

Relationship between Attachment Styles and Internet Addiction and its Influence on Female High School Students Academic Achievement

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Abstract

Background: Academic achievement is the most important indicator of the efficiency of any educational system. The objective of the present study was to determine the relationship between attachment styles and Internet addiction and its impact on the academic achievement of female high school students.

Methods: This research is a descriptive correlation study with a multi-stage cluster random sampling method. The statistical sample of this study was 200 female high school students in the second district of Shiraz in 2020. The data collection tools were the demographic questionnaire, Young's dependency on the Internet questionnaire, *Collins and Reed's* attachment styles questionnaire, and students' GPA as a measure of their academic achievement. Data were analyzed using spss22 software.

Results: The results showed a significant and direct relationship between attachment styles and Internet addiction ($P=0.011$). The results also showed a meaningful and positive relationship between attachment styles and academic achievement ($P=0.010$).

Conclusion: According to the findings, the importance of attachment styles and Internet addiction on students' academic achievement is emphasized.

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Introduction

Today, computers and the Internet have entered into all parts of individuals' lives in the information age. Internet popularity and overuse has become problematic and has led to social, psychological, and occupational harms. Observing the features similar to the symptoms of drug dependence, namely drug tolerance, withdrawal symptoms, and the feeling of being forced to use the Internet in some users, has forced researchers to consider the Internet addiction criteria for these users.¹ Internet addiction means paying too much attention to social media, associated with an uncontrollable motivation to spend too much time on it, and disrupt other vital aspects of life. On the World Internet Statistics site, the Internet penetration rate in Iran has reported about

2.57%.² Adolescents compared to adult people are more vulnerable to be addicted to the Internet. There is a relationship between the Internet overuse and stressful life events, so it is assumed that in stressful situations, people use the Internet to manage their mood, emotions, and social compensation.³ Internet addiction among some adolescents is directly related to issues such as social irresponsibility, social isolation, lack of social support, academic and work inefficiency.⁴ Ching et al., found that 36.9% of students after excessive use of the Internet in their study habits were engaged in severe academic decline. Their scores were decreased significantly and the students' rate of absenteeism was increased.⁵

Excessive and untimely use of university internet lines exposes the students to inappropriate internet use

and academic problems, and limits their participation in curricula which gradually intensifies the Internet dependence among these people.⁶ Using the Internet has not improved students' academic efficiency because Internet information is often unrelated to the lessons' subjects and does not help them gain high score in standardized tests. Research has shown that students, who use the Internet excessively, have less tendency to go to school. One of the effective factors on internet addiction is attachment style. The family is the first founder of the personality, values, and intellectual criteria of the individual. It is the most basic unit to which everyone belongs. The family is a natural social system that has its own characteristics.⁷ The relationship among the members of these subcultures is a deep and multilayered relationship. In such a system, individuals are connected to each other through strong, enduring, and reciprocal emotional interests and attachments.⁸ Since the child finds the mother as the first safe emotional base in life, the mother's personality has a primary importance in developing the child's personality. Although these attachments may fluctuate over time, they survive throughout family life.⁹ According to attachment theory, humans tend to have strong emotional bonds with certain people. Attachment is a pattern formed based on a person's initial relationship with his/her parents or caregivers, leading to future interpersonal relationships. This pattern can be safe, unsafe, ambivalent, or avoidant. In this regard, some researchers have widely considered the relationship between Internet addiction and attachment style.¹⁰ Research has shown that Internet addiction has a negative relationship with secure attachment style and has a positive relationship with insecure attachment style.¹¹ Another study found that adolescents who use the Internet more than others have less communication with their mother and possess an insecure attachment style to their parents.¹² The relationship between attachment styles and adolescents' academic achievement has been one of the topics that thinkers have considered. Studies show that people with secure attachment styles have more mental skills. Their problem-solving skills are better than people with other attachment styles, so it can be concluded that these people have higher academic achievement than others. There are two patterns of relationship between secure attachment and academic achievement.¹³

The first pattern is related to the perception of academic competence through the relationship between secure attachment to the mother and mastery orientation towards educational goals. The second consecutive effect pattern indicates that secure attachment predicts less anxiety and better performance. On the other hand, adolescents have confronted many problems with different attachments, especially with insecure attachment style. Therefore, They cannot solve problems, leading to lower academic

success than safe attachments people.¹⁴

Therefore, adolescents' attachment to parents is one of the critical factors in academic motivation. However, due to the issues mentioned about Internet addiction and its complications in various fields, adolescents are more at risk of developing this disorder than other groups.¹⁵ Also, despite numerous studies conducted in this field in other countries, so far, no study has investigated the relationship between attachment styles and Internet addiction with students' attitudes toward academic achievement. Therefore, the present study aimed to investigate the relationship between attachment styles and Internet addiction with students' attitudes toward academic achievement.

Methods

This research is a descriptive-correlational study with a multi-stage cluster random sampling method. The statistical sample of this research was 200 female second high school students in district two of Shiraz in the academic year 2020-2021. The sample volume estimation method was based on simultaneous correlation and regression models. According to this method, at least 180 subjects should be selected. However, the researchers considered 200 participants as statistical sample volume. Using multi-stage cluster sampling, the authors selected 200 people as the sample. In this way, the researchers first randomly selected two districts from the four districts of Shiraz and then randomly selected eight schools from girls' high schools in each district and three classes from each school. Among the students in these classes, 45 refused to participate in the study. Considering the possibility of an incomplete number of questionnaires, the authors selected 220 female students. Of these, 20 were excluded from the study due to incomplete questionnaires. Finally, 200 female students remained as the research sample.

Inclusion criteria were having high school education, public school education, and a normal IQ with the school principal's approval. Exclusion criteria included unwillingness to participate in the study.

Demographic Questionnaire

This questionnaire was developed using the opinions of experts and study of research background. It contains questions that explore the participants' demographic characteristics and questions about how to use the Internet and the time average of Internet use. The face validity of this questionnaire has been confirmed by the opinions of supervisors, advisors, and qualified experts at the Islamic Azad University, Marvdasht Branch.

The authors selected 60 students as the study sample using the random sampling method and Morgan's table. To observe ethical principles, it was explained to the participants that their information would remain confidential and be discarded after

the study. They were initially informed that their participation was voluntary and that they could withdraw from the study at any time. The inclusion criteria were mental and physical health, studying at..., and willingness to answer the questions. The exclusion criteria included distorted answers to the questions. To observe ethical considerations of the study, it was explained to the participants that participation in the study was voluntary and their information would remain confidential and be destroyed after the study. Furthermore, the participants' personal information questionnaires would never be used. Finally, the students completed questionnaires.

Internet Addiction Diagnostic Questionnaire (IADQ): Young designed this questionnaire. It includes 20 items. Participants should answer the questions based on a 6-point Likert scale from never (0) to always (5). The score range of this questionnaire is from 0 to 100 and higher scores show more dependence on the Internet and excessive internet use. Scores 20 to 49, 50 to 79, and 80 to 100 show normal users, endangered users, and Internet dependent users, respectively.¹⁶ Alavi et al., using factor analysis based on the principal component analysis (PCA) method with Varimax rotation, extracted social problems, impacts on performance, lack of control, use of chat room, and inattention to career and academic duties. In this study, only the scale's total score was used.¹⁷ The content validity and convergent validity, test-retest reliability ($r=0.82$), internal consistency (IC) ($\alpha=0.87$), and split-half reliability ($r=0.72$) were in an acceptable level. The reliability of the questionnaire in the current study was obtained using Cronbach's alpha coefficient (0.81).

Collins and Reed Attachment Style Questionnaire

This scale includes self-assessment of -building skills and self-description regarding forming attachment relationships to close attachment forms. This scale consists of 18 data measured by marking on a 5-point scale (Likert type). In terms of validity, Collins and Reed (1990) showed that the subscales of intimacy, dependence, and anxiety remain stable at the time intervals of 2 months or even 8 months. Considering that Cronbach's alpha values that are equal to or greater than 0.80 in all cases, this test has

high reliability.¹⁸ Pakdaman (2001) reported the reliability of the test using correlation between test and re-test has. Test and re-test with a one-month time interval showed this test reliable with coefficient level of 0.95.

Academic Achievement: In this research, CGPA (Cumulative Grade Point Average) was the academic achievement criterion

Data Analysis Method

The indicators of central tendency and dispersion of Internet addiction variables, attachment styles, and academic achievement have been reported to analyze data. Also, to investigate features of the distribution, the distortion and elongation coefficients have been calculated to determine the normality of the distribution. Then, inferential statistics, regression analysis and correlation, was used to examine the research hypotheses.

Results

The mean age of students was 16 ± 1.34 . 65.41% of students' fathers had undergraduate and postgraduate education and 34.59% of their fathers had postgraduate and higher education. Among the mothers, 54% had a post-diploma, or higher degree and 46% had a bachelor's or master's degree. 61.1% of their fathers were self-employed and 76% of their mothers were housewives. According to the Smirnov Kolmogorov test, the data distribution related to the case-study variables is not normal ($P>0.05$). Therefore, the Spearman correlation coefficient was used to calculate the correlation coefficient between the variables.

According to Table 1, there is a significant and direct relationship between attachment styles and Internet addiction. Furthermore, there is a negative correlation between Internet addiction and academic achievement.

Table 2 shows that the calculated chi-square is not significant; therefore, the severity of students' internet dependence is independent of the father's education.

Table 3 shows that the calculated chi-square is not significant; therefore, the severity of students' internet dependence is independent of the mother's education.

The findings in Table 4 show that the calculated

Table 1: Relationship between attachment styles and academic achievement with Internet addiction

Variable	Internet addiction	
	r	P value
Attachment styles	0.326	0.011
Academic achievement	-0.178	0.012

Table 2: The severity of Internet addiction in terms of father's education

Level of Education	No -addiction	Mild addiction	Moderate addiction	Sever addiction
Diploma	16 (26.6)	7 (11.6)	7 (11.6)	5 (8.3)
Higher Diploma	11 (18.3)	6 (10)	4 (6.6)	4 (6.6)
	P value=1.1	Df=9	$\chi^2=0.89$	

Table 3: The severity of Internet addiction in terms of maternal education

Level of Education	No -addiction	Mild addiction	Moderate addiction	Sever addiction
Diploma	18 (30)	7 (11.6)	6 (10)	4 (6.6)
Higher Diploma	13 (21.6)	5 (8.3)	4 (6.6)	3 (5)
	P value=1.5	Df=11	X ² =0.77	

Table 4: The severity of Internet addiction by order of birth

Variable	No -addiction	Mild addiction	Moderate addiction	Sever addiction
First child	10 (16.6)	8 (13.3)	7 (11.6)	5 (8.3)
Second child	7 (11.6)	6 (10)	3 (5)	2 (3.3)
Third child and above	5 (8.3)	3 (5)	3 (5)	1 (1.6)
	P value=1.8	df=8	X ² =0.99	

Table 5: The severity of Internet addiction by educational level

Variable	No -addiction	Mild addiction	Moderate addiction	Sever addiction
First grade	7 (11.6)	3 (5)	3 (5)	2 (3.3)
Second grade	8 (13.3)	6 (10)	3 (5)	4 (6.6)
Third grade	11 (18.3)	6 (10)	2 (3.3)	5 (8.3)
	P value=2.8	df=10	X ² =0.81	

Table 6: Relationship between attachment styles and academic achievement

Variable	Academic achievement	
	r	P value
Attachment styles	0.051	0.010

chi-square is not significant, so the severity of students' Internet dependence is independent of their order of birth.

The findings in Table 5 show that the calculated chi-square is not significant; therefore, the severity of students' Internet dependence is independent of their educational background.

According to Table 6, there is a significant and positive relationship between attachment styles and academic.

Discussion

This study was performed to investigate the relationship between attachment styles and Internet addiction and its impact on academic achievement. The study results showed that there is a significant relationship between attachment styles and Internet addiction. In other words, the attachment style variable has a connection with the intensification or weakening of Internet addiction. In the study of Hashemi et al., investigated the model presentation for the structural relationship between attachment styles and Internet addiction, considering the mediating role of self-esteem, They found that attachment styles could explain the symptoms of Internet addiction significantly.¹⁹ Khanjani et al. found that family functioning, educational styles, and attachment style have a significant relationship with Internet addiction. Another study determined that adolescents who use the Internet more than others have an insecure attachment style.²⁰ However, Moghanizadeh et al. (2016) investigated the relationship between attachment styles

and Internet addiction in students. They did not find any negative and significant relationship between attachment style and Internet addiction.²¹ Attention to the psychological aspects of Internet use and its pathology has significantly increased in recent years. Understanding these phenomena and the information obtained from this study can be used to deal with one of the most pervasive and influential contemporary technologies, and its results can be used to design related intervention programs. This study showed that there is a significant and inverse relationship between Internet addiction and academic achievement. In other words, Internet dependence reduces students' academic performance. The results of this study are in line with the Ahmadi et al.²² Akbari et al.²³ and Dehghani et al.²⁴ Rouhani et al. (2011) investigated the rate of Internet addiction and its relationship with academic achievement and social development of high school students. They found that there is a significant and inverse relationship between the rate of Internet addiction and academic achievement of male and female high school students.²⁵

To explain this finding, it can be said that when the Internet-dependent users spend more time on computer games, chatting and making friends, downloading movies and using multiple sites, it causes more decentralization and waste of time, resulting in lower academic achievement and learning. Internet audiences include the young generation and adolescents who are more prone to exposure to such problems due to psychological-developmental variables and many other unknown variables. Internet-dependent leads to cognitive issues and

diabetes in users.^{26,27} This study showed that there is a significant relationship between attachment styles and academic achievement. The results of the studies of Fahimi et al.²⁷ Conrad et al.²⁸ and Magino et al.²⁹ are consistent with this study. said it can be concluded that attachment is an emotional bond that provides a haven for adolescents and they rely on the challenges that occur in different situations, especially in the educational environment. Furthermore, when the child gets older, a haven is established in the child, and this feeling of psychological security is transferred to social environments such as school. In this way, the person is promoted to face cognitive challenges and increases his/her perseverance and efforts to gain a scientific position, which in turn increases academic achievement. However, Esfandabad et al., showed that there is no significant relationship between attachment styles and students' academic achievement.³⁰ This difference can be due to the cultural and social differences of the samples, differences in the type of school (Governmental and non-profit schools), and consequently differences in students' academic performance. The Internet is a set of opportunities and threats. From the point of view of logicism, negation and stagnation against the Internet do not meet the needs of today's generation, but it can also become a factor for the destruction and erosion of culture and development.²⁵ The media can have both beneficial and detrimental effects on adolescents. Doing such the research forces the authorities to consider media literacy in learning. It means creating knowledge and understanding media through the interpretation and analysis of media information.¹ Therefore, one the one hand, parents and officials should provide a comfortable space for adolescents to express their opinions and ideas and on the other hand, parents and officials should increase their knowledge of information technology to step forward with the new generation. It can be achieved by providing optimal Internet use for the teenagers while controlling them and establishing close relation with.

Conclusion

By creating an intelligent space for explaining cultural strategies, we can turn threats into opportunities. Therefore, young people will gain more capabilities and maximum efficiency can be achieved in culture production.

Conflicts of interest: None declared.

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