

# Analysis on the causes of Internet addiction among Chinese college students

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**Abstract.** With the continuous development of electronic information technology, the Internet has brought convenience to college students, but at the same time, there are many negative effects. The phenomenon of Internet addiction has emerged one after another, and it has caused damage to the physical health, social closure, moral behavior and personality alienation of college students. Therefore, studying the causes of Internet addiction among college students has become an important part of current psychological research work. The aim of this study is to understand the characteristics of college students' Internet addiction, explore the influencing factors of Internet addiction, and provide theoretical level reference for intervention of Internet addiction, related academic research, and departmental decision making. The systematic literature review method was used to search the Chinese and foreign literature databases. Based on the results of existing studies and researches, this paper analyzes the factors that may influence college students' excessive use of the Internet from three aspects, including the inherent characteristics of the Internet, personal factors and external environment, and proposes feasible suggestions for these three aspects.

**Keywords:** Internet Addiction; College Student; Internet Addiction Disorder.

## 1. Introduction

The term "Internet Addiction" was first coined by Dr. Goldberg, an American psychiatrist. At that time, the term Internet Addiction Disorder (IAD) was used. But there is some variation in the terminology used by different scholars. At present, there are some representative terms: Internet Addiction Disorder (IAD), Pathological Internet Use (PIU), Problematic Internet Use (PIU), Internet Behavior Dependence (IBD), Online Addiction. The concepts of Internet addiction are different, and each of them has certain shortcomings, but the connotation of Internet addiction is basically the same. The concept of Internet addiction can be expressed as a state of impaired physiological, psychological, and social functioning of an individual who is unable to control his or her online behavior due to long-term excessive use of the Internet without the effect of addictive substances.

In recent years, college students' Internet addiction has shown a rising trend year by year, as known from the 50th Statistical Report on the Development of China's Internet released in September 2022, the size of China's Internet users is 1.051 billion. Teenagers account for 15.7% of the overall Internet users, and the probability of Internet addiction among college students is 10.7%. At the behavioral level, prolonged Internet use affects individuals' time management, interpersonal health, and other regular social functions. Internet addiction among adolescents can cause emotional, sleep, and academic problems and other physical and mental health problems. Due to prolonged Internet use, the nerve center of the brain of Internet-addicted patients will be in a constant state of excitement, resulting in increased adrenaline levels, sympathetic hyperexcitability, increased blood pressure, and disruption of plant nerve function, inducing gastrointestinal neurosis, cardiovascular disease, tension headaches, and other disorders.

The harm of Internet addiction has become a widespread concern for scholars from all walks of life, but the main content of scientists' research is still relatively single psychological factors or external factors. Therefore, it is important to analyze and summarize all aspects of the causes of Internet addiction in order to study the problem of Internet addiction. In order to prepare materials for subsequent experiments aimed at reducing Internet addiction, the purpose of this paper is to sort

out and summarize the factors that lead to Internet addiction and to analyze the improvement measures of various aspects of Internet addiction in adolescents.

## **2. Method**

In this study, the author used the systematic literature review method to search the Chinese and foreign literature databases, including China Knowledge Network, Web of Science, Pub Med, Scopus, EBSCO, and Cochrane Library, using the keyword combination of "Internet addiction," "university students" and "causes" as the search formula. Science, Pub Med, Scopus, EBSCO, and Cochrane Library were searched from January 1, 2000 to April 20, 2022. Inclusion criteria included (1) empirical studies; (2) university students; (3) country: China; (4) language: English or Chinese. All retrieved literature was initially screened for title and abstract according to the literature screening criteria, and potentially relevant literature was found and then read in full to identify the included literature.

## **3. Reason Analysis**

The causes of Internet addiction among university students are complex and result from the interaction between the individual student, family, school, and society. The internal causes are the susceptibility of college students to addiction, while the external causes are the characteristics of the Internet and the influence of the natural environment on college students. Based on the results of existing research and studies, this paper analyses the possible factors that may influence students' excessive use of the Internet from three aspects, including the inherent characteristics of the Internet, personal factors, and the external environment.

### **3.1 Characteristics of the Internet**

The Internet as a medium has a strong attraction to teenagers with its unique characteristics, and the external environment of teenagers largely influences their behavioral choices. First, the interactive nature of the Internet creates an equal atmosphere for adolescents' online status. Communication through the Internet is instantaneous and synchronous, and the act of getting an immediate response is itself a reinforcement of the act, and adolescents can also communicate equally according to their interests [1]. Secondly, the pluralistic nature of the Internet leads to a lack of choice in adolescent behavior. On the one hand, the pluralistic information and functions provide more "hyperlink" choices, but on the other hand, adolescents are subjected to the impact of various information in cyberspace, squeezed, and even overwhelmed. When adolescents are immersed in cluttered information for a long time, they are prone to information dependence and cognitive paralysis and become "information overload", along with the decrease in sensibility, more time will be waste and the addictive behavior will form [2]. Thirdly, the virtual nature of the Internet causes deep psychological dependence on adolescents. From the perspective of "use and satisfaction" in network communication, two-way or even multi-way and multi-directional communication makes the audience's subject position fully reflected, while the anonymity, speed, and wide range of the network are characteristics that easily cause the youth to expect and desire the content [3]. In short, the interactivity, plurality, and virtual nature of the Internet largely satisfy the pursuit and needs of adolescents for freedom, security, and fulfillment.

### **3.2 Personal factors**

#### **3.2.1 Brain abnormalities and personality traits**

Studies have found that the brains of addicts may have structural atrophy and functional degeneration of the frontal lobe, hippocampal dysfunction, functional abnormalities of the dopamine system, and symptoms such as denser structure and higher activity of nerve fibers in the posterior limb of the internal capsule [4]. It has also been suggested that Internet addiction may be related to

the restoration of dopamine neurotransmitters, the elimination of anxiety, and the re-experiencing of pleasure. Tang Liuping suggested that the continuous release of dopamine is one of the important chemical factors for the spread and intensification of Internet addiction disorder [5]. In general, some factors in the brain show a correlation with Internet addiction, but there is no clear research conclusion on the causal relationship.

In addition to the factors of brain abnormalities, studies have found that Internet addicts share personality traits. Kimberly S. Young, one of the pioneers in the systematic study of Internet addiction at the University of Pittsburgh, conducted a study of Internet addicts using a 16-factor personality scale, and the results showed that Internet addicts tend to be sensitive, prefer to be alone, and their behavior tends to do abstract thinking, high alertness, and disobedience to social norms. Also, the study showed that people prone to Internet addiction exhibit other characteristics such as a higher need to seek social approval, more severe social anxiety, and fear of rejection [6]. Thus, it can be concluded that personality traits may be a significant intrinsic factor contributing to college students' Internet addiction.

### **3.2.2 Cognitive and behavioral disconnect**

The cognitive school of thought believes that an individual's cognition will determine his or her behavior. Many college students can recognize the harm of mobile network addiction, but due to the lack of self-control, there is a disconnection between cognition and behavior, resulting in bad behavior. In recent years, colleges and universities have insisted on a "student-oriented" self-management mode, that is, to cultivate college students to plan and manage their study life by themselves. However, many college students have difficulty in coordinating their cognition and behavior and have poor self-control and control of their behavior. They can easily contact, accept, and imitate all kinds of new things, especially as their autonomy increases, their self-identity becomes more and more apparent, and they appear to be independent and exploratory. The emergence of the Internet caters to this mentality and motivates them to explore the new social environment linked by the Internet. However, due to their limited discernment, self-control, and frustration tolerance, young college students are very likely to become addicted to the Internet in the absence of timely and necessary guidance and the face of the vast amount of Internet information [7].

### **3.2.3 Psychological Needs**

The satisfaction of the psychological needs of college students promotes Internet addiction. An important reason for college students' Internet addiction is that they have many inner needs that need to be satisfied in the campus environment, but the satisfaction of these needs is obstructed for various reasons [2]. The online society provides an environment for adolescents to satisfy such needs, which are summarized into two major areas: emotional needs and achievement motivation.

**Emotional needs:** Findings show that there is a great correlation between mobile network addiction and interpersonal aspects among college students [7]. Emotional needs include the need for friendships, emotional dependence, and the need to regulate self-emotions. College students' needs for interpersonal interactions are very high, and if they are not satisfied with real society, they turn to the virtual online world. Due to the rise of mobile network terminal devices, they can make friends and get information at any place and at any time. This provides convenience to college students on the one hand and breeds the emergence of network addiction on the other.

**Achievement motivation:** Due to their own and external social limitations, college students have many needs that are difficult to be easily satisfied, and the Internet provides them with an illusory vehicle to achieve self-satisfaction. The successful experience in online games and even the satisfaction experience in online love are the important reasons to attract college students to be addicted to the Internet. At the same time, college students have not yet established a more objective self-evaluation system, so when they face a lost or unsatisfactory study life, they will produce a halo effect and a significant negative psychological barrier. When college students encounter negative psychological barriers, they often turn to and rely on the Internet to transfer and vent their repressed destructive emotions or rely on the virtual success experience of the Internet to seek spiritual solace.

### **3.3 External environment**

#### **3.3.1 School factors**

The teaching mechanism system lacks vitality. In the curriculum system of some colleges and universities, too many compulsory courses are set, which leads to little freedom for students to choose courses. Some majors do not set up professional introduction courses, and the correlation between courses is not high, and the courses for students' self-improvement are not set in place. These factors lead to the lack of attractiveness and access to the learning process in some courses chosen by students. Some introductory courses are taught with boring theories, little communication between students and teachers, and a lack of lively classroom interaction and practical content, which can easily make students less enthusiastic about learning. Moreover, once students lose interest in the course, they will shift most of their attention to the Internet.

The school network construction and management system are not sound. The campus network environment is crucial to the development of college students' network quality. With the development and popularity of the Internet, college students cannot live without using the network every day, including checking information, submitting assignments, paying various living expenses, and even voting and participating in activities. Students can use many online resources just through their cell phones, and such convenient channels have led to various false advertisements, frauds, and online loans entering the lives of college students. There are still some outstanding problems and weak links in network safety education, network management, and network culture construction in colleges and universities. Meanwhile, the lack of systematic and comprehensive campus network resources in some colleges and universities is also an important aspect that affects students' standardized and reasonable use of campus networks.

#### **3.3.2 Family factors**

The survey results show that parents' education style is an important influencing factor for students' Internet addiction [8]. Emotional warmth and understanding of education style will reduce students' internet addiction rate; families whose parents often reject and deny students' behavior will increase college students' internet addiction status. Among them, rejection and denial are protective factors of Internet addiction and have some influence on college students' Internet addiction. In addition, family is an important influencing factor for students' Internet addiction; single-parent families and other incomplete families are often accompanied by a lack of love and education and are more likely to seek compensation through the Internet route [9]. Regarding family functioning, the non-Internet addiction group had healthier family functioning than the Internet addiction group. The possible reason is that a good family atmosphere and decent education will cause college students' loneliness to be greatly reduced, their self-perception will be more positive, and the possibility of venting or diverting their attention through the Internet will be very slight. On the contrary, if college students are often rejected or denied by their parents in the process of daily interactions, their self-confidence will be missing, and students will become very negative and escape from reality, and then seek solace and existence through the Internet.

#### **3.3.3 Social reasons**

One is the government's efforts to regulate the network socially. The formulation of government policies and regulations and the degree of attention and supervision of government departments to the problem of Internet addiction has an important influence on whether young people are addicted to the Internet. The problem in China is that the government's laws and regulations on Internet management are not sound, the society lacks good supervision on Internet use, the Internet order and rules are not perfect, and the Internet environment is too lax. These reasons provide the social environment for the high incidence of Internet addiction among teenagers. Second, the influence of the social atmosphere on Internet addiction. In the social background of diversified ideas, diverse interests, and unique personalities, the fast-paced life and pressure in the market economy are all around teenagers, and when they face such confusion, pressure, restrictions, and choices, society lacks

more entertainment places and leisure life guidance, which also creates favorable conditions for the growth of Internet addiction.

#### **4. A Countermeasure Study of Internet Addiction**

The countermeasure of Internet addiction includes intervention and prevention. Interventional countermeasure refers to the use of various professional methods to help adolescents get rid of Internet addiction and restore their social functions, including cognitive behavior therapy (CBT), group counseling, case intervention studies, family integrated psychotherapy, solution-focused brief therapy (SFBT), exercise psychological perspectives on Internet addiction interventions [10]. All in all, scholars have proposed different approaches to treatment from different perspectives. However, at present, there is no unified scientific standard in China. Therefore, the scientific validity of the above-mentioned treatment methods still need to be further verified.

Preventive measures refer to the early detection and control of potential conditions and situations that hinder the healthy Internet use of youth through various actions and services. The main emphasis of preventive measures is to influence youth through changes in external factors. One is to strengthen health education on Internet addiction. The second is to improve the social prevention system of Internet addiction. The prevention and control of Internet addiction must rely on all aspects of society to carry out comprehensive management to strengthen the cooperation of families, schools, government, and society. The most urgent task is to improve the network management legislation as soon as possible, to establish the corresponding network classification and game classification system, and to take preventive measures against unhealthy network culture so that young people are away from the harm of the network. Third, strengthen school guidance and intervention. School is an important educational place for young people, and schools have an obligation to guide and intervene in young people's online behavior. The school should guide the youth to surf the Internet correctly through teachers so that students can learn the correct way to surf the Internet in practice. At the same time, schools should enrich the after-school life of students and carry out more sports and recreational activities to change the attention and dependence of Internet addicted people on the Internet. Fourth, to establish a sound family support system. On the one hand, parents should be good at guiding their teenagers to go online and try to consciously guide them to choose healthy and beneficial content. On the other hand, for those who have been diagnosed as Internet addicts, family therapy should be conducted. The problem of family therapy is to correct and adjust the harmonious relationship between family members so that through the joint efforts of family members, the symptoms of Internet addiction can disappear. Fifth, actively carry out sociological methods of treatment. For adolescents who have been diagnosed with Internet addiction, a sociological approach should also be taken to deal with them and enhance their self-perceived social support actively. Social support is an adolescent's overall evaluation of his or her life in areas such as health, financial situation, work, self-esteem, and interpersonal relationships. It has been shown that Internet addiction has a highly significant correlation with social support and that social support has a beneficial buffering effect on individuals in stressful situations [11].

#### **5. Conclusion**

In summary, with the rapid development of society, the Internet has gradually changed the lives of college students, and while students enjoy this convenience, inappropriate and excessive reliance on the Internet has led to a series of problems. One of them is the harm caused by Internet addiction to students' physical and mental health. The causes of this problem are from the society, school, family and themselves, and the proportion of these four types of causes is difficult to explore. Therefore, no aspect can be ignored in the process of dealing with this problem. At present, with the development of the Internet in China, many scholars attach great importance to the study of Internet addiction, and many results have been achieved. However, there are still some problems in the research on Internet

addiction among college students in China. First of all, the definition and naming of Internet addiction have not been unified, and there is confusion about numerous terms and definitions. The official concept of Internet addiction may need further discussion and unification. Second, the findings on the current situation of Internet addiction among college students are inconsistent. In the past ten years, although the rate of Internet addiction among Chinese college students has been on the rise, the survey results of the same year can also have a large gap. The reason may be caused by different regions, or it may be that different scales are used. The diagnostic criteria of Internet addiction need to be further unified. Third, there is still variability in the findings of many factors related to the study of Internet addiction among college students, and there are also some factors that have not been considered yet, and more factors need to be included in the study. Fourth, the relationship between college students' Internet addiction and psychological factors and brain abnormalities. This paper only summarizes the two, but the current research has not yet clearly illustrated the causal relationship between them.

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