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**Title: The relationship between social support and Internet addiction in nursing students:
The role of mediating alexithymia**

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Abstract

Background: The extent of using the Internet has a huge impact on different aspects of life, and cognitive, emotional and environmental factors have an effect on Internet dependency, and in the case of extreme dependency, it can create a disorder, therefore, the purpose of this study is to investigate the relationship between social support and Internet addiction in nursing students: The role of mediating alexithymia.

Materials and Methods: It was a descriptive-correlational study research based on structural equation modeling specific regression equation; in this study 361 nursing students in Gorgan in year 2018 from October to November month (178 girls and 183 boys) are chosen in random sampling method. All of them filled Zimet et al. social support scale (1988), Toronto alexithymia scale (1994) and Young Internet addiction scale (1996). In this research, regression structural equation modeling was utilized to analyze the collected data; SPSS 18 and Amos 23 software were used for the analysis of the data.

Results: The findings from regression equations were shown that there was a direct effect between social support with Internet addiction and was an indirect effect between social support with Internet addiction with mediating alexithymia ($P<0.01$). There was positive and significant effect between alexithymia with Internet addiction ($P<0.01$). There was a negative and significant effect between social support with alexithymia ($P<0.01$).

Conclusion: Finally, model forecasting variables predict 0.42 variance in Internet addiction. The results of this research emphasized the necessity of the role of social support and also, the role of moderator of the alexithymia on the extreme tendencies of the Internet by students which can provide applied methodical to advisers and trainers in order to improve the psychological state.

Keywords: internet addiction, social support, alexithymia

Introduction

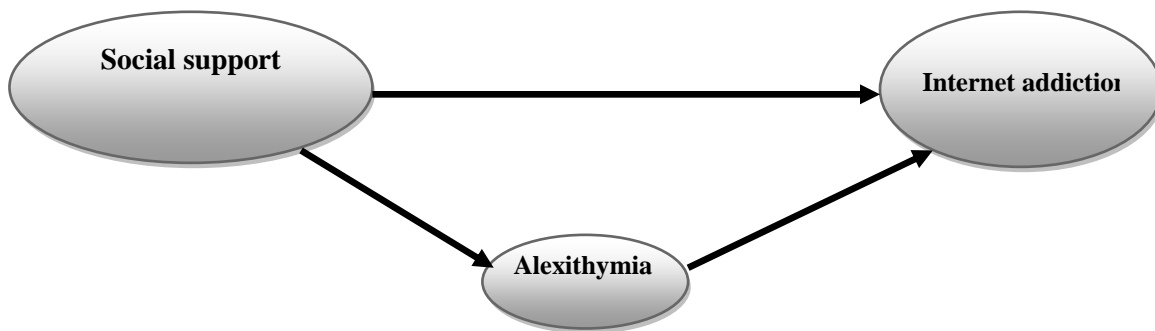
One of the major problems connected with the internet is addiction to its use (1). Internet addiction is seen as a problem in many different communities and cultures (2). Since this issue has become widespread, many researchers & experts have come to study its reasons, consequences and side effects (3). The increasing use of the internet along with its harmful side effects has led it to be considered as an addiction which is the most eminent among all the behavioral addictions (4). In terms of internet use, younger age groups notice entertainment functions and the deeper segregation of these two virtual and real areas more. Concerning this, Wu et al. (5) state that high social support by members of the family decreases internet addiction. They also add that the impact of family is more in the early adolescence. Therefore, higher family support may delay the start of addiction Ko et al. (6) found that those addicted to internet compared with the normal people receive lower social support and they also suffer from multiple social deprivation. In general, various studies have shown that people with addiction to internet indicated a lower social support in comparison with the normal people (Anseroudi, Hoseinian, Salehi & Momeni, (7); Lee, Ko, & Chou, (2); Isk & Ergun, (8)). Most of studies done on investigation of social support with addiction to internet have proved the indicative effect of perceived social support on addiction to internet (7). Throughout conflicting social support challenges, it seems that most of affective relationships decrease too and lack of attention to affective issues can lead to a growing tendency and attachment of the individual to internet addiction (9). Another effective variable on internet addiction is alexithymia which is shown with a wide range of cognitive problems such as stress disorders and depression. It is viewed as a disorder in cognitive emotional functioning in which the individual is unable to convey his/her emotional experiences in the front of emotions and imagination that symbolize and represent the emotions (10). Alexithymia is a multi-faceted structure that is determined by the difficulty of identifying feeling, differentiation between emotions and physical emotion, difficulty in describing feeling for others and power of limited imagination based on the poverty of imagination. (11).

Spensieri et al. (12) discovered that individuals afflicted with alexithymia exaggerate normal physical arousals and misinterpret the physical signs of emotional arousal. Researches have shown that those suffering from alexithymia have difficulty in actual identification of emotions in social relationship and causes them to adopt avoidance (13). Totally they have a higher level of readiness to tendency to addiction (14).

Studies have indicated that there is a meaningful relationship between internet addiction with self-respect and low social relationships (15) and social support relationships with alexithymia (16). In the studies (Beirami et al. (17); Anseroudi et al. (7); & Wu et al. (5)) the relationship between social support and internet addiction was investigated and the results showed negative relationship between social support and internet addiction. Wu et al, (2016) also proved a negative relationship between social support and addiction to facebook in their study. In the studies done by Schimmente et al. (10) the relationship between alexithymia and internet addiction was investigated and the results showed a positive correlation between alexithymia and internet addiction. Bolat et al. (16) and Guo et al. (14) found that there is a negative correlation

between social support relationship and alexithymia considering the above mentioned findings. This study aims at findings and exact answer to whether social support of people regarding alexithymia as a mediator influence internet addiction.

Addiction to internet is a new malady that its overuse and its effect on individual's daily activities result in many problems in the area of adolescents' minds & their families. This issue was a starting point for many researchers to begin studying this topic. Regardless of knowing addiction to internet as a mental trauma, since it is an epidemic & acute phenomenon it is accompanied with many serious, familial, financial, and physical traumas. And specifically for student and schooling, flowing n immoderate use of the internet, in will cause changes in their studying habits that they are all going to be influential in economy & job status at after education period. According to the above mentioned matters, the aim of the present study was to present a constructive model of the role of mediating alexithymia in the relationship between social support and Internet addiction in nursing students.



This conceptual model is developed based on the relationships between social support and emotional alexithymia with students' internet addiction.

Materials and Methods

The present study was a correlational research with structural equation modeling. Study population consisted of all the nursing students of Gorgan in year 2018 from October to November month that 348 of these students were female and 186 were male students. In this study, based 361 student on Cochran's formula through stratified random sampling (based on gender 49% girl and 51% boy) were chosen as statistical sample.

The study inclusion criteria were studying in the Nursing students in Gorgan during 2018 academic year, having physical and mental ability to participate in the study, and giving their informed consent. The exclusion criteria included reluctance to complete questionnaires or withdrawing from the study for any reason.

The relevant data were collected by social support scale designed by Zimet et al. (1988), alexithymia Scale designed by Bagbee et al. (1994) and Internet addiction scale designed by Young (1996). Before the research, all participants were informed and gave their consent. In this research, Data analysis was done by structural equation modeling in SPSS 18 and Amos 23.

Study instrument

Zimet et al. social support scale

Zimet et al. (18) social support scale: multi-dimensional perceived social support scale has been developed in 1988 by Zimet et al. (1988) that is comprised of a total of 12 items and 3 dimensions (family, friends, and important people). It is answered in a 5- point likert scale (completely disagree, no idea, agree, totally agree) which is scored 1 to 5 respectively. The reliability of this questionnaire was confirmed by its developers. Cronbach's alpha coefficient is used for the validity of components family, friends, and important people and the total number is 91%, 87%, 85% and 88% respectively (2 items et al.1988). The reliability and validity of it in Iran for components family, friends and important people and the total number has been calculated 84%, 85% and 88% respectively in the present study, reliability is 73%, 63%, 66% and 96% respectively (19). in the present study, reliability using Cronbach alpha for social supports, family, friends, important people and the total scores obtained 0.73, .063, .066, .076 respectively.

Toronto alexithymia scale

Toronto Alexithymia scale (Tas – 20). This scale has been designed in 1994 by Bagbee et al. that is comprised of 20 items and three subscales (difficulty in identification of emotions, difficulty in description of emotions and concrete thinking) it has been designed in a 5-point likert scale (completely disagree, disagree, No idea, agree, completely agree) that is scored from 1-5 respectively. The reliability of Alexithymia scale was confirmed by its developers. Validity is measured using Cronbach's alpha coefficient by Bagbee et al. (1994) 87% and in Iran norm & validity measured by Besharat (20) using Cronbach's alpha and calculated 0.85 for the total and subscales. Cronbach alpha was calculated for the total scale 0.75, for the difficulty in identification of emotions 0.72, and thinking with foreign orientation 0.53. In the present study, validity using cronbach alpha is calculated for concrete thinking 0.71, difficulty in identification of emotions 0.87, and difficulty in description of emotions 0.91. Kimberly young's internet of 20 items and designed in a 5- point likert scale (completely disagree, neutral, agree, completely agree) which scored 1-5 respectively. in the present study, reliability using Cronbach alpha for subscales of alexithymia including concrete thinking 0.71, Difficulty in identification of emotions 0.87, Difficulty in description of emotion 0.91, and its total score has been obtained 0.88.

Young Internet addiction scale

Internet addiction is comprised of five elements including social problems, effect on performance, lack of control, use of texting, and lack of consideration for work and duties. Validity of the questionnaire was confirmed by its developers. Reliability of it using Cronbach's alpha coefficient is calculated by Young (21) for social problems, effect on performance, lack of control, use of text, lack of consideration to work and duties 0.81, 0.83, 0.80, 0.79, 0.81 respectively. It is calculated 0.81, 0.73, 0.75, 0.74, and 0.62 respectively by Alavi et al. (22). in the present study, reliability using Cronbach alpha for subscales of internet addiction including Social problems, Impact on performance, Lack of control, Pathological internet use, Lack of attention to word and education and the total score was obtained 0.69,0.701, 0.73, 0.77, 0.691 , and 0.740.

Results

Table1. Subscales of alexithymia, social support, internet addiction pearson correlation Matrix

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
Family	16.1	2.86	1												
Friends	14.7	2.47	.60**	1											
Important people	15.6	2.39	-.58**	.68**	1										
Difficulty in identification of emotions	46.4	6.74	-.08	.08	-.12*	1									
Difficulty in description of emotion	20.5	5.34	-.11*	-.06	-.26**	.71**	1								
Concrete thinking	14.9	3.34	.05	.13*	-.03	.56**	.63**	1							
Social support	25.4	3.34	.86**	.87**	.86**	-.07	-.16**	.06	1						
Alexitimya	60.9	10.41	-.06	-.02	-.15**	.91**	.88**	.80**	-.07	1					
Social problems	36.18	10.85	-.17**	-.12*	-.24**	.22**	.31**	.27**	-.28**	.19**	1				
Impact on performance	7.39	2.53	-.20**	-.13*	-.13*	.23**	.28**	.20**	-.33**	.20**	.36**	1			
Lack of control	7.23	2.4	-.14*	-.10	-.14*	.19**	.17**	.17**	-.24**	.18**	.41**	.33**	1		
Pathological internet use	7.59	2.71	-.18**	-.12*	-.22**	.17**	.22**	.24**	-.19**	.23**	.40**	.52**	.39**	1	
Lack of attention to word and education	7.35	2.71	-.26**	-.15**	-.28**	.20**	.24**	.28**	-.20**	.21**	.54**	.47**	.44**	.48**	1
Internet addiction	6.6	2.36	-.19**	-.12*	-.25**	.19**	.17**	.20**	-.22**	.17**	.29**	.57**	.45**	.33**	.42**

According to Table1: show a negative correlation between, social support and subscales of internet addiction among students and a positive correlation of 0.01 between subscales of alexithymia an internet addiction among students.

Table2. Goodness of fit index obtained from data analysis and variables after three phases of correction

Test title	descriptions	Acceptable values	Obtained value before correction	Obtained value after correction
χ^2/df	Relative chi- square	<3	4.245	2.66
RMSEA	root mean square error approximation	<0.01	0.098	0.058
GFI	Adjusted goodness of fit	>0.9	0.855	0.942
NFI	Normal fit index	>0.9	0.722	0.924
CFI	Comparison fit index	>0.9	0.721	0.941
DF	72			

According to Table2: RMSEA value equals to 0.058 so this value is smaller than 0.1 which shows that mean errors of the model is appropriate, and the model is acceptable. Also chi-2 value to degree of freedom (2.66) is between 1 and 3 index of GFI, CFI, and NFI is also roughly equal and larger than 0.9 that show measurement model of the variables of the study is on appropriate model.

Table3: direct estimation of the model through maximum Likelihood method

variable	B	B	R ²
Social support on internet addiction	-0.54	-0.26	0.14

Alexithymia on internet addiction	0.17	0.15	0.025
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According to Table3: Considering to the above chart social support paths & alexithymia has significant direct effect on internet addiction.

Table4: Indirect estimation of the model through maximum Likelihood method

variable	Direct path B	Indirect path B	R ²
social support on internet addiction with alexithymia as a mediator	-0.26	-0.38	-0.09

According to Table4: As it is clear, through specific indirect path concerning standardized value (β), non-standardized (b) and obtained (R^2), the path of social support with mediation of alexithymia on internet addiction, concerning obtained vale with coefficient of determination (R^2) equals to 0.09 and it was confirmed with due attention to maximum Likelihood estimation method

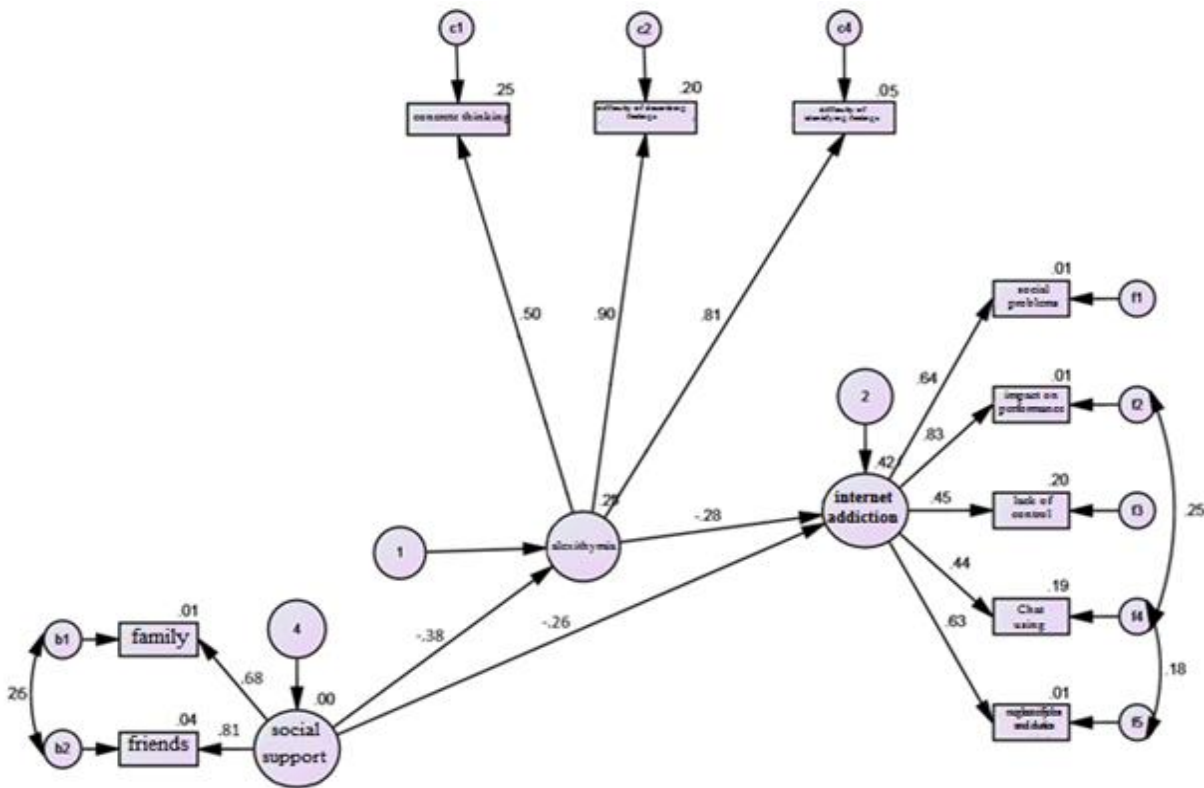


Figure1: final tested model with standardized prediction statistics

Discussion

The aim of the present study was to find a model of internet addiction based on social support with alexithymia as a mediator. Concerning the final model of the study, generally exogenous variable has 42 percent ability in predicting internet addiction variable and totally the model of the study is confirmed. Investigating the prediction role of social support in prediction of internet addiction indicates R-squared of 14%.

These results on the relationship of social support and internet addiction are consistent with the findings of Beirami et al. (17), showed that was relationship between perceived social support and affective, social feeling of loneliness with internet addiction in student society. Anseroudi et al. (7), showed that was relationship between internet addiction with adolescents conflict with parents, multi-faceted perceived social support and happiness. Isik and Ergün (8), showed that was relationship between the internet addiction in Turkish secondary school students and the perceived family support. Pendekar and Tung (23), showed that was role of identity styles, emotional autonomy, attachment, family environment and well-being in internet addiction. Fengqiang et al.(24), Gunuc and Dogan (25), that showed there is a significant negative relationship between perceived social support and internet addiction. In general, social support is defined as the extent of having access to kindness, companionship, and care from family members, friends and others some see social support as social reality while some others think it springs from the persons cognition. Real support is of type and Frequency of special supportive interactions which is used by an individual in his/her social relations to receive tutorial, affective, and instrumental assistance. People use supportive resources to meet their needs based on their own social relationships and the kind of bonds they have that is the wider the social relationships are, the more access they have to supportive resources these social support resources may decrease the number of negative effects in life and it functions as a defensive agent which stands against stressful factors of social life (26). It seems to be one of the consequences and social asset off springs including support from neighbors, friends, and relatives which encompasses three aspects of instrumental or concrete, tutorial, and affective assistance instrumental or concrete support stands for the existence of physical support. In this type of support, people receive help from those who are intimate or close to them.

Tutorial support encompasses the assistance to understanding of a problem or an issue. This type of support stands for the information that a person can use them in private and environmental issues. Affective filter is related to having people whom the individual can refer for sympathy and assurance. Those who enjoy enough of the affective resources typically feel they have others whom they can refer when they face problems. It seems that one of the major incentives in cyberspace and addiction to it is to gain social supports. But the kind of supports which are apparently useful and efficient from the side of the individual and they will not indeed bring about any positive effects. Yet concerning the existing thought which claims social support is obtained sooner, simpler, and fewer responsibilities through internet relation. According to the findings of HosseiniAlmadani et al. (27) after normal identity, it is perceived support by parents, family, and important people who play the most important role in predicting people addictive behavior (28). In this regard, it can also be stated that emotion and emotion regulation have always been posed in addiction (29), Addiction has been even mentioned as a mechanism to regulate emotion (30). Emotion cognitive regulation strategies are from among the most important determiners of people reactions to their own private emotions and there is a relationship between an increase in the use of maladaptive strategies and pathology, growth, and disorders permanence (31). According to Siqian, Kai, and Wen. (32), those who have poorly learnt the emotion regulation strategies may be more prone to using dangerous behaviors as instruments to relieve negative emotion (33). Findings by physiological psychologists (34, 35) show that two factors of light and biologic underpinning addiction are as follows: 1.limbic circuit which forms reward circuit and has a relationship with affection and arousal. 2. Prefrontal circuit which is responsible for preventive behaviors related to thinking, search for substances, and etc. preventer of the individual behavior in urgent situations is positive, negative, and regulator of

the individual emotions. Finally, in the field of addiction, various models and hypotheses indicating environmental, social, and biological factors have been presented. One of the hypotheses viewing the existing subject from psychiatric aspect is khantzian (36) self-medication theory. By presenting this hypothesis, khantzian have neglected other biological, cultural, and social facets of drug addiction but he also perceives it as assistance to other hypotheses. Khantzian (36) mentions that since addicted people characterize negative emotions and unrest as irritating and unbearable, they are unable to control their emotional feelings without using drugs. To reach mood stability, they take advantage of physiological and psychiatric properties of the drugs. Based on this hypothesis, addictions acts as an instrument to adjust disturbing affections. This hypothesis is based on this assumption that most of the people choose addiction due to lack of proper supports and mood regulation disruption. It is suggested that teachers influential roles must be taken in to consideration in increasing students emotional and cognitive levels in identity discovery and acquiring thought independence and attitude in education system process. Because of having direct encounters with students within effective years of life and a significant influence of students thoughts, teachers have a determining role in this route. Concerning the major role which appropriate relationship methods play in students who seek independence within their adolescence period, and at the same time they are in instable emotional conditions. It is advised to both families and Universities to adopt social and behavioral expectations which are in accordance with the students condition so that they can pass this stage of their life appropriately and successfully.

The present study is limited to nursing students in Gorgan city in 2018. In this research, self-report tools have been used, cross-sectional method; another limitation of this research is the lack of an etiology of an endogenous variable (Internet addiction) by exogenous variables (social support and alexithymia).

Conclusion

The results of this study show that necessity of the role of social support and also, the role of moderator of the alexithymia on Internet addiction by students which can provide applied methodical to advisers and trainers in order to improve the psychological state.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages and signed the informed consent; They were also assured about the confidentiality of their information; Moreover, They were allowed to leave the study whenever they wish, and if desired, the results of the research would be available to them.

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Conflict of interest

The authors have no conflict of interest to declare.

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