Internet Addiction Based on Personality Characteristics of High School Students in Kerman, Iran

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Abstract

Background: The new phenomenon of Internet addiction among teenagers and young adults is one of the modern addictions in industrial and post-industrial societies. The purpose of this research was to predict the Internet addiction based on the personality characteristics of high school students in Kerman.

Methods: This research was a descriptive correlational study. The statistical population included 538 male and female students in the second grade of high school in Kerman during 2010. The subjects were randomly selected by multistage clustering. Data was collected by two questionnaires including the five-factor Revised NEO Personality Inventory and the Internet dependency questionnaire. The data was analyzed using ANOVA test and multivariable regression analysis.

Findings: The findings showed a significant relationship between the personality trait of emotional stability and academic fields, i.e. students with higher emotional stability experience less negative emotions when confronting with problems. Therefore, it is less likely for them to alleviate the negative emotions by the extreme and obsessed usage of the Internet. In addition, it appears that the students with high extroversion scores prefer social, face to face interactions with other people to interaction with the virtual world. Conversely, more introvert students avoid interactions with other people due to their shyness. Thus, they communicate with the virtual world more.

Conclusion: Three personality traits of loyalty, emotional stability, and extroversion are the most significant predictors of Internet addiction in high school students.

Keywords: Internet addiction, Characteristics of personality, Students, Kerman.

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Introduction

Personality can be described as distinctive patterns and specific characteristics of thinking, emotion and behavior which determine the style of interaction with the physical and social environment.[1] Personality traits indicate a relatively stable profile in people's morale. These characteristics are appeared as consistent and coherent throughout their life when faced with different situations. It is believed that personality characteristics such as experience acceptance, loyalty, extroversion, harmony, and neurosis affect a wide range of human activities including sexual behavior,[2] listening to favorite music,[3] and rate of using technologies, especially the Internet, by people.[4]

Different approaches such as mental analysis, behaviorism, traits approach, and cognitive-social and humanistic approaches are used by researchers to describe and measure personality. At the present time, the five-factor personality theory has been considered as one of the most proposed theories after traits approaches. There is a general consensus among the psychologists that all personality characteristics can be classified in five dimensions or major and decisive components such as experience acceptance, loyalty, extroversion, harmony and neurosis.[5]

Thus, this theory and its model act as an integrated conceptual framework for to explain personalities. The empirical studies so far have shown the comprehensiveness and coherence of this model as well as its usefulness in many different situations and different areas of research.[6] On the other hand, using the Internet in all areas of life and by people with different lifestyles is accepted as a fact. The mode and rate of using the Internet by people can reflect their needs, preferences, values, personal motivations, and personality characteristics. Scientific investigations show that the Internet dependence can lead to psychological, social, educational and professional problems in people's lives. Based on these investigations, overuse of the Internet can become traumatic and addictive for users. Mostly, this phenomenon is discussed as an instance of the general category of "technology addiction".[7]

Technology addiction is a subset of the behavioral addictions which have common set of symptoms including aggression and changes in ethics and behavior, lack of responsibility,

withdrawal and isolation, extreme violence, and return to the initial state.[8] In an effort to determine the harmful effects of the Internet dependence on social behaviors and habits, numerous studies have been conducted in various parts of the world on different groups of people. Meanwhile, a number of studies have shown that excessive Internet use is threatening the students as a major population. This group has a wider and easier access to the Internet and therefore widely uses the amusing aspects of this media during their leisure time. Since gender and personality differences may affect use of computers and the Internet, evaluation and comparison of the Internet use and dependence among male and female students and their dependency are quite important.

This is especially crucial due to cultural and social conditions in Iran. Gombor and Vas studied about the dependency on the Internet and the five big personality factors in medical students in Israel and Hungary. They found that only two factors of extroversion and neurosis were significantly associated with dependency on the Internet in Israeli students. However, this relationship was not significant in Hungarian students.[9] Afghahi examined the relationship between personality traits and quality of attachment with the rate of Internet dependence in sharp-witted students in Mashhad, Iran. He found that students with an attachment quality isolated from their mothers and less flexibility in terms of personality to be more dependent on the Internet.[10]

Mashayekh and Borjali studied the connection between loneliness and type of the Internet use in high school students. They concluded that feeling of loneliness was more common in female chat users than in males.[11] With no similar previous domestic study, the purpose of this study was to predict the Internet addiction based on personality characteristics of high school students in Kerman. The results of this study can help the families, education professionals, educators, and curriculum specialists in order to teach proper use of the Internet and creating the culture of using the Internet by adolescents and young adults since they are considered to be the operators of economical, social and cultural wheels of the community. On the other hand, various types of associated addiction associated with application of new communication devices

raise an urge to understand the effective factors involved in this type of addiction.

Methods

This was a descriptive, correlational study including all male and female high school students in Kerman. The sample group consisted of 534 high school students (258 girls and 276 boys) who were randomly selected by multistage cluster sampling. Of all the enrolled students, 146 majored in science, 190 in mathematics, and 188 in humanities. However, 10 students did not mention their field of study.

Two questionnaires were distributed among the participants, namely the Revised NEO Personality Inventory and Dependency on the Internet Questionnaire prepared by Demetrovics et al.[12] which was developed based on the Young's Internet Addiction Test.[13] It should be noted that in order to select the first sample group, three high schools for girls and three for boys were selected among the public high schools in Kerman (Districts 1 and 2). Then the numbers of the subjects were calculated by simple randomized method based on the proportion of the number of students in each high school. Descriptive statistics, including frequency, percentage, mean, and variance, and inferential statistics by a multivariate analysis of variance (MANOVA) were used to analyze the data.

A cut-off point was specified to determine addiction among the students with a process as follows. At the first stage, the mean and standard deviation values of addiction were calculated. Then, the students were classified in four groups based on the difference between their scores and the mean. The first group (n = 293, 54.9%) included non-addicts with scores two standard deviations below the

mean. The average addiction (n = 167, 31.3%) and problematic (n = 63, 11.8%) groups scored one standard deviation below and above the mean, respectively. Finally, the group with severe addiction (n = 11, 2.1%) had scores two standard deviations above the mean.

Results

As it was mentioned previously, an objective of this study was to determine the relationship between the gender and the field of study of the students and their personality characteristics. MANOVA test was used for this purpose and the results can be seen in Table 1. Based on the results of MANOVA test, there was no significant relationship between gender and the five personality characteristics, while the relationship between the personality trait of emotional stability and field of study was significant (P < 0.01).

The paired mean comparison test was used in order to determine the significant mean differences in the fields of study. The mean scores of emotional stability were significantly different between science and humanities students (Mean difference: -1.910; P = 0.001) and also between those studying mathematics and humanities (Mean difference: 1.080; P = 0.049). In other words, while science students had less emotional stability than humanities students, students majored in mathematics had more emotional stability than those majored in science and humanities.

In order to evaluate the severity of Internet dependency based on gender, chi-square test was used (Tables 2). The calculated chi-square (14.83) was significant (P = 0.02). Therefore, a significant correlation existed between Internet dependency and gender, i.e. boys were more likely to depend on the Internet.

Table 1. The results of multivariable analysis of variance for comparing the personality characteristics of the students in terms of gender and field of study

	Personality characteristics	**F**	**P**	**Eta**	**Power**
Gender	Extroversion	0.231	0.631	0.000	0.077
	Compatibility	0.612	0.434	0.001	0.122
	Emotional stability	2.890	0.090	0.006	0.397
	Experience acceptance	0.065	0.799	0.000	0.057
	Loyalty	1.670	0.196	0.003	0.253
Field of study	Extroversion	0.807	0.447	0.003	0.188
	Compatibility	1.180	0.306	0.005	0.260
	Emotional stability	5.820	0.003	0.022	0.871
	Experience acceptance	1.320	0.266	0.005	0.287
	Loyalty	0.674	0.510	0.003	0.164

Table 2. The distribution of the severity of Internet dependency based on gender

		No dependency	Medium dependency	Problematic	Very problematic	Total
Girls	Frequency	104	61	41	63	269
	Percent	37.3	23.0	16.3	23.3	
Boys	Frequency	70	56	74	69	269
	Percent	26.0	21.3	27.3	25.3	
Total	Frequency	174	117	115	132	538
	Percent	31.7	22.2	21.8	24.3	

Another objective of the present study was to predict Internet addiction on the basis of personality characteristics of the students. Therefore, stepwise regression was conducted and the results are shown in Tables 3 and 4.

As it can be seen, entering the variable of emotional stability into the regression equation during the first step revealed its ability to predict 46% of the variance of Internet addiction variance ($R^2 = 0.46$, F = 452.40, P < 0.01). In the second step and by entering the variable of extroversion, the percentage of variance explained was increased to 49 percent ($R^2 = 0.49$, F = 260.10, P < 0.01). In the third step, loyalty variable was added into the equation which increased the explained variance to 50% ($R^2 = 0.50$, F = 13.18, P < 0.01).

The values of the standardized beta coefficients, t and their significance levels are reported (Table 4). Every one unit increase in emotional stability, extroversion, and loyalty decreased the beta coefficient of Internet dependency by 0.549, 0.303, and 0.114 units, respectively.

Accordingly, it can be concluded that the three personality characteristics of emotional stability, extroversion, and loyalty are the best predictors of Internet addiction in high school students.

Discussion

The findings showed significant differences in emotional stability among high school students majored in humanities, science, and mathematics. The highest emotional stability was found in mathematics students, while humanities and science students stood in the second and third places, respectively. However, gender-related differences were not observed in personality characteristics.

However, some previous studies reported contrasting findings. For instance, Goldberg et al. revealed women to achieve higher scores in personal traits, responsibility, compatibility, and experience management.[14] The contrast might be caused by the two different studied populations, i.e. Goldberg et al.[14] evaluated an adult population. Another reason might also be the cultural differences between the two populations.

Table 3. Correlation coefficients and squared multiple correlation coefficient predicting the Internet addiction on the basis of personality characteristics

	Model	Multiple correlation coefficient (r)	Squared multiple correlation coefficient (R^2)	F	P
Step by step	First stage	0.68	0.46	452.40	0.001
	Second stage	0.70	0.49	260.10	0.001
	Third stage	0.71	0.50	13.18	0.001

Table 4. Standard and non-standard regression coefficients and their significance levels

	Model	Non-standard coefficients B	Standard error	standard coefficients Beta	t	Significance
First stage	Constant coefficient	116.32	3.820		30.45	0.001
	Emotional stability	-1.98	0.093	-0.678	- 21.27	0.001
Second stage	Constant coefficient	125.36	3.980		31.47	0.001
	Emotional stability	-1.57	0.113	-0.538	-13.95	0.001
	Extroversion	-0.648	0.107	-0.235	-6.09	0.001
Third stage	Constant coefficient	122.69	4.070		30.11	0.001
	Emotional stability	-1.60	0.113	-0.549	-14.26	0.001
	Extroversion	-0.838	0.126	-0.303	-6.65	0.001
	Loyalty	0.303	0.110	-0.114	-2.76	0.006

On the other hand, our findings regarding the relation between the studied field and personal characteristics are consistent with the results of Lievens et al. who found students with different academic fields to have significantly different personality characteristics.[15] Higher emotional stability in students of mathematics could be due to their logical approach towards everyday problems resulted from their experience in solving mathematical problems. In addition, more various academic majors with higher capacities available for math students decrease the stress and anxiety these students feel about their future academic education and career and result in higher emotional stability.

The findings also showed that among the major five personality characteristics, three factors of emotional stability, extroversion, and loyalty were the best predictors of Internet addiction in male and female high school students. In other words, the students who had higher emotional stability, achieved higher scores of extroversion, and were more loyal had less addiction to the Internet. These findings were consistent with previous researches in other countries. For instance, Gombor and Vas demonstrated both extroversion and emotional stability to be the best predictors of a significant dependency on the Internet in medical students.[9] Likewise, Landers and Lounsbury found a significant and negative relationship between the three personality characteristics of loyalty, extroversion, and compatibility and Internet dependency.[3]

Kunimura and Thomas assessed 113 students at Loyola Marymount University and found a significant positive relation between neurosis and Internet dependency as well as a significant negative relation between extroversion and Internet dependency.[16]

The negative and significant relationship observed between Internet addiction and extroversion in the present study could be due to

the fact that the extrovert students prefer interaction with other individuals in social situations to interaction with the virtual world. Some previous research, including the study of Lavin et al.,[17] showed that persons with lower extroversion (introverts) are less likely to communicate with others face to face due to their shyness and feelings of shame. Likewise, Chamorro-Premuzic and Furnham reported diffidence and severe academic failure to be related with some sorts of Internet dependency.[18]

On the other hand, students who have more emotional stability possibly deal better with problems and are less likely to experience negative emotions which may lead to an obsessive need to the Internet for stress reduction.

It can also be said that more loyal students have more sense of responsibility regarding their school assignments making them less likely to use and depend on the Internet.

The findings also indicated a relation between gender and Internet dependency. In fact, male students were found to be more likely to depend on the Internet. Similarly, Kim et al., Azbralsky, Midily and Winslow, and Seihan (all reviewed by Hashemi)[19] found Internet dependency to be related with demographics including gender. Boys might be more dependent on the Internet since they can freely access the Internet at home, school or even Internet cafés. However, sociocultural factors prevent girls from having such privilege. Moreover, boys are more knowledgeable about modern technologies.[20,21]

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اعتیاد به اینترنت بر اساس ویژگی‌های شخصیتی دانش‌آموزان دبیرستانی شهر کرمان

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چکیده

مقدمه: پدیده‌ی نوین اعتیاد به اینترنت یکی از اعتیادهای نوین جوامع صنعتی و فراصنعتی در جوانان و نوجوانان به شمار می‌رود. هدف پژوهش حاضر، پیش‌بینی اعتیاد به اینترنت بر اساس ویژگی‌های شخصیتی دانش‌آموزان دبیرستانی شهر کرمان بود.

روش‌ها: در این پژوهش توصیفی از نوع همبستگی، نمونه آماری شامل ۵۳۸ نفر از دانش‌آموزان دختر و پسر سال دوم دبیرستان شهر کرمان در سال ۱۳۸۹ بود که به شیوه تصادفی خوشه‌ای چند مرحله‌ای انتخاب شدند. داده‌ها به کمک دو پرسش‌نامه آزمون پنج عامل بزرگ شخصیتی نئو و پرسش‌نامه وابستگی به اینترنت جمع آوری و با استفاده از روش تحلیل واریانس چند راهه، تحلیل رگرسیون چند متغیره تجزیه و تحلیل شد.

یافته‌ها: بین ویژگی شخصیتی ثبات هیجانی و رشته تحصیلی رابطه معنی‌داری وجود داشت؛ به طوری‌که دانش‌آموزان دارای ثبات هیجانی بالاتر، هنگام مواجهه با مشکلات، هیجانات منفی کمتری را تجربه کردند و در نتیجه احتمال کمتری وجود داشت که برای تسکین هیجانات منفی به سراغ استفاده افراطی و وسواس گونه از اینترنت بروند. به علاوه، دانش‌آموزان با نمره برون گرایی بالا، تعاملات اجتماعی و رو در رو با افراد دیگر را به تعامل با دنیای مجازی ترجیح دادند؛ در حالی که، دانش‌آموزان با درون گرایی بیشتر، به دلیل کمرویی، از تعاملات رو در رو با افراد دیگر اجتناب کرده، بیشتر با دنیای مجازی ارتباط برقرار کردند.

نتیجه‌گیری: سه ویژگی شخصیتی وظیفه شناسی، ثبات هیجانی و برون گرایی، بهترین پیش‌بینی کننده‌های معنی‌دار اعتیاد به اینترنت در دانش‌آموزان دبیرستانی است.

واژگان کلیدی: اعتیاد به اینترنت، ویژگی‌های شخصیتی، دانش‌آموزان، کرمان

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