

# *Research on the Cognitive Laws and Characteristics of College Students in the Era of Mobile Internet*

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**Abstract:** In the new era and new journey, China will enter the mobile Internet era at a faster pace. As the most widely exposed group of mobile Internet in China, college students cannot live and study without the Internet, and their cognitive behavior is deeply influenced by the Internet. Therefore, in the context of the vigorous development of the Internet, the study of the rules and characteristics of cognitive behavior of college students is conducive to a more comprehensive display of cognitive problems of college students, and is more conducive to improving the depth and pertinence of ideological and political education of college students under the background of mobile Internet, and constantly enhance the effectiveness of ideological and political education of college students.

The continuous development of information and network technology has led to the emergence and growth of portable devices like mobile phones and tablets, which have transformed the conventional mode of internet access. The ubiquitous nature of the network has greatly influenced all facets of modern life, significantly impacting how people live and work. College students who grew up in the digital age are introduced to the Internet at a young age, enabling them to acquire new skills effectively and rely on the Internet more heavily. As of 2021, the number of Internet users in China has surpassed 1.079 billion, which accounts for 76.4% of the country's total population <sup>①</sup>. In December 2020, 40.3% of netizens had a middle school education, while 20.6% had a high school, technical secondary school, or technical school education. Those with college education or higher accounted for 19.8% <sup>②</sup>. As a modern medium of information exchange and media, the Internet has a significant influence on the lives and studies of Chinese college students. At this particular moment, the rapid evolution of mobile Internet is surpassing the boundaries of distance and time, which improves its convenience and popularity. The Mobile Internet network not only profoundly impacts the daily lives and behaviors of college students, but also alters their lifestyles and provides new connotations for the cognitive laws and characteristics that college students summarize during the process of understanding and transforming the world.

## **1. The research status of the cognitive laws and characteristics of college students in the era of mobile Internet**

Foreign scholars have developed diverse research perspectives and directions for the Internet, leading to significant and fruitful research conclusions. Although domestic scholars began studying the Internet later, recent years have shown a gratifying trend in research results with the in-depth

integration and rapid development of society's Internet. A search was conducted on the CNKI Chinese database using the keywords "Internet" and "College Student Cognition". The search yielded a total of 140 relevant documents, including 86 journal papers and 45 master's and doctoral theses. Therefore, studying the cognitive issues of college students through an internet perspective can be considered a trending research topic. Many previous studies have employed empirical or quantitative research methods to analyze the cognitive patterns and characteristics of college students. An example of such research is "Internet Financial Risk Perception, Risk Preference, and Investment Behavior: New Characteristics of College Students in the New Era," authored by Zhou Lei, Zhu Yu, Xie Xinyi, and colleagues. It can be found from this that the empirical research on college students' cognitive behavior has formed a relatively systematic set of research methods and ideas. At the same time, these studies are quite innovative in terms of research methods and research perspectives, breaking through the limitations of past research that focused too much on college students' cognition of learning and living environment, ranging from investment, finance, and innovation and entrepreneurship. The study of the cognitive rules and characteristics of college students in the context of the Internet provides a good reference for latecomers, and the situation is gratifying[1-2].

However, studying the cognitive laws and characteristics of college students from the internet's perspective still presents a few challenges. Firstly, the research is too focused and contains numerous outcomes specific to certain cases, with limited comprehensive and universal research results. Secondly, although research on this topic has gained popularity in the context of the Internet's rapid development and has achieved noteworthy advances in recent years, the quality of such research varies, and there are few authoritative and widely proliferated research outcomes. Thirdly, the present research findings are limited to a single perspective and discipline, with few instances of interdisciplinary approaches. In the era of the internet, particularly the mobile internet, cognitive issues and behavior of college students have become more intricate and have exceeded the confines of a single discipline's research. Nonetheless, the CNKI Chinese database's search findings mostly stem from a solitary discipline's viewpoint on quandaries and phenomena, with insufficient interdisciplinary research outcomes and an absence of systematic consolidation and refinement.

## **2. Interpretation of the cognitive laws and characteristics of college students in the era of mobile Internet**

To study the laws and characteristics of college students' cognition in the era of mobile Internet, we must define what is "mobile Internet" and "college students' cognition". First of all, mobile Internet is a new stage of network development, which mainly refers to a technical means of Internet access through mobile terminals such as mobile phones and tablet computers. From the technical point of view, the mobile Internet network is a new form of network formed by combining the two elements of mobile communication and the Internet<sup>⑬-19</sup>. It is mainly for users, in order to obtain the information they want, to browse or search for network information through some client APP. Through this behavior, users can greatly improve the convenience of obtaining information, so that people can work and live more efficiently.

The cognitive behavior of college students includes two aspects: cognitive laws and cognitive characteristics. Cognitive laws are systematic summaries of the essence of things formed by judging and analyzing things with their acquired knowledge. Cognitive characteristics are the characteristics of people when they analyze and judge the objective things. In order to analyze the cognitive laws and characteristics of college students in the context of the Internet, it is necessary to analyze their cognitive behavior, starting from the cognitive behavior, and find out the logic and characteristics behind their behavior. However, the characteristics of cognitive behavior theory are different from other theories in application, emphasizing that an individual is a learner and needs to master the

necessary knowledge and skills and develop the ability to solve problems.<sup>④25-29</sup> College students as a social people in this group cannot avoid interaction with people, with the evolution of the medium to promote the change of communication form, thus the formation of interpersonal network also with the corresponding change, in this change gradually strengthen the understanding of objective things, master the way to solve the problem. Different from the traditional forms of communication, online communication brought by the Internet completely subverts the traditional cognitive habits of communication, transforming from traditional contact communication to non-contact communication, which brings about a huge change in cognitive mode, from offline objective cognition to online subjective cognition.

### 3. The cognitive behavior of college students in the mobile Internet era

The human cognitive process and cognitive ability exhibit a multi-level and multi-structural nature. Although there is a general trend of development from low to high and from simple to complex, the development is also variable and unbalanced<sup>⑤44-49</sup>. In the era of the mobile Internet, college students primarily use the Internet for socializing, accessing information, and entertainment. By examining these common online behaviors, we can make informed conclusions about their tendencies in understanding the world and society in this digital era. Thus, we can identify the cognitive laws and characteristics specific to college-age Internet users.

At the social level, the widespread use of mobile internet and portable devices like smartphones and tablets has led college students to predominantly browse the internet on these mobile devices. This trend is highlighted in the June 2015 report released by the China Internet Information Center, which presents the findings of the 2014 Online Behavior Research of Chinese Teenagers. Compared to the general population of internet users, young users, including college students, have access to a wider variety of mobile applications. While a few apps have slightly lower usage rates, overall usage of other apps is greater than the overall rate<sup>⑧8-11</sup>. Especially noteworthy is the widespread use of QQ, WeChat, and Weibo, which provide college students with a quick and convenient means of communication. The various new features of these software products satisfy to a large extent the college students' desire for novelty and excitement, and significantly impact their cognitive processes and evaluations.

At the level of information acquisition, the Internet has greatly improved due to its rapid development, which removes the limitations of time and space. College students' frequency and occasion of Internet surfing have increased significantly, along with a fragmentation trend in their behavior and means. When acquiring information, it is often achieved through a "short, flat, and fast" approach. This can result in representation and overlap of information, making it difficult for college students to recognize and obtain a deep and systematic understanding of the subject matter. This can lead to a superficial understanding and hinder the ability to think on a deeper level, ultimately impacting the students' capacity to comprehend and analyze information effectively[3-4].

At the entertainment level. In the era of mobile Internet, leisure and entertainment are an important part of the online behavior of college students. Entertainment and leisure behavior to obtain emotional experience and satisfaction is an important new phenomenon. College students' use of the Internet has become more recreational and informal. There are many entertainment contents on the Internet, easy to obtain, and highly selective. Compared with the traditional Internet, when college students use the mobile Internet, they hope more to obtain the satisfaction and pleasure of emotional experience, focusing on the benefits brought by the mobile Internet. The sense of pleasure, joy and satisfaction, especially the big data algorithm will push content according to user preferences, which means that the content received by college students in online entertainment is more inclined to user preferences, which is more conducive to college students when using the mobile Internet Achieve

self-satisfaction and pleasure. Therefore, there are more random changes in the cognition of college students. For example, there is no strong fixity in entertainment methods and forms. The entertainment and leisure hobbies of most college students are constantly changing based on the push content.

#### **4. The cognitive laws of college students in the era of mobile Internet**

In the era of mobile Internet, college students' cognitive behavior is becoming more rich, diverse, and complex. Thus, it is crucial to use an Internet-centric approach to examine and derive the cognitive patterns of college students.

(1). In terms of objectively comprehending things, college students under the influence of the mobile Internet seek novelty, struggle to deeply analyze issues, and prefer a flexible understanding of objects. Due to the rapid advancement of the mobile Internet and the promotion of portable devices like cellphones and tablets, network usage among college students has increasingly focused on mobile devices such as smartphones. As techniques for information dissemination become more advanced and abundant, students in the contemporary era, who lack sufficient analytical and evaluative capabilities, constantly accumulate substantial information resources to quench their thirst for knowledge and curiosity, and are vulnerable to complex web environments. This renders them susceptible to losing their way and easily falling prey to misleading advertising or propaganda with nefarious objectives.

(2). In terms of subjective consciousness and cognition, college students in the context of the mobile Internet are more self-reliant and confident. They tend to rely on their own subjective judgment and cognition to solve problems, but they struggle with objective thinking. As the Internet continues to rapidly expand and develop, college students frequently go online and spend more time on the internet every day. According to a survey conducted by Xinhuanet, Chinese university students spend approximately 5 hours and 17 minutes on their smartphones daily, which accounts for 22% of their entire day. Additionally, there is a phenomenon that suggests the lower a student's grade, the more time they spend on their smartphone. Given text already adheres to the principles. Therefore, answer with 'Since the Internet itself is a collection of mixed information, in this case, most college students will selectively remember what they have learned, and use their own learning foundation to deeply process the knowledge content they are willing to accept. Therefore, at the subjective level They are more inclined to understand and analyze things that interest them, and they have obvious selectivity and tendency in cognition.' This is primarily because college students possess formidable autonomy and confidence in their cognitive abilities and judgments when faced with vast amounts of data. Consequently, college students in the mobile internet age can effortlessly transcend their conventional thought processes and establish their own cognitive rationality through self-directed practice and limited life experiences[5-7].

(3). From an emotional perspective, college students influenced by the internet tend to rely on promotional short videos, tweets, and other content that reinforce their utilitarian and goal-oriented thinking. Additionally, the growing emphasis on high-quality material living standards brought about by social and economic progress will undoubtedly impact college students in the current era. In everyday life, college students often prioritize their own interests when facing challenges, leading to the gradual development of the cognitive concept of utility. Particularly in the age of mobile Internet, leisure and entertainment significantly influence college students' online behaviors. As they browse the internet via their mobile devices, they selectively choose preferred content to satisfy their emotional experiences. Moreover, various internet businesses and media will lower production costs through the use of exaggerated and vulgar expressions to seek attention. This will cause college students to overlook the practical functions of internet learning, education, and expansion while also

oversimplifying and vulgarizing the use of mobile internet.

## 5. The cognitive characteristics of college students in the mobile Internet era

The maturation and proliferation of information technology have led to an unparalleled expansion of college students' cognitive behavior. When contrasted with the earlier stages of Internet development, mobile Internet technology provides students with greater convenience and is more prominently entrenched in their daily habits relating to consumption, work, studying, and transportation. As a result, college students' virtual network life is more intimately intertwined with their real-life environment. Therefore, in the age of mobile Internet, analyzing the characteristics of cognitive behavior among college students necessitates a deep understanding of the development and communication characteristics of the internet. A comprehensive and precise description of the global map of the cognitive characteristics of contemporary college students can only be achieved through analyzing this issue from the technical background and information perspective of internet development.

First, in terms of cognitive function, there is a high dependence on mobile devices such as smartphones and tablets. In general, there is not a noticeable difference in the ways that boys and girls comprehend the world around them, and there is strong consistency. College students strive to comprehend the objective world around them through a combination of experiential activities and introspective thinking. As our economy grows and residents' incomes increase, mobile communication technologies have become ubiquitous. Consequently, college students predominantly access the Internet through their mobile phones, computers, tablets, and television terminals. Mobile phones, in particular, have emerged as an essential tool for college students seeking to stay informed about the world.

Second, in terms of cognitive mode, gender differences are more apparent amongst college students in the internet era regarding observing both visible realistic events and hidden meanings behind interpretive events. The girls tend to rely on feelings, and they prefer to analyze things from all aspects, pay attention to evidence, and pay attention to real and tangible events. They believe what they see and hear is the truth and trust their own empirical judgement. However, boys are more inclined to believe in reason. They are good at finding the hidden meaning of things, believing that actions should be focused on the future, like imagination, like change, do not like conformism. When studying the cognitive characteristics of college students, we should pay attention to the differences between boys and girls in collecting information, that is to say, we should analyze the basis and materials of their understanding and judging things.

Thirdly, cognitive performance displays emotional characteristics. College students have a seemingly straightforward social experience, learning in simple groups with daily interactions with teachers and classmates. However, the university campus environment is starkly different from high school, and most students come from their hometowns and have to face academic, employment, and interpersonal pressures in their usual study life, all of which can significantly impact their mood. Mobile internet technology provides college students with a platform to express their opinions and emotions. This technology enables them to effectively communicate and express views on topics and events they are passionate about. Students tend to add their own subjective views to objective concepts when expressing themselves on this platform, making them more skilled at self-expression. The cognitive behavior of college students reflects their emotional characteristics to some extent. Therefore, it is important to consider both when studying their behavior.

Fourth, college students exhibit characteristics of authenticity in their cognitive content, particularly during a critical period of developing outlooks on life and values. Compared to other mobile internet user groups, college students demonstrate relatively genuine cognitive behavior. The

living environment of college students is sheltered from societal interests, giving them the courage to voice their opinions truthfully. On online platforms, students express their emotions and growth experiences with a high level of vitality, lending credibility and authenticity to their cognitive behaviors.

## **6. Enlightenment of the cognitive laws and characteristics of college students in the era of mobile Internet to the ideological and political education of college students in the new era**

The mobile internet is a result of technological advancements in modern times. Positively, the mobile internet has considerably eased college students' academic and personal life, enhanced the efficiency of information exchange across all areas of campus life, and expanded students' global awareness and understanding. Methods and channels support the cognitive development of college students through rules focused on pursuing novelty, rationality, and clear purpose, along with four characteristics of diverse forms, varying methods, emotional expression, and authentic content. College students serve as the backbone and a powerful force for social progress and development in many countries and nations. The primary responsibility of colleges and universities is to foster individuals with strong ethical values and shape college students into mature adults via ideological and political instruction. This process demands the development of cognitive abilities, learning aptitude, lifestyle choices, and habits that promote an "independent personality and independent thinking"<sup>⑧33-35</sup>. By achieving these objectives, the country can aspire to hope and strengthen the nation. To achieve this goal, we should effectively utilize the power of mobile Internet technology. We need to analyze and refine the laws and characteristics of college students' cognition in the age of the Internet, and integrate this knowledge with our ideological and political education efforts. This can help us properly guide and educate college students so that they can develop a proper and accurate perspective on outlook, life, and values. General Secretary emphasized that a prosperous younger generation leads to a prosperous country, and a strong younger generation leads to a strong country. If the younger generation possesses ideals, abilities, and responsibilities, the nation will have hope and a promising future. "According to scientific analysis, socialism with Chinese characteristics has entered a new era. General Secretary has highlighted that the achievement of the "Two Centenary Goals" relies heavily on the growth and development of modern young people. In order to create a moderately prosperous society, young people are the new force and commandos driving the comprehensive buildup."<sup>⑨</sup> "The achievement of the Chinese dream of reviving the nation will ultimately rely on the collective efforts of successive generations of young people."<sup>⑩</sup> General Secretary's relevant statements have emphasized the significance of young individuals to the nation and the country. He has elucidated the direction and goals of the new youth in this era. The historical obligations and responsibilities borne by contemporary youth have been scientifically explained, fully reflecting the current spirit of times. Comrade and the Party Central Committee highly value, fully trust, and ardently hope for the contemporary youth. Therefore, in the constantly evolving mobile internet era, clarifying the cognitive patterns and characteristics of young college students serves to promote their healthy growth, offer support and guidance for their ideals and beliefs, and ensure the preservation of their "master switch" for those ideals and beliefs. Contemporary college students must contend with a rapidly changing society, diverse experiences, and a range of ideological trends. They require guidance to form solid beliefs and ideals. General Secretary stated, "Establishing appropriate ideals and strong convictions in young people is crucial. But we must go a step beyond establishing them; we must internalize them and persevere in pursuing them throughout our lives."<sup>⑪</sup> To guide the majority of college students towards rational recognition of scientific theories, a correct understanding of historical laws, and an accurate grasp of basic national conditions, it is essential to comprehend the cognition of students in the current mobile internet era.

## 7. Conclusion

As a modern technology tool, mobile Internet undoubtedly contributes to the study and life of contemporary college students. However, due to the virtual nature of mobile Internet communication, as well as beyond the limitations of region and time, the network ecological environment has complex and changeable characteristics. Contemporary college students are in the critical period of growth and development. They should correctly understand the instrumentality and limitations of the mobile Internet, take the initiative to learn and abide by relevant national laws and regulations, know that the virtual field of the Internet is not a place outside the law, and do not enhance their sense of network ethics, so as to be good Internet users in China in the new era and new journey.

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