



Original Article

Comparison of social intelligence and prosocial personality in medical students with and without internet addiction

Majid Saffarinia¹; Parastoo Abbaspour^{2*}; Mehdi Dehestani¹

¹Associate professor of psychology, Payam-e-Nour University of Tehran, Tehran, Iran

²Ph.D. student in psychology, Kermanshah University of Medical Sciences, Kermanshah, Iran

Abstract

Introduction: Internet addiction can have a negative impact on the social and emotional function of peoples. Therefore, the present study was carried out to compare the social intelligence and prosocial personality in the medical students with and without internet addiction.

Materials and Methods: The study has a causal-comparative design. The study population included all students of Kermanshah University of Medical Sciences in 2013-2014 academic years. A random cluster sampling procedure was done and following the initial screening, 120 students with and without Internet addiction (60 persons for each group) were selected. The data collection was carried out by Yang Internet Addiction, Thet Social Intelligence, and Penner Prosocial Personality Questionnaires. The data were analyzed using descriptive statistics, multivariate analysis of variance (MANOVA) and SPSS software version 20.

Results: The results showed there is significant difference between the groups in social intelligence ($P=0.001$) and prosocial personality ($P<0.0005$). The levels of both variables were lower in the college students with internet addiction. Furthermore, there is a significant difference between the groups in terms of the ascription of responsibility ($P<0.0005$), perspective taking ($P=0.007$), mutual-concerns moral reasoning ($P=0.002$), other-oriented moral reasoning ($P=0.036$), and personal distress ($P=0.007$) subscales.

Conclusion: Due to the lower level of social intelligence and prosocial personality in the medical students with internet addiction, social and communication skills training could possibly lead to improvements in mental health of this group.

Keywords: Addiction, Internet, Personality, Social intelligence, Students

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Introduction

The dramatic progression of internet in last decade has major impact on social relations and interpersonal behavior. At the beginning internet was designed to facilitate the social interactions and research activities but the significant increase in use of it has induced harmful apply (1). The researches indicated that non-adjustment models of using internet can form a kind of addictive behavior (2). So, the rate of prevalence of internet addiction was reported 1 to 36.7% in Norway and Italy respectively (3). Since 1996, many studies conducted to assess the internet addiction and relations between over use of internet and psychosocial factors and related factors to computer. Some researches founded the

between internet addiction and psychosocial factors or personal factors such as need to emotion; enjoy experience, loneliness, depression, and personality disorders (2). Milani et al. indicated that adolescences with internet addiction have inappropriate interpersonal relations because internet supply not face-to-face relations so it decreases the anxiety induced by face-to-face relations (3,4).

The results of Kim et al. study indicate that loneliness and lack of appropriate social skills lead to obsessive behaviors in use of internet and it has negative impact on individual life (5).

Social intelligence first used by Sorendike for description of person's act and behavior. It means as skill to percept of others and intelligent behavior in relation with other people. The social intelligence is a comprehensive term that it includes the large collection of inner/ interpersonal behaviors. It concludes of components of social information processing, social knowledge and social skills (6).

*Corresponding Author: Consultancy office, Kermanshah University of Medical Sciences, Kermanshah, Iran

pabaspour@yahoo.com

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Although internet as tool for communication, find friend and enhance of social intelligence has positive impact on reduction of loneliness and depression among adolescents with poor friendship relations but the internet use without aim of communication can aggravates depression and people phobia among these adolescents (7). So, internet addiction has negative impact on people's social function and emotion (8).

It has been indicated that there is relation between schizoid personality disorder (one of its indexes is lack of appropriate social intelligence) and internet addiction. In general, individuals with these characteristics are not lovely persons in view of community and their behaviors are not prosocial (9). Bierhof believes that prosocial behavior includes of acts that excitation others assistance without any social or financial rewards and the reward is helpful person's pleasant sense (10). The researchers describe the prosocial personality as person's permanent mood for think about others welfare and rights, sympathy and worry and advantageous behavior for others that indicate through sympathy and help others (11). Some of developmental psychologists believe that prosocial tendencies such as humanism are natural and they genetically determined by a common internal mechanism among all human beings (10). These prosocial tendencies need to expression of sympathy and efforts for improve others social welfare. These positive behaviors usually do not match with characteristics of internet addiction because according to the different studies almost of internet addicts have weak self-image, loneliness, disability to making decision and overall poor mental health (12). So, this research aims to compare social intelligence and prosocial personality among medical sciences students with and without internet addiction.

Materials and Methods

The statistical community of this causative-comparative study included of all students in Kermanshah University of Medical Sciences that they educated in degrees of MS, MA and medicine during academic year of 2013-2014. Participants selected through randomized cluster sampling method among seven faculties and all of courses and degrees, so 850 students fulfilled the internet addiction questionnaire for primary screening and detection of sufficient numbers of internet addicts. The inclusion criteria included age of 18-40 years, absence of history of academic probation in the last years, and tendency to participation in this study.

The exclusion criteria included no tendency to participation and defects in response form. Due to ethical considerations, the nature of study was explained for participants and guarantee of confidentiality were given to them. After receive of written consent, 814 volunteers fulfilled the internet addiction questionnaire. Finally, 68 participants were diagnosed as internet addicts. Although 8 persons were excluded because of no tendency to continuation (they did not response to main questionnaires) so 60 students participated in this study. On the other hand, 60 students without internet addiction were selected randomly among 748 students without internet addiction in considering to sufficient samples in both genders. The reason for selection of 60 persons is matching the samples in dependent variables to increase accuracy of assessment. According to the statistical texts about behavioral sciences, 30 samples are sufficient in each group but we assessed 60 persons in each group. In the next stage, the main questionnaires were given to all participants. After necessary explains about fulfillment of questionnaires that conducted as group in one of the classrooms of faculty of medicine, the data gathered and they scored. For analysis, MANOVA test and SPSS software version 20 were applied.

Research instruments

A) Internet addiction questionnaire: This questionnaire was made by Young in 1996. It was designed in 20 items and scored in Likert method. The items were designed based on the diagnosis of pathological gambling of the last diagnostic and statistical manual for mental disorders for diagnosis of pathological gambling. According to this inventory, people divide into 3 groups: normal user (score of 20-49), the user with problems that they induced by use of internet (score of 50-79) and the user who addicts to internet and he/she needs treatment (score of 80-100). In Young et al. study, the internal consistency of this instrument reported higher than 0.92 and its retest validity was significant (13). In another study with method of factorial analysis, three factors indicated that they included withdrawal symptoms, social problems and dysfunction. These dimensions of internet addiction had positive and direct relationship to a various factors such as academic function, sex, age and use of internet (14). The validity of Young internet addiction questionnaire were reported in Sweden and Korea 0.95 and >0.90 respectively (15). Alavi et al. reported $\alpha=0.88$, validity of half=0.72 and retest=0.82 (16).

B) Social intelligence questionnaire: This

questionnaire was made by Ang Tut Tet in 2008. Its main form included 45 two-response (correct-incorrect) items that they scored as zero and one. In this test, the items 2, 3, 6, 13, 18, 29, 21, 24, 29, 37, 38, 41 and 44 were scored reversely. Based on Saffrinia et al study, internal consistency of items 5, 10, 14, 16, 17, 26, 33, 39 and 40 with total score were inappropriate so after exclusion of 9 items, the number of items decreased to 36 items. In addition, these researchers reported the reliability of this questionnaire with Cronbach, retest and half method as 0.78, 0.75 and 0.76 respectively. Its simultaneous validity with Sherink emotional intelligence was reported as 0.75 (17).

C) Prosocial personality questionnaire: This questionnaire was made by Penner. It has 30 items and 7 subscales that they are composed of ascription of responsibility (1-7 items), empathetic concern (items 9, 11, 13, 15), perspective taking (items 8, 10, 12, 16, 18), personal distress (items 14, 17, 19), mutual-concerns moral reasoning (21, 22, 24), other-oriented moral reasoning (items 20, 23, 25) and self-reported altruism (items 26-30). The scoring of the 1-25 items conducts in 5 degree

Likert scale as absolutely agree: 5, agree: 4, no idea: 3, disagree: 2, absolutely disagree: 1 and the scoring of the 26-30 items conducts as: never: 1, once time: 2, more than once time: 3, almost: 4, always: 5. Penner reported the Cronbach α for subscales as 0.65, 0.67, 0.66, 0.77, 0.64, 0.77 and 0.73 respectively (18). Saffarinia and Bajlan reported the retest reliability of this questionnaire as 0.98 and its Cronbach α as 0.79. Also its simultaneous validity with five factor personality questionnaire as 0.46 (19).

Results

The findings derivate from 120 participants (67 men and 53 women) with mean age of 22.3 years were analyzed. The mean age of internet addict group was 22.8 years and the mean age of group without internet addiction was 21.10 years. 96 persons were educating in MS. Degree, 39 persons in MA. Degree and 25 persons were studying medicine. In Table 1 the mean and standard deviation of variables were shown in according to gender.

Table 1. Social intelligence and prosocial personality among medical sciences students

Variables	Female (n=53)		Male (n=67)		Total (n=120)		F	P
	Mean	SD	Mean	SD	Mean	SD		
Total score of social intelligence	23.17	4.29	22.36	5.63	22.72	5.08	0.755	0.39
Total score of prosocial personality	96.80	9.78	94.58	11.66	95.55	10.88	1.22	0.27
Ascription of responsibility	22.89	6.20	21.34	5.97	22.02	6.10	1.91	0.17
Empathetic concern	7.97	1.77	8.06	1.64	8.02	1.70	0.01	0.76
Perspective taking	16.06	3.34	15.57	3.11	15.78	3.21	0.68	0.41
Personal distress	9.17	2	9.46	2.10	9.33	2.05	0.60	0.44
Mutual-concerns moral reasoning	11.73	2	11.86	2.31	11.80	2.17	0.10	0.75
Other-oriented moral reasoning	11.62	1.99	12.05	2.31	11.87	2.18	1.19	0.28
Self-reported altruism	17.36	3.47	16.22	4.21	16.72	3.92	2.50	0.12

According to Table 1, the results of variance analysis for comparison between men and women showed that there were no differences in the variables (social intelligence and prosocial personality) between men and women. Also there were no differences between men and women in the subscales of prosocial personality.

The mean and standard deviation of social intelligence and prosocial personality in students with and without internet addiction been presented in Table 2. Also, the mean and standard deviation of subscales of prosocial personality in students with and without internet addiction been presented in Table 3.

Table 2. The comparison of mean and standard deviation of social intelligence and prosocial personality in students with and without internet addiction

Variables	Addict		Non addict		F	P	θ^2
	Mean	SD	Mean	SD			
Social intelligence	21.27	5.35	24.17	4.36	10.58	0.001	0.08
Prosocial personality	91.27	8.85	99.85	11.09	21.94	0.0005	0.16

The result of variance analysis for comparison of mean sores between two groups showed that there are significant differences in social intelligence (F=10.58 and $\theta^2= 0.08$) and prosocial personality

(F=21.94 and $\theta^2= 0.16$). In fact, scores of both social intelligence and prosocial personality are lower among with internet addiction.

Table 3. The means and standard deviations of subscales of prosocial personality in medical sciences students with and without internet addiction

Variables	Addict		Non addict		F	P	η ²
	Mean	SD	Mean	SD			
Ascription of responsibility	19.73	4.83	24.32	6.39	19.61	0.0005	0.14
Empathetic concern	7.98	1.59	8.05	1.80	0.046	0.83	0.00
Perspective taking	15	2.79	16.57	3.43	7.55	0.007	0.06
Personal distress	9.83	2.03	8.83	1.97	7.49	0.007	0.06
Mutual- concerns moral reasoning	11.20	2.80	12.42	2.10	10.11	0.002	0.08
Other-oriented moral reasoning	11.45	2.01	12.28	2.28	4.51	0.036	0.04
Self-reported altruism	16.07	4.08	17.38	3.68	3.44	0.066	0.03

According to Table 3, there are significant differences in subscales of ascription of responsibility, perspective taking, personal distress, mutual-concerns moral reasoning and other-oriented moral reasoning between participants with and without internet addiction. It means that the scores in addict group are higher in all of above subscales exception of personal distress but there were no significant differences between two groups in the subscales of empathetic concern and self-reported altruism.

Discussion

The presented study aimed to compare social intelligence and prosocial personality among medical sciences students with and without internet addiction. The results showed that scores of both social intelligence and prosocial personality are lower in students with internet addiction. The lower scores of social intelligence among internet addict individuals indicate that they have poorer social skills, inappropriate interpersonal relationships, loneliness sense and anxiety due to face to face interaction that these findings are according to past studies (1, 3, 4, 5, 12, 20). According to this finding the results of one research showed that there is a relation between schizoid personality disorder and internet addiction that one of its marked characteristic is absence of appropriate social intelligence (9). It is probable that there is bilateral relation between internet addiction and social intelligence. In one hand, individual who avoids to social communications or he/she has not appropriate self-esteem probably avoid from active bilateral interactions. Otherwise, human has native trend to social life and avoid to loneliness so the individual with this problem experiences conflicts. In addition, sense of self-worthless and self-blame that induced by comparison of abilities with others, may convince he/she to fill the mental defects through passive and not face to face relations in cyber space. On the other hand, people who gradually increase

the use of internet according to the insensitive model as addictive behavior, the social face to face interactions has been reduced and more interpersonal relations conducted in cyberspace. These cyber relations may lead to reduction in social skills and social intelligence because the speech and language body function not involved in these relations.

There is not study that compares prosocial personality among people with and without internet addiction, but the present study indicates that the level of this type of personality is lower among students with internet addiction. It is obvious that prosocial tendencies need to expression of sympathy and efforts for improve others social welfare. In view to past finding about low levels of social skills and intelligence among these individuals, it is clear that they have not appropriate social relations and sympathy. Sympathy as one of the components of prosocial personality has an important role in social life because prosocial individuals who have high levels of sympathy, present considerable humanistic behaviors without expectation of direct and mutual reward (21). People who involved in internet addiction have inappropriate sympathy and social interactions. They don't spend time to supply others comfort and welfare. Such individuals less satisfied with life and it can reduce social welfare (12) and personality formation with low level of prosociality as its consequent.

This study had some limitations such as screening process among medical sciences students for diagnosis of internet addiction that it was a longtime and bothering process. Considering to this limitation and very low prevalence of internet addiction among student community, it suggested that future studies supply their samples among people who refer to computer units in universities or coffee-nets around the city that necessary saving conducted in money, time and personnel source. In addition it recommended that students in all universities participate in research that generalization of results

results be facilitated.

Conclusion

This research aimed to compare social intelligence and prosocial personality among medical sciences students with and without internet addiction. The results indicated that levels of both items are lower among internet addicts. Considering the lower levels of social intelligence and prosocial personality among medical students with internet addiction,

communication and social skills training may have positive impacts on the mental health in this group.

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