



## **THE STUDY ON RELATIONSHIP BETWEEN BEHAVIORAL DEPENDENCE TO COMPUTER AND INTERNET AND PSYCHOLOGICAL HEALTH**

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### *Abstract*

*The objective of this study is to investigate the relationship between behavioral dependence to the computer and the internet and psychological health. The sample is composed of all girl and boy students from high schools in Torbat-e-Jam. According to the Crazy & Morgan formula, the sample size was calculated to be 356 persons who were selected by the stage cluster sampling method. The measurements tools included: 1. General Health Questionnaire (GHQ), composed of 28 items included in 4 subtests, physical symptoms, anxiety, disorder in social performance and depression; 2. Generalized problematic internet use scale (GPIUS), composed of 29 items grouped into 7 aspects of internet problematic use, such as temper changes, social benefits, obligatory use, time consuming, seclusion, interpersonal control, negative outcomes. The data was analyzed using the Pierson correlation coefficient and its significance test. The summary of tests indicated that dependence to the computer and internet resulted in a type of isolation, seclusion, and mental engagement for students. Behavioral dependence to the internet in addition to physical disorders has a direct relationship to anxiety, social action and depression.*

**Keywords:** behavioral dependence, computer, internet, psychological health

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## **Introduction**

Our country has one of the youngest populations in the world, so that more than 50% of its 70 million people population is composed of children, adolescents and youths under 20 years of age. This young population may be deemed as a potential capital for the development of the country. Yet, if considerable attention is not paid to their health and development, the same population will be a threat for the state's future. Abnormal behaviors will have many individual and social effects for the present and future of the country. Therefore, adolescents and youths are to be considered as one of the most vulnerable social classes and despite of full potential capacities and aptitudes, they may be exposed to frequent social damages. Thus, one of the most essential duties of education is increasing the power and improvement of their future required skills for confronting the social abnormalities, complications and problems.

Due to the social changes during the two last decades that caused basic changes in the family and friends on the one hand, and extensive changes in education and training and its mode, and life style on the other hand, it may take changes in the values, beliefs and culture to affect directly and indirectly the individual's capabilities. One of these changes within recent years is the computer and the internet which has triggered wonderful mutations in all aspects. Mutation in knowledge, behavior and relationships will play a major role in the life of the adolescents and youths. The true evaluation of internet and computer use is difficult, perhaps because people report fewer hours than they spend on the internet and computer and sometimes they may forget time. Whereas the internet and the computer imply diverse activities, it seems that some aspects are more behaviorally dependent than the other (Yang, 1999). The computer and internet behavioral dependence disorder is an interdisciplinary phenomenon and different medical, computer, sociologic, law, moral and psychological sciences have studied this phenomenon, and some theories were proposed for this disorder that is a combination of concepts from several sciences. Moreover, internet and computer behavioral dependence, regardless of being deemed as a mental illness or trauma or social complication, is a chronic, epidemic and recurrent phenomenon that is similar to serious physical, financial, familial, social and psychological injuries (Griffiths, 1998). The instillation of violence and aggression, some particular cultural values, political

and other opinionative instillations are responsible for behavioral dependence to the internet and computer and thus the individual encounters a serious drop in individual and social. Orzark (1999) understood that the shy, depressed and impatient people or those who suffer from another addiction are more vulnerable to the internet as a behavioral addiction than others. The major risk of the internet for children and even adults is that the information it provides is not suitable for them in many ways. The most important risks are in connection with sex and violation. Accessing such contents may be completely accidental or deliberate. Vallas and Mangen (1979, quoted by Shamlou, 1999) explain repeatedly that damage to mental health by such programs will be irremediable in the case of children and adolescents particularly regarding issues such as sexual deviation, violation, addiction, antisocial behaviors, familial fundamentals matching, and crime propagation on a large scale. The computer and the internet is considered a risk and a threat for the traditional relations of the family and using the internet, according to the respective reports will result in familial problems, conflict and divorce. With respect to the negative aspect, it will introduce the destructive factors to the adolescents and youths, one of its major effect and consequence is addiction to computer and internet games, betting, reducing the interest in physical activities, escaping from school, presenting the new national, religious, sexual and ethnic identity, presenting imaginative and superstitious personalities, increasing the sexual and moral deviations.

Lotfi, a member of Iranian Psychology Society explains about the long-term physical and mental complications of operating the internet: one of the complications of long time computer operations is sight problems, joint and muscular complications, skin complications, stress and irritability problems. Operating the computer particularly the internet requires further time and it causes several additional problems such as pain, eye redness and sting and headache, furthermore, other physical and mental problems are reported. Triber et al. (1991) understood that hostility due to computer games has a significant relationship with hypertension in the case of children (Balard & Wist, 1996). Murphy, Alpert, Walker, and Willey (1991) concluded that hypoactive children react in hostile games like hyperactive children (Balard & Wist, 1996). The summary of Greenfield (2006) studies indicated that choosing home as the computer game playing place or preferring to be alone when playing has a reversed relationship with social skills; and playing computer games in places

where others may be present has a direct relationship with the social skills variable.

The computer and extensive influence of internet technology on the modern world caused every one to get involved in this technology. This increasing internet technology demand has provided the major mental health problems for many people and excessive and pathological use of this technology has attracted the health psychologists' interest. Addiction to the internet is discussed as a new challenge in health psychology (Stefanescu, Chele, Chirita, Chirita, & Ilinca, 2007). Today, the addiction to the internet is considered as a psychological disorder in psychology and medicine. Addiction to the internet is a problem that is observed in different societies and cultures. Propagation of this issue stimulated the researchers and specialists to peruse and survey the identification of its causes, consequences and complications (Yang & Tong, 2007). Upon reviewing the applied researches in this relation, it is observed at present, its negative aspects such as self-esteem reduction, aggression and social seclusion, seclusion and solitude, depression (Yang, 1999; Greenfield, 2006), and negative physical consequences (Murphy et al., 1991; Millett, Fish, & Thomson, 1997; Balard & Wist, 1996). Today communications trough computer and internet is a part of life's reality and its elimination would be similar to the elimination of one of the basic and vital requirements of human individual. The revolution in internet and computer technology has affected all people from different age ranges and recently schools are obliged to train another basic skill in the name of computer literacy. The students within the schools should use the computer and know how to operate it and in any job and educational level can use its information and services proportional to their interests (Omidvar & Saremi, 2002). Therefore, for the optimum use of this technology, further time is required. During recent years however, the computer and internet have replaced the television extensively and has a major role in the children's and adolescents' lives, but its impact in our country is still not extensive. Gradually this subject will create extensive changes in the social and economic life of the people but the positivity and negativity of these changes is still being discussed. In conclusion, the main question of this study is whether any relationship exists between the behavioral dependence to the internet and computer and mental health of high school students?

## **Methodology**

The present paper is a non-experimental descriptive survey and the researcher analyzes the status quo only, without any manipulation of the variables (Sarmad, Bazargan, & Hijazi, 2000). The sampling group of the study is consisted of girl and boy students of high schools in Torbat-e-Jam. Among 6546 students, 3354 persons are girls and 3192 are boys. According to the Crazy & Morgan formula, the sample size of 356 persons was calculated by the stage cluster sampling method. The measurement tools included: 1. General Health Questionnaire (GHQ), it was applied for the assessment of students' mental health. Its 28-item form includes 4 subtests: physical symptoms, anxiety, disorder in social performance and depression. Each subtest includes 7 terms; every person can obtain 5 scores from these tests. 4 scores are related to the subtests and 1 general score. The studies indicate a high reliability coefficient for this instrument. Yagubi (1995) has reported the general reliability coefficient of this test is 88% and the reliability coefficients of the subtests are between 50% - 81%. Goldberg & Mary in 1988 concluded that the validity of this test is about 80%; Generalized problematic internet use scale (GPIUS), this is a 29-item instrument which measures 7 dimensions of problematic internet use including temper changes, social benefits, obligatory use, time consuming, seclusion, interpersonal control, negative outcomes. This questionnaire's validity coefficients range from 78% to 85%. The score of each subscale is calculated separately and for obtaining the general score, the total scores of the questions may be summed. The data was analyzed using the Pierson correlation coefficient and its respective significance test.

## **Findings**

The objective of this paper was to study the relationship between behavioral dependence to the internet and computer and students' mental health; the summary of data after collection and analysis are shown in table 1.

As seen in table 1, the general health mean value has no considerable difference for boys and girls and only its depression is somewhat different; the girls have obtained higher scores than the boys.

Table 1. Descriptive indicators for the public health of girls and boys

Group \ Statistical index	Number	Mean	SD
Girl	180	7.6	4.34
Boy	170	8.3	3.93
Total	350	7.93	4.15

Table 2 shows the descriptive indices for the behavioral dependence to the computer separately for the girls and boys.

Table 2. Descriptive indicators of behavioral dependence of girls and boys to computer

Scale \ Statistical index		Number	Mean	SD
Physical disorder	Girl	180	6.78	3.98
	Boy	170	6.68	3.25
	Total	350	6.73	3.46
Anxiety	Girl	180	5.73	4.43
	Boy	170	5.73	4.43
	Total	350	5.73	4.41
Disorder in social interaction	Girl	180	9.11	4.15
	Boy	170	9.23	3.61
	Total	350	9.17	3.89
Depression	Girl	180	3.32	4.40
	Boy	170	2.34	3.48
	Total	350	2.85	4.01
Total	Girl	180	24.95	14.65
	Boy	170	23.97	12.19
	Total	350	24.43	13.51

As shown in table 2, the mean value of dependence to the computer for boys is 8.3 and for the girls is 7.6.

Table 3 indicates the coefficient of correlation between the internet behavioral dependence and general health variables.

Table 3. Correlation between behavioral dependence to computers and the Internet with mental health

Variables	Row	Correlation coefficient	Degrees of freedom	Average difference
Behavioral dependence to the Internet and public health		0.56	349	0
Internet dependency and behavioral health disorders		0.46	349	0
Internet behavioral dependence and anxiety Disorder		0.54	349	0
Internet dependency and behavioral impairments in social interaction		0.38	349	0
Internet behavioral dependence and depression		0.51	349	0
Behavioral and psychological dependence on computers		0.17	349	0.040
Behavioral dependence to computer and physical Disorder		0.146	349	0.074
Behavioral dependence to computers and Anxiety Disorder		0.203	349	0.013
Behavioral dependence to computers and impaired social interaction		0.127	349	0.121
Behavioral dependence to computers and depressive disorder		0.87	349	0.287

According to the calculated correlation coefficient equal to .56 for the alpha level of .01 we may reject the null hypothesis and conclude that a reversed and negative relationship exists between the internet behavioral dependence and mental health. A coefficient of correlation equal to .46 is significant for the alpha level of .01 and accordingly a significant relationship exists between the internet behavioral dependence and physical disorders of students. The calculated correlation coefficient equal to .54 is significant for an alpha level of .01 and therefore a significant relationship exists between the internet behavioral dependence and anxiety of students. A correlation coefficient equal to .38 is significant for an alpha level of .01 and we conclude that a significant relationship exists between the internet behavioral dependence and disorder in students' social actions. A coefficient of correlation equal to .51

is significant for the alpha level of .01 and indicates a significant relationship between the internet behavioral dependence and students' depression. A coefficient of correlation equal to .17 is significant for an alpha level of .05 and indicates the direct and positive relationship between the computer behavioral dependence and high scores in general health. A correlation coefficient of .146 is not significant for an alpha level of .05 and accordingly may not indicate any relationship between the computer behavioral dependence and physical disorder. A coefficient of correlation equal to .203 is significant for the alpha level of .05 and accordingly indicates a positive and direct relationship between the computer behavioral dependence and anxiety disorder. A correlation coefficient of .127 is not significant for an alpha level of .01 and accordingly a positive and direct relationship does not exist between the computer behavioral dependence and social action disorder. Finally, the coefficient of correlation equal to .87 is significant for the alpha level of .01 and accordingly indicates the positive and direct relationship between the computer behavioral dependence and depression disorder.

### **Conclusions**

In the contemporary world, the advance of science is not only beneficial for life, but has also changed the rules applicable for the interaction between the humans and their outlook towards themselves, others and the world. The world of the adolescents and youths has not been relieved from such a variation.

One of the effects of these variations is changing the type of entertainment and leisure; its most frequent forms are the use of internet and computer games. Due to this phenomenon, curious and worried views of many researchers have emerged. These scientists have begun to explore the effects and outcomes of computer and internet use. Behavioral dependence to the computer and internet is considered a social problem for adolescents and youths all over the world. Many of the researchers deem the dependence to the computer and internet as a type of behavioral addiction that leads to a type of isolation, seclusion and mental engagement in the case of school students. The results of this study are in accordance to the findings of Young (1999). It was shown that behavioral dependence to the internet is linked to physical disorders; also our other results are in accordance with researches done by Young (1999). The internet behavioral dependence in addition to physical



disorders has direct and positive relationships to anxiety, social action and depression. Our conclusions are in compliance with the studies realized by Fung (2002), Morgan (1999), Davis (2001), Kim, Yang, and Choi (2002), Li and Chung (2006), and Yang and Tung (2007) that indicate the extensive effect of the internet on mental health. As a result, although the internet is an integral part of social, political, educational, economic and familial institutions and it has positive and undeniable performances, it also has negative outcomes for mental, behavioral and physical health. Therefore, the adolescents and youths that feel solitude and anxiety and have no sufficient self-reliance and incomplete and defective social action will refuge to the internet and computer. This may lead to mental problems as well as to physical problems (due to the long term use of the internet and computer); thus a vicious cycle is kept ongoing. For reducing the negative outcomes of computer and internet use, specialist can conducts formal informational sessions for adolescents and youths regarding self-expression and also for raising their awareness to the internet and computer dangers.

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