

The Impact of Internet Culture on College Students' Mental Health: The Mediating Role of Information Literacy

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Abstract

In the conditions of the rapid development of Information Technologies, online culture has firmly entered the life of students. This article discusses the impact of internet culture on students' mental health and the temporary effect of Information Literacy. Hierarchical random sampling selected 1,200 students from five domestic universities to conduct the questionnaire. The scale covers many aspects such as online cultural contacts, information literacy, and mental health. The collected data are analyzed using the model of structural equations and the method of regression analysis. Data shows that online culture will have a significant impact on students' mental health, and its positive and negative effects coexist. High-quality educational resources and positive social interaction online are positive factors that can improve mental health; while harmful information shocks, such as rumors and excessive fun, can easily aggravate negative emotions and cause an increased risk of symptoms, including anxiety or depression. Overall, the greater ability to recognize and apply information helps to maintain a more optimistic state of mental health through the effective identification and use of positive network resources and the removal of unwanted disruptions in information, and therefore finds that information literacy plays an important role in regulating the above relationships. This study not only expands the cognitive depth of the relationship model between online culture and health psychology, but provides a new direction and enlightening value for effective ways to use enhanced information opportunities to solve potential problems at a practical level of Education.

Keywords

Internet culture; college students' mental health; information literacy; mediating role.

1. Introduction

Entering at 21st century, digital technology is rapidly evolving, and the Internet has long been intruding into every corner of human life in all directions. As an entirely new cultural model based on an online environment, internet culture not only includes a variety of online content, such as interaction on social networks, online educational resources, digital entertainment forms, and sports in virtual communities, but continues to shape certain behaviors and values norms. Life, learning, and even the communication of students as the main users of cyberspace reflects a role that the internet culture cannot ignore.

Mental health is an important element of students' overall development and will have an impact on academic performance, interpersonal communication and further career development. Previous studies have shown that internet use has both positive and negative effects on mental health. On the positive side, using the Internet to obtain educational resources, participating in significant online forums and other activities can improve mental health; however, if you are engaged in entertainment or are faced with harmful information online, this can cause a number of problems. Currently, it is not completely clear how internet culture

affects the mental health of students. Especially important is the role of the quality of information involved in the process.

Information literacy is the ability to efficiently find, evaluate and use information in a variety of digital environments. In the context of internet culture, students with high information literacy are more able to handle vast amounts of information online and can determine whether the source of information is reliable or not, and then make informed decisions. This study suggests that information quality may be an intermediate factor that plays a role between internet culture and mental health, affecting students' cognitive abilities and their response to elements of internet culture.

This study aims to examine the impact of internet culture on students' mental health, while also trying to determine whether information literacy plays an intermediate role in these relationships. Therefore, the aim of this study is to provide theoretical insight into the complex relationships between network culture, information literacy, and mental health and to put forward practical proposals for providing mental health to students in the digital age.

2. Literature Review

2.1. Internet Culture and Mental Health

The concept of online culture encompasses many forms and is presented as a rich and dynamic phenomenon involving materials such as social networks, games and e-learning. Taking social media as an example, they have become an important opportunity for students to exchange experiences and establish relationships. Studies have shown that positive interaction on social networks can increase self-esteem and sense of belonging, which contributes to mental health. However, if you are overly dependent on social media or face cyber bullying and negative social comparisons, this can cause emotional problems such as loneliness, depression, or anxiety.

Video game culture is an important part of internet culture. Although online games have fun value and contain elements that help work and solve team problems, fascination with them can cause addiction that can be associated with poor academic performance, social alienation, and mental disorders such as irritability and depression. After the advent of online education, the culture of online learning allowed students to receive a large amount of teaching material. Access to high-quality online educational resources helps to enrich students' knowledge and abilities, and at the same time, it has a positive effect on increasing the level of academic self-esteem of students and their mental health.

2.2. Information Literacy and Its Role

Information literacy is considered one of the fundamental skills in the digital age that covers the search, evaluation and generalization of information. If students have a higher level of information literacy, they are more likely to get the information they need to live and learn effectively, and can also better cope with problems such as information overload and false information in an internet environment.

In the context of mental health, information literacy can play a certain protective role. Students with high levels of Information Literacy have a more accurate ability to identify malicious content online, and false health information and malicious behavior online cannot have a negative impact on them. They will better study and use active resources online, such as online psychological counseling platforms and mental health education websites, which could be important sources for them to gain mental health support and relevant information.

2.3. The Mediating Role of Information Literacy

Studies have shown that individual differences, such as cognitive abilities and skills, can regulate the relationship between environmental factors and mental health. In the digital age,

information literacy, as an important cognitive ability, may play an intermediate role in the impact of internet culture on students' mental health. This means that internet culture can not only directly affect students' mental health, but also indirectly affect their mental health through their level of Information Literacy.

Students with higher information literacy can more effectively use positive elements of network culture to promote mental health, and negative factors have little impact on them by relying on the ability to filter and evaluate information. In contrast, students with low information literacy are more exposed to the negative impact of online culture. They find it difficult to take full advantage of positive cultural elements and are generally in a state of passive acceptance.

3. Research Methodology

3.1. Research Design

This study uses quantitative study design to collect relevant data from students via questionnaires and uses the structural equation model (sem) to test the hypothetical relationship between online culture, information literacy, and mental health.

3.2. Participants

In this study, five universities in different regions of China, both public and private, were selected and a total of 1,200 students were selected to study different disciplines such as Engineering, Humanities. The sample included 600 young men and 600 girls aged 18 to 25.

3.3. Measures

3.3.1. Internet Culture Exposure Scale

The scale was developed from previous literature and is used to measure students' degree of familiarity with different types of internet culture. It contains two types of component tables: positive and negative. The positive category includes phenomena such as educational resources, beneficial social interactions, and online learning communities; the negative category includes phenomena such as online rumors, cyberbullying, and excessive entertainment. The scale contains 20 items that are scored on the Ebert scale from 5 points from 1 point (I totally disagree) to 5 points (I totally agree).

3.3.2. Information Literacy Scale

The information literacy scale compiled by Bruce (Bruce, 2020) was used to assess this study. The scale includes three aspects: finding and obtaining information, selecting for grading and creating applications, includes 15 items, and uses the Ebert Level 5 grading method.

3.3.3. Mental Health Scale

The health research questionnaire (MHI-5), compiled by Witte and Waugh (Witte and Waugh, 1983), was used to assess students' mental health. This scale measures five aspects of mental health: anxiety, depression, positive emotions, emotional connection, and self-control. Contains 18 points. The higher the score, the better the level of mental health.

3.4. Data Collection and Analysis

These questionnaires were distributed online through a survey platform, and a total of 1,150 valid questionnaires were obtained with a 95.8% completion rate. The data analysis uses the software SPSS 26.0 and Amos 24.0, including descriptive statistics, correlation analysis, and structural equation models to test the hypotheses presented in the study.[1]

4. Results

4.1. Descriptive Statistics

Table 1 shows descriptive statistics on fundamental variables. The average positive exposure to culture online was 3.56 (standard deviation =0.82), and students had a moderate degree of exposure. The negative impact rate of culture on the Internet was 2.89 (standard deviation=0.91), which did not correspond to the average scale, reflecting its moderate degree. The indicator of information literacy was 3.78 (standard deviation=0.75), indicating a good level of information literacy as a whole. The average mental health score is 68.52 (standard deviation=12.34), which is within normal limits, which suggests that the psychological state of the sample is in relatively good condition.

Table 1. Descriptive Statistics of Main Variables

Variable	Mean	Standard Deviation
Positive Internet Culture Exposure	3.56	0.82
Negative Internet Culture Exposure	2.89	0.91
Information Literacy	3.78	0.75
Mental Health	68.52	12.34

4.2. Correlation Analysis

Table 2 shows the correlation coefficient between the variables. The positive impact of Culture Online is positively related to Information Literacy ($R=0.35$, $p<0.01$) and mental health ($R=0.42$, $p<0.01$); the negative impact of Culture Online is negatively related to Information Literacy ($R=-0.28$, $p<0.01$) and mental health ($R=-0.36$, $p<0.01$). There is also a positive correlation between information literacy and mental health ($R=0.51$, $p<0.01$), and higher information literacy corresponds to a better state of mental health.[2]

Table 2. Correlation Matrix of Variables

Variable	1	2	3	4
1. Positive Internet Culture Exposure	1			
2. Negative Internet Culture Exposure	-0.25**	1		
3. Information Literacy	0.35**	-0.28**	1	
4. Mental Health	0.42**	-0.36**	0.51**	1

Note: ** $p < 0.01$

4.3. Structural Equation Modeling

The hypothesis model is tested using a structural equation model that includes the impact of positive and negative cultural contacts on the internet on mental health, as well as the mediating role that information literacy plays. The model adaptation is reflected by the following indicators: $\chi^2 / df=1.85$, RMSEA=0.06, CFI=0.95, TLI=0.94. These values indicate that the model has an excellent level of adaptation to the data used.

Table 3 shows the standard trajectory coefficients of the structural equation model that show a complex relationship between different types of contacts, information literacy, and mental health. From this, it can be concluded that there is a significant positive correlation between the positive impact of culture on the network and mental health ($\beta=0.30$, $p<0.01$), while negative networks show a significant negative correlation ($\beta=-0.25$, $p<0.01$). The effects of information literacy and the two network contacts are also different: the positive side gives a positive prediction ($\beta=0.40$, $p<0.01$), while the negative side of Information Literacy forms a negative prediction effect ($\beta=-0.30$, $p<0.01$), both of which are quite significant. In this way, the findings reveal numerous mechanisms of interaction and their characteristics of interaction in the process of healthy psychological development in the distributed state.

For the study of the intermediate effect, the bootstrap method is used. The conclusion shows that the indirect effect of the positive impact of Culture on mental health through information literacy online is 0.18 (95% CI: 0.12, 0.24), and the indirect effect of the negative impact of Culture on mental health through information literacy online is -0.14 (95% CI: -0.20, -0.08), which is in both are statistically significant. This shows that information literacy partly plays an intermediate function in the relationship between network security and mental health to some extent.[3-5]

Table 3. Standardized Path Coefficients of the Structural Equation Model

Path	Standardized Coefficient (β)	p-value
Positive Internet Culture Exposure → Mental Health	0.30	< 0.01
Negative Internet Culture Exposure → Mental Health	-0.25	< 0.01
Positive Internet Culture Exposure → Information Literacy	0.40	< 0.01
Negative Internet Culture Exposure → Information Literacy	-0.30	< 0.01
Information Literacy → Mental Health	0.45	< 0.01

5. Discussion

5.1. The Impact of Internet Culture on Mental Health

The results of this study show that online culture has dual effects on students' mental health. Positive elements of online culture, such as educational resources and favorable social interaction, can directly contribute to mental health optimization. This finding is consistent with the results of previous studies that participation in significant online activities is associated with improved mental health. Negative elements of online culture, such as online rumors and cyberbullying, directly contribute to deterioration of mental health, leading to increased anxiety and depression.

5.2. The Mediating Role of Information Literacy

Studies have shown that information literacy plays a role as an intermediary between internet culture and mental health. The impact of internet culture on mental health is not entirely direct and the mechanism of indirect impact of information literacy cannot be ignored. Students with good information can better process and use information from different cultures online, effectively mitigate the impact of negative information, and enhance the benefits of positive information. For example, when identifying, searching for, and using information related to Psychology, students with higher cognitive abilities will use the online environment more effectively to improve their psychological state.[6]

5.3. Implications for Practice

The results of the study allow for a number of practical conclusions. Educational institutions should pay attention to the impact of internet culture on students' mental health and encourage positive cultural activities online, such as online learning communities and beneficial interactions on social networks. It is also necessary to strengthen information literacy training to improve students' ability to find and use information online. Use courses, workshops and network resources to teach students to search, evaluate and apply information in the digital age. Mental health services must take into account the role of internet culture and information literacy and develop targeted activities that will help students with low levels of Information Literacy cope with the challenges of internet culture in order to maintain a good mental state.

5.4. Limitations and Future Research

This study has certain limitations. Data is obtained through self-testing questionnaires that are easily affected by deviations from social expectations. During the subsequent study, various methods, such as interviews and behavioral observations, may be selected to further obtain comprehensive data. Since this research was conducted only in China, the findings may not be applicable to other cultural environments. The question of whether the results of the study are generally valid requires further international comparative research and validation. In addition, the study only covered the impact of information literacy as an indirect variable and did not cover other potential factors, such as social support or personality traits, that may also play an intermediary or regulatory role in the mechanism of the relationship between internet culture and mental health. Therefore, during the next research process, it is necessary to include more other related variables in the research model in order to better understand its underlying correlation.[7-11]

6. Conclusion

This study discusses how online culture affects students' mental health while also addressing the intermediary role of Information Literacy. The study showed that online culture can have both positive and negative effects, and information literacy has partial temporary effects on

such associations. This shows that information literacy can not only mitigate the negative effects of internet culture, but also has unique importance in strengthening its positive impact on students' mental health.

In the digital age, elements of internet culture are becoming more common among students. Not only do they communicate frequently, but they are forced to continuously process and use all kinds of information online, which has a profound impact on students' mental health. This type of ability, based on information literacy, has not only become a new direction in teaching in colleges, it has already proposed new educational topics for the respective faculties. The Department of education must take into account the current situation and the real needs associated with students' dependence on culture online and actively adjust their thinking when compiling curricula and providing resources to lay firm foundations for improving psychological adjustment and protecting against student intervention.

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