



A Study on the Relationship between Middle School Students' Comprehension of Social Support and Phone Dependence

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Abstract

To investigate the relationship between junior high school students' comprehension of social support and phone dependence, 450 junior high school students from a middle schools in Dezhou, Shandong Province were randomly selected through an online platform using a questionnaire to investigate the current situation of junior high school students' comprehension of social support and phone dependence. The results showed that the overall comprehension of social support of junior high school students was moderately high, and the overall phone dependence of junior high school students was mild. Comprehension of social support and its dimensions were significantly and negatively correlated with phone dependence and its dimensions, and comprehension of social support was a significant negative predictor of phone dependence. It is expected that this study will reduce the level of phone dependence of junior high school students in real life, improve the mental health work in China, and add a brick to the happy learning and growth of junior high school students.

Keywords

Junior high school students, Comprehension of social support, Phone dependency

1. Introduction

L et al. (2012) explored comprehension of social support in depth and stated that comprehension of social support is the subjective willingness of people to receive social support, focusing on whether individuals actively accept the "helping hand" from social support. This study argues that comprehension of social support is a cognitive phenomenon in which individuals subjectively perceive support from family, friends, and others. Throughout the research on comprehension of social support, scholars have shown that comprehension of social support has a direct impact on individuals' psychological state, but also on their behavior.

Phone dependence, also known as cell phone addiction, has also been studied as cell phone use problem and cell phone overuse, which generally refers to the excessive use of cell phones and brings a series of negative effects on life. Throughout the scholars' research on phone dependence, there is a correlation between phone dependence and a variety of factors, and in the context of the era of rapid technological development, the problem of phone dependence has become more and more prominent, and subsequently, the attention to the phenomenon of phone dependence among junior high school students should be strengthened.

In the 21st century, leaps in technological development have led humanity to enter the digital information age, and smartphone usage among secondary school students is increasing year by year. Students' own comprehension of social support has a greater impact on their phone dependence, and if they perceive less social support, they are likely to have low expectations of life and thus turn their attention to their cell phones. Therefore, there may be a

correlation between comprehension of social support and phone dependence, and it is necessary to clarify the mechanism of the effect of comprehension of social support on phone dependence in order to increase the explanation related to phone dependence.

2. Methodology

2.1 Participants

This study was conducted using a questionnaire survey method, i.e., a random sampling method. Middle school students from two middle schools in Dezhou, Shandong Province were selected as the research subjects. A total of 450 questionnaires were sent and returned, and after deducting 22 invalid responses, a total of 428 valid responses remained, with an effective rate of 95.1%. The specifics of the study subjects showed that 241 (56.31%) were male students and 187 (43.69%) were female students; 138 (32.24%) were junior high school students, 189 (44.16%) were junior high school students, and 101 (23.60%) were junior high school students.

2.2 Instruments

This study measured junior high school students with the help of the revised Perception Social Support Scale (PSSS) by Biao-Bin Yan and Xue Zheng, which was divided into three dimensions: family, friends, and other support. 12 test questions were set to be answered in a self-assessment manner, and a 7-point scale was selected, and the higher the composite score of each item, the higher the level of perception social support. The Cronbach's α value of the scale in this study was 0.942, which meets the psychometric requirements.

In this study, we measured middle school students' phone dependence with the help of the Mobile Phone Dependence Questionnaire for Middle School Students written by Wang, with 3 dimensions of withdrawal, emergence, and compulsivity, and a 5-point scale was selected. The Cronbach's α value of this scale in this study was 0.903, which meets the psychometric requirements.

2.3 Data Analysis Procedure

All valid data were entered into the system and statistical analysis was performed with the help of SPSS 26.0, descriptive statistics, t-test and ANOVA on comprehending social support, current status of phone dependence and demographic variables, and Pearson correlation analysis was performed in the correlation analysis between two variables.

3. Results

The data were analyzed using SPSS 26.0. It aims to answer the following questions:

- (1) The current status of middle school students' comprehension of social support and its differences on demographic variables.
- (2) The current status of phone dependence among middle school students and its differences on demographic variables.
- (3) Is there a significant correlation between middle school students' comprehension of social support and phone dependence?
- (4) Do middle school students appreciate whether social support significantly predicts phone dependence?

3.1 Current status of junior high school students' comprehension of social support and phone dependence

As seen in Table 1, middle school students comprehended that social support was at a moderate to high level ($M=60.65$) and middle school students were at a mild level of phone dependence ($M=29.09$).

3.2 Differences in demographic variables in middle school students' comprehension of social support and phone dependence

3.2.1 Gender differences in middle school students' comprehension of social support and phone dependence

As shown by the results in Table 2, there was no significant difference between comprehending social support and phone dependence in either gender ($p>0.05$).

Table 1. Descriptive statistics of middle school students' comprehension of social support and phone dependence

	<i>N</i>	<i>M</i>	<i>SD</i>
Comprehending social support	428	60.65	13.46
phone dependence	428	29.09	9.65

Table 2. Gender differences in middle school students' perception of social support and phone dependence

	Male (<i>n</i> =245)	Female (<i>n</i> =187)	<i>t</i>	<i>p</i>
Comprehending social support	61.54±13.63	59.50±13.20	1.56	0.691
Phone dependence	28.83±9.61	29.43±9.73	-0.63	0.761

3.2.2 Differences in middle school students' comprehension of social support and phone dependence in terms of grade level

The results in Table 3 show that there is a significant difference in comprehending social support ($F=27.48$, $p<0.05$) in terms of grade level. A post hoc test of LSD showed that the level of comprehension social support was significantly higher in first-year students than in second-year students and third-year students. Phone dependence ($F=7.50$, $p<0.05$) differed significantly by grade level, and a post hoc test of LSD showed that first year students had significantly lower levels of phone dependence than second and third year students.

Table 3. Differences in middle school students' comprehension of social support and phone dependence by grade level

	First Year (<i>n</i> =245)	Second year (<i>n</i> =187)	Junior year (<i>n</i> =187)	<i>F</i>	<i>Sig</i>	Multiple comparisons
Comprehending social support	65.06±10.96	57.70±14.18	60.14±13.71	12.66	0.000	1 > 2, 1 > 3
Phone dependence	26.79±8.32	30.59±9.84	29.44±10.47	6.43	0.002	2 > 1, 3 > 1

3.3 Correlation analysis of junior high school students' comprehension of social support and phone dependence

The results of the Pearson product difference correlation analysis in Table 4 show that there was a negative correlation between apprehending social support and phone dependence ($r=-0.36$, $p<0.01$), and all dimensions of apprehending social support were also negatively correlated with all dimensions of phone dependence ($r=-0.36$ ~ -0.21 , $p<0.01$).

Table 4. Correlation analysis of middle school students' comprehension of social support and phone dependence

	1	2	3	4	5	6	7	8
1	1							
2	0.70**	1						
3	0.83**	0.80**	1					
4	0.92**	0.90**	0.95**	1				
5	-0.51**	-0.47**	-0.53**	-0.55**	1			
6	-0.43**	-0.39**	-0.44**	-0.46**	0.65**	1		
7	-0.43**	-0.36**	-0.41**	-0.44**	0.72**	0.51**	1	
8	-0.53**	-0.47**	-0.54**	-0.56**	0.93**	0.83**	0.83**	1

1=family support, 2=friend support, 3=other support, 4=appreciative social support, 5=withdrawal, 6=emergence, 7=compulsive, 8=phone dependence

3.4 Regression analysis of middle school students' comprehension of social support and phone dependence

From the results in Table 5, it can be seen that the linear relationship between comprehension of social support

and phone dependence among junior high school students is significant ($p < 0.05$), and the coefficient of the regression equation also shows significant ($p < 0.05$), so the regression equation $Y = 53.39 - 0.40X$ (Y is phone dependence and X is comprehension of social support) can be established. Moreover, the explanatory power of comprehension of social support for phone dependence among junior high school students was 31% ($R^2 = 0.31$).

Table 5. Regression of middle school students' phone dependence on comprehending social support

Independent variable	Dependent variable	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	β	<i>Beta</i>	<i>t</i>	<i>sig</i>
(Constant)						53.39		29.83***	0.000
Comprehending social support	Phone dependence	0.56	0.31	0.31	193.36***	-0.40	-0.56	-13.91***	0.000

The results in Table 6 show that the family support dimension of comprehension of social support for junior high school students negatively predicted phone dependence ($B = -0.83$, $t = -3.71$, $p < 0.05$) and the other support dimensions negatively predicted phone dependence ($B = -0.48$, $t = -2.79$, $p < 0.05$). The family support dimensions of middle school students' apprehension of social support were able to account for 32% of the variance in phone dependence, i.e., the dimensions of apprehension of social support predicted 32% of phone dependence ($R^2 = 0.32$).

Table 6. Regression analysis of middle school students' phone dependence on the dimensions of comprehending social support

Independent variable	Dependent variable	<i>R</i>	<i>R</i> ²	ΔR^2	<i>F</i>	β	<i>Beta</i>	<i>t</i>	<i>sig</i>
Family Support						-0.53	-0.27	-3.71***	0.000
Friend Support	Phone dependence	0.56	0.32	0.31	65.58	0.19	-0.09	-1.39	0.165
Other Support						-0.48	-0.24	-2.79**	0.006

4. Discussion and Analysis

In this study, junior high school students comprehended that social support was generally at a moderate to high level, which is consistent with the results of existing studies (Zhang, Xiao, 2021; Lian, 2022), indicating that junior high school students can more easily feel the help, support, and understanding from their families, friends, and others when they encounter frustration. The psychological level of junior high school students is stretching towards maturity, but they still maintain their inner dependence on parents and elders, but the way of dependence has changed from emotional and life aspects to the hope of getting more spiritual understanding, care and support from family members. In addition, the overall phone dependence of middle school students in this study was at a mild level, which is consistent with the findings of Wang (2022). Students at the junior high school stage are not yet psychologically developed and are prone to compare themselves with other students and follow the trend. For junior high school students, when they see their peers around them using smartphones, they themselves will have the desire to own a cell phone and thus find ways to obtain their own cell phone to express themselves and have their vanity satisfied.

The results of the correlation analysis between comprehension of social support and phone dependence showed that there was a significant negative correlation between comprehension of social support and phone dependence, and all dimensions of comprehension of social support were negatively correlated with all dimensions of phone dependence, which is consistent with the results of previous studies (Ma, Snapdragon, 2022; Yao, Yu et al., 2023). In their study, Chen Huiping and Zheng Xianliang (2021) found that individuals who acquired self-identity were able to demonstrate stronger self-control and stricter self-regulation, enabling them to use their cell phones more rationally and to control their own time spent on cell phones and the rationality of their browsing content, while the developmental level of apprehending social support was closely related to the developmental level of self-identity, and individuals with impairments in self-identity rarely Individuals with impairment in self-identity seldom explore themselves actively and feel less social support from family and friends, and are unable to treat themselves and others correctly, thus gradually weakening their social functions and turning their attention to cell phones, which bring them satisfaction and promote the formation of phone dependence.

The results of the regression analysis of comprehension of social support and phone dependence showed that comprehension of social support of junior high school students predicted phone dependence, i.e., the degree of phone dependence exhibited differed by the degree of comprehension of social support, which is consistent with the

results of previous studies (Zhang, Xiao, 2021). When provided with the same objective support, the level of social support that individuals can subjectively experience varies. In particular, individuals with a low level of comprehension of social support rarely experience support from parents, friends, teachers, and classmates, so they are less likely to seek outside help when they are frustrated and treat their difficulties negatively, instead preferring the "easy" things and staying away from pain, and smartphones are becoming more powerful, combining multiple The increasing power of smartphones, with their multiple functional attributes, is likely to stimulate junior high school students' desire for exploration, and because their self-control is not yet strong, it will lead to their phone dependence behavior. Therefore, the relationship between junior high school students' comprehension of social support and phone dependence is close, and comprehension of social support is an important antecedent variable of phone dependence, which can significantly predict phone dependence.

5. Educational Recommendations

First, on the learning level, we guide junior high school students to gradually adapt to the new learning environment and new curriculum requirements, improve their learning methods, develop their learning abilities, enhance their learning efficiency, and form correct learning concepts. At the level of social life, we help junior high school students understand their own characteristics, establish ambitious ideals, form a healthy attitude towards life, and promote healthy physical and mental growth. At the self-awareness level, we help junior high school students improve their self-awareness, understand themselves objectively and comprehensively, and correctly understand and grasp the physiological characteristics and psychological features of adolescence, so as to help them solve mental health problems arising from their own factors. In terms of self-regulation, junior high school students are instructed to reasonably adjust their own mentality and learn to control bad emotions; from the dimension of emotional adjustment, junior high school students are encouraged to experience and express positive emotions, and to adjust their moods, properly handle climbing behavior and curb rebelliousness.

Secondly, parents must innovate the concept of education. Change the traditional view of education that emphasizes knowledge over ability and scores over actual level. Focus on the formation of children's values, pay attention to their test scores, but also develop their abilities in all aspects and cultivate them in the direction of innovative talents. Give support to what interests your child, encourage your child to discover his or her strengths and explore them in depth, support your child psychologically, give him or her a sense of security and develop his or her self-confidence, and be careful not to limit your child's development in the name of love. Reduce your child's cell phone dependency in an appropriate way, and enrich your child's heart with warmth and love. Words are better than teaching by example. Parents should reduce the frequency of using cell phones in front of their children and replace the act of using cell phones with activities such as reading and sports to avoid turning to the virtual world due to negative emotions such as depression and anxiety.

Finally, schools should carry out a variety of activities that are conducive to students' physical and mental health, so that students can feel the pleasure of the real world in various activities, cultivate their temperament, improve their self-care ability, and reduce their dependence on cell phones. The level of phone dependence among junior high school students is increasing, so it is urgent to control the phenomenon of phone dependence. As the saying goes, unity is the key to strength, and the family, school and society must work closely together and concentrate their efforts. In addition to parents strengthening the management of their children's cell phone usage time in the family, society should also limit the scope and frequency of cell phone usage for teenagers, and schools should strengthen the relevant ideological education and conduct class meetings on the theme of getting rid of phone dependence. Establish students' awareness of the correct use of cell phones.

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