

The Impact of Social Media on the Study and Psychology of Senior Three Students

Yihan Liu^{1, *}

¹Beijing Aidi International School,
Beijing, China

*Corresponding author:
A2007120@aidi.edu.cn

Abstract:

This study investigates the dual effects of social media on the academic efficiency and mental health of high school seniors preparing for the national college entrance examination (Gaokao). Using a questionnaire-based survey and descriptive statistical analysis, the research explores the characteristics of social media usage under high academic pressure. The results indicate that while social media provides educational resources (e.g., access to study materials) and emotional support, it also disrupts learning continuity (e.g., frequent interruptions), exacerbates anxiety (e.g., peer comparison leading to self-doubt), and negatively impacts sleep quality. A comparative analysis reveals that high school seniors experience significantly higher levels of social media interference than their sophomore counterparts, with 80% exhibiting “ambivalent dependency”—a conflict between reliance on social media and awareness of its drawbacks. The findings offer practical insights for schools to implement digital literacy programs, for parents to guide responsible social media use, and for students to optimize their usage strategies. Against the backdrop of China’s “Double Reduction” policy, this study contributes to balancing online engagement and academic development.

Keywords: Social media; psychology; senior three students.

1. Introduction

Nowadays, social media serves as the core platform for teenagers to acquire information, interact and express themselves, integrating multiple functions such as learning, leisure and entertainment, and has deeply integrated into their daily lives. However, excessive use of social media has also led to a series of problems such as information overload, internet

addiction, privacy leakage and the inducement of bad information, posing potential threats to the physical and mental health of teenagers. The 2022 study on the health behaviors of school-aged children conducted by the World Health Organization Regional Office for Europe covered 44 countries and regions. The results showed that the proportion of teenagers with problems due to improper use of social media rose from 7% in 2018 to 11% in 2022, and another 12%

of teenagers were at risk of game addiction [1]. Senior high school students, as a special group, are facing the important turning point of the college entrance examination in their lives, and their social media usage behavior shows unique characteristics. Relevant reports show that as of 2021, the number of minor internet users in China has reached 191 million, among whom 19.5% of minors believe they are very dependent or relatively dependent on the Internet, and 53.4% of minors frequently chat online. Other research data also indicate that the probability of teenagers who use social media for more than 3 hours a day suffering from depression, anxiety and other psychological problems is twice that of the normal usage group [2]. The existing research has obvious limitations. Firstly, most studies focus on college students, lacking specialized research on senior high school students. Secondly, the mechanism of the moderating variable “college entrance examination pressure” is insufficiently explored. Based on this, this study raises the core question: How does social media affect the learning efficiency and mental health of senior high school students under the context of college entrance examination pressure, and does this influence have group specificity.

2. Research Design

2.1 Research Methods

This study collected data through a questionnaire survey. In the questionnaire design stage, the principle of “high cohesion and low coupling” was strictly followed: “High cohesion” is manifested in the fact that the questionnaire content is concentrated on three core dimensions: “Social media usage behavior”, “Impact on learning efficiency”, and “Mental health status”. Each dimension’s questions are closely related to the research topic. For example, the “Social media usage behavior” dimension only includes directly relevant content such as usage time periods and behavior types (like actively searching for learning materials or passively browsing entertainment content), and excludes irrelevant information such as social platform preferences and the number of friends, ensuring that the collected data can be directly used to verify the research hypotheses. “Low coupling” is achieved through module division, with measurement questions for different dimensions such as “Learning interference” and “Psychological anxiety” set separately. For instance, “The number of times social media messages interrupted learning” is used to measure learning interference, and “The number of times self-doubt occurred after seeing others’ sharing of exam preparation situations” is used to measure the degree of psychological anxiety, avoiding interference be-

tween variables of different dimensions and ensuring the independence and analyzability of the data.

To enhance the efficiency and accuracy of the questionnaire, the questioning method adopts a contextual and specific design. For instance, in the question “When do you usually use social media?”, options such as during breaks between classes, 30 minutes before bedtime, during study breaks, and on weekends when free time is available are provided. For the measurement of psychological feelings, instead of using subjective and ambiguous expressions like “whether you feel anxious”, behavioral descriptions that can be quantified, such as “how many times did you feel sleepy during class the next day after using social media before bedtime”, are adopted to make the data more objective. “This study draws on the ‘education questionnaire data verification framework’ proposed in relevant articles. Through ‘filtering based on response duration + checking for contradictory answers’ to ensure the validity of the sample and also references its analytical logic for ‘interaction effects of latent variables’ (such as the interaction effect between the frequency of social media use and academic pressure), to enhance the rigor of the data conclusions [3].

2.2 Research Results

As shown in Figure 1, in the questionnaire survey on the usage of social media by senior high school students, regarding the key indicator “the frequency of being interrupted by social media during the learning process”, specifically, 44.74% of senior high school students were interrupted by social media messages 7 times or more during their study. The proportions of students who were interrupted “2-3 times” and “4-6 times” were each 19.30%, and the cumulative proportion of these three categories accounted for 83.34%, indicating that more than 80% of students’ learning continuity was disturbed to varying degrees. In contrast, only 9.65% of students could study completely without being disturbed by social media, and the proportion of students who chose “not using mobile phones” to avoid the interference was even lower, at 7.02%.

From the perspective of learning efficiency, such frequent interruptions will divide the complete learning time into fragmented segments. Relevant studies have pointed out that when attention shifts from the learning task to social media information and then refocuses on learning, there is a significant “attention residue” phenomenon. Each transition requires additional time to re-engage in the learning task, which undoubtedly increases the implicit time consumption of learning [4]. For reviewing content that requires in-depth thinking during the senior year of high school, such as solving science problems or mem-

orizing knowledge, the negative impact caused by this interference will be more obvious. "From the perspective of cognitive neuroscience, through experiments on the use of media by teenagers, it has been found that frequent multi-tasking with media weakens the neural pathways in the brain for 'filtering out interfering information', resulting in the attention residue effect. Even a brief visit to social platforms will cause the subsequent learning concentration to drop by more than 30%. This provides a neural mechanism-level explanation for the phenomenon of 'social media interruption of learning efficiency' in this study [5].

Meanwhile, this data also provides practical evidence for the characteristics of "contradictory dependence". Over 80% of the students clearly know that social media will interfere with their studies, but they find it difficult to control their usage. This is precisely the manifestation of the

contradiction of "relying on its functions such as obtaining learning materials and conducting social interactions, while also being negatively affected by it". Additionally, combined with the comparative result in the study that "senior high school students are more affected than junior high school students", this data further reflects the contradiction between students' self-control ability and the temptation of social media under the pressure of the college entrance examination - the stressful environment may make students more dependent on short-term entertaining information, and thus more difficult to resist interference. This result not only confirms the assumption that social media has a negative interference on the learning efficiency of senior high school students but also provides a basis for subsequent analysis of its connection with mental health, such as whether frequent interruptions leading to lagging learning progress will trigger anxiety.

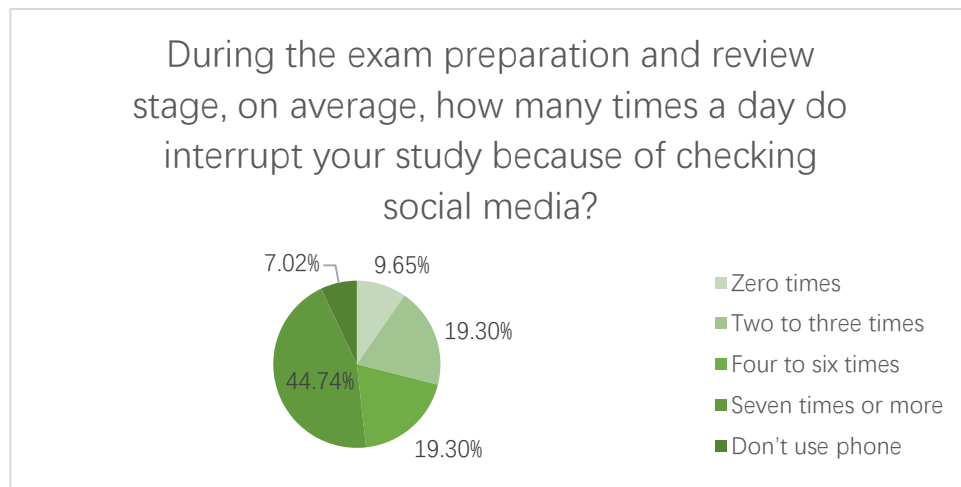


Fig. 1 Frequency distribution of interruptions in study due to Checking social media during the preparation and review phase

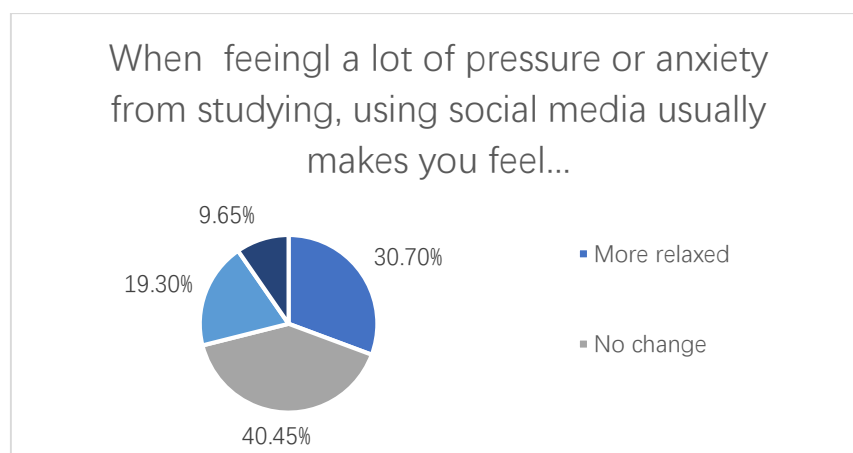


Fig. 2 The proportion of feelings when using social media under the influence of study pressure/anxiety

As shown in Figure 2, the survey of high school seniors specifically examined their emotional responses when using social media under academic stress or anxiety. The findings reveal the following distribution: The highest proportion (40.45%) reported “No change,” indicating that nearly 40% of respondents experienced no significant shift in mood or psychological state after social media use. This suggests that social media failed to effectively alleviate their negative emotions.

The second-largest group (30.70%) reported feeling “More relaxed,” demonstrating that for some students, social media serves as a positive emotional regulator. This finding partially supports the potential of social media as a tool for mood management [6]. However, 19.30% of students reported that they “Sometimes become even more anxious,” highlighting how social media can exacerbate psychological distress, potentially acting as an additional stressor.

A minority (9.65%) stated they “seldom use social media when under significant pressure,” indicating these students actively avoid social platforms during high-stress periods and opt for alternative coping mechanisms. A longitudinal study of American high school students revealed an “inverse moderating effect” between social media use and stress-anxiety relationships. Among students with low academic pressure, 35% found anxiety relief through social platforms. Conversely, in high-pressure groups (e.g., college-bound seniors), 41% reported increased anxiety due to peer comparison and academic benchmarking. These results align closely with the complex emotional patterns observed in Figure 2 and provide a comparative framework for analyzing the “academic struggle-anxiety” pathway from a cross-group perspective [7].

From the perspective of learning efficiency, over 40% of students did not experience any change in their stress levels after using social media. They neither relieved their stress nor saved the energy that could have been used for studying, thereby indirectly affecting their learning progress. Nearly 20% of students became more anxious after using it, which further distracted their attention and weakened their learning motivation, interfering with the intense review schedule in the final year of high school. From the perspective of mental health, 30% of students were able to relax through social media, verifying its value as an “emotional outlet”. However, considering the situation where over 40% of students did not experience any change after using it and nearly 20% became more anxious after using it, it highlights the “double-edged sword” effect of social media in emotional regulation, with its effects varying due to individual differences. A small number of students actively avoided using social media under high pressure, reflecting that some groups have relatively mature strate-

gies for coping with stress, providing a sample reference for exploring the “healthy stress regulation model”.

This data provides empirical evidence for the research in the paper titled “The Interactive Influence of Social Media and the Psychological State of Senior High School Students”, supplements the conclusion that the impact of social media on emotions is diverse, and lays the foundation for further in-depth exploration of “why some students become more anxious when using social media” and “which students can effectively use social media to relax”, etc.

3. Suggestions

For schools, targeted courses on time management and digital focus training can be offered. The “Pomodoro Technique” and the “time block isolation mechanism” can be integrated into daily teaching. Fixed “no-mobile-phone study periods” can be set up, and unified class management can be used to forcibly cut off social media interference [8]. At the same time, through case teaching, students can understand the “attention residue effect”. Combined with the data from this study that “over 80% of students are affected by social media interruptions”, students can be guided to autonomously plan “study-rest” cycles. A campus-exclusive learning resource platform can also be built, integrating subject materials, psychological counseling audio content, etc., which not only meets functional needs but also avoids negative risks. A survey of over 2,000 high school students in the United States found that after schools intervened through “digital literacy courses” (such as “media usage time management” and “information screening training”), the frequency of students’ learning interrupted by social media decreased by an average of 28%, and anxiety decreased by 19% along with the reduction of “invalid information exposure”. This suggests that the research can extend its recommendations: in senior high school teaching, the intervention model of “courses + real-time feedback” can be borrowed to help students balance social media usage and academic psychological needs [9].” For parents, they need to pay special attention to the “dual impact” of social media use before bedtime. First, public sleep hygiene education should be conducted to enable them to understand scientific knowledge about sleep, especially the impact of electronic media use on sleep, and raise public awareness of healthy sleep. For example, sleep education courses can be conducted in schools to effectively improve the subjective and objective sleep of teenagers by establishing a “before-bed device management agreement”, uniformly storing electronic devices at night, and observing the emotional feedback after children use them. If there are frequent negative emotions, timely intervention and com-

munication should be carried out to avoid a vicious cycle of sleep quality and psychological state [10]. For students themselves, they should actively practice the “functional use list of social media”. Based on the positive case in this study that “about 30% of students can effectively relax”, the use should be limited to clear functional goals, such as searching for subject knowledge points, and a “post-use emotion review” mechanism should be established to gradually weaken the negative effect of aimless browsing, making social media transform from an “interference source” to an “auxiliary learning tool”.

4. Conclusion

By focusing on the special group of senior three students, this study makes up for the deficiency of the existing research on the “stress regulation function of college entrance examination”, and clarifies the specific path of social media affecting learning and psychology in high-pressure situations, which provides empirical support for balancing network use and academic development under the background of “double reduction” policy. Based on the research conclusion, scholars can start from three aspects in practice: schools need to strengthen digital literacy education, and reduce ineffective interference by offering time management courses and building a campus-specific learning platform; Parents should focus on students’ behaviors of using social media before going to bed, and ensure students’ sleep quality by formulating “equipment management agreement”; Students should actively optimize their use strategies, replace aimless browsing with functional use, and establish an “emotional recovery” mechanism to avoid negative effects.

Although this study reveals the core influence of social media on senior three students, there is still room for expansion. First, a follow-up research design can be used to quantitatively analyze the transmission path of “social media interference frequency-learning efficiency-college entrance examination results” through longitudinal data, so as to clarify the intensity and threshold of influence; Secondly, the formation mechanism of “contradictory dependence” is deeply explored, and variables such as pressure perception and self-efficacy are measured with psychological scales to reveal which factors, such as personality traits and family rearing patterns, will aggravate or alleviate this dependence; Third, develop differentiated intervention programs for different influence groups,

such as “information filtering training” and “focus time management tools”, and test its effectiveness through the experimental group to provide more accurate guidance for senior three students. If future research can combine mixed research methods, such as using interviews to supplement quantitative data, it can further enhance the depth and practical guidance of the conclusions.

References

- [1] Ophir E, Nass C, Wagner A D. Cognitive Control in Media Multitaskers. *Proceedings of the National Academy of Sciences*, 2009, 106(37): 15583-15587.
- [2] Marsh H W, Hau K T. Structural Equation Models of Latent Interactions: Evaluation of Alternative Estimation Strategies and Indicator Construction. *Psychological Methods*, 2004, 9(3): 275-300.
- [3] Primack B A, Shensa A, Barlett C P, et al. Social Media Use and Perceived Social Isolation Among Young Adults in the U.S. *American Journal of Preventive Medicine*, 2017, 53(2): 135-147.
- [4] Rideout V J, Robb M B. The Common Sense Census: Media Use by Tweens and Teens. *Common Sense Media*, 2018.
- [5] Chen Qingwei, Ru Taotao, Luo Xue, Dong Qiaoling, Zhai Digu, Xiong Xiao, Zhou Guofu. The Influence of Electronic Media Use on Sleep, Its Mechanism and Intervention. *Advances in Psychological Science*, 2019, 27(1): 70-82.
- [6] Li Mengyu. Research on the Present Situation and Strategy of Cultivating Middle School Students’ Digital Learning and Innovation Literacy. Master’s Thesis, Shaanxi University of Technology, 2022.
- [7] Sun Lifang, Dong Yawei, Wang Sujuan, Zhang Yaming. The Relations between Adolescents’ Social Media Use and Subjective Well-Being: Multiple Mediation Effects of Social Comparison and Self-Esteem. *Advances in Psychology*, 2020, 10(3): 350-358.
- [8] Fan Zemin. Beware of the Influence of Social Media on Adolescents’ Mental Health. Press Release, Ministry of Education of the People’s Republic of China, 2023.
- [9] Sina Finance. Multi-Countries Explore Ways to Strengthen the Management of Minors’ Social Media Use: Surfing the Internet Safely and Promoting Teenagers’ “Digital Health”. Sina Finance, 2025.
- [10] Naidu Bhujangarao Patcha, Yadav Rohit. Impact of Social Media on the Lives of Students. *International Journal of Advance Research and Innovative Ideas in Education*, 2024, 9: 1949.