Original Paper

The Influence of Loneliness on The Mobile Phone Addiction of Contemporary College Students: The Mediating Role of Online Social Support

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Abstract

Objectives: The purpose of this study was to explore the impact of loneliness on the mobile phone addiction, and to investigate the role of the psychological variable of online social support. Methods: 622 college students were surveyed by using the mobile phone addiction index (MPAI) scale, Online Social Support Questionnaire for College Students and the short-form of the UCLA Loneliness Scale. Results: The main effect of online social support and the mobile phone addiction on education level was significant. Loneliness was negatively correlated with online social support and the mobile phone addiction, online social support is positively correlated with the mobile phone addiction. Online social support was a complete mediator between loneliness and the mobile phone addiction.

Keywords

loneliness, the mobile phone addiction, online social support

1. Introduction

With the progress of society, the way people communicate with each other is becoming more and more convenient and efficient. But modern people, immersed in the cocoon of information, seem even lonelier. We see people on the subway sitting opposite each other with their cell phones without saying a word. This is a profound reflection of the mobile phone addiction and a different kind of loneliness in modern living environment.

Loneliness is an unpleasant psychological state caused by the unsatisfied desire for emotional relationship and interpersonal relationship due to being alienated or rejected by others. Loneliness is associated with many factors. From the perspective of social environment, loneliness is negatively correlated with the perception of social support and parent-child relationship (Chen, 2008; Zhang, 2011). From the perspective of the individual, individuals with personality defects such as neuroticism and depression are more likely to feel lonely, Individuals' less positive cognition or coping with loneliness will also have a greater impact on loneliness. For example, if you take a negative way of avoiding loneliness, you will feel lonely more easily (Liu, 2008); In addition, there is a significant positive correlation between loneliness and withdrawal symptoms, mood changes and other factors.

Mobile phone dependence refers to the phenomenon of excessive addiction to electronic information media, such as mobile phones, which produces strong and continuous craving and dependence in use, and may affect the normal social interaction and mental health of individuals. Mobile phone dependence is based on behavioral addiction, which manifests in abuse, withdrawal, and affects normal work, study, and social interaction. Some scholars have conducted research and found that Loneliness is positively correlated with mobile phone dependence. The main reason is that the use of mobile phones can relieve Loneliness and stress (Liu & Wang, 2012). Studies have shown that mobile phone dependence may be affected by different psychological traits, personality, social interaction and other factors. For example, mobile phone dependence may be predicted by individuals' impulsivity and Loneliness.

Online social support refers to individuals searching and exchanging information through the Internet to gain the understanding, respect and support of others. It has greatly improved the shortcomings of real social support that is easily restricted by time and space, and is concealed and extensive, the information is more diverse. When the social support received in reality is high, the social support received in the network will also increase (Jing & Li, 2012; Wang, 2012). Online social support can be divided into four dimensions from the perspective of content (Liang & Wei, 2008). Information support refers to the promotion of problem solving by giving information (Leavy, 1983); Emotional support refers to support that gives encouragement, warmth, intimacy or a sense of belonging, including care, trust, and empathy (Tolsdorf, 1976; Leavy, 1983); Companion support refers to individuals engaged in certain activities with others, through this social process to meet needs, reduce stress, and promote development (Cohen & Wills, 1985); Instrumental support refers to the provision of services or materials to help others solve practical problems (Jacobson, 1986).

When loneliness is high, mobile phone addiction will increase, but social support will also decrease, and the influence of loneliness on mobile phone addiction will be partially regulated by the social support obtained on the Internet (Jiang, 2014). Studies have shown that when mobile phone addiction is high, online social support will increase, but real social support will decrease accordingly (Ling, 2010; Wang, 2011; Wei, 2012). Alienation, as a variable with a larger scope than loneliness, is also affected

by social support obtained on the Internet, individuals with high online social support can be relatively less affected by alienation (Jiang & Bai, 2014).

2. Research Methods

2.1 Research Object

The method of convenience sampling combined with online sampling is adopted in this study, The online questionnaire was filled out by college students from Shanxi, Hebei, Jilin and other places. A total of 680 questionnaires were sent out and 623 were effectively received, with an effective rate of 91.62%. There were 248 males and 375 females, with a mean age of 21.5 years.

2.2 Research Tools

2.2.1 The Mobile Phone Addiction Index (MPAI) Scale

The Mobile Phone Addiction Index (MPAI) scale used in this study was compiled by Liang Yongchi, and it is divided into four dimensions: out of control, avoidance, withdrawal, and inefficiency. Using the five-point scoring method proposed by Likert, 1 point for almost no, 5 points are always. In the research of Chinese scholar Yang Weiqi, the Cronbach internal consistency coefficient is as high as 0.90, and the reliability is good. The scale was compiled based on the actual situation of our college students' mobile phone use, and is suitable for Chinese college students.

2.2.2 Online Social Support Questionnaire for College Students

This study uses the online social support questionnaire compiled by Liang Xiaoyan and others for college students. There are 23 questions in total, divided into four dimensions: emotional support, instrumental support, information support and social member support. Score at four points, the total score is used to judge the level of online social support. The reliability and validity of the questionnaire is good. In the research of Chinese scholar Liang Xiaoyan, Cronbach's a coefficient is 0.926, and the various dimensions and overall correlation of the questionnaire are 0.429-0.698 (P<0.01).

2.2.3 ULS-6 Loneliness Scale

The scale was compiled by Hays and DiMatteo in 1987. There are 6 "Loneliness" positive-order items in total, using a four-point scoring method. The scoring method is 1 for never, 2 for rarely, 3 for sometimes, 4 means always. The total score of the scale is 8~32. The higher the individual's Loneliness, the higher the total score. In the study of Chinese scholar Li Zhi, Cronbach's a coefficient is 0.831, and the correlation coefficient between the total score of the ULS-6 scale and the single item "I feel lonely" is 0.715.

2.3 Data Processing

The data were analyzed using SPSS23.0, SPSSAU, and Process plug-ins.

3. Results

3.1 Descriptive Statistical

Table 1. Loneliess, Mobile Phone Dependence, Online Social Support Descriptive Statistical Analysis

Iitems	Totality	Gender	
	(n=622)	Men(248)	Women(375)
Mobile phone dependence	59.07±15.63	60.19±16.99	58.36±14.64
Online social support	65.71±17.61	67.75±18.98	64.35±16.52
Loneliess	12.46±15.63	12.23±5.05	12.61±4.59

The independent variable of descriptive statistical analysis was gender, and Mobile phone dependence, Internet social support, and Loneliness were dependent variables. One-way analysis of variance was performed. The results are shown in the chart, the gender effects of Mobile phone dependence, Online social support, and Loneliness are different. Through the main-effect variance analysis of mobile phone dependence, online social support, Loneliness and gender, it is found that only online social support has gender significance (F=5.60, p[0.05), so the online social support of men is significantly higher than that of women stand by.

3.2 Correlation Analysis Results

Table 2. Analysis of Loneliess, Mobile Phone Dependence and Online Social Support

	Loneliess	Online social support	Mobile phone dependence
Loneliess	—	-0.67**	-0.54**
Online social support	-0.67**	—	0.86**
Mobile phone dependence	-0.54*	0.86**	—

With the increase of Loneliness, both online social support and mobile phone dependence will decrease, and online social support and mobile phone dependence are positively correlated (p<0.05). When we have more online social support, we feel less lonely; the more we rely on mobile phones, the less lonely we feel; however, the more online social support we have, the more we rely on mobile phones. strengthen. That is, the stronger an individual's dependence on mobile phones, the higher his degree of social support on the Internet, and the less Loneliness he can experience.

3.3 The Mediating Role of Online Social Support between Loneliness and Mobile Phone Addiction

On the basis of the correlation analysis of the three, use SPSS Process 2.16 model 4 to analyzed the mediating effect of the mediating variable of online social support in the influence of loneliness (independent variable) on mobile phone addiction (dependent variable).

Table 3. Mediation Analysis Results (n=622)

	The mobile phone addiction	Online social support	The mobile phone addiction
constant	81.27 (55.29**)	96.46(65.80**)	5.16 (2.01*)
Loneliness	-1.78 (-16.16**)	-2.47 (-22.46**)	0.17(1.82)
Online social support			0.79 (31.73**)
R²	0.3	0.45	0.73
Adjust R²	0.3	0.45	0.73
F value	F (1,620)=261.23,p=0.00	F (1,620)=504.64,p=0.00	F (2,619)=845.65,p=0.00

Label: * p<0.05 ** p<0.01

From Table 3, three models are obtained from the analysis of the mediation effect: ①Mobile phone addiction=81.27-1.78×loneliness, that is, the overall effect of independent variable loneliness on dependent variable mobile phone addiction is significant, c=-1.78; ② Online social support=96.46-2.47×loneliness, that is, the independent variable loneliness has a significant effect on the mediator variable online social support, a=-2.47; ③ Mobile phone addiction=5.16+0.17×loneliness+0.79×online social support. Among them, the direct influence of independent variable loneliness on dependent variable mobile phone addiction is not significant, c'=0.17,the dependent variable mobile phone addiction is significantly affected by the mediating variable online social support, b=0.79, summarized in Figure 1.
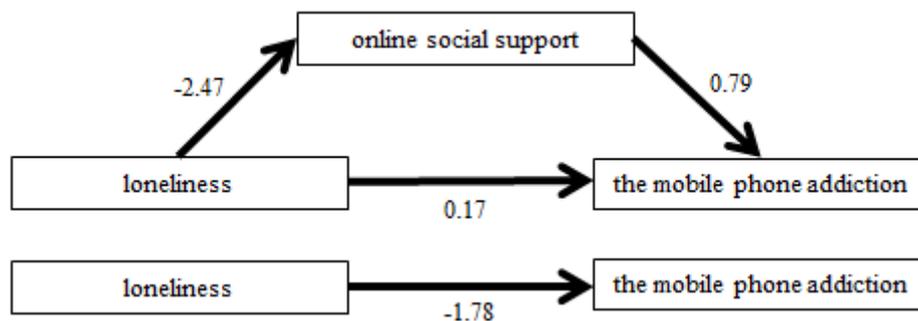
Figure 1. Intermediary Model Diagram of Network Social Support

In this paper, the 95% confidence interval calculated by Bootstrap for 5000 repeated sampling is represented by the mediating effect a*b (-1.95) and its 95% BootCI (-0.67~-0.53), if 0 is not included in this interval, the mediating effect of online social support is significant and a and b are significant, and c' is not significant, and the online social support is completely mediating, and the effect is 100%.

4. Discussion

There are significant differences in loneliness, online social support and the mobile phone addiction among people with different levels of education, this may be because people with higher education levels are more likely to immerse themselves in their own world and have less contact with the outside world, thus having a stronger sense of loneliness; The more educated also tend to spend most of their lives studying and improving themselves, are less likely than the less educated to seek social support online, and are less dependent on their phones. The fact that men have more online social support than women may be related to personality differences, Men are more open , and are more likely to make friends online to gain social support. Perhaps due to the lack of Internet and smartphone penetration in rural areas, people living in different areas also have different levels of online social support and mobile phone dependence. Whether you are an only child also has a very obvious influence on the online social support, possibly because the only child receives more attention and support than the non-only child in all aspects.

As can be seen from the correlation analysis of this study, Loneliness was negatively correlated with online social support and the mobile phone addiction, online social support is positively correlated with the mobile phone addiction. Further regression analysis showed that: (1) The mobile phone addiction and online social support were significantly negative predictors of loneliness, This is different from the research of Jiang Yongzhi et al. This may be because with the progress of The Times, people have more and more efficient ways to relax and entertain themselves, and they no longer cling to seeking social support from mobile phones or the Internet when they feel lonely. On the contrary, the higher the loneliness, the more likely people are to put down their phones, leave the Internet, and merge into the real world to find support. (2) Online social support was a significantly positive predictor of the mobile phone addiction, This is the same as the research results of Ling Yu et al, In other words, individuals with higher social support on the Internet are more likely to become dependent on mobile phones, and individuals can obtain online social support through the Internet.

By examining the mediating effect of online social support on loneliness and the mobile phone addiction in this study, Online social support played a fully mediating role in the effect of loneliness on the mobile phone addiction, This conclusion is consistent with the previous hypothesis of this study. The reason why loneliness can have an impact on the mobile phone addiction through online social support is that individuals with high loneliness may seek more efficient ways to relieve loneliness than online social support, so as to reduce mobile phone dependence.

6

References

Chen, X. F., & Shi, K. (2008). The impact of loneliness and understanding of social support on college students' mental health. *Chinese Journal of Clinical Psychology*, *5*, 534-536.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological bulletin*, *2*. https://doi.org/10.1037/0033-2909.98.2.310

David, E. J. (1986). Types and Timing of Social Support. *Journal of Health and Social Behavior*, *3*.

Ding, W. (2014). *A Study on the Relationship between Personality Traits, Social Support and Mobile Phone Addiction of College Students* (Master's Dissertation, Guangxi Normal University).

Guo, X. L. (2020). *The Mediating Role of Clinical Nurses' Emotional Intelligence in Understanding Social Support and Job Engagement* (Master's Dissertation, Shihezi University).

Jiang, Y. Z., & Bai, X. L. (2014). The Relationship between Mobile Internet Dependence and Loneliness of College Students: The Mediating Role of Online Social Support. *Chinese Journal of Special Education*, *1*, 41-47.

Jing, Y. S., & Li, Yi. (2012). Research on the Relationship between Online Social Support and Real Social Support of College Students. *Chinese journal of health psychology*, *5*, 777-779. Doi: 10.13342 / j.carol carroll nki CJHP. 2012.05.006.

Ke, X. M. (2015). *The Relationship between Mobile Phone Addiction and Boredom Tendency in College Students: The Mediating Role of Negative Coping Style* (Master's Dissertation, Shaanxi Normal University).

Leavy, R. L. (1983). Social support and psychological disorder: A review. *Journal of community psychology*, *1*. https://doi.org/10.1002/1520-6629(198301)11:1%3C3::AID-JCOP2290110102%3E3.0.CO;2-E

Li, C. S. (2015). *A study on the relationship between mobile phone dependence and loneliness and sensation seeking in college students* (Master's Dissertation, Suzhou University).

Li, Z. (2012). *Evaluation and Application of the UCLA Loneliness Scale* (ULS-8) (Master's Dissertation, Central South University).

Liang, X. Y., & Wei, L. (2008). The evaluation of College Students' network social support. *Psychological Science*, 3, 689-691. doi:10.16719/j.cnki.1671-6981.2008.03.032

Ling, Y., Yang, J., Zhang, C. C., Yi, J. Y., & Yao, S. Q. (2010). Social support modulates stress and depressive symptoms in adolescents. *Chinese Journal of Clinical Psychology*, *5*, 610-613. DOI :10.16128/j.cnki.1005-3611.2010.05.010

Liu, H., & Wang, H. L. (2012). Mobile Phone Dependence and Loneliness of College Students. *Chinese Journal of Mental Health*, *1*, 66-69.

Sun, J. W., Li, L., Lin, C., Wu, S., Tang, D., & Mu, K. (2014). The relationship between mobile phone dependence syndrome and loneliness in college students. *China Public Health*, *9*, 1147-1150.

7

Tolsdorf, C. C. (1976). Social networks, support, and coping: an exploratory study. *Family process*, *4*.

Wang, X. H. (2011). *The Current Situation of Mobile Phone Addiction and Its Relationship with Social Support and Social Adaptation among Middle School Students* (Master's Dissertation, Fujian Normal University). https://doi.org/10.1111/j.1545-5300.1976.00407.x

Wang, Z. Y. (2012). *Research on the Relationship between Online Social Support, Real Social Support and Subjective Well-being of College Students* (Master's Dissertation, Shaanxi Normal University).

Wang, Z. Y. (2012). *Research on the Relationship between Online Social Support, Real Social Support and Subjective Well-being of College Students* (Master's Dissertation, Shaanxi Normal University).

Wei, L. (2007). *A Study on the Relationship between Online Social Support and Life Satisfaction of College Students* (Master's Dissertation, Shaanxi University).

Wei, Y. Y. (2012). Study on the Relationship between Social Support and Mobile Phone Dependence of College Students. *Journal of Jilin Industrial and Commercial University*, *4*, 91-93.

Zhang, J. T., Liu, Q. X., Deng, L. Y., Fang, X. Y., Liu, C. Y., & Lan, J. (2011). Adolescent parent-child relationship with Internet addiction: loneliness mediation role. *Psychological development and education*, *6*, 641-647. The doi: 10.16187 / j.carol carroll nki issn1001-4918.2011.06.003