Psychological research on internet addiction among adolescent students

Taro Yamada[1, a], Suzuki Sakura[1, b], Yuki Nakamura[1, c, *],

[1]Dentsu Wakeman, 1-8-1 Higashi-Ishibashi, Minato-ku, Tokyo 105-7001, Japan
a.taro_yamada_ty@outlook.com, b.suzuki_sakura_3452@gmail.com, c.yuki_yn@foxmail.com
***Corresponding Author**

Abstract: The rapid development of the internet has brought convenience to people, but it has also given rise to a range of online-related issues, one of which is internet addiction. This study analyzes the causes of internet addiction among adolescents and proposes preventive and intervention measures—such as online behavior management, psychological counseling, and physiological therapy—with the aim of helping young students grow up healthily in the digital age.

Keywords: Adolescent students, Internet addiction, Psychoanalysis, Prevention and intervention measures

1. Introduction

According to the "Statistical Report on the Development of China's Internet Network" released in July 2006, among the 123 million internet users nationwide, those under the age of 18 accounted for 14.9%, those aged 18–24 accounted for 38.9%, and adolescents under the age of 25 collectively represented 53.8% of the total internet user base. Experts estimate that approximately 5%–10% of internet users exhibit tendencies toward internet addiction. Therefore, we must attach great importance to this issue, intensify research on the online psychology of adolescents, actively explore strategies and approaches to address the online challenges faced by young people, and guide them toward a healthy online experience.

2. Definition of internet addiction

The concept of internet addiction was first proposed by Goldberg, a psychiatrist based in New York, USA; the research conducted by Young, a psychology professor at the University of Pittsburgh, confirmed the existence of this phenomenon. Zhou Qian modified the International Health Organization's definition of addiction to define internet addiction as a chronic or cyclical state of fascination resulting from repeated internet use, characterized by feelings of tension and tolerance to increase usage time, as well as symptoms such as restraint and withdrawal; individuals develop a persistent psychological and physiological dependence on the pleasure derived from using the internet. [1]

Beard revised the "5+3" diagnostic criteria for internet addiction. The first five criteria are: whether the individual is addicted to the internet; whether the individual increases their internet usage time to meet a specific need; whether the individual is unable to control, reduce, or cease using the internet; whether the individual experiences fatigue, depression, distress, or irritability when attempting to reduce or stop internet use; and whether the actual internet usage time exceeds the originally intended duration. These constitute the necessary conditions for diagnosing internet addiction. In addition, at least one of the following three supplementary criteria must be met: the internet use is jeopardizing important interpersonal relationships, work, studies, or career; the individual conceals their actual internet usage time from family members, clinicians, or other individuals; or the individual uses the internet to escape real-life circumstances or alleviate psychological distress. If all five criteria plus at least one additional criterion are met, a diagnosis of internet addiction can be made. [2]

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3. The negative impacts of internet addiction on adolescents

The internet offers teenagers vast opportunities for self-expression, expanding their social circles, acquiring knowledge, facilitating emotional communication, and managing negative emotions; however, internet addiction poses significant risks to adolescents, primarily in the following five aspects:

3.1. Physiological aspects

Adolescents are at the peak of their growth and development; prolonged sitting in front of a computer exposes them to computer radiation, which can weaken their immune system and trigger various health conditions—such as cardiovascular diseases, gastrointestinal neurosis, tension headaches, anxiety, and depression.

3.2. Academic performance

Due to prolonged internet overuse among adolescents—who devote vast amounts of time and energy to online activities and are exposed to harmful online content—many experience a loss of academic motivation, diminished interest in learning, difficulty concentrating in class, or even an aversion to studying. As a result, incidents of tardiness, early departure, or absenteeism occur frequently; academic performance declines, with a high number of students failing multiple courses or even being unable to graduate. Internet addiction has become a significant factor affecting adolescents' academic achievement. In 2004,81 students at Shanghai Jiao Tong University withdrew from their studies due to their inability to keep up with their coursework because of excessive internet use; in 2003, among 237 students who either dropped out or were placed in a repeat year at East China University of Science and Technology, 80% had seen their academic performance decline as a consequence of uncontrolled internet use. [3]

3.3. Psychological aspects

3.3.1. Internet addiction's inhibitory effect on perceptual abilities

Prolonged internet use can lead to a decline in sensory and perceptual abilities. Psychological studies have shown that repeatedly perceiving the same stimulus over an extended period can diminish one's sensitivity to it. For adolescents, excessive time spent online, whether engaging in online chatting, playing games, or browsing the web—can result in perceptual numbness, which may have a negative impact on their cognitive development.

3.3.2. Internet addiction and the rigidity of cognitive and logical reasoning skills

Prolonged internet use can impair adolescents' thinking patterns and logical reasoning abilities. The internet consists of symbols, text, graphics, and sound; engaging with these elements for extended periods tends to steer one's thinking toward convergent thinking, which is detrimental to the development of divergent thinking. Since the internet primarily provides ready-made information that requires little additional thought, this environment is not conducive to fostering adolescents' abstract logical thinking skills.

3.3.3. Network addiction as a barrier to the socialization of emotions and affective experiences

Prolonged exposure to the internet can also lead to emotional disorientation among adolescents; it is through the continuous adjustment made amidst emotional fluctuations that adolescents gradually complete their socialization process. However, chronic internet addiction can easily result in inadequate emotional socialization and emotional deviation among them.

3.4. Moral character

The use of the internet has challenged existing moral norms, creating new platforms for various unethical behaviors. Adolescents online can conceal their real names, gender, age, and identity. In this virtual space, individuals bear neither responsibility nor obligation when interacting with one another. As a result, unethical behavior is commonplace, with lying being the most prevalent form of such misconduct. The internet slang phrase "No one knows you're a dog" aptly captures the inherent unreliability of the online world.

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3.5. Interpersonal relationships

Due to the unique advantages of the internet—such as its widespread reach, global presence, and indirect nature—adolescents with internet addiction can easily derive a sense of achievement and satisfaction from their online interactions; they may even perceive their own self-worth being greatly enhanced and feel the care and attention from others toward them. In contrast to this virtual world, the limitations of the real world become starkly apparent. When these adolescents realize that online interpersonal interactions are easier, freer, and more enjoyable than real-life interactions, they tend to devote more time to online communication, thereby reducing their time spent engaging with people in the physical world. Psychologists have proposed the following formula: Total information conveyed = 7% text + 38% tone of voice + 55% facial expressions. This demonstrates that in interpersonal communication, most of the information is not transmitted through text but is instead conveyed largely through tone of voice and body language mode of communication that cannot be replicated in the online environment. Norman, a political scientist at Stanford University, observed: "The longer people spend online, the less time they spend interacting with others." Consequently, he posed the question: "Will the global internet create a world of isolation?" A question worthy of our collective reflection.

4. Psychological analysis of internet addiction

4.1. Cognitive needs

Adolescents are going through a critical period of growth, characterized by a strong curiosity about the world around them and a keen desire to learn more and discover new things. Online information spans a wide range of topics—including politics, economics, education, culture, daily life, sports, and entertainment—thereby greatly satisfying their intense curiosity. The internet provides teenagers with the most effective and convenient means to access information; with just a click of a mouse, they can effortlessly obtain information that is unavailable through other channels. Through the internet, adolescents can stay updated on the latest news, including their favorite movies and TV shows, music, and gossip and anecdotes about their favorite celebrities.

4.2. Self-actualization needs

Maslow's hierarchy of needs theory posits that once an individual's basic needs are satisfied; there exists a higher-level need: the need for self-actualization. Self-actualization refers to the process of maximizing one's potential. It is precisely this need for self-actualization that enables individuals to realize their latent capabilities. Students who may lack a strong sense of competitiveness in real-world academic or social settings can easily experience the joy of success within the virtual realm of the internet and through various games. Moreover, the likelihood of achieving success in such environments can greatly satisfy their need for self-actualization. Some experts have also pointed out that there are two primary reasons why online games are so popular among adolescents: first, online games allow for the possibility of failure; second, success is relatively easy to attain in these games. These very aspects are precisely what our current educational systems often lack.

4.3. Interpersonal communication needs

Humans are social animals; every individual living within a society has a need for social interaction. However, for most people, such interactions occur within the bounds of behaviors permitted by "external moral norms," which inevitably involve numerous constraints and inequalities. Consequently, as information technology has advanced to a certain degree, the internet—by transcending the limitations of time and space—has opened new avenues for interpersonal communication, providing a space for adolescents who urgently need to expand their social circles. The internet has also resonated with internet users due to its unique characteristics of anonymity and virtuality in social interactions. The multidimensional and multi-layered nature of online communication continually reveals its appeal; these features can encourage adolescents to engage in more unrestrained social behavior online. For adolescents who are introverted or typically lack opportunities for interpersonal interaction, this represents a particularly suitable form of social engagement.

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4.4. The need for sexual psychological satisfaction

In Freudian psychoanalysis, the concept of “sexual instinct" was introduced; Freud argued that human sexual impulses do not vanish simply because they are rejected by social customs, morality, or habit—they actively operate within the subconscious in pursuit of satisfaction. The open nature of the internet enables online pornography to permeate every aspect of digital life. Adolescents, being during puberty, possess a nascent sexual awareness and impulses, along with a strong desire to understand the opposite sex. In the realm of sexual education, whether delivered through school or family instruction, there is often a sense of hesitation or embarrassment about discussing these topics. Given the internet's characteristics of openness and anonymity, it provides adolescents with an ideal channel through which to access such content; online pornography exploits this vulnerability, partially satisfying adolescents' curiosity or desire to learn about sexuality. In some cases, many adolescents become deeply addicted to this content, unable to extricate themselves, and in extreme instances, engage in sexual offenses.

4.5. The need for emotional communication and emotional release

Due to limited social circles in real life, social anxiety, or a lack of social skills, many adolescents turn to online chatting as a way to exchange ideas and build emotional connections with online friends, seeking comfort, support, or an outlet for the emotional stress they often experience in daily life. However, when adolescents perform poorly on exams, encounter difficulties in their interpersonal relationships, complete a major undertaking, or experience a breakup, many choose to use the internet to regulate their mood.

5. Prevention and intervention measures for adolescent internet addiction

5.1. Optimize network environment

Internet addiction has now become a societal issue, necessitating enhanced comprehensive governance efforts from the government, society, and schools. For society, it is essential to continuously purify the online environment and minimize the negative impact of harmful content on adolescents. This can be achieved through a combination of technological, administrative, and legal measures to effectively control the source of information, address the root causes, establish permanent information management agencies and a dedicated professional workforce, and implement regulated, legal management of computer network resources. Additionally, increased investment in both hardware and software technologies should be made to strictly control the entry channels for online content, implement transmission filtering technologies, and enforce satellite signal reception restrictions; various electronic content filtering software solutions should be adopted to strengthen access control measures within schools, households, and internet cafes, thereby curbing the spread of harmful content. Within educational institutions, efforts should be made to strengthen campus network infrastructure, actively develop campus network services, enhance the appeal and reach of campus networks, and improve network speed and performance.

5.2. Promote core values and ethics in adolescents

Negative online content can adversely affect adolescents’ development of a sound outlook on life and values; therefore, it is essential to safeguard against the influence of the diverse values inherent in the digital environment on young people and to prevent them from developing cognitive biases. This requires strengthening education aimed at fostering correct worldviews, outlooks on life, and values among adolescents. Effective approaches include schools offering relevant online literacy courses and providing guidance on internet usage to enhance students' ability to critically evaluate information, help them develop a critical awareness of online content, and enable them to consciously resist the influence and temptation of vulgar, low-quality, or reactionary information. Meanwhile, families should actively nurture their children's sound personalities and noble moral character, strengthen their ability to make informed choices and their resilience, engage in equal and open communication with their children to understand their true inner world, and provide them with spiritual care, understanding, and comfort.

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5.3. Enhancing adolescents' self-psychological adjustment skills

Adverse personality traits can easily lead to internet addiction; therefore, adolescents should focus on enhancing their adaptive coping skills, strengthening their personal development, and cultivating positive personality traits in their daily academic and personal lives. They should develop healthy online habits by setting clear internet usage time limits based on their academic requirements and daily routines, actively participate in various social practice activities, strengthen their interpersonal relationships, gain more social experience, continuously build their resilience, and improve their ability to withstand the impact of negative emotions such as anxiety, depression, and loneliness—thereby maintaining a positive and healthy mindset when engaging in their studies and daily activities, and avoiding internet addiction.

5.4. Combining psychological counseling with appropriate pharmacological treatment

For students who are deeply addicted to the internet, it is crucial to adopt individualized counseling and face-to-face guidance. Through gradual psychological intervention and treatment, educators can help these students analyze their situations, identify root causes, and resolve issues, thereby assisting them in overcoming the distress caused by the internet. If necessary, professional psychological counselors should be consulted to provide specialized psychotherapy. Additionally, promptly identifying and alleviating students' extreme emotions serves as an effective measure to prevent internet addiction. As societal concern regarding internet addiction syndrome (IAS) grows, some medical experts suggest that for severely affected adolescents, this condition is not merely a psychological disorder but also a psychiatric disorder involving endocrine dysfunction. Experts caution against viewing adolescents' internet obsession solely as a psychological issue; instead, a combination of pharmacological and psychological therapies should be employed to achieve effective addiction cessation.

5.5. Conducting online mental health education

Since the issue of adolescent internet addiction originates online, it is essential to leverage the internet as a solution. First, establish online mental health platforms to enhance the dissemination of psychological knowledge. Second, widely implement online psychological counseling services. These services should assist adolescents in understanding the causes and consequences of internet addiction, recognizing their intrinsic needs, and correcting their attitudes toward internet usage. Furthermore, guidance on learning psychology and interpersonal relationships should be provided to help them navigate real-life challenges. This approach enables students to balance virtual and real-life experiences, thereby achieving psychological equilibrium. Third, develop healthy, engaging, and age-appropriate educational and recreational websites. By diverting adolescents' attention to these constructive platforms, we can foster a wholesome and beneficial online environment for students.

6. Conclusion

In summary, while we must acknowledge the significant role of the internet in the academic and personal lives of adolescents, we must also recognize the severe negative impacts of excessive internet use. Consequently, society, schools, and families must collaborate synergistically to prevent and treat adolescent internet addiction. Only through these joint efforts can the internet truly serve as a constructive tool for the learning and growth of young students.

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https://doi.org/10.62852/ytr/2026/321
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