Community Engagement in Senior High School. *Surabaya Physical Medicine and Rehabilitation Journal*, 2024.
- [14] Ming, S., Han, J., Li, M., Liu, Y., Xie, K., & Lei, B. TikTok and adolescent vision health: Content and information quality assessment of the top short videos related to myopia. *Frontiers in Public Health*, 2023, 10: 1068582.
- [15] Zhang, J., Li, Z., Ren, J., Wang, W., Dai, J., Li, C., ... & Wang, C. Prevalence of myopia: A large-scale population-based study among children and adolescents in weifang, china. *Frontiers in public health*, 2022, 10: 924566.
- [16] Morgan, I. G., French, A. N., Ashby, R. S., Guo, X., Ding, X., He, M., & Rose, K. A. The epidemics of myopia: aetiology and prevention. *Progress in retinal and eye research*, 2018, 62: 134-149.
- [17] Shuker, M. S., & Ali, Z. T. Study the effect of harmful radiation on patients, eyes from 15-25 years during using smart devices. *Al-Nisour Journal for Medical Sciences*, 2022, 4(2): 48-58.
- [18] Griffiths, M. D., Fernandez, O. L., Throuvala, M., Pontes, H. M., & Kuss, D. J. Excessive and problematic use of social media in adolescence: A brief overview. 2018.
- [19] Cookingham, L. M., & Ryan, G. L. The impact of social media on the sexual and social wellness of adolescents. *Journal of pediatric and adolescent gynecology*, 2015, 28(1): 2-5.
- [20] L Hur, J., & Gupta, M. Growing up in the web of social networking: Adolescent development and social media. *Adolescent Psychiatry*, 2013, 3(3):, 233-244.
- [21] Jolly, C. Social Media Use and Social Anxiety among Adolescents. *International Journal of Indian Psychology*, 2022, 10(1): 532-539.
- [22] O'Day, E. B., & Heimberg, R. G. Social media use, social anxiety, and loneliness: A systematic review. *Computers in Human Behavior Reports*, 2021, 3: 100070.
- [23] Lai, F., Wang, L., Zhang, J., Shan, S., Chen, J., & Tian, L. Relationship between social media use and social anxiety in college students: Mediation effect of communication capacity. *International journal of environmental research and public health*, 2023, 20(4): 3657.

- [24] Amedie, J. The impact of social media on society. *The Impact Of Social Media On Society. International Journal of Technology Enhancements and Emerging Engineering Research*, 2015, 3: 84-86.
- [25] Köse, Ö. B., & Doğan, A. The Relationship between Social Media Addiction and Self-Esteem among Turkish University Students. *Addicta: The Turkish journal on addictions*, 2019, 6(1).
- [26] Colak, M., Bingol, O. S., & Dayi, A. Self-esteem and social media addiction level in adolescents: The mediating role of body image. *Indian Journal of Psychiatry*, 2023, 65(5): 595-600.
- [27] Hill, A., & Denman, L. Adolescent self esteem and Instagram: An examination of posting behavior. *Concordia Journal of Communication Research*, 2016, 3(1): 4.
- [28] Lee, H. Y., Jamieson, J. P., Reis, H. T., Beevers, C. G., Josephs, R. A., Mullarkey, M. C., ... & Yeager, D. S. Getting fewer “likes” than others on social media elicits emotional distress among victimized adolescents. *Child Development*, 2020, 91(6): 2141-2159.
- [29] Desjarlais, M. The Effects of Virtual Likes on Self-Esteem. *Research Anthology on Usage, Identity, and Impact of Social Media on Society and Culture*, 2022, 101.
- [30] Waqas, A., Khurshid, Z., Ali, M., & Khaliq, H. Association between usage of social media and depression among young adults. *Journal of Management Info*, 2018, 5(4): 26-30.
- [31] Radovic, A., Gmelin, T., Stein, B. D., & Miller, E. Depressed adolescents’ positive and negative use of social media. *Journal of adolescence*, 2017, 55: 5-15.
- [32] Steinsbekk, S., Nesi, J., & Wichstrøm, L. Social media behaviors and symptoms of anxiety and depression. A four-wave cohort study from age 10–16 years. *Computers in Human Behavior*, 2023, 147: 107859.
- [33] Aalbers, G., McNally, R. J., Heeren, A., De Wit, S., & Fried, E. I. Social media and depression symptoms: A network perspective. *Journal of Experimental Psychology: General*, 2019, 148(8): 1454.
- [34] Nixon, C. L. Current perspectives: the impact of cyberbullying on adolescent health. *Adolescent health, medicine and therapeutics*, 2014, 143-158.
- [35] Bozzola, E., Spina, G., Agostiniani, R., Barni, S., Russo, R., Scarpato, E., ... & Staiano, A. The use of social media in children and adolescents: Scoping review on the potential risks. *International journal of environmental research and public health*, 2022, 19(16): 9960.