# The Influence of College Students' Mobile Phone Dependence on Their Self-Esteem and Loneliness

**Qi Wang**

College of Health Sciences, Xi'an Physical Education University, Xi'an, Shaanxi, 710048, China

**Abstract:** With the development of the times, the use of mobile phones, especially smart phones, has become more and more popular and has become one of the mainstream ways of life as a culture. College students, as the main users of mobile phones, enjoy their convenience and entertainment while relying more and more on mobile phones, and gradually develop into behaviors similar to "addiction", which have negative impacts on their study and life. The related research on mobile phone dependence is one of the hot topics of experts at home and abroad. At present, communication studies and psychology mainly study mobile phone dependence from different angles. The research is more about qualitative research such as the status quo, causes, and countermeasures. This paper uses empirical research to analyze factors such as loneliness, self-esteem and social support by collecting a large amount of valid data. To explore the impact of college students' mobile phone dependence on their loneliness and self-esteem, and to explore the relationship between various factors. Provide data support for mobile phone dependence research to enrich the research results in the field of mobile phone dependence.

## 1. Introduction

Due to the progress of science and technology, the high-tech industry is rising strongly in today's society [1]. As a representative product of high-tech electronics, mobile phones are increasingly becoming an indispensable part of modern life [2]. Although the popularization of mobile phones enriches people's lives and facilitates communication between people, a new psychological disease of cell phone dependence has emerged in society and is spreading continuously [3]. Mobile phone dependence refers to the obsession state in which the physical, psychological and social functions of individuals are obviously damaged due to out-of-control behaviors of using mobile phones [4]. It is also called mobile phone addiction, mobile phone anxiety and mobile phone syndrome. It is due to excessive abuse of mobile phones for some reason that mobile phone users are physically or psychologically maladjusted, thus endangering normal life and mental health such as work and study. College students, as the main users of mobile phones, enjoy their convenience and entertainment while relying more and more on mobile phones [5]. It gradually develops into a behavior similar to "addiction", which brings certain influence to study and life.

Studies have shown that mobile phone dependence is mostly seen in people who are more isolated, less intimate, even unsocial, closed or lacking in self-confidence [6]. College students are in an important period of life development, and this age group is prone to psychological locking [7]. Coupled with fierce competition, learning pressure and other factors, their needs are often unsatisfied, and social and emotional levels of loneliness are generated. Loneliness is a negative emotional experience that is closely related to behaviors such as dependence and addiction [8]. College students' excessive dependence on mobile phones is a kind of behavioral addiction, which means that college students are excessively addicted to using mobile phones [9]. Due to repeated use of mobile phones, college students suffer pain or significantly affect their physical, mental health, professional functions or social interactions. In addition, studies have shown that mobile phone dependence has a certain relationship with self-esteem [10]. Through an in-depth understanding of the status quo and characteristics of college students' mobile phone dependence, self-esteem and loneliness, this paper examines the impact of college students' mobile phone dependence on self-esteem and loneliness, and then provides an important basis for the school's

mental health education work.

## 2. Overview of Loneliness and Self-Esteem

### 2.1. The concept of loneliness

Loneliness is the subjective experience and unpleasant state when individuals are aware of their lack of social life. Loneliness of individuals is caused by differences in cognitive styles influenced by personality traits such as attachment types. Miczo believes that loneliness is an irresistible and continuous experience originating from infancy from the perspective of psychological analysis. Peplaul's early research results show that when a person has defects in quantity or quality in communication, the person will have an unpleasant feeling. Loneliness is considered a long-term negative emotion. In China, as the pace of social life continues to accelerate, people's life, work, and learning pressures increase. Their emptiness is becoming more and more serious. This kind of spiritual emptiness has aroused great concern of domestic psychologists, and loneliness has become a key topic in the field of psychology in China. Wang Jian believes that loneliness is to create a sense of emptiness after the subject is alienated. This feeling is unique to the human spiritual phenomenon.

### 2.2. The concept of self-esteem

In 1892 James first put forward the concept of self-esteem in "Principles of Psychology". He thinks that self-esteem is the feeling of self-worth, and puts forward the formula of self-esteem = success/ambition. Rosenberg believes that self-esteem reflects the difference between the real self and the ideal self that an individual can perceive, is a positive or negative attitude towards himself, and is related to self-acceptance and self-worth. Taylor pointed out that self-esteem is an evaluation we make of ourselves and an individual's positive or negative attitude towards ourselves. In 2001, Ollendick summarized that self-esteem belongs to the emotional component of self-system and is self-evaluation and emotional experience through literature review. Self-esteem is a reflection of the relationship between social evaluation and personal self-esteem, a form of personal self-perception, a self-concept that is competent, pleasant, and worthy of respect. In life, cognition and evaluation are the positive emotional experiences of the self as the object and the self as the subject. People with higher self-esteem are closely related to good self-evaluation or other people's evaluation and positive emotional experience.

## 3. The Relationship Between Mobile Phone Dependence and College Students' Self-Esteem and Loneliness

### 3.1. An overview of mobile phone dependence

Mobile phone dependence can be called "addiction to mobile phone", "problematic use of mobile phone", "anxiety of mobile phone" and other similar names in expression. At first, the concept of cell phone dependence developed from two definitions of addiction and behavioral addiction. Foreign scholars study addiction and point out that addiction is a strong impulse to a certain behavior, engaging in a certain behavior is continuous, persistent and opposes withdrawal, and has long-term dependence on this behavior. It can be seen from this that addiction is a repetition of a certain behavior and is a serious extreme behavior. Therefore, the psychology of dependence is only a psychological symptom of addiction. Mobile phone dependence is a psychological tendency of mobile phone addiction, and it is an addictive behavior. It is also impulsive to the use of mobile phones. This addictive behavior on mobile phones can have a serious negative impact on people's mind and body. A large number of scholars believe that the multiple symptoms of mobile phone dependence are very similar to Internet addiction, and the mobile phone dependence is summarized into the category of technology addiction. Therefore, in psychology, mobile phone dependence can be defined as mobile phone addiction.

## 3.2. The relationship between mobile phone dependence and college students' loneliness

The total score of mobile phone dependence and the scores of salience, persistence, conflict, technicality and withdrawal and the total score of social support are analyzed. The specific results (Table 1 below) show that there is a significant correlation between loneliness and mobile phone dependence. And loneliness may also indirectly affect cell phone dependence through social support. Using stepwise regression analysis method, taking mobile phone dependence as a criterion variable, the prediction effects of objective support, subjective support, utilization of support and loneliness on mobile phone dependence are investigated. The results show that subjective support and loneliness have certain prediction effects on mobile phone dependence. Among the many factors that affect college students' mobile phone dependence, loneliness has the greatest effect. Secondly, the support of support and social subjective support, social subjective support has both direct and indirect effects on college students' mobile phone dependence, and the direct influence is greater than the indirect influence. Loneliness has both direct and indirect effects on college students' mobile phone dependence, and the direct impact is greater than the indirect impact. The use of support has only a direct impact on college students' mobile phone dependence.

Table 1 Bivariate correlation analysis of loneliness and mobile phone dependence

| Project | Mobile Phone Dependence Persistence | Mobile Phone Dependence Abstinence | Mobile Phone Dependence on Technology | Mobile Phone Dependence Conflict | Mobile phone dependence saliency | Aloneness |
|---|---|---|---|---|---|---|
| Mobile Phone Dependence Persistence | 1 | 0 | 0 | 0 | 0 | 0 |
| Mobile Phone Dependence Abstinence | 0.605 | 1 | 0 | 0 | 0 | 0 |
| Mobile Phone Dependence on Technology | 0.140 | 0.333 | 1 | 0 | 0 | 0 |
| Mobile Phone Dependence Conflict | 0.581 | 0.478 | 0.134 | 1 | 0 | 0 |
| Mobile phone dependence saliency | 0.431 | 0.457 | 0.208 | 0.352 | 1 | 0 |
| Aloneness | 0.395 | 0.294 | 0.135 | 0.354 | 0.200 | 1 |

## 3.3. The relationship between mobile phone dependence and college students' self-esteem

Exploring the relationship between mobile phone dependence and self-esteem of college students is of great significance to the physical and mental development of college students. The self-esteem level of college students has a better behavioral prediction for mobile phone dependence. Students with high self-esteem are less likely to rely on mobile phones when using mobile phones than students with low self-esteem. People with low self-esteem and low self-identity are more likely to rely on mobile phones. Mobile phone dependence of college students is significantly negatively correlated with psychological harmony and self-esteem, while psychological harmony is significantly positively correlated with self-esteem. The psychological harmony level of college students in high self-esteem group was significantly higher than that in low self-esteem group. The psychological harmony level of college students with high mobile phone dependence group was significantly lower than that of low mobile phone dependence group. College students' mobile phone dependence and self-esteem can significantly predict psychological harmony. Self-esteem plays a mediating role between mobile phone dependence and psychological harmony, and the structural equation model index fits well. Therefore, mobile phone dependence indirectly affects

psychological harmony through self-esteem, which in turn affects the mental health of college students. It can improve the psychological harmony and mental health of mobile phone dependents by improving the self-esteem level of college students.

## 4. An Analysis of the Effect of Mobile Phone Dependence on Self-esteem and Loneliness of College Students

### 4.1. Objects and methods of analysis

The analysis objects and methods are based on natural classes and adopt random cluster sampling method. 650 questionnaires were distributed to students from grade 1 to grade 4 in 3 universities in Zhejiang, and 550 valid questionnaires were obtained after screening. There are 269 boys and 281 girls. The total number of junior freshmen and sophomores is 238, and senior juniors and seniors are 312. 201 in towns and 349 in villages. The analysis method is firstly the mobile phone dependence scale, which is based on the diagnostic criteria of addiction in the commonly used American manual of diagnosis and statistics of mental disorders. Referring to the mobile phone addiction index scale compiled by Liang Yongchi and others of the Chinese University of Hong Kong, the higher the score, the more obvious the tendency of mobile phone dependence. Followed by the self-esteem scale compiled in 1965, using a four-level scoring method, the higher the score, the higher the level of self-esteem. Again, the Lonely Scale, the third edition of the scale revised in 1988. With a 4-level scoring method, the higher the score, the higher the level of loneliness. Finally, the data obtained were analyzed by SPSS 17.0 software package for sample-by-sample t-test, analysis of variance, correlation analysis and regression analysis.

### 4.2. Analysis results

The results of the analysis are shown in Table 3 below. The mobile phone dependence levels of college students of different genders and students are significantly different, and the grade differences are not significant. There is a significant difference in loneliness in terms of gender and student origin, but the difference is not significant at the grade level. There is a significant negative correlation between college students' self-esteem and mobile phone dependence, and there is a significant positive correlation between loneliness and mobile phone dependence. Taking self-esteem and loneliness as independent variables, mobile phone dependence is a dependent variable, and it is gradually returned. The results show that self-esteem and loneliness can effectively predict college students' mobile phone dependence. Regression analysis shows that self-esteem and loneliness have a significant predictive effect on mobile phone dependence. This shows that the lower the self-esteem level of college students and the higher their loneliness, the easier it is to rely on mobile phones. College students are in a "psychological weaning period". There is no doubt that various problems and conflicts in life need to be properly expressed and vented. As the most commonly used and convenient tool at present, mobile phones can relieve loneliness without face-to-face communication. Over time, college students with low self-esteem and high loneliness are more likely to rely on mobile phones.

Table 2 Demographic variables of mobile phone dependence, self-esteem and loneliness among college students

| Variable | | Mobile Dependence | t | Self-esteem | t | Aloneness | t |
|---|---|---|---|---|---|---|---|
| Gender | Male | 38.45±9.69 | -2.63 | 20.82±3.78 | 0.12 | 40.78±7.75 | -2.31 |
| | Female | 41.96±11.37 | | 20.76±3.21 | | 43.15±8.18 | |
| Birthplace | Town | 42.72±10.76 | 3.41 | 20.58±3.54 | -2.24 | 42.91±9.25 | 2.03 |
| | Countryside | 38.87±10.96 | | 22.87±3.36 | | 40.72±7.45 | |
| Grade | Lower grade | 42.23±9.37 | -0.58 | 20.15±3.22 | -0.43 | 41.49±7.15 | 0.32 |
| | Senior grade | 42.57±12.18 | | 20.50±3.14 | | 41.15±8.17 | |

## 5. Suggestions on Improving College Students' Mobile Phone Dependence

### 5.1. Strengthen the construction of campus culture

The phenomenon of mobile phone use has become a culture, which reflects a series of problems for college students. Should cause the school and the society to attach great importance. The dependence of college students' mobile phones mainly depends on the contents of short messages, WeChat, microblogs, Internet access, telephones, etc. If they rely too much, it is easy to cause harm. It is of great significance to reduce loneliness and related psychological problems by studying the relationship among cell phone dependence, self-esteem and loneliness of college students. At the same time, it can also provide a new perspective for the mental health education of college students. Therefore, schools should strengthen the construction of campus culture, correctly guide students to use mobile phones healthily, and give full play to the positive effects of mobile phones on college students. College students should increase their self-discipline and be able to control and resist bad mobile phone culture. As a student, we must also focus on improving ourselves. Enhance self-discipline and use mobile phones reasonably. When enjoying the convenience of mobile phones, we must always be vigilant, carefully analyze the pros and cons, and achieve profitability and avoid disadvantages.

### 5.2. Strengthening psychological health education in schools

Good social support, especially subjective support, can reduce the loneliness of college students. Therefore, it is suggested that mental health education in schools should be strengthened, families should give college students more care and understanding, and social objective support should be improved. College students themselves should also strengthen their sense of psychological belonging and improve their ability of environmental adaptation and psychological regulation. Many ways to help college students make full use of social support to prevent and control college students loneliness and related psychological problems. Loneliness and social subjective support can effectively predict whether college students have a tendency to rely on mobile phones. This article also shows that college students are more likely to rely on mobile phones because of increased loneliness. Therefore, it is recommended that schools use the characteristics of college students' adolescent growth to guide students to establish correct academic plans and reduce college students' confusion about their future. Through campus culture to alleviate the anxiety caused by loneliness, increase social support, and thus reduce dependence on mobile phones.

## 6. Conclusion

To sum up, the current situation of college students' mobile phone dependence is not optimistic. About 50% of the students have moderate or above mobile phone dependence. Among the many factors that affect college students' mobile phone dependence, loneliness plays the most important role. Loneliness of college students has a direct influence and prediction on mobile phone dependence behavior, and the degree of mobile phone dependence behavior of college students with strong loneliness is higher. As the most common and convenient communication tool, mobile phones are playing an increasingly important role. In the process of reasonable use, remind college students to strengthen the self-management and restriction of mobile phone use. Schools should strengthen guidance and education to build a more colorful platform for learning, communication and entertainment for college students. Pay attention to students' mental health and improve students' positive self-assessment. As a kind of important means to correct mobile phone dependence, group psychological counseling is suitable for promotion in schools, classes and other environments. It has a positive effect on the improvement of classroom discipline, teaching quality and efficiency, and at the same time reduces the addiction hazard brought by college students' excessive dependence on mobile phones.

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