

Mobile Phone Dependence, Self-esteem and Subjective Well-being of Female College Students in China: The Basis of Guidance and Counseling Program

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Abstract: This article explores the relationship between mobile phone dependence, self-esteem, and subjective well-being of female college students in the mobile internet era, and proposes guidance and counseling plans to help female college students. The mobile phone addiction tendency scale (MPATS), self-esteem scale (SES), and Campbell well-being scale were used to test female college students in Shandong Province. The results of data analysis show that mobile phone dependence is negatively correlated with self-esteem, self-esteem is positively correlated with subjective well-being, while mobile phone dependence is negatively correlated with subjective well-being. Self-esteem plays a partial mediating role between mobile phone dependence and subjective well-being, and subjective well-being plays a partial mediating role between self-esteem and mobile phone dependence.

Keywords: Mobile phone dependence; Self-esteem; Subjective well-being; Female college students

Fund Project:

Mobile phone dependence means that individuals have a persistent and strong sense of longing and dependence on mobile phones (Xiang, M., Wang, Z., Ma, B., 2019). It is found that the more severe the dependence on mobile phones, the worse the overall physical and mental health (Hong, Y., 2021; Xu, Y., et al., 2021). At the same time, some studies have found that female college students are more dependent on mobile phones than male college students (Chen, J., Shen, X., Li, L., et al., 2021). Therefore, the research and intervention on female college students' mobile phone addiction has become more important.

In the study of mobile phone dependence, a very important discovery is that mobile phone dependence interacts with interpersonal relationship and various psychological factors related to interpersonal relationship (Yang, X., et al., 2022). On the other hand, self-esteem is a core indicator of interpersonal relationship. The social econometric theory put forward by Leary, M.R. and et al.(1995) holds that self-esteem is a special evolved psychological mechanism, which allows us to accurately evaluate our acceptance by others. Therefore, the interaction between mobile phone dependence and interpersonal relationship and various psychological factors related to interpersonal relationship may be the core reflection of the interaction between mobile phone dependence and self-esteem.

In addition, a large number of studies have found that psychology and behavior related to individual interpersonal relationships, such as interpersonal trust, social anxiety, social trauma and self-esteem, are important factors of subjective well-being (Li, M., 2018; Ma, J. & Huang, X., 2022). Therefore, subjective well-being will involve the interaction between self-esteem and mobile phone dependence. Mobile phone dependence may not only directly interact with self-esteem and subjective well-being, but also affect self-esteem and further affect subjective well-being. At the same time, self-esteem may affect subjective well-being and further affect mobile phone dependence. These complex interactions finally show the correlation among mobile phone dependence, subjective well-being and self-esteem.

Ni, L.(2018) studied the relationship among them, and found that mobile phone dependence was positively correlated with self-esteem, negatively correlated with subjective well-being, and subjective well-being negatively correlated with self-esteem. Mobile

phone dependence is negatively correlated with subjective well-being, which is consistent with existing studies (Li, Z., et al., 2017). However, in this study, the positive correlation between mobile phone dependence and self-esteem is consistent with the findings of Daria, J. K. (2011), but it is just the opposite of latest research findings (Li, X., 2022). Finally, the negative correlation between self-esteem and subjective well-being found in this study is contradictory to many studies (Li, M., 2018; Xiao, X. & Yang, Y., 2022). Therefore, there is a conflict between the results of this study and previous studies, which requires further research to clarify. At the same time, the research of Ni, L. (2018) includes both male and female college students, and does not study the unique relationship among female college students' mobile phone dependence, self-esteem and subjective well-being, which also needs further research and special research.

1. Objectives and methods

1.1 Objectives

The subjects selected in this study are female college students from three ordinary undergraduate universities in Jinan, Shandong Province. Covering freshmen to seniors. The subjects were selected by random sampling. A total of 500 questionnaires were distributed, 457 were recovered, 53 questionnaires that were invalid (with missing values and obvious regular answers) were deleted, and 403 questionnaires were valid.

1.2 Measures

Mobile phone dependence: The mobile phone addiction tendency scale for college students (MPATS) compiled by Xiong Jie et al. (2012) was used. The verification of the scale by the original author shows that the Cronbach α coefficient of MPATS is 0.83, and the retest reliability coefficient of MPATS is 0.91.

Self-esteem: Self-esteem Scale (SES) compiled by Rosenberg (1965). Yan Y. et al. (2021)'s research on college students in China shows that Cronbach α coefficient of SES is 0.88, and retest reliability coefficient of SES is 0.72.

Subjective well-being: The happiness index compiled by Campbell (1976) was used. The score range of this scale is between 2.2 (the least happy) and 14.7 (the happiest). The verification of the scale by the original author shows that the retest reliability of the scale is 0.75.

1.3 Statistical methods

SPSS software was used for statistical analysis. One-way ANOVA was used to compare the differences of MPATS total score and its four factor scores, SES score and index of well-being score in year level, places of origin and whether they are only children. Pearson correlation analysis was used to explore the correlation among mobile phone dependence, self-esteem and subjective well-being. Use PROCESS to analyze the mediating effect between variables.

2. Results

2.1 General situation of female college students' mobile phone dependence, self-esteem and subjective well-being

The average MPATS score of female college students is 39.38 (standard deviation 9.96). The total score of mobile phone dependence of female college students in senior year was significantly higher than that of female college students in other year levels ($p < 0.05$), but there was no significant difference between the scores of female college students in other year levels.

The average score of female college students' self-esteem scale (SES) is 30.16 (standard deviation is 4.57), which belongs to the middle level. The self-esteem level of junior female college students is significantly higher than that of other year levels ($p < 0.05$), but there is no significant difference among other year level female college students.

The average score of female college students' happiness index is 11.10 (standard deviation is 2.47). The subjective well-being of junior female college students is significantly higher than that of senior female college students ($p < 0.05$), but there is no significant difference between other year levels.

The scores of mobile phone dependence, self-esteem and subjective well-being of female college students are not affected by the place of origin and whether they are only children.

2.2 Correlation analysis of female college students' mobile phone dependence, self-esteem and subjective well-being

As shown in Table 1, firstly, there is a significant correlation among the total score of mobile phone dependence, the scores of its factors, self-esteem and subjective well-being ($p < 0.01$).

Table 1 Pearson correlation among mobile phone dependence, self-esteem and subjective well-being of female college students

Variables	Mobile phone dependence						7.subjective wellbeing
	1.Total score	2.Withdrawal symptoms	3.Prominent behavior	4. social comfort	5. mood change	6.self-esteem	
1	—						
2	0.90**	—					
3	0.80**	0.60**	—				
4	0.68**	0.51**	0.38**	—			
5	0.78**	0.60**	0.58**	-0.39**	—		
6	-0.33**	-0.22**	-0.31**	-0.28**	-0.28**	—	
7	-0.37**	-0.30**	-0.32**	-0.30**	-0.25**	0.43**	—

Note: *p < 0.05; **p < 0.01

2.3 The mediating role of self-esteem between mobile phone dependence and subjective well-being.

As shown in Figure 1, the mediating effect of self-esteem between mobile phone dependence and subjective well-being is significant.



Figure 1 Mediating effect of self-esteem between mobile phone dependence and subjective well-being

2.4 The mediating effect of subjective well-being between self-esteem and mobile phone dependence

As shown in Figure 2, subjective well-being has a significant mediating effect between self-esteem and mobile phone dependence.

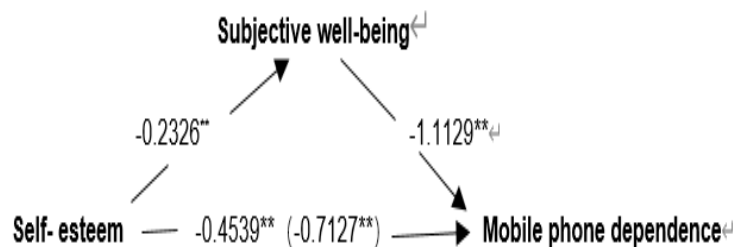


Fig. 2 Mediating effect of subjective well-being between self-esteem and mobile phone dependence

3. Discussion

The results of this study are not completely consistent with those of Ni, L. (2018). Combined with other research results, this study supports that mobile phone dependence is negatively correlated with self-esteem, self-esteem is positively correlated with subjective well-being, and mobile phone dependence is negatively correlated with subjective well-being.

So how did this correlation come about? The first possible reason is that mobile phone dependence directly affects subjective well-being, and indirectly affects mobile phone dependence through self-esteem.

First of all, as mentioned in previous studies, mobile phone dependence may directly affect subjective well-being (Li, Z., et al., 2017), with the increase of mobile phone dependence, individuals think that mobile phone dependence interferes with their normal life and weakens their life satisfaction, so their subjective well-being declines.

Secondly, mobile phone dependence may further affect subjective well-being through self-esteem. Dependence on mobile phones often makes individuals addicted to mobile phones to satisfy their own desires, thus affecting interpersonal relationships in reality. Mobile phone dependence also increases the individual's comparison psychology, coupled with some shortcomings of mobile phone dating itself, such as indirectness, delay, easy to be deceived, etc., and finally reduces the acceptance reflected in individual self-esteem. And the decrease of self-esteem reduces the satisfaction of individual life.

The second possible reason is that self-esteem can directly affect mobile phone dependence and affect mobile phone dependence through the mediation of subjective well-being.

First of all, the lower self-esteem level will directly lead to more serious mobile phone dependence, which is consistent with the previous research (Li, X., 2022). People with low self-esteem tend to become more anxious and sensitive in making friends in reality (Li, Z., et al., 2017), and it is difficult for them to gain acceptance through interpersonal communication in reality, which will prompt them to make friends online through mobile phones, thus seeking a kind of compensation.

Secondly, low self-esteem will also lead to a decline in subjective well-being, and individuals feel unhappy, which will lead to more serious mobile phone dependence.

These two explanations are in line with the expectation of compensatory network use theory. According to compensatory network use theory, when people encounter psychological problems in reality, they may use the network or mobile phone to escape from reality (Zhang, J., et al., 2022).

Based on all the above analysis, there may be mutual influence among mobile phone dependence, self-esteem and subjective well-being. Mobile phone dependence reduces the level of self-esteem, which leads to a decrease in subjective well-being, and at the same time, it will further make individuals appear more obvious mobile phone dependence. Therefore, in real life, this forms a cycle in which three variables interact with each other. Some studies believe that women's sociality is more oriented to the development of binary intimacy than men's, while men's sociality is more oriented to a larger social group, that is, to gain a higher position in social groups (Roy, B. & Kristin, S., 1997). Mobile phones are more likely to develop binary intimacy, rather than helping individuals gain a higher position in the group. As a result, female college students will rely more on mobile phones to maintain social relations (Jiang, Z. & Zhao, X., 2016), showing a higher dependence on mobile phones than male college students.

4. Counseling and guidance program

Adopt cognitive behavioral therapy, family therapy, music therapy, and other methods to improve the self-control ability of female college students, enhance their social support, enrich their extracurricular life, thereby reducing mobile phone dependence, improving self-esteem and subjective well-being.

References:

- [1] Chen, J., Shen, X., Li, L., et al. (2021). Measurement Invariance of the Mobile Phone Addiction Index Across Gender in College Students. *Chinese Journal of Clinical Psychology*, 29(2), 380 – 383 + 379.
- [2] Hong, Y. (2021). Research on the correlation between mobile phone dependence and mental health of Higher vocational college students. *Technology wind*, (29), 168 – 170.
- [3] Jiang, Z. & Zhao, X. (2016). Self-control and problematic mobile phone use in Chinese college students: the mediating role of mobile phone use patterns. *BMC Psychiatry*, 16, 416.
- [4] Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: the sociometer hypothesis. *Journal of Personality & Social Psychology*, 68(3), 270 – 274.
- [5] Li, M. (2018). The Relationship between College Students' Self-esteem and Subjective Well-being. *Social Sciences Journal of Universities in Shanxi*, 30 (1), 62 – 66 + 86.
- [6] Li, Z., Wang T., Liang, Y., Wang, M. (2017). The Relationship Between Mobile Phone Addiction and Subjective Well-being in College Students: The Mediating Effect of Social Anxiety. *Studies of Psychology and Behavior*, 15(4), 562 – 568.
- [7] Lv, X., Su, C., Zheng, Y., et al. (2012). The status quo of mobile phone dependence among post-90s college students and its impact on health. *Journal of MuDanJiang Medical University*, 2015,36(06), 102 – 103.
- [8] Ni, L. (2018). Research on the Relationship between Self-Esteem, Mobile phone Dependence and Subjective Happiness of College Students in Higher Vocational Colleges. *Theory and Practice of Education*, 38(06), 48 – 51.
- [9] Roy, B. & Kristin, S. (1997). What do men want? Gender differences and two spheres of belongingness: comment on Cross and Madson. *Psychological Bulletin*, 122(1), 38 – 44.
- [10] Xiang, M., Wang, Z., Ma, B. (2019). Reliability and Validity of Chinese Version of the Smartphone Addiction Scale in Adolescents. *Chinese Journal of Clinical Psychology*, 27(5), 959 – 964.
- [11] Yang, X., Bai, Y., Yu, Y., Wang, X., Lv, J., Cao, J. (2022). The Relationship Among Loneliness, Social Anxiety and Mobile Phone Dependence in College Students: A Cross-lag Analysis. *Chinese Journal of Clinical Psychology*, 30(1), 64 – 67.

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