

The Relationship between Mobile Phone Dependence and Alienation of College Students

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Abstract: To explore the relationship between mobile phone dependence and alienation of college students. A total of 348 college students were measured with the mobile phone addiction tendency scale and the adolescent alienation scale. The results showed that: (1) There were significant differences between different levels of mobile phone dependence and alienation. The high-dependence Group has higher alienation than the low-dependence Group. (2) The four dimensions of dependence had significant positive predictive effects on alienation. (3) There were noteworthy differences in the avoidance scores between different genders, and women were more likely to escape than men. There were prominent differences in withdrawal and avoidance between different grades of college students. Junior college students scored lower in both dimensions than other grades. And art majors scored significantly lower in avoidance than other majors.

1. Introduction

With the development of time and technology, communication technology in human society has become more and more developed. From the first mobile phone to the present, mobile phones have already occupied a major position in people's lives. In addition to the most basic communication functions, its entertainment function is also becoming more and more powerful. According to the review and prospect of *the development of the mobile phone industry* released by the Ministry of Industry and Information Technology in 2014, the penetration rate of smart phones in China has reached 50%, far higher than the world average. The percentage of college students who have a mobile phone is almost 100 percent. While mobile phones bring convenience to college students, the problems of excessive use of mobile phones also appeared. The phenomenon of being kidnapped by mobile phone will not only lead to physical problems, but also cause serious psychological problems. Therefore, mobile phone dependence has been widely concerned by the academic community, and has become a hot research topic in recent years.

Mobile Phone dependence refers to addiction and problems in mobile phone use. Up to now, there is no uniform definition for mobile phone dependence in academic circles. Giovanni Martinetti, based on his study of Italian high school students, proposed the critical point of mobile phone dependence test. If the value is above the critical point then comes the mobile phone dependence which belonging to the range of behavioral addiction [1]. Based on their results, Billyeux et al. also classified mobile phone dependence as a behavioral addiction [2]. Mak YW further points out that excessive use of mobile phones has a negative effect on sleep in adolescents, which in turn cause a psychological problem that impairs physical, psychological and social functions [3]. In a word, I think that mobile phone dependence is an uninhibited use of mobile phone by an individual. Once the use of mobile phone is reduced or stopped, there will be withdrawal reaction, and it will influence the individual's physiology, psychology and cognition.

Previous studies have shown that mobile phone dependence is influenced by psychological factors [4-5]. For example, mobile phone dependence can be predicted by psychological factors such as boredom and loneliness, and problematic behaviors such as Internet addiction have also been found to be associated with feelings of alienation and loneliness. Alienation refers to the estrangement even domination and control between an individual and the various relationships of people, society, nature and himself. Thus, the individual has a sense of social isolation,

loss-of-control, meaninglessness, oppression and restraint, self-alienation and other negative emotions. There is a positive correlation between alienation and pathological Internet use in adolescents, according to Slater [6].

To sum up, we can find that the relationship between alienation and mobile phone dependence has been deeply studied, but the mechanism between them has not been deeply studied. From the above literature, we can know that there is a positive correlation between alienation and Internet addiction, so whether there is a correlation between alienation and mobile phone dependence? And is alienation consistent with loss-of-control, withdrawal, avoidance, and inefficiency? This study will focus on the relationship between alienation and mobile phone dependence, and the mechanism of them.

2. Object and Method

2.1 Subject

By using the method of random sampling, 350 college students in Fujian Province who volunteered in the research were selected as the research subjects, and 348 valid questionnaires were collected, of which 41.1% were men and 58.9% were women. There were 35 freshmen, 153 sophomore year students, 119 junior year students and 41 senior year students.

2.2 Research Tools

2.2.1 Mobile Phone Addiction Tendency Scale for College Students

The mobile Phone Addiction Index was compiled by Leung (2008) [7]. The 17-item scale measures four dimensions of mobile Phone Addiction: loss-of-control, withdrawal, avoidance, and ineffectiveness. loss-of-control means spending a lot of time on the phone without self-control; withdrawal means that reducing or stopping the normal use of the phone will produce negative emotions; avoidance means using the phone to avoid real-life problems; Ineffectiveness means excessive use of mobile phones affects the efficiency of daily learning and living. The scale is scored at 5 points, 1 for “never” and 5 for “always”. The higher the total score of all items, the more severe the individual's mobile phone addiction will be. The reliability and validity of the scale have been showed in previous studies, and the Coefficient α of the scale is 0.88.

2.2.2 Adolescent Alienation Scale

This scale is based on the scale designed by Jessor et al. for teenagers, which has 15 items. The 12-purpose alienation scale was constructed by Chen Wei et al. after deleting items 2, 4 and 5^[8]. The scale is a one-dimensional construct that measures interpersonal alienation and uncertainty about the activities one participates in, as well as a feeling of separation from others. Score: 1 strongly disagree, 2 disagree, 3 agree, 4 strongly agree. The higher the score, the higher the alienation tendency.

2.3 Research Methodology

SPSS22 software was used for statistical analysis. Statistical methods included descriptive statistical analysis (Mean, Standard Deviation), Pearson Correlation Analysis and Regression Analysis. The test level α was 0.05.

3. Results and Analysis

3.1 Correlation Analysis of Mobile Phone Dependence and Alienation

Descriptive statistics and correlation analysis were carried out on the dependence and alienation of mobile phones. The results showed that the four dimensions of mobile phone dependence were positively correlated with alienation ($p < 0.001$), as showed in Table 1.

Table 1 Correlation Matrix Of Mobile Phone Dependence and Alienation

	1	2	3	4	5
1 Loss-of-control	1				
2 Withdrawal	0.650***	1			
3 Avoidance	0.468***	0.542***	1		
4 Ineffectiveness	0.613***	0.554***	0.511***	1	
5 Alienation	0.586***	0.558***	0.485***	0.572***	1
M	14.6897	8.0029	7.1006	6.5862	26.6466
SD	4.63680	3.12976	2.69458	2.49057	7.21700

note:*** p<0.001

3.2 An Analysis on the Difference of Alienation Score among College Students

Table 2 Comparison of Mobile Phone Addiction Tendency among College Students ($\bar{X} \pm s$)

Group		Number	Statistical Value	Total Addiction Score	Loss-of-control	Withdrawal	Avoidance	Ineffectiveness
Gender	Male	143		34.38±11.39	14.34±5.14	7.68±3.29	6.16±2.45	6.20±2.47
	Female	205		37.78±9.95	14.94±4.25	8.23±3.00	7.76±2.67	6.85±2.48
			F	8.714*	1.417	2.623	32.178*	5.833*
Grade	Freshman	35		38.83±12.37	15.46±5.25	9.00±3.80	7.83±3.08	6.54±2.03
	Sophomore	153		36.69±10.54	14.65±4.69	8.09±3.08	7.18±2.58	6.78±2.59
	Junior	119		34.68±10.16	14.40±4.33	7.33±2.70	6.51±2.57	6.44±2.54
	Senior	41		38.05±10.78	15.02±4.82	8.80±3.48	7.88±2.85	6.34±2.34
			F	2.012	0.544	4.068*	4.029*	0.578
Major	Science and Engineering	98		34.93±11.15	14.41±4.60	7.53±3.25	6.61±2.63	6.38±2.43
	Literature and History	26		37.62±9.03	15.46±4.62	8.42±2.32	7.00±2.15	6.73±2.43
	Economic Management	199		37.23±10.90	14.78±4.81	8.32±3.22	7.44±2.80	6.68±2.54
	Art	7		33.43±7.14	14.57±3.69	7.43±2.15	5.00±1.29	6.43±1.51
	Else	18		34.28±8.21	14.11±3.36	6.72±2.16	6.94±2.29	6.50±2.79
			F	1.161	0.360	2.010	2.746*	1.161

note:*p<0.05

There was a prominent difference in avoidance scores between different genders (p<0.05). Compared with men, women were more likely to escape. There were significant differences in withdrawal and avoidance between different grades of college students. Junior college students scored lower in both dimensions than other grades; and art majors scored significantly lower in avoidance than other majors.

3.3 Stepwise Regression Analysis of Mobile Phone Dependence on Alienation

Table 3 Stepwise Regression Analysis of Mobile Phone Dependence on Alienation

Predictive Variable	B	Typical Coefficient	t	P	R ²	F
(Constant)	10.165		9.823	0.000	0.458	72.327***
Total Loss-of-control Score	0.390	0.250	4.377	0.000		
Total Withdrawal Score	0.420	0.182	3.211	0.001		
Total Avoidance Score	0.387	0.145	2.907	0.004		
Total Ineffectiveness Score	0.705	0.243	4.515	0.000		

In order to further explore the relationship between the four factors of mobile phone dependence and alienation, the total scores of loss-of-control, withdrawal, avoidance and inefficiency were used as predictive variables, and the total scores of alienations were used as dependent variables for multiple regression analysis. The results showed that the total score of out-of-control, withdrawal, avoidance and low-efficacy were significant predictors of the total score of alienation. In other words, all the four factors of mobile phone dependence had significant positive predictive effect on the total score of alienation ($p < 0.05$), as showed in Table 3.

4. Discussion

In this study, we found that there is a certain relationship between the sense of alienation and mobile phone dependence of college students. There was a significant positive correlation between alienation and mobile phone dependence. The reason for the higher dependence on mobile phones and the stronger sense of alienation lies in that, with the progress of the time and technology, the communication technology of human society has become more and more developed. The penetration rate of smart phones in our country has reached 50%. Today, the technological development of mobile phones can already replace computers. Mobile phones are smaller and easier to carry than computers, which are bulky and difficult to carry. More people use them to work and browse the web. Such as girls more likely to use mobile phones for online shopping, binge-watching and other entertainment activities. Therefore, college students are more dependent on mobile phones due to their powerful function. In addition to the entertainment function, the mobile phone is more to use for dating. Those who do not get the social support in the real life can go to the network to seek for the virtual social support, and establish the virtual interpersonal relationship, which is the escape of the mobile phone dependents. Popular dating apps like QQ, Wechat and Weibo have no requirements for age, gender, education or wealth, so most people indulge in these apps to gain social support and a sense of belonging and being needed. Through the sharp contrast between the Real Society and the Mobile Network Society, it is clear to see that people are more addicted to mobile phones and more dependent on mobile phones. This suggests that mobile phone dependence may be another factor that has a major impact on teen alienation after Internet dependence.

The results showed that the four factors of mobile phone dependence, loss-of-control, withdrawal, avoidance and inefficiency, were positively correlated with alienation, which means the higher the degree of mobile phone dependence, the stronger the sense of alienation. And that is the reason why college students rely too much on mobile Internet. Their communication with the people around them will be reduced, and real-life interpersonal relationships will slowly deteriorate, leading to increased loneliness and alienation.

The results showed that the difference of mobile phone addiction tendency between male and female college students was statistically meaningful in avoidance dimension, and the difference was more significant in female than male. The binding of college life on students is weakened. Students can spend most of their time freely. Boys have higher confidence and stronger desire to explore and are willing to accept challenges. But girls are more vulnerable psychologically and more susceptible to interference from outside. Their emotional changes are more pronounced and more likely to get out of Control. Therefore, mobile phone addiction affects girls even more.

This study also found that all four factors of mobile phone dependence had significant positive predictive effects on the total score of alienation. At present, the phenomenon of mobile phone addiction can be seen everywhere among college students. Their addictions to mobile phones have changed their traditional face-to-face social interaction. This over-reliance on mobile phones has also made them accustomed to communicate with people through the Internet, to a certain extent, weakening the development of college students' social skills. It causes the disharmony of interpersonal relationship and the difficulties of environment adaption and other questions of college students. They are also prone to lose temper, feel anxious when they leave their phone, escape when they encounter difficulties, work with low efficiency, etc.

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