

Research on Strategy Optimization and Risk Prevention and Control of College Students' Network Behavior Management

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Abstract: With the rapid development of the Internet, the network behavior of college students presents diversified characteristics, especially the problems of internet addiction, information leakage and online learning dependence are increasingly prominent. These behaviors have a far-reaching impact on students' studies, mental health and social interaction, so it is particularly important to optimize the network behavior management strategy and establish an effective risk prevention and control mechanism. Based on the analysis of the current situation of college students' network behavior, this study discusses their behavior characteristics and potential risks, evaluates the effect of existing management measures, and puts forward optimization strategies. It is found that strategies such as information literacy education, mental health intervention and behavior monitoring mechanism have positive effects in management practice, but there is still the problem of uneven implementation effect. This study further discusses the application of emerging technologies in network behavior management, big data and artificial intelligence, so as to improve the personalization and accuracy of management strategies. The research suggests that the multi-dimensional risk prevention and control mechanism and policy system should be established to strengthen the synergy among schools, families and the government, so as to realize the all-round management of students' online behavior. This study provides a new theoretical basis and practical guidance for the management of network behavior in colleges and universities.

Keywords: college students, network behavior management, strategy optimization, risk prevention and control, emerging technologies

Introduce

With the rapid development of information technology, the Internet has become an indispensable part of college students' daily life. The network not only provides students with rich learning resources and a platform for communication, but also brings more entertainment and social opportunities. The virtuality and anonymity of the network

environment make college students' behaviors on the network diversified and complicated, including over-reliance on social media, internet addiction, information leakage and cyber violence, which bring many potential risks.

1 Literature review

1.1 An analysis of the current situation of college students' network behavior

In recent years, with the popularity of the

Internet and the development of mobile technology, the network has gradually penetrated into students' study, life and entertainment, forming a unique network behavior pattern. A large number of studies at home and abroad show that the network behavior of college students presents diversified characteristics. Internet addiction has become a common concern^[1]. Research shows that many college students rely too much on social media, online games and other entertainment activities in their spare time, which leads to the increasingly serious phenomenon of internet addiction. Internet addiction not only affects students' academic performance, but also may cause mental health problems, such as anxiety, depression and other emotional disorders. Students' online social behavior also presents a trend of virtualization and one-sidedness. A large number of students interact with others through social platforms, which may lead to information overload, false information contact, and even the spread of negative behaviors such as cyber violence and malicious speech^[2].

1.2 Strategies and methods of network behavior management

Faced with the diversity and complexity of students' online behavior, colleges and universities have carried out various practices and explorations in the management of online behavior. Research at home and abroad generally believes that improving students' network literacy is one of the most basic and important management strategies. Network literacy not only refers to students' mastery of network technology, but also includes their ability to identify network information, their awareness of network risks and their moral

judgment in network behavior^[3]. Many colleges and universities have begun to improve students' awareness of network behavior management by offering network literacy courses and carrying out network security education. For example, some colleges and universities teach students how to judge the authenticity of network information and how to protect personal privacy through curriculum design, so that students can be rational and safe in daily network use^[4].

1.3 Theory and Practice of Risk Prevention and Control

Risk prevention and control is a crucial link in network behavior management. In order to effectively deal with the potential risks in students' online behavior, the researchers put forward corresponding theoretical support and prevention and control measures from various disciplines. Risk management theory provides a systematic perspective, which emphasizes that students' network behavior should be comprehensively evaluated, their potential risk factors should be identified, and scientific prevention and intervention measures should be taken. The theory advocates that the process of risk prevention and control is divided into risk identification, assessment, control and monitoring, and the goal of prevention and control can be achieved through continuous risk assessment and adjustment^[5].

2 Research method

2.1 research design

This study adopts a combination of quantitative and qualitative methods, aiming at deeply discussing the strategy optimization and risk prevention and control of college students' network behavior management. The research

object is college students, and the research scope covers several different types of colleges and universities, aiming at multi-dimensional and multi-level analysis to ensure the universality and representativeness of the research results. By collecting students' online behavior data, mental health status and academic performance, combined with management strategies and risk prevention and control measures, this study explores various factors that affect students' online behavior, and provides scientific and effective decision-making basis for university administrators.

Table 1 Statistical table of basic information of research objects

School type	overall number of people	Proportion of boys	Proportion of female students	Proportion of internet addicts	Network social activity
A colleges and universities	1000	45%	55%	18%	tall
B colleges and universities	eight hundred	52%	48%	22%	middle
C colleges and universities	1200	50%	50%	15%	low
D colleges and universities	900	48%	52%	20%	tall

Table 1 shows the basic information of the

four universities selected in this study, including the school type, the total number of students, the proportion of male and female students, the proportion of internet addicts and the social activity on the internet. Through the preliminary analysis of these data, we can compare the characteristics of network behavior of different universities and provide data support for the follow-up research.

2.2 Method of data capture

The data collection method of this study is mainly through questionnaire survey, interview and case analysis. Questionnaire survey is one of the main data collection methods in this study, aiming at understanding the online behavior and mental health status of college students in a quantitative way. The design idea of the questionnaire is based on the previous literature research and expert consultation, including students' online use, online behavior preference, academic performance, mental health and so on. The questionnaire is designed with Likert five-point scale, which covers the common behavior patterns of students in the network environment, their emotional and psychological states and other dimensions, in order to fully understand the characteristics of students' network behavior and potential risks.

Interviews are mainly aimed at some students who have outstanding performance in online behavior. The interviewees are selected by questionnaires, focusing on students with obvious problems in internet addiction, social behavior and learning efficiency. Through interviews, we hope to deeply explore students' perceptions and needs in network behavior management and the actual effect of current management strategies. The contents of the

interview include students' cognition of school network behavior management, their feelings and troubles in network behavior, and their expectations for network risk prevention and control measures. Case analysis selects representative cases of network behavior management in colleges and universities, and reveals the effects and shortcomings of management strategies in practice through in-depth analysis of success and failure cases, thus providing practical guidance for this study.

2.3 Data analysis method

In this study, SPSS and structural equation model (SEM) will be used to process and analyze the data. SPSS software is mainly used for preliminary statistical analysis of questionnaire survey data, such as frequency analysis, correlation analysis and regression analysis, so as to reveal the influence of different factors on students' network behavior. At the same time, structural equation model (SEM) is used to verify the research hypothesis, explore the influence path of students' network behavior, and evaluate the effect of management strategies and risk prevention and control measures. Through the structural equation model, we can analyze the influencing factors of students' network behavior from multiple dimensions and angles, and evaluate the effectiveness of various management measures.

In the analysis of qualitative data, interview data will be processed by content analysis. We will sort out the interview data and extract students' main views, needs and feedback on network behavior management. Through the analysis of these qualitative data, we can deeply understand students' real thoughts and behavioral motives, and provide important

reference for optimizing management strategies in the future.

3 Research results

3.1 Analysis on the Current Situation of Students' Network Behavior

By analyzing the collected data, we can clearly understand the behavior patterns of college students in cyberspace. The frequency of social network use is an important feature of college students' network behavior. According to the survey data, most students spend a lot of time on social media platforms, such as WeChat, Weibo and QQ. Frequent use of social networks has become a part of students' daily life, especially among freshmen and sophomores. Social interaction and information sharing occupy a lot of time, which not only affects students' daily routine, but also affects their learning efficiency to some extent.

3.2 Demand and present situation of risk prevention and control

At present, the main risks faced by college students in online behavior include internet addiction, cyber violence, information leakage and other issues, which not only affect students' mental health, but also may affect their academic and life quality. Internet addiction has become a prominent problem among college students, especially the excessive use of online games and social media, which leads to students' addiction, unbalanced time management and even physical health problems. The research shows that about 25% of students admit that they have a certain degree of Internet addiction problem, especially at the end of the semester and during the examination period.

Table 2 Analysis Table of College Students'
Network Risk Prevention and Control Needs

Risk type	Proportion of colleges and universities	Proportion of medium-risk colleges and universities	Proportion of low-risk colleges and universities	Demand intensity of risk control
Internet addiction	38%	45%	17%	strong
Cyberbully	thirty percent	40%	thirty percent	middle
Information disclosure	25%	50%	25%	strong
Internet fraud	20%	50%	thirty percent	middle

Table 2 shows the needs of different universities in network risk prevention and control. The data in the table shows that Internet addiction, information leakage and other problems are common risks in colleges and universities, and students have a strong demand for prevention and control of these risks, especially in the risk prevention and control of Internet addiction and information leakage, most college students show a strong demand. It should be pointed out that although the problems of cyber violence and cyber fraud are serious, the demand intensity of prevention and control in colleges and universities is relatively low. This table reflects that colleges and universities need to pay more attention to the education and intervention of students' internet addiction and information security in risk prevention and control.

3.3 Effectiveness of existing management strategies

The existing network behavior management

strategies in colleges and universities have achieved positive results to some extent, but they also face many challenges. The implementation of network behavior management strategy mainly focuses on strengthening information literacy education, formulating behavior norms and enhancing network security awareness. Through the development of information literacy education and network moral education, many students have gradually improved their self-discipline and safety awareness in network use. Specifically, most colleges and universities have set up network security courses, and through the combination of online and offline forms, students' awareness of network behavior norms has been strengthened.

The current network behavior management strategy also has some shortcomings. On the one hand, although colleges and universities have standardized and guided students' online behavior, many management measures are still too broad and lack pertinence and personalization; On the other hand, the school's intervention measures in information security and mental health are relatively simple, which fails to fundamentally solve the deep-seated causes of Internet addiction and mental health problems. Therefore, the existing network behavior management strategies need to be further optimized and improved, especially in the forward-looking and personalized aspects of risk prevention and control, and it is necessary to strengthen interaction and behavioral intervention with students so as to be targeted.

4 Strategy optimization and risk prevention and control suggestions

4.1 Optimization of network behavior management strategy

At present, there are many problems in the management of college students' online behavior, and it is urgent to optimize the existing strategies in the guidance of behavior norms and risk prevention and control. The core of optimizing network behavior management strategy is to strengthen network literacy education. Network literacy education should not only teach students how to use the network reasonably, but also make them aware of the potential risks in cyberspace. The content of network literacy education should be different for students of different grades. For junior students, we should focus on strengthening basic network security knowledge education and information literacy training, while for senior students, we should focus on network ethics, mental health problems and related knowledge of professional network use.

Mental health intervention is the key link to optimize the network behavior management strategy. Many students' Internet addiction and bad online behavior are closely related to their mental health, so mental health education should be integrated into the management of online behavior. Colleges and universities can help students alleviate their psychological troubles caused by Internet addiction and cyber violence by setting up psychological counseling courses, giving lectures on mental health and providing psychological counseling services. Establishing a perfect behavior monitoring mechanism is also an important means to improve the effect of network behavior management. Through the campus big data platform, students' online use behavior is collected, behavior files are established, and artificial intelligence technology is used for analysis and early warning, so that

students' abnormal online behavior can be found in time and personalized intervention and management can be carried out.

In order to improve the accuracy and personalization of management strategy, it is an effective means to use big data and artificial intelligence technology. Using big data technology, we can analyze students' online behavior habits, learning patterns and social interaction, and provide tailor-made management solutions for each student. Artificial intelligence can provide accurate risk warning for managers through real-time monitoring of students' online behavior, combined with psychological data and behavioral data, so as to achieve early detection and early intervention.

Table 3 Optimization scheme of network behavior management strategy based on big data and artificial intelligence

Optimization strategy	Implementation content	Target group	anticipated/desired /intended effect
	Set up courses on		
Network literacy education	network security and ethics, and hold lectures regularly.	Students of all grades	Improve the safety and ethics of network use
	Provide psychological		
Mental health intervention	counseling and counseling, and offer mental health courses.	upperclassman	Relieve psychological troubles and prevent internet addiction.

Optimization strategy	Implementation content	Target group	anticipated/desired /intended effect
Construction of behavior monitoring mechanism	Implementing Big Data and Artificial Intelligence to Monitor Students' Network Behavior	Specific risk student group	Find problems in advance and make precise interventions.

Table 3 shows the optimization scheme of network behavior management strategy combining big data and artificial intelligence. By offering network literacy courses and providing mental health counseling, schools can help students to improve their awareness of network risks and reduce the occurrence of internet addiction. At the same time, using big data and artificial intelligence to monitor students' behavior can find abnormal network behavior earlier, thus providing students with personalized intervention measures.

4.2 Construction of network risk prevention and control mechanism

In view of the multiple risks of college students in network behavior management, it is very important to construct a multi-dimensional risk prevention and control mechanism. Information security education should run through the whole learning process of students, especially in the early stage of entering the university. Schools should raise students' awareness of information security through courses and activities and reduce the risk of information leakage caused by their ignorance. In view of the problem of internet addiction, schools should establish a sound intervention

mechanism. In addition to regular mental health counseling, we should also carry out the course of self-management of internet addiction to help students realize the harm of excessive use of the internet, and let students know how to effectively manage their internet use time through practical cases.

Table 4 Network Risk Management Scheme Based on Multidimensional Prevention and

Control Mechanism			
Risk type	Prevention and control measures	Implementation mode	anticipated/desired/intended effect
Information security	Information security education, privacy protection course	Regular lectures and online learning platforms	Improve students' safety awareness
Internet addiction	Internet intervention, psychological counseling	Offering mental health courses and personalized psychological counseling	Reduce the incidence of addictive behavior
Cyber bullying	Prevention and intervention of cyber violence	Case analysis of cyber violence, online counseling	Prevent violence from happening.
Mental health	Mental health courses and psychological counseling services	Provide one-on-one psychological counseling and online psychological services	Improve mental health.

Risk type	Prevention and control measures	Implementation mode	anticipated/desired/intended effect
	cal counseling		

Table 4 shows a multi-dimensional prevention and control scheme for cyber risks, covering information security, internet addiction, cyber violence and mental health. Through information security education and psychological counseling, students can improve their awareness of self-protection and prevent internet addiction and violence. At the same time, schools can also reduce the occurrence of psychological problems through one-on-one counseling and psychological intervention.

4.3 Suggestions on policy and system construction

In order to effectively cope with the challenges of college students' network behavior management and risk prevention and control, it is essential to formulate relevant policies and system construction. Schools should establish a special management system, clarify the responsibilities and measures of network behavior management, and formulate specific behavior norms, especially the management measures for network use, information security and mental health. Schools can issue relevant policies, requiring students to abide by specific norms of network behavior, and violators need to accept corresponding punishment or intervention. This measure can not only enhance students' self-management awareness, but also effectively guide students' online behavior through institutionalized management.

Table 5 Suggestions on Policy and System

Construction			
Suggested category	Specific suggestions	Target group	anticipated/desired/intended effect
Special management system	Formulate specific network behavior norms, and clarify the measures to deal with violations. Set up a network behavior monitoring department to monitor students' network behavior by technical means.	All students	Standardize students' network behavior
Construction of monitoring department	Establish a code of conduct	Specific risk student group	Find problems and intervene in time.
Incentive mechanism	reward mechanism to reward discipline-abiding students. Promote tripartite cooperation among government, schools and parents to jointly manage students' online behavior.	All students	Promote the formation of good network behavior
Tripartite cooperation		Schools and families	Improve management effect

Table 5 puts forward some suggestions on

the policy and system construction of network behavior management and risk prevention and control in colleges and universities. By establishing special management system, setting up monitoring department, implementing reward mechanism and tripartite cooperation, the school can effectively improve the efficiency of network behavior management and provide students with more perfect guidance of network behavior norms.

Conclusion

By analyzing the current situation of college students' network behavior, this study puts forward a concrete plan to optimize the network behavior management strategy and risk prevention and control mechanism. The research shows that colleges and universities still face

many challenges in the management of students' online behavior, and there are management gaps in the prevention and control of risks such as internet addiction, information leakage and cyber violence. In order to solve these problems, this study puts forward some optimization strategies, such as strengthening network literacy education, improving mental health intervention, and establishing behavior monitoring mechanism, and emphasizes improving the personalization and accuracy of management with the help of big data and artificial intelligence technology. The study also suggests that a more effective risk prevention and control mechanism should be established through cooperation inside and outside the school, scientific and technological means and psychological counseling.

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