

Internet Addiction among College Students in China and Its Underlying Causes

Xuyue Xia

Zhenjiang Technician College, Zhenjiang 212113, Jiangsu, China

Abstract: *The internet's rapid development has fundamentally altered human society. While the internet has provided human with unprecedented convenience and efficiency and has become crucial to their lives, learning, and work, it has also created a number of social challenges, including internet addiction. Multiple studies have been carried out from diverse viewpoints to investigate the topic of internet dependency among children. Based on an analysis of prior studies, the purpose of this paper is to present an overview of internet addiction among Chinese college students, explain its causes, and summarize its detrimental effects in order to provide recommendations for future research on the subject.*

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About the author: Xuyue Xia, Zhenjiang Technician College, Zhenjiang 212113, Jiangsu, China. E-mail: 616636896@qq.com

Correspondence to: Xuyue Xia, Zhenjiang Technician College of China.

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THE Internet is considered the fourth principal mass medium, following newspapers, radio, and television. As a consequence of the rapid development of information technology, the Internet has become an increasingly essential tool for people's daily lives. *The 50th Statistical Report on China's Internet Development* published by the China Internet Network Information Center (CNNIC) in August 2022 revealed that as of June 2022, China had an internet penetration rate of 73.0% and 1.051 billion internet users, which accounted for approximately one-fifth of the global total; that each user spent an average of 29.5 hours per week online; and that the 10–19 age group accounted for 13.5% of the total internet users and the 20–29 age group for a similar percentage. The report also revealed that students were the largest category of Internet users in China, accounting for 25.1%, with college students comprising the largest proportion (CNNIC, 2022).

According to Mo (2018), college students, who possess a higher level of education and are more open to adopting new technologies, have effectively established internet usage as a mainstream cultural phenomenon on their respective campuses. The internet has emerged as the primary information resource for individuals. One can expeditiously access the requisite information via search engines such as Baidu and Google and access scholarly literature by logging into electronic libraries across the globe. The internet serves as a crucial medium for interpersonal communication, unbound by temporal and spatial limitations. In addition, it offers a variety of entertainment options for college students. As per Yang and Chen (2006), individuals have the option to engage in activities such as streaming music or movies online, downloading multimedia content from the internet, or sharing their own collection with acquaintances. Consequently, the ubiquitous nature of the internet has permeated all aspects of the lives of university students. Deng et al. (2022) conducted a survey on the internet usage patterns of students in medical junior colleges in Jiangxi Province. The sample size consisted of 1106 students. The results indicated that 51.72% of the participants spent between 3 and 6 hours online daily, while 3.07% of them spent more than 9 hours online every day. The study also revealed that 49.55% of the students used the internet for recreational purposes, 35.26% used it for socializing, 28.12% used it for information search, and 18.72% used it for online shopping. The outcome of this survey aligns with the conclusions drawn in CNNIC's report (CNNIC, 2022).

Unquestionably, the Internet is extremely beneficial to the personal and academic development of college students. However, college students can abuse its interactivity, interconnectivity, anonymity, accessibility, and low cost (Tao, 2005). Some of them have squandered a great deal of time and effort by chatting and playing online games in an aimless and unre-

strained manner, eventually becoming addicted to the internet, which has had a devastating effect on their lives and studies.

An Overview of Internet Addiction among Chinese College Students

Definition of Internet Addiction

The phenomenon of internet addiction was initially introduced by Ivan Goldberg in 1994. Goldberg characterized it as a condition in which the individual spends an excessive amount of time online with an unreasonably high frequency and is unable to regulate this compulsive behaviour. Furthermore, individuals who suffer from this addiction may exhibit withdrawal symptoms if they are prevented from accessing the internet (Cui & Zhao, 2004). Subsequently, the phenomenon of internet addiction has garnered significant attention within the realm of psychology. Young (1998) refined the definition of pathological gambling by incorporating the diagnostic criteria outlined in the Manual for the Diagnosis and Statistics of Mental Disorders, as established in 1996. It was underscored that pathological utilization of the internet is a type of impulse-control disorder that does not entail the use of an intoxicant. Additionally, Young emphasized the four characteristic indications of internet addiction, which include compulsive usage, withdrawal, tolerance, and the associated outcomes of dependence on the internet. An internet addiction diagnosis questionnaire consisting of eight items was developed based on the four dimensions. Young proposed that individuals who respond affirmatively to five or more of the eight questions should be categorized as internet dependents or addicts.

In 2005, Tao and his colleagues at the China Youth Psychological Development Center developed the Clinical Diagnostic Criteria for Internet Addiction Disorder (hereafter referred to as the Criteria), utilizing a sample size of 1200 clinical cases and tens of thousands of clinical data points. As per the established criteria, internet addiction is classified as a mental-behavioural disorder that arises from excessive usage of the internet. Individuals who suffer from this condition exhibit a compulsive urge to repeatedly use the Web and display various mental and physical symptoms, including withdrawal symptoms, when their cyber usage is curtailed or terminated (Tao et al., 2008).

College students who use the internet frequently are more likely to develop an internet addiction. When internet penetration is 100% among them, the rate of internet addiction detection is comparatively higher than it is among other categories. Hsieh et al. (2019) found a 17% internet addiction detection rate among college students in Taiwan Province; Wang et al. (2019)

surveyed a sample of college students from eight universities in Kunming City and found that 10.7% of them were addicted to internet use; and Ren et al. (2019) found 10.40% and Cao et al. (2019) found 8.33% internet addiction detection rates among college students in Xinjiang Province and Northeast China, respectively. According to a meta-analysis of 26 studies, 11% of Chinese college students were found to have internet addiction in 2018, with a modest rising tendency in the early years but a progressive stabilization in the last three years (Shao et al., 2018).

Categories of Internet Addiction Disorders among Chinese College Students

The phenomenon of internet addiction encompasses a diverse range of behavioural issues. The initial attempt to classify internet addiction disorders was made by Young (1999), a researcher in the field. A survey was conducted using a questionnaire to gather data from 44 therapists who had an average of 14 years of clinical practice. The participants reported having treated a minimum of nine individuals with cyber addiction in their caseload. According to the therapists' report, a significant proportion of their clients utilized various online platforms for communication and entertainment purposes. Specifically, 80% of the clients used email, 70% engaged in chat rooms, 10% utilized newsgroups, 30% participated in interactive online games, and 65% accessed the World Wide Web, primarily for viewing pornography or utilizing online trading or auction house services. Young's categorization of cyber disorders is based on clinical data obtained from respondents. The five categories identified by Young are cyber-sexual addiction, cyber-relationship addiction, net compulsions, information overload, and computer addiction. Despite minor variations in cyber behaviour among college students, Young's classification remains largely relevant to their problematic internet usage. The most notable forms of internet addiction among Chinese college students include addiction to internet entertainment, particularly internet gaming, internet pornography, internet relationships, cyber information overload, and online transactions.

Internet Entertainment Addiction

Among Chinese college students, internet entertainment addiction is the most prevalent manifestation of cyber disorder. The internet has the capacity to integrate various media forms, such as text, graphics, audio, and videos, to generate distinctive outcomes. University students have the ability to derive sensory pleasure through engaging in online gaming, music listening, and video watching. This activity simultaneously fulfils their psychological de-

sire to express autonomy and distinctiveness. In accordance with Yu et al. (2022), individuals tend to exhibit greater dedication towards internet entertainment as they encounter increased levels of online stimulation.

The World Health Organization officially recognized internet gaming disorder (IGD) as a form of addiction disorder in 2019, thereby classifying it as a mental illness (Huang, 2020). In line with Mihara and Higuchi's (2017) systematic review of 50 studies conducted worldwide, the prevalence of internet gaming disorder on a global scale was found to range between 0.7% and 0.75%. The recreational activity of online gaming is prevalent among college students on the internet. According to the 50th Statistical Report on Internet Development in China, as of June 2022, the number of online game users in China was 552 million (CNNIC, 2022). Based on Chen's (2007) survey on the internet usage of college students, 40% of respondents reported that their primary reason for accessing the internet was to engage in online gaming. A significant factor contributing to the reliance of college students on online games is the ability of players to establish social connections and attain a sense of accomplishment and prestige by collaborating with others in the simulated realm of video games, thereby experiencing a feeling of esteem and acknowledgement. Zhang (2022) conducted a study at a university located in Tianjin, China, which revealed that 8.67% of students were addicted to online games. The prevalence of gaming addiction among freshmen, sophomores, juniors, and seniors was 4.20%, 13.25%, 15.84%, and 7.8%, respectively. The majority of student addicts, 60.58%, played online games between 14 and 20 times per week. Furthermore, 71.15% of them played online games almost every day, and 81.73% spent more than 5 hours gaming per day.

Internet Pornography Addiction

Pornographic text, audio, video, images, ads, and more are all examples of internet pornography. Most college students are between the ages of 18 and 24 and have a strong innate urge for sex. Their compulsive fascination with adult chat rooms, pornographic websites, or virtual sex, which is motivated by their sexual urges, leads them to develop an addiction to internet pornography (Yuan, 2004). Traditional pornography is distributed in a very different manner than internet porn. The internet cannot be sanitized with the capacity for network supervision now in place. On the internet, college students can explore pornographic images, watch pornographic movies, and seek out pornographic material at any moment (Xia & Sun, 2020). Nearly half of Chinese college students have visited pornographic websites, and a sizable percentage of them have become fascinated with online pornography, according to the East China Normal University report on the Survey on College Students' Internet Morality (Dong & Dai, 2003). It is important to rec-

ognize the negative effects of internet pornography. The conventional sexual morality of college students has been seriously eroded by the massive volumes of unhealthy sexual information that is being broadcast online, which has even resulted in violent sex-related situations.

Internet Relationship Addiction

The proliferation of the internet has led to a substantial transformation in the methods of interpersonal communication. Du (2018) has established that a social network of "human-machine-human" has been formed in cyberspace. The realm of cyberspace has the potential to obscure the distinctions between virtual reality and tangible reality while simultaneously expanding the social horizons of university students. This can foster a greater willingness to engage in interpersonal communication and facilitate the discovery of individuals who share similar interests. As a result of the anonymity afforded by the internet, college students exhibit a greater propensity to confide in their online acquaintances and express emotions that they may feel compelled to suppress in face-to-face interactions. Over a period of time, it is possible to develop a dependency on online relationships. In the words of Cai (2017), there are instances where virtual communication is expanded to include face-to-face interaction. Notwithstanding, a subset of college students exhibit an inability to limit their internet communication to a moderate extent and frequently participate in prolonged online conversations throughout the night, thereby resulting in significant disturbances to their daily routine (Wang & Hu, 2013).

Cyber Information Overload

Through the utilization of the internet, college students are able to access a plethora of information sources that offer extensive amounts of knowledge and encompass a broad spectrum of subject matter. According to Huang and Shen (2011), the internet has eliminated temporal and spatial limitations on information retrieval, thereby broadening the intellectual boundaries of college students. Conversely, individuals may find themselves susceptible to becoming disoriented amidst a plethora of distracting and multifarious online content, leading to a deviation from their original intent and an inadvertent inundation of extraneous information. Accordingly, Tao (2007) found that a significant proportion of college students, approximately 70%, engage in the habitual practice of perusing information that is deemed unnecessary. Frequently, individuals encounter a predicament when utilizing computers to retrieve scholarly data, as they may inadvertently come across irrelevant information, such as entertainment news and gossip, owing to the presence of various distractions, including links, advertisements, and pop-up windows.

This, in turn, leads to a significant loss of time that could have been utilized for studying and resting, ultimately resulting in a decline in academic performance.

Online Transaction Addiction

College students who engage compulsively in online trading, auctions, and purchases are said to have an online transaction addiction. Online shopping has the benefits of being convenient, time-efficient, and free from external influences. In the age of consumerism, it better satisfies the hedonistic urge and has altered traditional purchase patterns (Chen, 2012). Chinese consumers have access to a wide range of products thanks to online marketplaces like Taobao and JD.com. Their psychological demand for individuality is also satisfied by the freedom inherent in online shopping. College students are particularly prone to making pointless purchases because they are so fascinated by the excitement of internet shopping. In addition, simple access to online loan platforms exacerbates their excessive shopping, pushing their living expenses over their planned spending limits (Yang, 2015). These factors combine to keep their urge for consumption stimulated. The worst part is that some college students are unable to control their purchasing urges and end up ruining their lives by getting caught in financial traps like online usury.

The Hazards of Internet Addiction for College Students

Internet addiction is a serious societal problem that can lead to a variety of physical and mental issues in college students. It impedes not just the long-term advancement of the entire country but also the personal growth and progression of college students.

Impaired Physical Health

According to existing studies, the majority of college students who are internet addicts go on for ten hours or more each day. The physical health of an individual might be severely harmed by prolonged, excessive internet use. College students who spend a lot of time in front of screens, particularly those who are addicted to online gaming, frequently develop visual impairments. The light on the screen of online games is constantly flickering, requiring the player to adjust their vision over time. The eye lens will eventually get overworked, which can increase students' myopia and, in severe situations, lead to retinal detachment (He, 2020). In addition, sedentary be-

behaviour associated with internet use can lead to more severe conditions affecting the neck and lumbar spine, as well as shoulder and back muscle strain. Additionally, the daily pattern is upset among college students who use the internet excessively, which causes them to lose their appetite, sleep less, and have a thrown-off biological clock. Physical sub-health that persists can easily lead to numerous diseases or even unexpected death (Wang, 2012). More than 70% of internet-dependent students experience vision loss, nerve dysfunction, shoulder and back muscular strain, and reduced immunity, according to Song et al.'s (2011) survey findings.

Decline in Academic Performance

The internet offers a vast array of educational resources to college students, fostering the cultivation of divergent thinking and promoting awareness of innovation. Therefore, Chinese institutions of higher education prioritize the enhancement of students' internet literacy. In order to guarantee the availability of internet connectivity for college students, the government has made significant investments in the development of campus network infrastructure (Dai & Zhang, 2015). Nevertheless, certain college students do not effectively utilize it by prioritizing the enhancement of their academic accomplishments. Conversely, individuals tend to engage in non-academic activities on the internet. Consequently, their school attendance becomes irregular, and their inclination towards academic pursuits diminishes. A significant proportion of students experience academic setbacks, such as failing exams, which may result in repeating academic years or discontinuing their studies altogether. A survey conducted by the Institute of Psychology at the Chinese Academy of Sciences in 13 colleges and universities in China revealed that approximately 80% of school suspensions and dropouts were attributed to internet addiction (Yuan, 2018).

Degenerated Cognitive Ability

Yang (2009) notes that the rapid dissemination of online news and the coinciding of major events result in a condensed timeframe for college students to receive copious amounts of information. Nevertheless, the immediate alteration of information is unlikely to leave a profound impact on the cognitive faculties of the receiver. When students have not yet fully processed recently acquired information, a significant influx of new information can impede their ability to internalize the material and disrupt the typical cognitive processes of the brain. Many college students engage in aimless browsing of substandard information on the internet and extensive but disjointed online reading. Limiting one's comprehension to a superficial level can hinder the

ability to engage in profound thinking. With the passage of time, their cognitive capacity will experience a decline.

Weakened Social and Emotional Competences

Some college students lose interest in social life in the real world as a result of long-term immersion in entertaining and stimulating virtual reality. This can result in mental and psychological issues such as identity confusion, emotional apathy, depression, and value distortion (Wang, 2012). College students who are pathologically dependent on the Internet are more likely than their peers to have psychological disorders such as depression, paranoia, anxiety, withdrawal, impulsiveness, and violent tendencies (Liu et al., 2006). Sociality is innate in humans. Interpersonal interaction in the real world is a crucial way for college students to socialize. The indirect human-machine-human mode of interaction online has largely replaced "face-to-face" interpersonal communication for student internet consumers (Bian, 2016). They have fewer opportunities for direct social interaction the longer they spend time online. Alienation from society is associated with a variety of social and emotional issues.

Degraded Morality and Values

College students are in a crucial stage of developing their perspective, values, and morality. Internet characteristics such as decentralization, openness, and virtuality pose significant obstacles to moral education (Yin, 2014). Existing moral norms are not inherently applicable to regulating online behaviour (Rao, 2005). According to Tao (2007), there is a prevalence of moral relativism and anarchism, moral apathy, and severe online malfeasance among college students who are internet addicts. The most prevalent immoral behaviour among them is lying. They lie to their instructors about their absence from class, and they lie to their parents about the amount of time they spend online and the purposes for which they use the internet. Internet consumers are able to conceal their true identities in cyberspace, giving them the impression that they are free to say or do whatever they please, which compromises their integrity and sense of responsibility. According to Xu et al. (2010), adolescents who are overly dependent on online activities are more likely to exhibit personality disorders and deviant behaviour. Some students spend a significant amount of money filling up their accounts in order to gain more experience in the game, resulting in massive debts that may lead to criminal behaviour.

Causes of Internet Addiction among College Students

Multiple factors influence the addictive behaviour of college students on the Internet. It is the interaction between individual personality attributes, stimulus sources, and the environment. Environmental factors include parenting style, domestic environment, schooling, and socially prominent cultures. Students with a dearth of self-control are susceptible to the temptations posed by the Internet. Personality traits are effective predictors of internet dependence, given that the current rate of internet penetration among college students is 100%, but not all of them become excessively dependent on the cyber world.

Characteristics of the Internet

The Internet is distinct from all other media due to its accessibility, anonymity, virtuality, interactivity, and efficiency. The internet provides a platform for young people to obtain experiences that are difficult to attain in real life. Chen and Huang (2008) believe that the Internet's unique characteristics can adequately meet the requirements of adolescents for interpersonal communication, social support, and self-actualization. In online games, for instance, they can freely express their emotions and experience a sense of accomplishment; in online chat rooms, they can confide in someone. The virtual and indirect nature of internet communication reduces their vigilance and alertness, allowing them to feel at ease and candid online. The internet has become an indispensable component of college students' lives, and for some, it is existence itself.

High Efficiency of Internet Information Transmission

The internet's ability to operate instantaneously and overcome temporal and spatial limitations results in its high efficacy, which coincides with the imperative for college students to acquire knowledge pertaining to current and sensitive social matters. According to Huang (2009), this approach satisfies the individuals' requirement for a thorough comprehension of the global scenario within a reasonable timeframe. Additionally, it provides them with the chance to engage in cross-regional communication with their contemporaries. The aforementioned circumstance has inevitably exerted a significant influence on the mannerisms and conduct of university students.

Tremendous Amounts of Internet-Based Information

The internet is a highly open and inclusive platform that offers a vast array of information across diverse fields of human endeavour. This makes it an indispensable tool for college students who are actively engaged in a quest for knowledge. The diverse range of captivating entertainment materials, in-

cluding hit songs and blockbuster movies and TV shows, has presented an alluring allure for university students. To derive greater enjoyment from these materials, individuals may progressively increase their time spent browsing the internet, leading to the development of an excessive reliance on them.

Free Flow and Interactivity of Online Communication

The internet's inherent freedom and interactivity are perfectly suited to young people's interest in emotional connection. In their study, Zhang et al. (2006) point out that information acquisition and interpersonal emotional engagement make up the two main components of college students' motivation for utilizing the internet. According to Huang (2002), one of the primary drivers of online communication is to meet psychological requirements. Online emotional engagement and people's desires for love, respect, and a sense of community are intimately intertwined. A key contributor to the emergence of internet addiction is the use of the internet for emotional communication.

Virtuality and Anonymity of the Cyber World

Young college students with a strong desire to rebel against moral restraints find the virtual cyberspace to be the perfect social setting. The internet's lack of social constraints gives people the chance to indulge latent urges that are against accepted social norms, making it a safe haven for those who are feeling stressed out by pressures from the outside world (Yan, 2013). Internet users enjoy numerous types of pleasure in cyber communication, including the pleasure of anonymity, activity, risk-taking, avoidance, etc., according to Zhou and Zhou (1997). Online entertainment keeps people interested and may even cause internet addiction.

Personality Traits Associated with Internet Addiction

Studies have examined the relationship between college students' personality features and online addiction and found that factors including introversion, sadness, privateness, and social phobia are important indicators of cyber illnesses. Students who demand more attention and have severe social anxiety are more likely to develop an internet addiction, according to research by Professor Qian at Peking University (Zhou, 2003). In contrast to non-internet-dependent college students, internet-dependent students have a higher propensity for withdrawal, despair, and anxiety, according to Jiang and Gu's (2005)

A variety of symbols are used to symbolize individuals in the virtual world of the internet. For their online identities, college students can "design" their appearance, personality, age, educational background, and even gender. Less confident students tend to enjoy themselves more online, which leads them to spend more time there and try to forget about the actual world. They will be overcome by dissatisfaction and loneliness once their internet activity is stopped. As a result, people would purposefully increase their online time during subsequent internet usage, creating a vicious cycle (Yang, 2004). Additionally, college students who tend to avoid face-to-face interaction with society are more likely to develop an online addiction (Guan, 2021). They will eventually have trouble determining their true selves, experience greater loneliness and suffering, and feel even more cut off from the real world because they may hide their true identities in cyberspace and assume any temporary roles they choose.

Family-Related Factors

The association between a child's online behaviour and their relationship with their parents has been linked by research. Children are more likely to turn to the internet for emotional gratification and comfort when parents fail to form a close relationship with them and the latter cannot sense parental warmth (Wang, 2022). In households with young internet addicts, strict parenting is typical, finds a study by Zhou et al. (2008) on home satisfaction and college students' internet addiction. Children raised in this manner may get severe punishments for even little infractions, be subjected to rigid rules, and receive little parental praise and encouragement. On the other hand, some parents might embrace a laissez-faire approach to their kids' upbringing and be minimally involved in their development. Internet dependence is more likely to emerge in children raised by unsatisfactory parents.

Furthermore, in our rapidly evolving society, the disparity between generations continues to expand. Intergenerational conflicts frequently arise due to divergent perspectives and values held by college students and their parents. Given that a significant proportion of students remain financially reliant on their parents, it is probable that they will be at a disadvantage in terms of winning competitions, even if their concepts are more innovative. In this scenario, individuals may opt to discontinue communication with their parents and instead seek refuge in the virtual realm, which serves as their utopia.

School-Related Factors

Internet addiction on college campuses has been accelerated by the change in the educational environment and students' failure to adjust to new paradigms

of educational management (Liu & Chen, 2009). The size of schools has significantly increased since China started to expand college enrolment in 1999. Its administration system has not necessarily been upgraded to accommodate the increased number of students, either. One of the main contributing factors to internet addiction among college students is the absence of school oversight and internet instruction. The importance of online management has increased, and at the same time, face-to-face interaction between administrators, teachers, and students has been greatly diminished. This poses a significant difficulty for students who lack self-control and self-regulation, since they may spend most of their aimless college years aimlessly browsing the internet.

Social Factors

The lack of adequate internet regulation, the dearth of cultural amenities in the neighbourhood, and the harsh environment in which young people must survive are social factors that contribute to online addiction among college students (Tao, 2007). Internet-related difficulties include unfiltered cyber resources, lax cybercafé supervision, inadequate management of online gaming, and other growing issues that are not adequately addressed by the rules and regulations already in place for internet sectors. Facilities that are established in the community do not fit the needs of college students. Their multi-level needs for leisure activities, interpersonal communication, character building, and other cultural activities are not met by the current public cultural institutions. Additionally, students are under a great deal of emotional stress due to the demanding academic load and the bleak employment outlook. They might seize hold of virtual cyberspace to look for feelings of self-worth and accomplishment to escape those pressures from the outside world.

Conclusion

In the current era of rapid transformations and innovations, the internet serves not only as a means of transmitting information and providing entertainment but also as a valuable repository of knowledge. The internet has assumed a significant position in contemporary society and has become an indispensable aspect of college students' lives, serving as a means for information acquisition, social engagement, and leisure activities. However, excessive internet usage can lead to significant social, psychological, and academic dysfunction among individuals. The problem of internet addiction among college students lacks a straightforward resolution. The prevention and correction of this issue necessitate collaborative endeavours from the individual, educational institution, family unit, and broader community. It is recommended that students exhibiting problematic internet dependence re-

ceive intervention and therapy that utilize behavioural reinforcement techniques to facilitate the development of responsible internet usage and promote the restoration of typical college functioning.

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