Research Article

The Relationship of Internet Addiction with Loneliness and Identity Styles

Mehdi Arabzadeh¹*, Mohamad Bayanati², Fariborz Nikdel², Mahdieh Shafy Nadery¹, Ghader Naimi¹

¹Department of Psychology, Tehran Kharazmi University, Iran
²Department of Psychology, Yasoj University, Yasoj, Iran

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Abstract

The present study examines the relationship between internet addiction on the one hand and loneliness and identity styles of university students on the other hand. To this aim, a sample of 288 undergraduate students (108 male and 180 female) are chosen from of Psychology and Educational Sciences Faculty of Kharazmi University and Agronomy Faculty of Tehran University in educational year of 2009-2010. These students are selected from four faculties through cluster sampling. The research instruments used in this study include Young Internet Addiction Inventory (1998), Russell UCLA Loneliness Scale (1996), and Berzonsky Identity Styles Inventory revised by White and his colleagues (1998). According to the analysis of correlations, internet addiction has a positive and significant relationship with diffuse-avoidant identity style. It also shows a negative and significant relationship with informational and normative identity styles. The results indicate that loneliness shows a negative and significant relationship with informational and normative identity styles and a positive and significant relationship with diffuse-avoidant identity style. The investigation

* Correspondence should be addressed to Mehdi Arabzadeh, Department of Psychology, Tehran Kharazmi University, Iran. Email: Mehdi_arabzadeh@hotmail.com; Tel: +989173750200.
also reveals that the differences in means for the two groups of Tehran Tarbiat Moallem University and Tehran University are not significant in the two scales of loneliness and internet addiction.

Keywords: internet addiction, loneliness, identity styles

1. Introduction

The growing knowledge of human being and the new technologies have led to a changing and complicated era. One of the phenomena that altered human life is computer and this process is still at work. With the introduction of this technology to the market, as Lanthier and his colleagues [1] state, the world changes to a “universal village”. Another significant phenomenon that followed this technology is “Internet” that transfers data to furthest places in the shortest time. This led to information explode which might be considered as the most important phenomenon in the present century that has gained the universal attention in various ways. The word Internet which stands for International Networking signifies an extremely wide universal network that consists of thousands of computers connected through telephone, cable, or satellite. These computers communicate with a common language and under the Internet protocol. Each technology necessitates basic and multi-dimensional changes in the society. The technologies are integrated so much in our daily life that they are considered as permanent and integral and, somewhat, natural phenomena. Computer, with its wide capabilities for successful function of International Net Working (Internet), could be a vivid example. Internet could be the next technology that plays an essential role in human social life. The significant growth of Internet is an obvious fact which could not be denied. The widespread presence of Internet and the differences in its various aspects among demographical groups have been a major research interest in recent years. Although specific advantages, such as wide educational benefits and valuable communicative services could be mentioned for Internet, likewise any other phenomenon it has its own disadvantages and negative aspects. Internet might expose children and students to violent and immoral data and images. Exposure to these data might occur accidentally or deliberately. Both types of exposure have been investigated from various aspects and the scholars have warned against the irreparable damages to children and adolescents such as sexual deviation, violence, drug abuse, anti-social behaviors, weakening of family basics, increasing rate of crime. As Kandel [2] believes, various factors could lead to excessive use of Internet including: 1) easy and free accessibility to Internet, 2) a powerful drive for creating a sense of identity stability, 3) establishing and developing close and desirable relationships and, 4) the internal motivations of users for the Internet [2]. In 1989, Shatan [1] coined the term Internet addiction in his book with the same title. But up to the present time there has been no formal psychological or psychiatric diagnosis for the Internet or computer addiction neither in DSMIV nor in any other publication. Scholars have observed some symptoms in extremist Internet users which
resemble those of drug dependence, such as tolerance, quitting symptoms, and a sense of pressure for use [3]. Young [2] defines Internet addiction as a mental dependence on Internet, regardless of the activity that is undergone. He names these symptoms for Internet addiction: 1) increasing time spent on the activities related to Internet, 2) experiencing unpleasant feelings (anxiety and depression for example) during the time that there is no access to the Internet, 3) increasing tolerance and, 4) denying the problematic behaviors in oneself. There is no consensus over a single definition for Internet addiction phenomenon among the scholars; in fact each scholar has proposed their own diagnosis criteria and applied them to their works. The most important and exclusive social aspect of Internet is for users to be unknown to others; the consequences of this aspect is just partially probed in research attempts. One of the main consequences is early self-expression that might lead to further intimacy. Another important result of this aspect is lack of inhibition which Holcomb [4] defines as a decrease in evident concern regarding how to introduce one and how one might be judged by the others [4]. Individuals are able to express their feelings, ideas, and thoughts freely and easily on the Internet. But we might refer to loneliness as the most significant consequence of this widespread technology. Loneliness is considered a tragedy and the attempt to eliminate it totally is very bold. This is the reason that “existential schools of thought take it as natural and inevitable for human being” [5]. Social psychology has offered various definitions for the phenomenon called loneliness. For example, Gerolod [5] states that: “loneliness implies an experience that is caused by lack of social contacts, intimacy, or disorder in social interactions.” In spite of the variety in definitions proposed, Whitty and her colleagues [5] mention four features that are accepted and proposed by most of the scholars: 1) loneliness is followed by deficiencies in social interactions, 2) it is partially mental and under the individual’s control and comprehension, 3) it is considered as an unpleasant phenomenon and, 4) the individuals experiencing loneliness usually aim at reducing it. The important point about loneliness is that although the lonely individuals are surrounded by strangers and acquaintances, for any reason they are not satisfied with the relationships and their expectations are not fulfilled in those relationships. In such relationships although the lonely individuals have lingual interactions with others but is not satisfied mentally or affectively. Therefore, one could feel lonely among many people around them. One of the other important features of Internet is that the users are able to reconstruct their identities for several times; this could not be attained in real life experiences. Every individual has a sense who s/he is and how s/he is similar to or different from others. A part of this sense is cognitive (the ways we describe ourselves) and a part is emotional (our evaluation of ourselves as good or bad in performing activities or responsibilities) [6]. For Berzonsky self-identity is the heart of Self Theory. In Berzonsky’s ideas, Self_Theory enjoys a complete and conceptual structure that includes assumptions, interpretations, and introductions related to “self”. Berzonsky and Sullivan [7] investigated the cognitive-social processes of Identity Status Theory by Marcia in constructing, maintaining, and adopting identity in adolescents and identified three identity styles: informational, normative, and diffuse-avoidant. Informational identity style is followed by a powerful orientation toward exploration and actively seeking out the self-relevant issues
as well processing and evaluation of these data [6]. The individuals with informational identity style doubt the “self” structure and actively probe the information related to self and evaluates self-structures. When facing contradictory information regarding their own self, this group tends to revise and consider the issue and change some aspects of self [7, 8]. Adolescents with informational identity style are explorer, thoughtful, dutiful, alert, self-oriented, and determined [9]. They hardly spend time searching others and trust their own judgments. In normative identity style, adolescents follow and highlight the expectations and values of significant others (parents and authoritative figures) regarding the identity-relevant issues. They match themselves to those significant others and are committed to them. While facing the values and norms that contradict those of their own, the reaction by this group would be questioning, resistance, and being reluctant to change [6]. These adolescents are thoughtful and goal-oriented and highly seek the others confirmation [9]. Diffuse-avoidant identity style is characterized by procrastination and avoidance to engage in identity-relevant discussions and issues. Adolescents diffuse-avoidant identity style are unwilling to face the personal issues and decisions, they postpone the decision making until the situational factors determine the right behavior for them. The identity of this group changes with social demands and they do not attain a fixed identity. Also they are not concerned about their future and the consequences of their present actions in long-terms [9]. They change according to the situation, are unable in management, and experience threat and anxieties in management situations [9]. Various studies have addressed the identity styles from different points of view. Some of the results are reviewed in summary. The results of a longitudinal study by Krat [10] indicate that using Internet would lead to depression and loneliness. These results are considered as a turning point in this field which caused many social scientists to be concerned. This study concluded that although one of the main applications of Internet is social, it lacks some of the aspects of authentic communication and hence it individuals leads to loneliness. Although this type of studies does not directly address Internet addiction, the results of investigations in various countries show that those who are addicted to Internet are lonelier than those who are not. Paknen [5] shows that feeling lonely is related to four basic factors: 1- lack of meaningful activity, 2- feeling insecure, 3- feeling to be stranger and marginal and, 4- having a strong wish. The longitudinal study of home network shows that using internet is related to increasing depression and loneliness (isolation) and as a result adolescents show a decrease in their social support [1]. To interpret the results, Krat and his colleagues suggest that excessive use of Internet by adolescents with the aim of Internet communication lead them to ignore and abandon necessities for communicating with their friends and families in order to establish superficial relationships with strangers. This appears to contradict with the results of the previous studies on home network that using Internet result in positive social outcomes as well as decreasing loneliness [11]. The results of the study by Yasan and his colleagues [2] do not provide any support for the assumption that using Internet would lead to social problems and psychological disorders. Contrariwise, it proposes that Internet could specifically benefit the individuals with social and personal problems. In a study conducted by Young and his (her) colleagues [3], it is shown that the
students with specific traits such as dependent personality, timidity, depression, and low self-esteem, which are characteristics of diffuse-avoidant identity style, are at a higher risk for Internet addiction. Some of the scholars conclude that the individuals with excessive use of Internet face a series of problem from fatigue and lack of sleep to failure in educational achievements and reduction of social (face to face) interaction [11]. Seepersad [12] finds that adolescents with social anxiety in their school interactions and higher levels of loneliness tend to establish relationship with strangers on the Internet more than other adolescents.

2. Methods

2.1. Population, Sample, and Procedure
The population for this study included the students of Psychology and Educational Sciences Faculty of Tehran Tarbiat Moallem University as well as students of Agronomy Faculty of Tehran University in educational year of 2009-2010. The subjects selected for the purpose of this study included 288 male and female students who were selected through cluster sampling method. After describing the research goals and ensuring the cooperation of the subjects, the questionnaires were distributed. The questionnaire was prepared in a way that all of the subjects first replied the Internet Addiction Inventory and then the Loneliness Scale and Identity Styles Inventory. The obtained data were analyzed through Pearson correlation and t-test.

2.2. Instruments

2.2.1. Internet Addiction Inventory
One of the instruments used for the aim of this study is the Young Internet Addiction Inventory [3]. This questionnaire was administered in Swede and, after eliminating seven items due to failure in showing the differences among the subjects, the Cronbach’s Alpha was calculated to be 95% [13]. In Korea, Whang and his colleagues [10] calculated Cronbach’s Alpha of 90% for this inventory after eliminating the option “sometimes” due to the fact that Koreans mainly tend to choose the neutral options. In this inventory the Likert scale is used with the options including “never” (0), “rarely” (1), “sometimes” (2), “usually” (3), “mostly” (4), and “always” (5). The score for this inventory ranges from zero to one hundred and the higher score indicates more dependency on the Internet and more problems due to excessive use of Internet. In the instruction provided by Young [3] which was used for interpreting the results, the scores between 0 to 39 shows a typical and ordinary user, the scores between 40 to 69 shows a high risk user, and the scores between 70 to 100 shows an addict user. The reliability coefficient of this inventory for this study was .79.

2.2.2. Loneliness Inventory
In order to evaluate loneliness in this study Russell Loneliness Inventory [14] was used which is the most well-known and almost standard inventory in this field. This Inventory has been applied frequently by the scholars and enjoys a higher psychometrics [15]. The loneliness inventory showed a range of Alpha from .89 to .94 among four groups of students, nurses,
teachers, and elderly people through different methods of self-report and interview [14]. Loneliness Inventory has 20 items for which the respondents should choose an answer on a four-level Likert Scale including “never” (1), “rarely” (2), “sometimes” (3), “mostly” (4). The scores for this inventory range from 20 to 80 and the higher scores indicate higher levels of loneliness. In this study the reliability coefficient calculated for this inventory was .86 based on Cronbach’s Alpha.

2.2.3. Identity Style Inventory
This inventory was first proposed by Berzonsky (1981) in America. It evaluated the identity in terms of three identity styles including information, diffuse-avoidant, and normative. This questionnaire was revised in 1998 by White and his colleagues in America. The original version has 40 items but the 36-item version (Aghajani, 2002) was used for the purpose of this study. The answers for each item are on a five-level Likert scale which includes totally agree (5), to somehow agree (4), not sure (3), to somehow disagree (2) and totally disagree (1). Berzonsky [8] calculated the Cronbach’s Alpha equal to .71 for informational style, .65 for normative style, .75 for diffuse-avoidant style and .78 for commitment scale. He reported the reliability coefficients of .71 and .75 in a two-month interval. In order to evaluate the reliability in this study the Cronbach’s Alpha was used to obtain the internal consistency. The results of Cronbach’s Alpha in this study are as follows: .68 for informational style, .69 for normative style, and .65 for diffuse-avoidant style.

3. Results

The results of this study revealed specific patterns for the relationships under study. Table 1 summarizes the descriptive data gathered for the study.

<table>
<thead>
<tr>
<th>University</th>
<th>Tarbiat Moallem</th>
<th>Tehran</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects</td>
<td>Non-Users</td>
<td>Users</td>
<td></td>
</tr>
<tr>
<td>Tarbiat Moallem</td>
<td>11.1</td>
<td>20</td>
<td>88.9</td>
</tr>
<tr>
<td>Tehran</td>
<td>3.7</td>
<td>4</td>
<td>96.3</td>
</tr>
<tr>
<td>Total</td>
<td>8.33</td>
<td>24</td>
<td>91.67</td>
</tr>
</tbody>
</table>

The results show that in Tarbiat Moallem University non-user students are more than Tehran University. As it is shown in table 1, 96.3 percent of students in Tehran University tend to use Internet while this number reduces to 88.9 for Tarbiat Moallem University. It is also shown than the number of users is more than non-users in general (91.67 percent users and 8.33 percent non-users).
Table 2. addict, high risk, and normal users in according to the scores on Internet Addiction Inventory

<table>
<thead>
<tr>
<th>University</th>
<th>Subjects</th>
<th>Addict</th>
<th>High risk</th>
<th>Normal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>Tarbiat Moallem University</td>
<td>2</td>
<td>1.25</td>
<td>60</td>
<td>37.5</td>
</tr>
<tr>
<td>Tehran University</td>
<td>2</td>
<td>1.93</td>
<td>44</td>
<td>42.31</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>1.51</td>
<td>104</td>
<td>39.4</td>
</tr>
</tbody>
</table>

As table 2 shows, 42.31 percent of subjects in Tehran University are among the high risk students while this number reduces to 37.5 percent for subjects in Tarbiat Moallem University. Totally, 39.4 percent of the subjects from both universities are high risk (68.18 percent of all subjects are normal users and 40.91 percent are high risk and addict students).

Table 3. the results of mean difference test on loneliness and Internet addiction scales

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean difference</th>
<th>Significance level</th>
<th>Degree of freedom</th>
<th>T</th>
<th>Significance level</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td>−0.2926</td>
<td>0.640</td>
<td>286</td>
<td>−0.468</td>
<td>0.621</td>
<td>0.245</td>
</tr>
<tr>
<td>Internet addiction</td>
<td>−1.5</td>
<td>0.334</td>
<td>286</td>
<td>−0.996</td>
<td>0.141</td>
<td>1.194</td>
</tr>
</tbody>
</table>

In order to test the significance of equality of variance the Lewens test was performed. As table 3 shows the variances of the two groups are homogenous (F = −0.245 and 1.194, p<0.05). Therefore, t-test was used to determine the significance of the mean difference for the two groups. According to the results of t-test for each group (t = −0.468, p<0.05 and t = −0.996, p<0.05) the mean difference between two groups of subjects is not significant on loneliness and Internet addiction scale.

Table 4. correlation coefficients matrix for variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Internet addiction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Loneliness</td>
<td>0.374**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Informational identity style</td>
<td>−0.322**</td>
<td>−0.264**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- normative identity style</td>
<td>−0.265**</td>
<td>−0.119*</td>
<td>0.583**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5- diffuse-avoidant identity style</td>
<td>0.223**</td>
<td>0.129*</td>
<td>0.011</td>
<td>0.126*</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05     ** p<0.01

Table 4 indicates the relationships and significance by the results as follows. There is a significant and positive relationship between Internet addiction and loneliness (r = 0.374, p<0.01). On the other hand, there is a significant and negative relationship between informational and normative identity styles (−0.322, p<0.01 and −0.265, p<0.01). The results also suggest that there is a significant and positive relationship between Internet addiction and diffuse-avoidant identity style (0.233, p<0.01). The table also shows that both informational and normative identity styles have negative and significant relationship with loneliness (−0.119, p<0.05 and
– .264, p<0.01). And finally there is a positive and significant relationship between loneliness and diffuse-avoidant identity style (.129, p<0.05).

4. Discussion & Conclusion

The present study aimed at investigating the relationship between Internet addictions on the one hand and loneliness and identity style on the other hand. The findings obtained of this study show that Internet addiction has a positive and significant relationship with loneliness. These results are in line with the previous studies [1, 11]. To explain the findings it could be claimed that individuals who are addicted to the Internet disconnect their regular contacts with the social situations. This group of users reduces the time and interaction with family and friends and spends most of their time on using Internet. The results of the present study also show that while Internet addiction has a negative and significant relationship with informational and normative identity styles, it has a positive and significant relationship with diffuse-avoidant identity style. Adolescents make an effort through testing and exploration to find out who they are. This is an issue which naturally involves every human being. But this issue is of a higher importance for the adolescents who are about to leave the security of the home and gain independence. What type of individual I am? What do I want to do with my life? Which social or religious group should I join? These are the challenging questions that the adolescents face and they could find some of the answers on the virtual atmosphere of Internet. Human being tries novel and intimate relationships during the adolescence. They look for new companions and groups to whom they feel a sense of belonging. These relationships form part of the whole process of identity exploration by the adolescents. There are a variety of people and groups with different personality traits, backgrounds, values, and interests on the Internet. The adolescents who favor independence and separation from parents possess a powerful motivation for establishing relationships with these groups and individuals on the Internet. This process involves high levels of excitement for the adolescents and the virtual atmosphere is an attracting place for satisfying their pioneering and adventurous needs. This specifically comes true for the conditions that the parents are ignorant about Internet and do not have enough information about it. On the other side, adolescents are slightly anxious about process of separation/individuation since dependence on the parents and home has its own specific advantages. One of the reasons for the attractiveness of Internet among the adolescents is that it makes this dichotomy possible. Lack of face to face aspects of interaction deeply affects the manner of expressing identity by the individual on the Internet. When the communication is lead merely through text the individuals could be themselves, only reveal part of their identity, select imaginary identities, stay totally unknown, and even in some cases be like an invisible ambusher! In many virtual environments individuals are free to choose any name for them. Being unknown has a mutual effect. Sometimes the individuals take this way to satisfy their unacceptable needs and affects through abusing others. But this condition also provides a chance for individuals to talk about their personal issues freely and
honestly which might not be possible in authentic and face to face communications. This anonymity and adopting imaginary identities prevents adolescents from achieving a real autognosis and probing their real identity. On the other hand, in Piaget views adolescence is an age of hypothetico-conductive thinking and adolescents spends more time in the abstract and hypothetical world than the real world. This causes the adolescents to detach from the issues and problems in real world hence they would not be prepared for facing the challenges in real world. Inappropriate expectations, ongoing dissatisfaction with parents, school, and even society is considered as the results of this type of thinking. Regarding the interactions, research evidences suggest that the more individual spend their time on the Internet, the less they devote time to social situations. Therefore, the process of identity formation, exploration, and examination is disordered since it is stimulated in virtual world by hypothetical identities. The total number of addict students obtained by the present study (40.91) indicates the fact that this issue should be considered more precisely and other studies are needed to probe it from different dimensions. In the virtual world, individuals are able to adopt multiple identities easily and use each to serve specific goals and aims. The individuals lacking a bodily aspect could appear in any form they wish. Other scholars also refer to the issue of adopting new names and personalities in various virtual situations. Such an anonymous identity on the Internet provides a specific chance for the adolescents to do and say things that they do not in real life. In his report, Young suggests that the women diagnosed with Internet addiction symptoms usually feel relieved when the addressee does not know anything about their face. In a study conducted by Berson and Feron an adolescent girl stated that: “you can say and do whatever you like and never meet your addressee. For example my younger brother is 13 but he pretends to be 16. He is such a kind boy….., but says cruel words and acts as a monster on the Internet!” Although these words are the views of only one of the respondents in the study, it signals to the possibility of actions by the adolescents on the Internet which are not done in real life situations. This anonymity reduces the reliability of the data received through Internet. For example, it is possible that the individuals do not introduce themselves completely to the other users. Searching and evaluating real data, which is difficult to find on the Internet, is necessary to successful formation of identity style.

References


