



Original Article

## The effect of addiction to mobile messenger software and mental health among physical education students

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### Abstract

**Introduction:** The objective of the present study is to the effect of addiction to mobile messenger software on mental health among physical education university students of Torbat-e-Heydarieh city.

**Materials and Methods:** The statistical population of this descriptive-correlational study included all physical education university students of Torbat-e-Heydarieh city. 169 students out of 302 were chosen as the sample of study, for which stratified sampling method was applied. In order to collect data, Goldberg general health questionnaire and addiction to mobile messenger software inventory were used. Data were analyzed using descriptive and illative statistics.

**Results:** The research findings showed that there is a statistically significant relationship between addiction to mobile messenger software's and mental health among the students of physical education ( $P < 0.05$ ). Moreover, addiction to mobile messenger software was not different statistically among men and women.

**Conclusion:** Based on the results it seems that the students who spend more time on mobile messenger software, are predisposed for mental problems more than the others.

**Keywords:** Internet addiction, Mental health, Messenger software

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### Introduction

In every society, consideration of the physical, mental, social and cultural health and the provision of the needed ground for a dynamic and healthy life ensure the health of community for the future years to come (1). Students as the spiritual resources of society and the future of the country are the talents, creativity and perseverance sources. Their academic achievement and their successful life depend on mental health in all aspects of the learning

environment. Meanwhile, considering that entering different levels of education and continuing education at that time is very sensitive in their lives and the lack of familiarity of students with the new environment (in the case of non-native students), distance from the family and, in principle, settlement in a hostile environment. In cases, lack of interest in the field of study, inconsistency with other people in the educational setting, dormitory and the lack of

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facilities, educational problems and mental attitudes towards the future of the job are among the following which can cause mental illness and problems (2). For this reason, mental health of students is critical. In definition of Kaplan and Sadock, mental health is a form of well-being that can easily function within their community and personal development and personal satisfaction is satisfactory (3). Ventize believes the mental health depends on the following seven criteria: 1. Proper social behavior; 2. Liberation from worry and sin; 3. Lack of mental illness; 4. Individual adequacy and self-control; 5. Self-efficacy and self-actualization; 6. Self-reliance and personality organization 7. Openness and flexibility (4,5).

Mental health has dimensions of depression, anxiety and social functioning disorder (6,7). About 450 million people worldwide are suffering from mental, neurotic and behavioral problems around the world, and mental disorders account for just over 1% of deaths. 11 percent of the total burden of the patients in the world is responsible for the same factors. By 2020, mental and neuropsychiatric disorders are projected to increase by about 50 percent, accounting for about 15 percent of the global burden of diseases, which will increase the relative share, even more than the increase in cardiovascular disease (8). A recent WHO report shows that mental disorders account for 10 percent of the adult population. The results of the study, Feltcher et al., Showed that 20% of the Australian population experienced mental health every year, and 24.9% of them had mental disorders and disabilities (9,10).

The mental health of people is affected by several factors (11). One of these factors affects people's mental health is the Internet and mobile messaging software. With the growth of information and communication technology over the past two decades, the Internet has become an integral part of everyday life. The number of global Internet users by the end of 2014 was almost 2.5 billion (10). Studies in 25 European countries showed that 93% of people are 9 to 16 years of age per week and 60% of them are online each day (12). The unimaginable grip of these software which provides quick connectivity to users, has led to a new phenomenon called "addicting to mobile messaging software" Internet addiction, although not recognized as a disorder yet, has already been considered as a behavioral problem due to the negative effects of teenagers

and young people in recent decades (13-18). Internet addiction and these software are defined by phrases such as disruptions caused by excessive use of the Internet and mobile messaging software, or use of irrational and illicit use of them (19). According to studies, daily use of more than 3 hours of Internet is considered an Internet addiction disorder (20, 21). Goldberg first introduced the Internet addiction and recorded its criteria. Internet addiction with this software creates a kind of behavioral dependence on them that is determined by the following features: The increasing cost of the Internet and its related issues, feeling of unpleasant excitement (such as anxiety, depression) when a person is not in touch with the Internet, being able to endure the effects on the Internet, and deny troublesome behaviors. Internet addiction disorder is considered as a tension disorder or impulse control such as gambling, and those who seek this criterion find psychological, social, and occupational problems (4,19).

The results of Jorgenson et al. (22) research showed that the amount of online adolescents and young people on the Internet is increasing. Though the Internet has advantages, but overuse is a danger for them. One of the symptoms of this anxiety is intolerance and adverse consequences. Also, Internet addiction is strongly linked to depression, overactive disorder, lack of attention, drug use and other disorders. The results of Ling et al. (23) research showed that in adolescent boys, depression can be significantly predicted using Internet addiction. The same results can be found in girls' teens. Lawrence (20) found that there was a positive and significant relationship between mental health of parents, especially the depression component with Internet addiction and their affiliated software. Another result of this study showed a positive relationship between parents' depression and depression of children. The results of Karma and Almasi (25) showed that students were able to form and manage the Viber program group moderately and evaluated the multi-media capability and ease of installation and implementation. Students also considered the status of WhatsApp attractiveness to be weak, but other status evaluated as desirable. The research results of Khosravi and Sahraei (26), Chou and Lee (27), Ranjbar et al. (28), Naziziye (19), Sajjadian (29) and Nadi and Moradian et al. (30), confirmed in this regard with the many

facilities and facilities that the public media, including the Internet and cyberspace, especially the mobile messaging program, provide students with, they are constantly acquainted with new stimuli and different types of behavior (31). From the implications of these stimuli can be to changing the students' lifestyles in order to spend their time in these programs, to change the type of communication with friends and family, to avoid important activities of their lives, to influence mental health and other problems.

These consequences may lead to problems in other areas such as increasing student suicide, drug addiction, depression, anxiety and even annual income in the country. At the same time, among the Internet users, students and academics are among the most important ones. Because students, beyond access to information and entertainment, are able to connect with the professors and students of other universities both internally and externally through the Internet. Considering the importance of the above issues and the importance of mobile messaging software in today's society and its effects, it is necessary to carry out the present research. Therefore, this research attempts to examine the effect of addiction to mobile messaging software on the mental health of nursing students in Torbat-e-Heydariyeh.

### Materials and Methods

This research is a descriptive-correlational study. The statistical population of this study was educated students of the universities of Torbat-e-Heydariyeh in the academic year 2015- 2016. Based on the latest statistics and data published by the universities of Torbat-e-Heydariyeh, they were 302 (123 women, 173 men). This study was carried out after approval by the research committee of the Payam-e-Noor and Azad University of Torbat-e-Haydariyah. In order to observe the ethics of research and the rights of subjects, while explicitly declaring voluntariness to the company, it was verbally and in writing that the requested information in the questionnaires was for research purposes only. A random stratified sampling method was used to select the sample of the representative of the society, proportional to the size of the statistical population (stratified sampling method). Based on this method, a sample was selected from each university and the number of students proportional to gender, so that more boys' students had more samples than the

sample size of the study. In other words, in this method, in addition to the fact that the number of standard classes is equal to the number of classes of society, the ratio of each class in the society is exactly the same as that of the same class in the sample. Since 59.18% of the statistical population was boys and 40.22% were girls, 100 male students and 69 female students were selected in both groups. Thus, 169 trainee students from the universities of Torbat-e-heydariyeh were selected using Cochran formula and Morgan table. Among the universities of Torbat-e-Haydariyah, two universities were selected: Payam-e-Noor and Azad.

### Research instruments

A) *The questionnaire of addiction to mobile email software:* This is a researcher-made questionnaire. Based on previous researches and abundance, the most important components in these researches as well as the most logical components were designed and for the first time in the research of Zareezadeh and Salehinia (31) have been used. This tool measures the addiction of mobile messaging software in the most widely used mobile messaging software in Iran, namely Telegram, Line, Instagram and Whatsapp. This questionnaire consists of three parts: the first part is descriptive and contains 4 questions (including the amount of using each software the importance of software in life, its daily use, and the history of its use). The method of scoring this part was from one to five; therefore, the minimum and maximum score for the questions in this section is from 5 to 20. The second part of the questionnaire is the subscale of mobile phone messaging software. This subscale has 17 questions which is measured with a five-degree Lickert spectrum (never = 0, rarely= 1, sometimes= 2, often= 3, and always= 4). The minimum score in this subscale is 0 and maximum 68. The third part is the subscale of the attitude towards mobile messaging software, which has 5 positions with a five-syllable Lickert scale (I totally disagree= 0, somewhat disagree = 1, neither agree nor disagree= 2, somewhat agree = 3, and strongly agree= 4). Accordingly, and considering that this subscale is not reversed, the minimum score in this subscale is 0 and maximum is 20. By increasing the score in this subscale, the attitude to the mobile messaging software increases. The items in this section of the questionnaire measure the students' attitude toward the role of mobile messaging software

in social life, the elimination of this software in social life and the importance of this software in social life. The validity of this questionnaire, while confirmed in the research of Zarezadeh and Salehinia, was obtained through a review of experts' opinion. Thus, the determination of formal validity in a 4-person specialist panel with the presence of expert professors was carried out to find the level of difficulty, the degree of inappropriateness, the ambiguity of the expressions, or the lack of words in the meanings of the words; their comments were subjected to minor changes in the questionnaire. Also, to examine the content validity, a sample of the questionnaires was presented to several faculty members and they were asked to examine their content in evaluating content validity, especially grammar, using proper words, placing the questions in the right place, The time required to complete the questionnaire and the need for unnecessary questions. So, after collecting the comments, a final panel was drawn up in a 4-person panel. The reliability of this questionnaire has been confirmed in Zarezadeh and Thus, the reliability of each subscale of subscales of mobile messaging softwares (0.886) and attitude toward mobile messaging softwares were 0.632 and the total questionnaire was 68.88. To determine the reliability of the questionnaire, 30 questionnaires were distributed among the tertiary education students of the city of Torbat-e-Heydariyeh. Then, after collecting data using Cronbach's alpha coefficient, the reliability of the questionnaire was calculated. The reliability of each subscale of subscales of mobile e-mail software (0.812) and attitude to software the mobile messenger was 0.731 and the total questionnaire was 0.86.

*B) Goldberg Mental Health Questionnaire (GHQ-28):* This questionnaire was first presented by Goldberg and Hiller in 1972. The 28-item form of this questionnaire has been used in Iranian studies and its validity and reliability have been proven. The questionnaire consisted of 28 items, four sub-scales (physical symptoms, anxiety and sleep symptoms, social function symptoms and depressive symptoms) and based on Lickert scale (1 - 2 - 3 - 4), and the total score Each person will vary from 28 to 112. Of the 28 items in the questionnaire, items 1 through 7 are related to the scale of physical symptoms. Items 8 to 14 examine the symptoms of anxiety and sleep disorders, and items 15 to 21 are related to the assessment of

signs of social function and also 22 to 28 cases of depression symptoms. It is also necessary to explain that the low score in this questionnaire is a sign of high mental health and high score of the sign of mental health is low. Goldberg and Williams, the integrity of the 95% reported the internal consistency of the general health questionnaire using Cronbach's alpha of 90% (33). Kneset's Cronbach's alpha coefficient obtained a general health questionnaire of 93.0, and Doubt (35) reported Cronbach's alpha of 0.88 on 2150 students. Taghavi (29) tested the reliability of the test for 3 to 4 weeks for the whole questionnaire 0.72, 0.66 for the syndrome, 0.68 for the anxiety syndrome, 0.58 for the social function disorder syndrome and 0.58 for the depression syndrome Brought up. In this study, reliability of the questionnaire was 0.86 with Cronbach's alpha. Also, Cronbach's alpha coefficient for mental health subscales was respectively 0.74, physical anxiety, 0.79, anxiety symptoms, 0.79; social functional symptoms, 0.85 and depression, 0.85. Data were collected using field study method (questionnaire).

After collecting questionnaires, they distributed them among the students' Payam-e-Noor and Free universities of Torbat-e-Heydariyeh, and after completing them, they gathered. Examples include assurances given to the subjects about the confidentiality of the information and the freedom to participate in the research, which is a respected ethics of research, was said. Descriptive statistics and inferential statistics (t single sample, Pearson test, Regression test, Kolmogorov-Smirnov test) were used to analyze the data.

## Results

The descriptive analyzes of the demographic characteristics of tertiary education students in the universities of Torbat-e-Haydiriyah indicate that 59.1% of the students were male and 40.82% were female students. The 83.11% percent of the entries for the academic year are 2012, 2013, 24.26%, 2013, 2014, 37.28 percent, 2014, 2015, and 63.66%, respectively. The entries are 2015, 2016. The Kolmogorov-Smirnov test was used before and after the statistical tests and because of the foregoing use or non-use of parametric tests. Accordingly, the tools used in this study were studied. The results showed that the status of mental health distribution and its components as well as

addiction to mobile messaging software and attitude toward mobile messaging software is normal and its significance level the samples are more than 0.05 and parametric tests have been used. The results showed that 72% of students were using Watts up and Telegram software, 2.5% of Viber and Line software, 15.5% of Instagram, 1.4% of other programs and 6.8% do not use any of the messenger apps. 1.1% of the students considered these software applications very important in life, 21.8%, 61.4%, neither significant nor insignificant, 6.8% unnecessary nor 1.7% it was important.

Also, 64.3% of them acknowledged that they ran from one to three times a day, 20% 4 to 6 times, 12.9% 7 to 12 times, and 2.9% more than 12 times or were always online. 45.7 percent of students used less than one year, 44.1 percent from one to two years, 7.5 percent from 2 to 3 years, and 1.7 percent over 3 years old. Also, the results of addiction and attitude toward mobile e-mail software in students with criterion score 3 showed that addiction to

mobile messaging software (1.98) was significant at 99% confidence level, however the attitude to mobile messaging software (2.93) was not meaningful. Also, the results related to the status of addiction to mobile application softwares in students with criterion score 3 showed that the addiction to mobile messaging software with a mean (98.1) was significant at 99% confidence level, but the attitude to the software Mobile media player with average (2.93) was not significant at 95% confidence level. The mental health status and its components in the tertiary education students of Torbat-e-Haydariyah universities are reflected in Table 1. Findings show that the average dimensions of physical symptoms, anxiety and sleep symptoms, social function symptoms and depression symptoms were 1.80, 1.86, 1.93, 1.58 and 1.79, respectively. These findings were significant at 99% level. These findings indicate that students are considered to be relatively good mental health according to the criterion score.

**Table 1.** The results of mental health of students and their dimensions according to the criterion score

Variables	Mean	Standard deviation	Criterion score	t	Sig	Desirability
Physical symptoms	1.80	0.335	2.5	-17.498	**0.000	Fairly favorable
Insomnia and anxiety signs	1.86	0.60	2.5	-8.88	**0.000	Fairly favorable
Symptoms of social function	1.93	0.47	2.5	-10.002	**0.000	Fairly favorable
Symptoms of depression	1.58	0.674	2.5	-11.411	**0.000	Fairly favorable
Mental health (total)	1.79	0.43	2.5	-13.69	**0.000	Fairly favorable

The status of the relationship between addiction to mobile e-mail software and mental health of Teacher Training Students in Table 2 is presented. The findings show that there is a positive and significant relationship between the addictive variable of mobile messaging software and student's mental health ( $P < 0.001$ ). This analysis shows that the more addiction to mobile messaging software is, the higher the mental health disorder.

Also, the analysis of the findings showed that the addiction to mobile phone software with components of physical symptoms (0.238), anxiety and sleep deprivation (0.333) and

depression symptoms (0.228) it has a meaningful meaning, but there is no meaningful relationship with the components of the symptoms of social function. Other findings of Table 2 show a positive and weak correlation between physical symptoms (0.884), anxiety and sleep disorders (0.180), social function symptoms (0.001), depression symptoms (0.117) and health Psychology (0.124) is related to students' tendency to mobile messaging software. These findings were not significant at 95% confidence level.

**Table 2.** The results of the relationship between the addiction to the mobile e-mail software and its mental health and its dimensions

Variables	Physical symptoms	Insomnia and anxiety signs	Symptoms of social function	Symptoms of depression	Mental health (total)
Addiction to messenger software	0.238	0.333**	0.130	0.282*	0.308**
Attitude to message software	0.84	0.180	-0.001	0.117	0.124
The correlation is meaningful at the 99% level.**			The correlation is meaningful at the 95% level*		

The status of predictive mental health and its dimensions among the students of tertiary education based on the addiction to mobile messaging software is reflected in Table 3. Based on the data from Table 3, it can be said that the addictive variable in mobile messaging software has been 5.7%, 11.1%, 1.7%, 7.9%, 9.5% of the variance in the dimensions of physical symptoms, symptoms Anxiety and sleep disorders, signs of social function,

depression symptoms, and mental health. These findings were significant at 99% confidence level. Also, the attitude variable to mobile messaging software could be 0.7, 3.2, 0.0001, 1.4, 1.5% of the variance of physical symptoms dimensions, anxiety and sleep symptoms, social function symptoms, depression symptoms Mental health is anticipated. These findings were not significant at 95% confidence level.

**Table 3.** Results of prediction of mental health and its dimensions based on addiction to mobile e-mail software and the attitude to message-based software

Name of variable	Subscales	R	R2	Std. Error	B	Beta	T	F	Sig
Physical symptoms	addiction	0.238	0.057	0.508	0.138	0.088	0.639	2.32	0.000**
	Attitude	0.084	0.007	0.299	-0.088	-0.042	-0.294	0.487	0.770
Insomnia and anxiety signs	addiction	0.333	0.111	0.505	0.287	0.328	1.45	2.86	0.000**
	Attitude	0.180	0.032	0.301	0.363	0.313	1.209	2.285	0.231
Symptoms of social function	addiction	0.130	0.017	0.509	-0.130	-0.117	-0.733	3.19	0.000**
	Attitude	-0.001	0.000001	0.248	-0.201	0.137	-0.808	0.000	0.422
Symptoms of depression	addiction	0.282	0.079	0.508	0.220	0.282	2.43	5.89	0.000**
	Attitude	0.117	0.014	0.282	-0.045	-0.044	-0.16	0.937	0.874
Mental health (total)	addiction	0.308	0.095	0.525	0.165	0.201	3.67	4.11	0.000**
	Attitude	0.124	0.015	0.533	-0.518	-0.321	-0.971	1.07	0.335

Findings of other research showed that addiction to mobile phone software applications between male and female students was not significant at 95% confidence level (average of men was 2.20, women were 2.19, F= 0.204, t=0.092). Also, the descriptive findings of the students' comments based on the gender variable on mental health and its dimensions showed a significant difference in

Table 4. The data presented in Table 4 indicates that there is no significant difference between male and female students about mental health and the components of physical symptoms, anxiety symptoms and unemployment symptoms, depression symptoms. However, in terms of male and female students, there is a significant difference in the symptoms of social function.

**Table 4.** The results of student opinions based on the gender variable on mental health and its dimensions

Variables	Average Men	Average women	t	F	Sig
Physical symptoms	1.81	1.78	0.455	0.175	0.677
Insomnia and anxiety signs	1.76	1.97	-1.46	3.77	0.056
Symptoms of social function	1.83	2.03	-1.79	4.95	0.029*
Symptoms of depression	1.48	1.67	-1.17	0.002	0.247
Mental health (total)	1.72	1.86	-1.36	2.08	0.154

## Discussion

The World Health Organization considers mental health as part of public health. In new health approaches, the health benchmark of people in a community would not be evaluated solely on the basis of economic growth in countries. Instead, internal satisfaction, respect for human rights, the enjoyment of basic human needs and the mental security of the population are among the basic components of a healthy society. Since adolescents and youth and security in each society play a pivotal role in society in terms of their high abilities, motivation and mobility, and also in view of the young population structure of the country, paying attention to the health of this great social group, especially Students are of secondary importance. Moradian et al., concluded that studying at the university, confronting academic problems, and the conditions in the university would cause more mental illness in students (30). These results indicate the importance of student mental health. The purpose of this study was to investigate the effect of addiction to mobile messaging software and mental health of nursing students of Torbat-e-Heydarieh universities. The results showed that the addiction to the mobile messaging software of the students is relatively favorable. In explaining these results, we can say that tertiary education students have relatively small addiction software. Although these statistics vary in terms of the prevalence of the Internet and mobile messaging programs in different societies, on average, about 5 to 10 percent of Internet users experience Internet addiction problems. These results are consistent with the results of Khosravi and Saharey, Ranjbar et al., and Chu and Lee's research. One of the possible reasons for this can be that nurturing students can instead take the time to spend on these softwares to compete

athletics and / or sports that they do during the school year. And this will lead to spending less time on this software. Although the number of people who own these phones is increasing day by day, the number of people who use these softwares is increasing. The results of research conducted in the United States showed that the use of the Internet and these softwares among young people is more than any other age group.

In this regard, Jorgensen et al.'s research results showed that the rate of adolescent and young people's online access is increasing. This increase in online availability may cause psychological or behavioral symptoms such as sleep disorders and social deprivation. Addiction to these softwares has led to an increase in mood swings, not talking to others, and the high use of it leads to less communication with all those with whom they were more involved. The addiction to these software and online conversations turns students into abandoned and abandoned people and affects their social relationships. Students may not be able to learn most of the classroom and arrive on time in class if they are used too much. For other possible reasons, it can cost a lot to pay. The use of mobile messaging software will cost a lot of financial and financial implications. The two cost factors involved are: 1. Capital costs and 2. Operating costs such as network access and equipment maintenance. For example, downloading a movie or photo requires a sufficient amount of Internet, which will cost a lot. Other results of the study showed that the mental health status and its dimensions among the trainee students of Torbat-e-Heydarieh universities are in a relatively good level. These results are in line with the results of research by Ling et al., Karami and Almasi, Moradian et al., Ranjbar et al., and Nastizaie. In explaining these results, it can be said that physical education students

have maintained their mental health in a good condition by exercising. It seems that exercising causes people to relax in terms of symptoms of anxiety, depression, mood, and reactions from mental stress, and exercise improves mood and mental health and increases self-esteem and self-esteem. Students can also exercise happiness, vitality and self-esteem by exercising, because people who are depressed do not have self-esteem, or that their level of self-esteem is very low. The results of Kavooos and Ibrahim's (37) research can be cited in this regard. In their research, they found that Internet addicts are significantly lower self-esteem than those who do not use the Internet or use it as usual (19).

Cooper also argued that physical exercise would increase mental health. Exercise has led to a significant reduction in grief, increased self-esteem, a sense of success, and increased individual creativity. When people feel worried and anxious, they should be busy with work, because generally people's minds cannot think for a moment at a time. Meanwhile, the more fun and entertaining the activity is, the more effective it will be. Hence, students with exercise can be more comfortable and calm in the face of anxiety conditions (2,8,11).

The results of this study showed that there is a meaningful relationship between addiction to mobile messaging software and mental health. These results are consistent with the results of research by Jorgensen et al., Moradian et al., Khosravi and Sahraei, Ranjbar et al, Nasatzai, Nadi and Sajjadian, and Chu and Lee. In explaining these results the more addiction to these software products the greater the mental health problems of students.

The reason for this issue may be explained that some students send their work or assignments to their friends (their classmates) to form groups in the software or connect to the Internet to make an Internet connection to their friends. This makes it easy for students to take a lot of time in these software programs and pay little attention to their mental health simply because they download and view files or make calls, which makes the problems Abnormalities such as decreasing physical and social activities, reducing sleep or changing sleep patterns and awakening, and lack of adequate nutrition and time food changes will be provided that these changes will lead to inappropriate and unhealthy behaviors (no control of anger, frustration and diminished desire for face-to-

face relationships and increased sense of loneliness) affect the individual.

Some studies also reported similar findings and stated that the overall mental health of users addicted to these software are more at risk than normal users. One of the other reasons may be the attractiveness of these software and the amount of time spent by students, because as students spend a lot of their time on these software applications, they will see irreparable damage. These results have been confirmed and approved by Lawrence, Karami, and Almassi, Khosravi and Sahara, Chu and Lee, Yang. Addiction to this software can provide a foundation for the destruction of health of relationships and emotions. Symptoms of addiction to these software programs among students can include: Excessive fatigue, falling scores, denial of the seriousness of the problem, the premise that they are members of the educational channels, learn the content of instruction, conditional during the course of study, loneliness, prevalence of lying, Time wasting, lack of interactions in school, damage to the emotional, professional and social status, restlessness and triumph. In their research, Yang found that 58 percent of students suffered a severe decline in their habits when they used a lot of Internet and software applications, and their scores decreased considerably and the number of student absenteeism increased (24).

Among other results, there was a significant relationship between physical symptoms and addiction to mobile messaging software. These results are consistent with the results of Jorgensen et al., Moradian et al., Khosravi and Sahraei. The results of this research showed that there is a meaningful relationship between addiction to mobile e-mail software and physical symptoms of students. In explaining these results the more addiction to these software products, the greater the disruption of students' physical symptoms. Hence, addiction to software can cause problems such as vision, hearing, headache and other problems. Hakala et al. found that long-term use of handsets may cause lower back pain, neck and shoulders, and hearing and vision problems (35). Recent studies have shown that prolonged use of cell phones may lead to brain tumors (36).

Also, the results of the study showed that there is a significant relationship between the components of anxiety symptoms and unemployment with addiction to mobile messaging software. These results are

consistent with the results of the researches by Jorgen's et al., Moradian et al. and Nastizaie. In explaining these results, it can be said that students are more addicted to these software, their mental anxiety and their anxiety will be more. So when they do not have access to the Internet they become uninterrupted, worried and anxious. Some people go to these softwares to escape loneliness, anxiety, and low self-esteem, if they lead to more and more of these disorders. The results of Wang et al.'s research can be verified in this regard (18). The results of the research showed that when Internet addicts are worried or sad, they are quadrupled and when they are depressed, they are twice as likely to go to the Internet as non-addicts, which indicate that they escape from the reality and they want to use the Internet. As well as spending more time on mobile messaging devices, their anxiety will increase (29). The results of other studies by Cao et al and Yen et al showed that the level of anxiety, depression, suicidal thoughts, pre-anxiety, panic, social phobia, aggression and violence, and antisocial behaviors in students who are addicted to the Internet are more than other students.

From other results, there is a significant relationship between depression symptoms and addiction to mobile messaging software. These results are consistent with the results of research by Ling et al., Lawrence, Khosravi and Sahraei, Nastizaie, Sajjadian and Nadi. The results of this research showed that there is a significant relationship between addiction to the Internet and depression. In explaining these results, it can be said that the more addiction to these software products is, the more affiliated with these software, and as a result, students are depressed. Depression is a common phenomenon in adolescents who are increasingly using the technology tool. Since nursing students often practice athletics, so addiction to this software cannot be the main reason for this depression. Perhaps other factors, such as family and social problems, work problems, etc., may affect their depression, which requires more studies. Though researchers believe the use of the Internet and these software tools to reduce negative emotions, release stress, loneliness, depression and anxiety, in other words, excessive use of this software is a way to release negative emotions.

Other results of the study showed that a very low percentage of mental health and its

dimensions can be predicted through the addiction to mobile software. The variable of addiction to mobile messaging software has been 5.7%, 11.1%, 1.7%, 7.9%, and 9.5% of variance in the dimensions of physical symptoms, anxiety and sleep symptoms, and signs of social function, depression symptoms, and Predict mental health. In this regard, the anxiety component has a higher predictive value than other aspects of mental health. These results are consistent with the results of research by Ling et al., Khosravi and Sahraei, Chu and Lee.

The results of these studies showed that through Internet addiction and software applications, one can predict the percentage of mental health and its dimensions. Anxiety and fear are the greatest enemies that human beings have to face. Anxious people are afraid of what others think about them, and especially fear others. Though Freud made anxiety an important part of his personality theory, he stated that anxiety is essential for the development of neuroticism and psychosis. Also, the attitude variable to mobile messaging software was 0.7, 3.2, 0.0001, 1.4, 1.5% of the variance of physical symptoms dimensions, anxiety and sleep deprivation symptoms, social function symptoms; depression symptoms mental health is anticipated.

According to the percentages presented, the attitude to the mobile messaging application software has not been able to predict mental health and its dimensions. the other results were that there was no significant difference between the views of female and male students regarding the addiction to mobile messaging software. In the explanation, it can be said that male and female students use a fair amount of these software. These results are consistent with the results of research by Ling et al., Karami and Diamond. The results of these researches showed that there is no significant difference between male and female students compared to mobile messaging software. However, the results of this study are not consistent with the results of the research of nastizaie, Because of the probable reasons for the inconsistency, it can be the chosen sample in the research, as in non-staining research, students of all disciplines are considered, while in this research only the students of the field of discipline were selected as samples. Students from other disciplines may have more use of these soft wares because they have more

theoretical lessons in their field of study. Also, the results showed that mental health and physical components, anxiety and depression were not significantly different among male and female students of Torbate-Heidariyeh universities. However, there is a significant difference between the components of social function symptoms among girls and boys. Since average female students are more likely than male students, they are therefore more socially impaired. These results are consistent with the results of Mirzaeian et al., Sajjadiyan and Nadi. The results of these studies indicated the relationship between the Internet and mobile messaging programs with the component of social function symptoms. The more people spend more time on the use of the Internet, the more their family relationships and their social life cycles (relationships with friends and colleagues) decrease. Perhaps this is because girls are more sensitive than boys to express their beliefs and fear insults and insults from friends, relatives and family in real space. This will make it easier to communicate in cyberspace on communications in real space. Another possible factor could be that girls feel more freedom in cyberspace and they can share their own words and ideas in cyberspace, and they will understand the opinions of others about the files they share, or comment on the ideas of others. Students with good mental health can usually cope with ever-increasing incidents and daily problems, and achieve the goals they choose during their studies and have an effective performance in their classroom and academic activities.

Their mental health, in fact, provides the context for the development of intellectual and communication skills, and stimulates emotional growth, flexibility and self-esteem. Another benefit of good mental health for students having good relationships with their classmates, being able to adapt to environmental changes and confronting problems during the course of study and carrying out appropriate and productive activities. Yang argues that Internet addiction impairs personal adaptive performance. If someone becomes addicted to the Internet, his actions become inappropriate (19). The most important limitation of this study was the lack of completion of questionnaires by some of the participants. In the end, according to the results of the research, it is suggested that:

1) the proper use of these software by science and education in families, schools and universities should be told to the younger generation, especially the students, and to them with physical dangers Behavioral, ethical, and inappropriate, unnecessary and unnecessary uses, and strengthen the values, ethics, and self-control and self-safety foundations. 2) Universities will inform students through mass media, brochures, meetings in the form of group counseling sessions, and the establishment of workshops and panels in relation to the phenomenon of addiction to mobile software and its negative effects. . 3) To reduce the negative effects of this software, measures to increase critical thinking in students with a cognitive and personality aspect are considered by the universities.

### Conclusion

The results of this study showed that the status of addiction to mobile e-mail software and students' mental health and its dimensions are relatively favorable among students. The other results of this study showed that there was a significant relationship between addiction to mobile software messengers and mental health of students, and the anxiety component was more relevant than other components. In general, the results of this study showed that as more students spend a lot of time on mobile messaging devices so their mental health, will be more at risk. This addiction may cause students to become obese, immerse, learn more slowly in their educational processes, refrain from attending classrooms, and develop specific mental and physical dilemmas. When prevented, mental health may face new challenges and challenges.

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## References

1. Youssef F, Mohammad-Khan D. [A survey of mental health in students of Kurdistan University of Medical Sciences and its relation to age, sex and their academic field]. *Journal of Medical Sciences University of Mashhad* 2013; 56(6): 354-61. (Persian)
2. Hosieni SH, Kazemi SH, Shahbaznezhad L. [Examine the relationship between exercise and mental health among college students]. *Journal of medical sciences* 2006; 15(53): 104-97. (Persian)
3. Hashemi Nazari S. [Investigation of mental health among fire stations' staff]. *Hakim* 2007; 10(2): 56-64. (Persian)
4. Solaimanmigoone S. [Examine mental health status of Allameh Tabatabai University, Faculty of Social Sciences students]. MS. Dissertation. Tehran: University of Allameh Tabatabai, 2010: 18-74. (Persian)
5. Kimeeiaiee SA, Khademeian H, Farhadi H. [Memorizing the Quran and its impact on the mental health component]. *Journal of social sciences: Woman Society* 2011; 2(4): 1-20. (Persian)
6. Poorafkari N. [Comprehensive dictionary of psychology and psychiatry]. Tehran: Contemporary; 2008: 13-72. (Persian)
7. Hoseinzademahdi M. [evaluate the effectiveness of cognitive skills training, positive thinking and optimism - behavioral group therapy on mental health of high school teenagers]. MS. Dissertation. Tehran: University of Allameh Tabatabai, 2008: 22- 59. (Persian)
8. Mehri AZ, Sedighi Somae Kochak D. [The statuy of mental health and related factors in college students of Islamic Azad University of Sabzevar in 2009]. *Journal of medical sciences* 2011; 21(4): 298-304. (Persian)
9. Fletcher J. An evaluation of an Australian initiative designed to improve interdisciplinary collaboration in primary mental health care. *Eval Prog Plann* 2014; 45: 29-41.
10. NA G. Internet addiction disorder and it's relation to impulse control. MA. Dissertation. USA: Texas University, College of Psychology; 2008: 6-25.
11. Shamloo S. [Mental health]. Tehran: Roshd; 2013: 8-39. (Persian)
12. Bannon S. The positive role of Internet use for young people with additional support needs: Identity and connectedness. *Comput Hum Behav* 2015; 53: 504-14.
13. Association AP. Diagnostic and statistical manual of mental disorders. 5<sup>th</sup> ed. Washington, DC: American Psychiatric Association; 2013: 10-22.
14. Lenihan F. Computer addiction- A sceptical view: Invited commentary on: Lost online. *Adv Psychiatr Treat* 2013; 13: 31.
15. Young K. Internet addiction over the decade: A personal look back. *World Psychiatry* 2010; 9(91): 20-43.
16. Kalaitzaki AE, Birtchnell J. The impact of early parenting bonding on young adults' internet addiction, through themediation effects of negative relating to others and sadness. *Addict Behav* 2014; 39(3): 732-7.
17. Spada MM. An overview of problematic Internet use. *Addict Behav* 2014; 39(1): 3-6.
18. Wang L, Lee S, Change G. Internet addiction of adolescents in China: Prevalence, predictors, and association with well-being. *Addict Res Theory* 2013; 21(1): 62-9.
19. Nasti Zaie N. [The relationship between general health and internet addiction]. *Tabib-e-Shargh* 2008; 11(1): 57-63. (Persian)
20. Lawrence TL. Parental mental health and Internet addiction in adolescents. *Addict Behav* 2015; 42: 20-23.
21. Widyanto L, Griffiths M. Internet addiction: A critical review. *J Ment Health Addict* 2006; 4(1): 31-51.
22. Jorgenson AG, Hsiao CJ, Yen CF. Internet addiction and other behavioral addictions. *Child Adolesc Psychiatr Clinics North Am* 2016; 25(3): 509-520.
23. Liang L, Zhou D, Yuan C, Shao A, Bian Y. Gender differences in the relationship between internet addiction and depression: A cross-lagged study in Chinese adolescents. *Comput Hum Behav* 2016; 63: 643-470.
24. Young K. How to recognize the signs in internet adition and winning strategy for recovery. *J Pers Soc Psychol* 2001; 75(3): 681-94.
25. Karami A, Almasi H. [Viber and WhatsApp Search and comparison capabilities in higher education]. *Proceeding of the National Conference on Social Networks Virtual Platform for Teaching and Learning*; 2015: 1-8. (Persian)
26. Khosravi Z, Alizadeh Sahraie A. [The relationship between internet addiction and family functioning and mental health in students]. *Journal of Educational Psychology* 2011; 14: 59-80. (persian)
27. Cho Y, Lee H. A study on a model for Internet addiction of adolescents. *Korean Acad Nurs* 2004; 34(1): 102-110.
28. Ranjbar Z, Darvizeh Z, Naraqizadeh A. Compare the amount and type of use of the Internet in relation to mental health and academic performance of students in Tehran. *Psychological Studies* 2010; 7(2): 11-36.
29. Sajadian E, Nadi M. [The relationship between depression and social isolation of young Internet users at the time of internet use]. *Journal of behavioral sciences* 2006; 7(8): 33-8. (Persian)
30. MoradianSorkhkalae M, Eftekhar H, Nejat S, Saiepoor N, Shahmirzadi SE. [Tehran University of Medical Sciences mental health of students in the academic year of 2010-2011]. *The Journal of Student Research, Committee University of Medical Sciences* 2012; 14(26): 21-8. (Persian)
31. Alinavardi A. [Internet and for substance abuse]. *Journal of culture and communication* 2005; 2(3): 156-70. (Persian)

32. Zaremoghadam A, Salehinia A. [Construct and validate a questionnaire software mobile messaging addiction]. Proceeding of the Second International Conference on Psychology and Educational Sciences and lifestyle, University of Torbat-e Heydariyeh; 2015: 3-23. (Persian)
33. MehrabizadehHonarmand M. [Comparisons of public health, occupational stress and burnout special and regular school teachers]. Journal of Shahed University 2013; 20(2): 50-65. (Persian)
34. Bullen P, Harre N. The Internet: Its Effects on fatety and behavior Implications for Adolescents, Department of Psychology. University of Auckland November, 2000: 4-19.
35. Hakala PT, Rimpela A, Saarni L, Salminen JJ. Frequent computer-related activities increase the risk of neck–shoulder and low back pain in adolescents. Eur J Public Health 2006; 16: 536-41.
36. Mild KH, Hardell L, Carlberg M. Pooled analysis of two Swedish case-control studies on the use of mobile and cordless telephones and the risk of brain tumours diagnosed during 1997-2003. Int J Occup Safety Ergonomics 2007; 13: 63-71.
37. Cavus N, Ibrahim D. An experiment in using text messaging to support learning new English language words. Br J Educ Tech 2009; 40(1): 78-91.