Comparison of Family Functioning, Personality Traits, and Attachment Styles in People with Internet Addiction and Healthy Controls
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Received 2017 April 25; Accepted 2017 August 03.

Abstract
The purpose of this study was to compare family functioning, personality traits, and attachment styles among people with Internet addiction and normal individuals. The research was conducted among high-school students from Salmas, Iran in 2016. The study sample consisted of all high-school students (n, 351) of Imam Khomeini High School in Salmas. The subjects completed four questionnaires, including the family assessment device (FAD), NEO personality inventory, attachment styles questionnaire, and young’s Internet addiction questionnaire. All statistical analyses, including descriptive statistics, t test, and multidirectional analysis of variance, were performed using SPSS version 16. The results showed a significant relationship between Internet addiction and family functioning, personality traits, and attachment styles.

Keywords: Family Functioning, Attachment Styles, Personality Characteristics, Internet Addiction

1. Background

In today’s world, use of the Internet has widely increased among the youth and teenagers and is rapidly growing because of its unique features (Alavi et al., 2010) (1). While most people use the Internet without the knowledge of its negative effects, some may experience Internet addiction, which can cause multiple problems in their life (Khosravi et al., 2011) (2). In general, many researchers, including Kendall and Young, have used the term “Internet addiction” (Jafari and Fatehizadeh, 2012) (3).

Despite all the advantages of the Internet, this new mode of communication can be a double-edged sword, associated with many problems and disadvantages for especially younger generations (Jafari and Fatehizadeh, 2012) (3). According to Yang (1998), in order to identify Internet addiction, at least four of the following symptoms should be identified: mental preoccupation with the Internet, constant need to use the Internet, increased amount of time spent on the Internet for happiness, inability to stop Internet use, and senses of restlessness and irritability when attempting to reduce or stop Internet use.

Internet addiction disorder, similar to drug dependence, has been integrated in the diagnostic and statistical manual of mental disorders (DSM) and is sometimes introduced as “behavioral dependence on the Internet”, “repulsive use of the Internet”, and “problematic use of the Internet”. Therefore, Internet dependence is described as excessive use of the Internet by individuals; these people become irritable and show negative behaviors in case of Internet inaccessibility (Zarbakhsh Bahri et al., 2012) (4).

Problems arising from Internet addiction are diverse and include eating disorders, lack of sleep, and lack of time for other activities. This phenomenon can also affect school performance, friends, and family relations (Sanei Dehkordi et al., 2008) (5). According to Gibbs (2002), people who are dependent on the Internet (based on the American psychiatric association criteria) use it 11 hours a week on average (Asgari and Mrshyan, 2011) (6). Moreover, research suggests that 77% of students from Mashhad University are at risk of Internet addiction (Asgari and Mrshyan, 2011) (6). The results show that students who use the Internet have higher self-confidence, as they can freely and easily access the cyberspace with unknown identities and express their thoughts (Asgari and Mrshyan, 2011) (6).

Ozak (1999) defines Internet addiction as a psychological problem, associated with mental-cognitive and physical symptoms. Yang (1996) found that Internet addicts spend an average of 38 hours per week on the Internet.
There are at least five types of Internet addiction: addiction to sexual matters, addiction to cyber friendships, social enforcement, data collection, and computer addiction (Ahmedi et al., 2012). With the introduction of communication technologies and devices in families, social values have been affected, and we can witness changes in the behavior and discourse of younger generations. One example of these changes is simple access to the Internet (Slevin, 2012); therefore, the Internet is expected to affect families and social groups (Kafashi, 2009) (7).

Family is the smallest unit of social organization. Any social problem or insufficiency in family functionality has devastating effects on children (Sarookhani, 2000) (8). In fact, many discordant people come from damaged families. Their children are raised in troubled families and are more at risk of disharmonious behaviors due to lack of mental tranquility, lack of concentration, and agitation (Barlow, 1992, quoting Zare Mogadam, 2006) (9).

The individual's perception of family function is very important. In this process, an individual, by receiving and interpreting incentives, controls his/her perceptions and interpretations from the environment; this perception can be an early maladaptive schema, representative of the environment (Khanjani, 2011) (10). Environmental pressure and hostile family environment may force a person to resort to the Internet in order to forget the pain in his/her surroundings (Sadat Ahmadi et al., 2012) (11).

Ling-Yang, Dong Have, and Ron (2007) studied the performance of parents of teenagers addicted to the Internet. The results revealed that Internet addicts had lower adaptability and solidarity, compared to the controls, and intervention, excessive punishment, and willingness to disobey were evident in the families of addicts (Li and Zhang, 2004) (12). Moreover, Li Yu and Koo (2007) (13) analyzed Internet addiction according to Sullivan’s interpersonal theory and showed that the quality of parent-child relationship was positively correlated with the quality of relationship between the participants of the study.

Moreover, Khosravi et al. (2012) (2) examined the personality traits of adolescents, who were addicted to the Internet; the sample consisted of Internet addict students and non-addicts. The results revealed that individuals dependent on the Internet showed less peculiarity and greater psychosis, compared to the control group. On one hand, recognition of personality traits and effective factors can satisfy one’s curiosity and desire for truth, and on the other hand, it can allow interactions with others via decent and conscious positioning (Asgari et al., 2012) (6).

In a previous study, 77% of participants were at risk of Internet addiction and showed symptoms of anxiety, loneliness, depression, and poor self-concept (Nadim et al., 2006) (14). In addition, Internet addiction has a direct relationship with lack of self-confidence and poor self-concept (Armstrong, 2001) (15). Moreover, excessive use of the Internet has a direct relationship with loneliness, feelings of isolation, introversion, and mood swings (Qasemzadeh et al., 2006).

One of the factors influencing Internet addiction is attachment style (Mikulincer and Shaver, 2003; Collins and Fennely, 2004) (16, 17). Family is a coherent system where members are connected to each other through strong mutual affection. Although feelings may change over time, the basic family foundation still persists (Emami, 2007). It is known that there is a relationship between childhood experiences and parental behaviors (18).

According to the affection theory, people tend to communicate with certain individuals (Bowlby, 1977) (19). The concept of attachment refers to an emotionally stable connection between the individual and his/her family. Each party tries to maintain proximity and contact and take effective actions to ensure continuity of the relationship (Fogel, 1997) (20). In other definitions, affection is described as a model, which is formed according to the individual's initial relationship with his/her parents or caretaker and leads to interpersonal relationships in the future; this pattern can be secure, insecure, avoidant, or ambivalent (Hamidian, 2010) (21).

In this context, some researchers have extensively evaluated the relationship between Internet addiction and attachment. Internet addiction has a negative relationship with secure attachment styles and a positive relationship with insecure attachment styles (Lin Kuo, 2011). Moreover, excessive use of the Internet has an inverse relationship with the teenagers’ ability regarding family relations (Sanders, Tiffany, Field, and Kaplan, 2000). Therefore, the purpose of this study was to compare family functioning, attachment styles, and personality traits among healthy controls and individuals with Internet addiction.

2. Methods

This descriptive, correlational study included all high-school students from Salmas, Iran, who were selected via cluster sampling (n, 351). The statistical methods included descriptive indicators, t test, and multidirectional analysis of variance. The data were analyzed in SPSS version 16.

2.1. Research Tools

Yang Internet addiction questionnaire: this questionnaire was designed for diagnosis of pathological gambling and impulse-control disorder, according to the principles of DSM-IV-TR (Alavi et al., 2009) (1). Designed by Yang, it is one of the most reliable tests for measuring Internet addiction. It consists of 20 multiple-choice questions (from
rarely to always) and is rated on a Likert scale. Kim and colleagues reported a Cronbach’s alpha of 90% for this questionnaire (Soltani et al., 2010) (22). In the study by Nadi and Sajadian (2009), Cronbach’s alpha was also calculated at 90% (Jafari et al., 2011) (3). Moreover, Nasty Zay reported a Cronbach’s alpha of 81% in Iran.

Personality questionnaire (NEO): the short form of this questionnaire consists of 60 questions, rated on a five-point Likert scale (1, completely disagree; 5, strongly agree). The test measures five basic elements of personality: neuroticism, extraversion, openness to experience, pleasantness, and conscientiousness. In 1983, McCrae and Costa applied the NEO 60-question index among 208 students during three months and reported reliability coefficients of 0.79%, 0.79%, 0.75%, 0.75%, and 0.83% for each of the main elements, respectively. In a study by Asgari (2010) (6), validity of NEO questionnaire was evaluated using two methods, i.e., Cronbach’s alpha and bisection, which were respectively 70% and 72% for the entire questionnaire. In the present study, the short-form questionnaire by McCrae and Costa was used.

Adult affection questionnaire: this questionnaire was developed, based on Hazan and Shaver affection test (1987) and was normalized for Tehran University students. The test consists of 15 items, which measure three styles, including secure, avoidant, and ambivalent styles, based on a five-point Likert scale (one = very low; two = low; three = medium; four = high; five = very high). Cronbach’s alpha coefficients for secure, avoidant, and ambivalent styles were 85%, 84%, and 85%, respectively. Moreover, in the study by Khosrowshahi et al. (2011), Cronbach’s alpha coefficients for secure, avoidant, and ambivalent styles were 92%, 90%, and 91%, respectively.

Family functioning inventory (FAD): this questionnaire, which consists of 60 questions, was developed by Epstein, Baldwin, and Bishop in 1983, based on McMaster’s model to assess family functioning. It contains seven scales, consisting of problem-solving, communication, roles, affective responsiveness, effective involvement, behavioral control, and general functioning. It is scored on a Likert scale, ranging from “completely agree” to “completely disagree”. The internal homology ranges from 72% to 83% for six scales, while it is estimated at 92% for general functioning (Brshan et al., 2011).

3. Results

As reported in Table 1, normal people showed higher extraversion, flexibility, pleasantness, conscientiousness, and secure attachment, compared to those addicted to the Internet.

| Variables          | Average | Standard Deviation | Standard Error |
|--------------------|---------|--------------------|----------------|
| Neuroticism        |         |                    |                |
| Internet addiction | 20.04   | 3.35               | 0.22           |
| Normal             | 35.31   | 4.58               | 0.29           |
| Extraversion       |         |                    |                |
| Internet addiction | 21.44   | 2.29               | 0.14           |
| Normal             | 35.96   | 3.17               | 0.20           |
| Flexibility        |         |                    |                |
| Internet addiction | 21.11   | 2.45               | 0.15           |
| Normal             | 36.19   | 3.54               | 0.22           |
| Conscientiousness  |         |                    |                |
| Internet addiction | 21.14   | 2.31               | 0.14           |
| Normal             | 35.90   | 3.49               | 0.22           |
| Pleasantness       |         |                    |                |
| Internet addiction | 21.58   | 2.39               | 0.24           |
| Normal             | 36.48   | 3.38               | 0.15           |
| Personality traits |         |                    |                |
| Internet addiction | 1.05    | 5.79               | 0.36           |
| Normal             | 1.79    | 9.04               | 0.57           |
| Secure attachment  |         |                    |                |
| Internet addiction | 8.39    | 10.15              | 0.07           |
| Normal             | 12.71   | 1.40               | 0.08           |
| Insecure attachment|         |                    |                |
| Internet addiction | 12.92   | 1.68               | 0.10           |
| Normal             | 8.34    | 1.16               | 0.73           |
| Ambivalent attachment |     |                    |                |
| Internet addiction | 8.35    | 1.27               | 0.80           |
| Normal             | 11.42   | 1.45               | 0.09           |
| Addict family      |         |                    |                |
| Internet addiction | 57.06   | 4.42               | 0.28           |
| Normal             | 38.11   | 5.56               | 0.35           |

The equality of variances in the variables between the groups showed a significant difference. In other words, neuroticism in people with Internet addiction was higher.
than healthy people, while extraversion, pleasantness, flexibility, conscientiousness, and secure attachment were higher in the healthy group, compared to the group with Internet addiction.

4. Discussion and Conclusion

The current study was performed with the aim of investigating family function, personality traits, and attachment styles in Internet addicts and normal individuals, selected among high-school students of Imam Khomeini School in Salmas, Iran. The results showed significant differences in the personality traits of Internet addicts. There was a significant negative relationship between the dimensions of openness to experience, pleasantness, extraversion, conscientiousness, and reliability. Among different personality traits, neuroticism had a significant positive relationship with Internet addiction.

Among personality traits, neuroticism had a significant positive relationship with Internet addiction; therefore, people with Internet addiction had higher neuroticism scores. The obtained results can be explained by the fact that neuroticism plays an important role in promoting addictive use of the Internet. People with Internet addiction are usually impatient and indifferent about life. They do their activities hastily and experience undue sadness and extreme loneliness; these feelings can affect neuroticism and promote addictive use of the Internet.

The results of the current study are in line with other research regarding personality traits. Asgari and colleagues (2009) (6) showed that a person with Internet addiction, because of the specific conditions of the virtual world, experiences changes in his/her body and mind, which can affect his/her lifestyle and personality traits. As the results showed, there was a negative relationship between extraversion, neuroticism, and Internet use (same source). In addition, Asgari and Mrshyan in 2009 (6) showed a significant relationship between Internet addiction and personality traits.

Sadat Ahmadi and colleagues (2012) (11) claimed that teenagers, who were addicted to the Internet, compared to those without Internet addiction, had higher scores in the components of neuroticism and openness to experience and obtained lower scores in the components of extraversion and conscientiousness. Moreover, Asgari et al. (2009) (6) showed a significant positive relationship between neuroticism, extraversion, and Internet addiction. On the other hand, there was a negative relationship between Internet addiction and characteristics of agreeableness and conscientiousness. However, Internet addiction showed no significant relationship with openness to experience.

The results of this study regarding personality traits are not consistent with the findings of previous research. Sanee Dehkhordi (2009) (5) claimed that people with Internet addiction have serious problems in performing their school tasks and family relations. In addition, Dargahi (2004) described a negative relationship between Internet addiction and characteristics of extraversion and agreeableness.

The term “Internet addiction” has been widely used by researchers, including Kandie and Young (Kandel, 1998; Young, 1998). Nastizaie (2009) observed that the general health of people addicted to the Internet is more at risk, compared to normal users. Yang et al. (2007) in their study claimed that Internet addicts suffer from psychological problems, such as depression. King (2011) highlighted the importance of personality traits and claimed that people addicted to the Internet are timid and shy.

Regarding attachment styles, the results showed a significant relationship between attachment styles and Internet addiction. The relationship between Internet addiction and secure attachment style was negative, while a positive relationship was found with insecure, avoidant, and ambivalent styles. This finding can be explained by the fact that people with Internet addiction have insecure attachment styles and are ambivalent and avoidant. These individuals develop specific characteristics in their childhood and have an insecure and avoidant attachment style (they do not complain even in the event of mother’s absence or separation). When the mother/father returns, the child cautiously walks around her/him and cannot play freely. On the other hand, children with insecure-ambivalent attachment styles complain and are not calm when their mother/father returns; in fact, they cling and hold onto their parents.

People with insecure attachment styles experience rejection by parents, poor family support, and lower intimacy in the family. These individuals usually have low self-esteem, while people with avoidant attachment styles experience depression. Therefore, the dominant characteristics during childhood can affect important aspects of an individual’s life; in fact, the developed personality characteristics in adulthood may result in Internet addiction.

The results of the current research regarding attachment styles are in consistency with some previous research. Khosrowshahi et al. (2011) in their research claimed that the relationship between Internet addiction and secure attachment style is negative, while a significant positive relationship was found with insecure, avoidant, and ambivalent attachment styles. In this regard, Gvldnbrg et al. (2000) concluded that there is a relationship between Internet addiction and attachment styles.

Bowlby (1997) (19) claimed that Internet addiction has
Table 2. Assumption of Homogeneity of Variance for the Scales in the Groups

| Variables          | Variance Test                | Comparison of Average Values                                                                 |
|--------------------|------------------------------|-----------------------------------------------------------------------------------------------|
|                    | F    | P Value | t    | df  | Bidirectional Significance Level | Average Difference | SE  | CI (0.95) | Low  | High |
| Neuroticism        |      |         |      |     |                                |                   |     |           |      |      |
|                    | 23.71| 0.00    | 41.75| 498 | 0.00                           | 15.26             | 0.36| 14.54     | 15.98|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Extraversion       | 22.92| 0.00    | 58.54| 498 | 0.00                           | 14.52             | 0.24| 14.03     | 15.00|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Flexibility        | 23.71| 0.00    | 54.43| 498 | 0.00                           | 14.86             | 0.27| 14.32     | 15.40|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Conscientiousness  | 28.72| 0.00    | 54.76| 498 | 0.00                           | 14.56             | 0.26| 14.03     | 15.08|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Pleasantness       | 49.89| 0.00    | 52.80| 498 | 0.00                           | 14.56             | 0.26| 14.54     | 15.66|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Personality traits | 38.83| 0.00    | 109.5| 498 | 0.00                           | 74.36             | 0.67| 73.02     | 75.69|      |
| Secure attachment  | 10.28| 0.001   | 37.66| 498 | 0.00                           | 4.34              | 0.11| 4.11      | 4.56 |      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Insecure attachment| 21.96| 0.00    | -35.25|498 | 0.00                           | -4.57             | 0.12| -4.83     | -4.32|      |
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Ambivalent attachment| 0.24|0.61|23.69|498|0.00|2.89|0.12|2.62|0.13|
|                    |      |         |      |     |                                |                   |     |           |      |      |
| Family function    | 18.87| 0.00    | 42.13|498 | 0.00                           | 18.94             | 0.44| 18.06     | 19.82|      |

Abbreviations: CI, Confidence Interval; df, Degree of Freedom; SE, Standard Error.

A positive and negative relationship with different secure and insecure styles, respectively. Also, the results of the present study in terms of family practice showed a significant association between Internet addiction and family function. To explain this phenomenon, it can be said that people with Internet addiction usually have family problems. In families of these people, there is a dominantly cold atmosphere rather than a friendly one. Therefore, family
conflicts and family relations are important factors influencing and pushing family members towards Internet addiction.

The results of this study on the relationship between Internet addiction and family functioning are consistent with previous research. According to Young and Nam (1999 and 2002), people with Internet addiction have family conflicts, as they lack mental health. Internet addiction is related to family functioning, and family is recognized as one of its predictors. In fact, lack of strong parental emotional support can lead to feelings of incompetence, loss of values, and escape from the real world to the cyber world (Khosravi et al., 2011) (2). Moreover, in families of Internet addicts, there is a tendency towards disobedience (same source).

Crat et al. (1998) believes that Internet use is time-consuming, and if children spend excessive amounts of time on the Internet, it can affect their family time. Sanei and Dehkordi (2008) (5) claimed that people with Internet addiction are faced with problems in their educational performance and family relations. In a study by Brshan et al. (2010) with regard to the association between Internet abuse and family relations, it is necessary to incorporate activities to improve the strength of family ties. Moreover, Khosravi et al. (2011) (2) showed a significant negative correlation between Internet addiction and some subscales of family function, such as assertiveness, tasteful attitudes, and religious emphasis. On the other hand, there was a significant positive correlation between Internet addiction and discontinuity of family involvement, major family conflicts, and authoritarian attachment style.

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