

Impact of Social Media Addiction on Academic Performance and the Role of Art Therapy

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Abstract: At present, the popularity of social networks is accompanied by new opportunities and threats, which will involve various fields. Many students are addicted to social networks, which affects all aspects of their life and learning. This problem prompted the researchers to carry out this research. Researches have shown that art therapy has a positive effect on addiction, stress, and anxiety; nevertheless, there are few studies exploring the feasibility of art therapy in treating the decline in academic performance caused by social media addiction. Therefore, this study conducts a systematic review through reviewing research on social media addiction, student academic performance, and art therapy. The aim of this study is to investigate the connection between media addiction and students' academic performance, and to determine the effectiveness of art therapy in reducing students' social media addiction and improving academic performance. Research has found that one cannot self restrain wasting considerable time on social platforms can leads to higher perceived stress, anxiety, and lower self-control. Students' academic performance is negatively impacted by the excessive use of social media. Art therapy can alleviate the negative factors mentioned above and have a positive impact on student performance. Art therapy may be one of the effective ways to solve this important social problem.

Keywords: social media addiction, art therapy, academic performance

1. Introduction

With the rapid development of digital and information technology, the world is accelerating its transformation towards a networked society and digital survival. In recent years, social networks have been continuously expanding, advancing, and developing globally. There have been significant changes in the quantity and quality of the internet, social networks, and user expansion around the world. According to Statista's research, there are 4.59 billion social media users worldwide. And it is expected that by 2027, social media users will account for over 5,85 billion people make up more than half of the world's population.

In education, social media is likewise widely used for information sharing, data collection, and establishing learning groups. However, social media is a double-edged sword. A large number of scholars have become aware of the improper (excessive) use of social media. Previous research results show that there are fluctuations between whether social media is more of a learning aid tool or an obstacle for students to focus on their studies, which remains to be further discussed [1].

Scholars have a general belief that excessive time spent on social media can result in addiction symptoms, which can affect students' academic performance. Experiments have shown that social media addiction (SMA) significantly consumes students' time spent studying, leading to a decline in academic performance [1]. Students with symptoms of SMA often achieve lower grades in exams [2]. However, these studies did not clarify the influence process of poor academic performance caused by SMA, and lacked the exploration of potential influencing factors during the period. In addition, other studies focus on proving the relationship between the two, and rarely put forward guiding suggestions and measures to reduce the negative impact, which is also the deficiency of relevant studies.

Therefore, this article explores recent research on the negative effects of SMA on academic performance and identified three important mediating factors - self-control, stress, and anxiety. A systematic review of relevant literature was conducted to elucidate the interrelationships between these influencing factors. Secondly, this article reviews the research on the effects of art therapy (AT) on psychological disorders such as SMA, stress, and anxiety, and explores the effects of AT and its combination with other psychotherapy methods on improving students' SMA and academic performance. This article hopes to find an adaptive method to effectively alleviate this social problem.

2. Theory Development / Concept Definition

2.1. Social Media & Social Media Addiction

Social media is rich and diverse, with various forms such as blogs, chat platforms, open-source maps, and photo and video sharing. [3]. It is a general term composed of social media websites and messenger platforms, which is extremely popular among teenagers [4]. In education, social media technology includes the following benefits: (a) promoting communication between teachers and students, strengthening connections between students, (b) rapid resource sharing, and convenient access to learning materials, and (c) establishing a convenient teaching platform. Therefore, social media tools are increasingly being used to promote teaching both inside and outside the classroom.

However, digitalization also has a dark side, such as SMA. Behavior addiction is a classification for SMA which is defined as excessive and mandatory use of social media. It includes extreme concerns about social media platforms, inability to control the time of using websites, and investing a significant amount of time on these websites to the extent of damaging personal social and professional roles [5]. Scholars have basically reached a consensus that users who devote an abnormally large amount of energy and time to social media may experience addictive symptoms and suffer from negative psychological problems. For students, these problems will affect their studies, such as the decline in performance.

2.2. Art Therapy

AT is a component of the mental health major, which combines art creation and applied psychology, and places a great deal of emphasis on evidence, as stated by the American Art Therapy Association. It was first founded by progressive educator Margaret Naumburg in New York in the 1940s. AT is a flexible and user-friendly tool which helps people put down their guard and remove their "masks". It has unique advantages in encouraging people to express their emotions, reshape customers' addictive thinking, aid in 'spiritual recovery', and is committed to promoting creativity [6]. Art therapy's effectiveness can be enhanced by combining it with various fields and methods, which is one of its primary advantages [6]. According to Czamanski Cohen and Weihs, AT enables patients to feel as though their supportive therapist is a "good enough mother" and expresses unbearably painful emotions through the creative process in a secure setting. This enables patients to think about their thoughts, actions, and emotions through the meta recognition process [7].

3. Social Media Addiction's Effect on Academic Performance

To identify relevant publications concerning social media addiction and academic performance, a narrative review of the literature was conducted. And SMA has been found by researchers to be a stumbling block on students' pursuit of better academic performance.

In the study of Seyyed Azizi, et al., the second semester of the 2017-2018 academic year at Kermanshah University of Medical Sciences saw the selection of 360 participants through stratified random sampling. A personal information form and the Bergen Social Media Addiction Scale were used as study tool. Participants' personal information (gender, age, education level, school attended and average score) is recorded and sorted in it. The researchers also measured the significance, tolerance, emotion regulation, withdrawal, recurrence and conflict levels of these participants. The study found through data analysis that as the degree of SMA deepens, students' GPA decreases. This illustrates that the negative impact of SMA on academic performance is evident. [8].

Although this study has shown that SMA can lead to a decrease in students' GPA, the author also acknowledges that social media on its own is not destructive or harmful; rather, how it is used determines whether it has positive or negative effects [8]. The limitation of this article is that it only analyzed the negative impact of SMA on students' grades through data surveys, but did not further explore the reasons for the impact. While some researches indicate that SMA leads to a decrease in academic performance among students indirectly. To be more specific, there are some 'intermediaries' which mediate the impact of SMA on students' grade point average (GPA).

In 2023, scholars Weihong Ning and Fethi A. Inan examined the underlying mechanisms by which social media indulgence impacts college students' academic performance through research [9]. Researchers used a scale developed by prior studies to establish their own survey report which measures the demographic information, academic performance, self-control, SMA, anxiety, and stress of 251 college students participating in the experiment. They found that SMA is not a direct tool for controlling college students' grades, but three main types of factors playing a mediating role were identified: 1) self-control, 2) anxiety, 3) stress.

3.1. Self-control

An individual's capacity to resist a predominate propensity to manage their thoughts, emotions, and behaviors is referred to as self-control [9]. Students with stronger self-control often have better academic performance such as GPA [9]. Generally speaking, better self-control is often accompanied by more focused attention and more effective time devoted to learning, which means they have a greater chance of achieving good grades than people with lower self-control. The experimental results indicate that the link that exists between SMA and academic score is completely controlled by the mediation of self-control. Specific experimental data shows that self-control is significantly reduced by the influence of SMA ($\beta = -0.17$, $p < 0.01$), and further predicts GPA through other potential factors such as anxiety, stress, and internal resource depletion [9].

3.2. Anxiety

In fields such as psychology, existing research has confirmed a direct relationship between SMA and anxiety. For example, in social comparison theory, people who use social media will subconsciously compare online information with their real life. These comparisons include both upward and downward comparisons, which can have negative psychological effects and become sources of anxiety. Weihong Ning and Fethi A. Inan found that SMA ($\beta = 0.28$, $p < 0.01$) remarkably predicted the anxiety level. Meanwhile, anxiety ($\beta = 0.00$, $p > 0.05$) plays an crucial role in the regulation of self-control and academic performance - in situations with high levels of anxiety, self-control is difficult to have a beneficial impact on GPA [9].

3.3. Stress

Stress reflects the degree to which a person feels that they exhausted their energy in handling their demands is what causes stress, and is a persistent psychological response. Their research results show that SMA ($\beta = 0.29$, $p < 0.01$) directly affects the level of perceived stress, while stress ($\beta = 0.00$, $p > 0.05$) has no crucial impact on information performance [9]. Weihong Ning and Fethi A. Inan believe that stress makes people more impulsive because they feel the urge to react to negative feelings, which takes up internal resources. Therefore, increased stress can lead to a decrease in self-control, ultimately leading to poor academic performance.

In summary, self control is like a bridge connecting SMA and academic performance. SMA has a bad impact on academic performance by reducing self-control. Anxiety and stress are also important markers on the bridge. They interact with self-control and ultimately affect students' learning performance. Through self-control, SMA can influence students' learning performance. On the one hand, SMA increases anxiety and stress, leading to a decrease in average grades. On the other hand, SNS addiction reduces students' self-control and leads to a decline in academic performance. In addition, increased anxiety and stress can also consume internal resources. Lack of internal resources means lower self-control, which can further lead to poor academic performance. Therefore, this article suggests that students with higher levels of SMA have lower self-control, feel more pressure and anxiety, and perform worse in their studies.

Similar conclusions were also confirmed in Malakeh, Ahmed, Rasmieh, Mohammad, and Reham's research. 510 college students (Male accounting for 31.4%, female accounting for 68.6%) from two universities (public and private) in the Jordanian capital Amman were randomly selected to participate in this study. Researchers have developed a model in which collected data can be placed to reflect the connection between participants' psychological reactions, SMA, and GPA [5]. Unlike Weihong Ning and Fethi A. Inan, who emphasized the difference in the regulation of self-control between SMA and academic performance, Malakai et al. focused on discussing the link between stress and anxiety aroused by SMA.

The author states that anxiety levels may be influenced by stress, and this could have an immediate impact on kids' average score [5]. Further, students may experience increased levels of anxiety when under immense pressure, and in severe cases, it may also lead to depression [5]. And SMA is one of the main culprits leading to the aforementioned negative psychological problems: insufficient sleep, feeling detached from reality, loneliness, and pessimism can all result from spending too much time on social media, leading to negative psychological conditions. Besides, the anxiety caused by students comparing the information shared by peers on social media with their own situation can also exacerbate their depression

From the data of the research results, there is no direct evidence that SMA has a direct correlation with the average score. The fact is that excessive use of social media increases stress levels which triggers symptoms of anxiety and depression. These psychological reactions, especially the accompanying pressure and anxiety, will directly affect students' academic performance.

In the Lei Zhao's related research, it was also found that the level of perceived stress among students has an undeniable impact on the affect of overuse of social media on performance. Research data shows that SMA is positively correlated with stress ($r=0.375$, $p<0.01$), SMA is negatively correlated with academic performance ($r=-0.539$, $p<0.01$), and stress is positively correlated with academic performance ($r=-0.345$, $p<0.01$) [4]. The author inferred that social media addicted students frequently struggle to manage their studies and personal responsibilities, which can lead to stress. Students' academic performance will suffer if they sense too much stress, which makes it difficult for them to focus on their studies and demonstrate their abilities in exams [4].

In summary, SMA and academic performance are connected indirectly. Excessive use of social media may not directly lead to a decrease in students' academic performance, which can be due to students' convenient access to learning resources from social media usage that helps them improve. However, SMA can cause an increase in stress, which can lead to negative psychological factors among students, for example, increasing anxiety, and even depressive symptoms. These negative psychological factors can affect students' academic performance. At the same time, they can also lead to a decrease in students' self-control, making them less disciplined, reducing learning time, and reducing learning efficiency. Therefore, ultimately leading to poor academic performance.

4. The Role of Art Therapy

There is a substantial amount of evidence to suggest that art is related to students' academic performance. Ample correlational evidence shows that participation in arts - whether it's performance art or visual art - is associated with students' stronger cognitive, social, or academic outcomes [10]. Moreover, The intervention of art also has a certain effect on reducing SMA. AT integrates artistic creation and psychological theory, and is an empirical psychological profession based on evidence [11]. It was first founded by progressive educator Margaret Naumburg in New York in the 1940s. Naumburg proposed a method called "free art expression", encouraging spontaneous artistic creation as a tool for treating mental health patients [12]. Therefore, this article believes that art therapy is a feasible solution that can effectively alleviate students' SMA and assist in improving learning performance.

Students' long-term physical and emotional health, as well as their ability to function academically, are all threatened by stress and worry. But research has found that AT can improve anxiety symptoms and reduce stress in adolescents. Megan E. Beerse et al. conducted a five-week study on full-time students in public universities using a distinct approach within AT, Mindfulness-based Art Therapy (MBAT), primarily through an online platform. And they found MBAT effectively reduces anxiety and stress [13]. In this study, two groups were assigned to 115 participants in a random manner - MBAT intervention group and neutral clay task group. Finally, 77 subjects completed the study. Anxiety, perceived stress, and salivary cortisol outcomes were measured. Through rigorous research, the experimental MBAT group, compared to the NCT group, experienced a statistically noticeable reductions in anxiety and perceived stress outcomes at the end of the study [13].

Additionally, "cognitive behavioral therapy with music therapy" is a successful treatment for anxiety disorders and behavioral disorders like SMA [7]. In the study of Su Hyun Bong, et al., they added music therapy (MT) to cognitive behavioral therapy (CBT). Compared with the CBT group, the average values of differences in internet addiction, state anxiety, trait anxiety, and impulsive symptoms before and after intervention were significantly reduced in the CBT-MT group [7]. This indicates that the synergistic effects of MT and CBT increases the therapeutic effect on improving anxiety symptoms [7]. Proved that the intervention of art therapy (music therapy) can reduce participants' perceived stress.

In addition, the combination of MT and CBT as a treatment method has a good effect on the treatment of symptoms of internet addiction. In fact, the role of CBT in alleviating SMA has been widely studied and recognized, and now it is the first choice to address this issue [7]. However, the CBT group's weekly smartphone usage duration (18.61 ± 11.982 hour) was substantially higher than the CBT-MT group's (11.85 ± 11.648 hour) ($t=3.356$, $p=0.001$) [7]. This demonstrates the significant effectiveness of CBT-MT combination therapy.

Art therapy (music therapy) has played a significant role here. In addition to calming participant's emotion and enabling them to form close bonds with group leaders and therapists, it also motivates participants to do CBT homework, sparks interest in treatment, and helps patients adjust to it [7]. The advantages of AT can be summarized as follows: 1) Art education stimulates the interest of

participants; 2) Allow multiple people to participate (such as parents and teachers); 3) Compared with psychotherapy, it reduces the sense of shame; 4) The form of treatment is similar to attending extracurricular courses [7, 13]. Therefore, AT minimizes the sense of shame in the treatment and enhances the willingness and compliance of participants. And it can be more effective than single psychotherapy.

COVID-19 has swept the globe, causing many social and economic problems. For the purpose of public health, it blocks the distance between people, increases the likelihood of people becoming addicted to social media, and also promotes the trend of online work. Therefore, many scholars have proposed the need to develop a non face-to-face treatment method. In the study mentioned earlier by Megan E. Beerse et al, the MBAT intervention is conducted by professional art therapists using online platforms with minimal exposure. This intervention measure is an effective resource to serve the psychological health needs of students, especially for those who experience low/moderate anxiety and stress. Deploying this therapy on a large scale on campus is cost-effective and can even be done online, truly serving more students [13]. Not only that, based on multimodal treatment methods, students can collaborate with art therapists to improve treatment progress among individuals by assigning treatment “assignments” [13]. In addition, the exercises used in this research method focus on “simple repetition”, which means that the practice time is short, the frequency is moderate (15 minutes per day, twice a week), but the duration is long (a total of 5 weeks). This approach is more likely to increase participants’ acceptance of treatment and promote long-term adherence [13]. To sum up, MBAT requires less time, has a simple training method, and is highly feasible. Such feasible and cost-effective psychotherapy may become increasingly important and have a significant impact in the future.

In general, AT can promote students’ mental health, alleviate their perceived stress and anxiety, and also alleviate the level of social media membership. By reducing SMA, stress, and anxiety, it can have certain benefits for improving students’ self-control, ultimately improving their academic performance. In addition, AT is also more flexible and interesting, which can enhance students’ participation and cooperation in the treatment. At the same time, it also has the feasibility of being widely offered in schools, which can benefit more students.

5. Conclusion

This article explores the connection between excessive use of social media and academic performance of students, and constructively proposes that AT can be used to improve SMA behavior and enhance academic scores. This article reviews previous articles and finds that SMA can be a result of excessive use of social media. This can cause students to experience adverse psychological reactions, such as increased perceived stress and anxiety. SMA can directly and indirectly lead to a decrease in students’ self-control. Lower self-control may reduce students’ learning time and efficiency. Finally, it is concluded that SMA indirectly leads to a decline in students’ academic performance. This article believes that AT can effectively help solve this problem. Research has shown that artistic participation is often associated with better academic performance. AT can alleviate SMA, improve anxiety symptoms, and reduce perceived stress. Moreover, the addition of AT can increase treatment compliance and has the feasibility of large-scale deployment on campus, making treatment more effective.

The research in this article reveals the effect mechanism of SMA on students’ learning performance, highlighting the important factors that play a role in the process, and providing ideas and suggestions for further exploring the interrelationships between various influencing factors. In addition, this article proposes constructive solutions to this issue. Educational institutions can draw on the method of AT to effectively improve students’ SMA, promote mental health, and improve academic performance. However, the reference space for this article is limited, and further research

is needed to prove the relationship between many influencing factors. At present, the application of AT in SMA still needs to be supplemented. Future research should continue to investigate the situation of more schools and participants, and explore how the application of AT influences students' mental health and academic performance.

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