Family Communication Patterns and Internet Addiction Among Iranian Female High School Students: The Mediating Role of Psychological Needs Satisfaction

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Abstract

The prevalence of internet addiction in Iranian adolescents has been an increasing matter with a rising trend mostly in females. The present study aimed to investigate the mediating role of satisfying basic psychological needs in the relationship between family communication patterns and internet addiction among female high school students in Iran. For this purpose, 250 second-grade female students of Yasouj high schools were selected with a multi-stage cluster random sampling method and asked to answer Revised Family Communication Patterns, Psychological Basic Needs Satisfaction, and Internet Addiction questionnaires. The results showed that family communication patterns were related to basic psychological needs. In addition, greater psychological needs satisfaction was connected with low levels of internet addiction. The direct effect of family communication patterns on internet addiction was not significant. The indirect influence of family communication patterns on internet addiction through basic psychological needs was of significance. Thus, basic psychological needs mediated the relationship between family communication patterns and internet addiction.

Introduction

Internet is considered to be an integral part of everyday lives in the contemporary world; it is expansively used every day (Anderson et al., 2017) in various fields of life, including education, scientific activities, information exchange, interpersonal communication, business, science, and entertainment (Goel et al., 2013). The availability and low price of the internet in homes, schools, universities, libraries, and internet cafes has led to the overuse of this technology (Malak et al., 2017). According to the report of the DataReportal (2020a), the number of people around the world utilizing the internet has grown up to 4.54 billion (59% of the world's population), an increase of 7% (298 million new users) compared to January 2019. Worldwide, there are 3.80 billion social media users in January 2020 with this number increasing by more than 9% (321 million new users) since this time last year. This report reveals that there were 58.42 million internet users in Iran in January 2020. The number of internet users in Iran increased by 5.7 million (+11%) between 2019 and 2020. The internet penetration in Iran stood at 70% in

January 2020. The number of social media users in Iran increased by 9.4 million (+39%) between April 2019 and January 2020. Social media penetration in Iran stood at 40% in January 2020 (DataReportal, 2020b).

Although the internet is a useful tool in today's world, its excessive use can be detrimental (Sachdeva & Verma, 2015). The problematic use of the internet manifests itself in two ways: the first form is related to the aspects of employing the internet described as the excessive or obsessive use of the internet with mental preoccupation and loss of control. The second form refers to the negative and numerous consequences of spending too much time on the internet, which leads to overlooking social activities, communication, health, and job and educational tasks, as along with changing sleeping and eating habits (Spada, 2014). The excessive use of the internet can lead to addiction which may cause serious problems, such as physical and psychological problems, and impair the psychosocial function of a person (Jia et al., 2017). The internet addiction can be described as an impulse control disorder included in the DSM-5 as a psychological diagnostic disorder (Y.-L. Liu, 2020). Recent studies on internet addiction among students indicate a growing trend among them (Aydemir, 2018; Chia et al., 2020). Studies conducted in Iran showed that 27 to 53% of high school students using the internet are exposed to internet addiction (Fathian dastgerdi et al., 2020; Harsej et al., 2021).

Several studies have implied that parenting styles, family atmosphere, and family communication patterns are important in adolescents' problem behaviors, especially addiction (Gugliandolo et al., 2019; S. Li et al., 2018; Wu et al., 2016). The concept of family communication pattern is the scientific structure of the family exterior defined in accordance with how family members communicate with one another, what they say and do, and what they mean by these communications (Fitzpatrick & Koerner, 2005). How parents communicate with their children is reflected in family communication patterns (Koerner & Fitzpatrick, 2002b). Fitzpatrick and Ritchie (1994) identified two underlying dimensions of conversation and conformity orientation in family communication patterns. The conversation orientation indicates the extent to which the conditions are provided, in which all the family members are encouraged to participate freely and comfortably in interacting, discussing, and exchanging views on a wide range of topics. The conformity orientation is also the extent to which families emphasize the conditions, under which attitudes, values, and beliefs are matched (Fitzpatrick & Ritchie, 1994). Although the direct relationship between the family communication patterns (conversation- and conformity-orientation) with internet addiction has not been studied, two sets of evidence imply a relationship between them. First, there is the indirect evidence to suggest that such relationships exist. For instance, growing evidence to suggest that the family communication patterns (conversation- and conformity-orientation) are associated with a host of information-processing, behavioral, and psychosocial outcomes (Koerner & Fitzpatrick, 2002b; Schrodt et al., 2008). One of the key conclusions drawn from this body of research is that the family conversation orientation is positively associated with young relational and psychological well-being (Hamon & Schrodt, 2012); therefore, it can be understood that the conversational communication pattern has a negative relationship with internet addiction. Secondly, numerous studies have revealed the vital role of family factors, such as attachment (Schimmenti et al., 2014), parenting style (Gugliandolo et al., 2019; Leung & Lee, 2012), family functioning (J. Li et al., 2018; Şenormancı et al., 2014; Shi et al., 2017), and family relationships (Chng et al., 2015; C.-Y. Liu & Ku, 2007; Q.-X. Liu et al., 2012; Y.-L. Liu, 2020; Tajalli & Zarnaghash, 2017; Yen et al., 2007) in adolescents' internet addiction.

Another factor that can predict people's internet addiction is their needs. Most of the human activities and behaviors are on the account of their specific needs (Robinson & Berridge, 2003). Given the general and fundamental role of intrinsic psychological needs in human functioning, these needs can, to some extent, predict the behavior of individuals on the internet and cyberspace. The theory of Self-Determination proposed by Ryan and Deci (2002) is an approach examining the three basic needs: autonomy, competence, and relatedness. The need for autonomy refers to the experience of selecting a sense of approval and authority in the beginning, continuation, and completion of behavioral activities. The need for competence refers to the feeling of being effective in interacting with the physical and social world. Lastly, the need for relatedness refers to receiving attention and intimacy when interacting with colleagues and obtaining a general sense of belonging and dependence (Ryan & Deci, 2017). Deci and Ryan (2011) believe that supporting basic psychological needs can directly predict many of the motivational, behavioral, and emotional consequences. Several studies have also implied that satisfying psychological needs is associated with physical and mental health whereas not satisfying these needs or their low satisfaction can lead to physical and psychological problems, such as addictive behaviors, namely drug addiction, internet addiction, and addiction (Costa et al., 2016; Gugliandolo et al., 2019; Kumcagiz & Gündüz, 2016; Y. Liu et al., 2016; Settley, 2020; R. Sun et al., 2020; Wong et al., 2015). According to research findings, the intrinsic motivation of users to utilize the internet and cyberspace is their desire to satisfy the basic psychological needs, maintain contact with friends, and experience social relationships with others (Casale et al.,

2015; Chen, 2019; Ellison et al., 2007; Masur et al., 2014). Moreover, self-disclosure in online networks, such as posting comments, posting photos or videos, and connecting with other users through social media provides opportunities to meet the basic psychological needs (Ang et al., 2015; Y. Liu et al., 2016). Casale et al. (2015) found that male and female students employ the social networks to satisfy the need for belonging, the need for self-perception, and the need for courage, and these needs are all the predictors of the use of internet activities and cyberspace. Therefore, Self-Determination Theory (SDT) provides a unique perspective on understanding the relationship between the psychological needs and behavior in online networks (Shen et al., 2013).

On the other hand, based on Self-Determination Theory, family relationships and responsive and supportive social environments satisfy the basic needs, contributing to a better adaptation and higher levels of social psychosocial functioning (Costa et al., 2019; Ryan & Deci, 2017). Thus, according to Deci and Ryan's (2008), Self-Determination Theory, the optimal performance, and mental health are the functions of environmental factors that can satisfy the basic needs. The most important environmental factors are family and the quality of family relationships (Kocayoruk, 2012). The previous studies also demonstrated the role of family environments and relationships when satisfying the basic needs (Costa et al., 2016; Soenens & Vansteenkiste, 2010; Vansteenkiste & Ryan, 2013). The families low in conformity orientation typically promote holding independent attitudes and beliefs and the individuality, autonomy, and equality of all family members (Keating, 2016). On the other hand, the children in high-conformity, low-conversation families "learn that there is little value in family conversations and to distrust their own decision-making ability" (Koerner & Schrodt, 2014, p. 8). Thus, the satisfaction of basic psychological needs, such as autonomy, competence, and communication in these families is compromised.

Therefore, the family communication patterns can predict the satisfaction of basic psychological needs and are associated with the students' internet addiction. The satisfaction of psychological needs is further related to the students' internet use. This raises an important question as to whether or not the satisfaction of psychological needs can have a mediating role in family communication patterns and the students' internet addiction. A review of past research shows that there are several studies on the indirect effect of family on internet addiction (Gugliandolo et al., 2019; Shi et al., 2017; R. Sun et al., 2020), however, the simultaneous study of three variables of family communication patterns, psychological needs, and internet addiction has not been performed and the assumption that family communication patterns can indirectly affect internet addiction through psychological needs was neglected. Thus, this paper was conducted to address the shortcomings of previous research for the simultaneous study of these three variables. Therefore, in this work, family communication patterns (conversation orientation and conformity orientation), as a predictor variable, psychological needs as a mediating variable, and internet addiction as a criterion variable were reviewed.

In summary, the goals of the present study were to: a) examine the relationship between family communication patterns (conversation orientation and conformity orientation), and internet addiction; b) examine the psychological needs as a mediator of the relationship between communication patterns (conversation orientation and conformity orientation), and internet addiction. More specifically, it was hypothesized that the psychological needs would be a mediator of communication patterns and in predicting internet addiction.

Although the internet frequently has been characterized as male-dominated, recent evidence indicates that the gender gap in internet use is rapidly diminishing (Weiser, 2000). Studies have found that the prevalence of internet addiction in Iranian adolescents has been increasing (Modara et al., 2017) and this increasing trend was observed more in females (Ansari et al., 2017). Considering that previous studies on internet addiction in Iran have focused more on boys and less on female students, Also Iran is a patriarchal society where females have been historically under the subordination of men (Moghadam, 1992), but during the recent decades, they have slightly commenced entering the social spheres of society. Therefore, the increasing rate of internet addiction among girl students is an interesting phenomenon that is carefully considered In this research. Therefore the current study focused on female students and the statistical population included the female high school students in Yasouj. Considering that the communication patterns of the family have two distinct dimensions, conversation orientation and conformity orientation, in fact, the research will have two hypotheses:

H1: The psychological needs will mediate the relationship between the conversation orientation of family communication and internet addiction.

H2: The psychological needs will mediate the relationship between the conformity orientation of family communication and internet addiction.

Method

Participants and Procedure

The population of this study consisted of all the female second-grade students of Yasouj high schools studying in the academic year of 2019–2020. From this population, 250 people were selected by multi-stage cluster random sampling. In the first stage, the list of all the senior high schools for females in Yasouj was prepared, among which six high schools were randomly selected by lots. In the next stage, two second-grade classes were randomly chosen for this population. In the last stage, the selected sample students willingly cooperated in the study with the satisfaction of their family (250 female students). Their age ranged from 15 to 16 years (M = 15.32, SD = 0.47) and they were all female.

To collect field research information, after the approval of the ethics committee of the university research vice-chancellor and obtaining a license for the implementation and after coordinating with the Yasouj Education Department, a list of secondary female high schools was prepared, from which six high schools were selected by random sampling through drawing lots. Afterwards, the in-person references to these schools were consulted with principals and teachers for cooperation. All the selected schools announced their readiness to cooperate. After attending classes and explaining the questionnaires, the students were asked to consult with their parents after school and obtain their permission to participate in the work. One day later, the questionnaires were distributed, completed, and collected in groups in the presence of the researcher among students who obtained written permission from their parents. Herein, to observe ethical considerations, the participants were not required to provide any confidential information about their families. The participants also had the right to participate in the research voluntarily without any compulsion and to withdraw from completing the questionnaires if they did not wish to cooperate.

Measures

The following questionnaires were utilized to collect data.

Revised Family Communication Patterns Questionnaire (RFCP)

Developed by Richie and Fitzpatrick (1990), this self-assessment questionnaire has 26 items measuring one's perception of family communication patterns in two components of conversation orientation and conformity orientation. The study applied the Persian translation of the Revised Family Communication Patterns Questionnaire developed by Koroushnia and Latifian (2008). It examines the conversation orientation with the first 15 items and conformity orientation with the next 11. In this questionnaire, the answer to each item is scored from one to five, with a five-point Likert scale, and the scores of the components are obtained by adding the scores of its constituent items. The higher the subject's score is on a component, the more it has that characteristic. None of the items in this questionnaire are scored in reverse (Koerner & Fitzpatrick, 2002b). Example items include*: In our family we often talk about our feelings and emotions*; *In our home, my parents usually have the last word*. Herein, the reliability of the Revised Family Communication Patterns Questionnaire (RFCP) was .92 using Cronbach's alpha method in the dimension of the conversation orientation and .84 in the dimension of conformity orientation.

Basic Needs Satisfaction Questionnaire (BNSQ)

Developed by La Guardia et al. (2000), it measures the sense of being supported in terms of autonomy, competence, and relatedness needs with the other subjects. The study applied the Persian translation of this Questionnaire developed by Tajrishi et al. (2011). The scale consists of 21 items rated on a seven-point Likert scale from a score of one (*absolutely wrong*) to a score of seven (*absolutely correct*). Among the 21 items, seven items measure the need for autonomy (example items include: *I feel like I am free to decide for myself how to live my life*), six items measure the need for competency (example items include: *The people I know tell me I am good at what I do*), and eight ones measure the need for relatedness (example items include: *I really like the people I interact with*). A higher score on each scale indicates a higher level of satisfaction. In the present study, the reliability of this scale was assessed via Cronbach's alpha and the alpha coefficients were obtained for the whole scale and its three dimensions (need for autonomy, competence, and relatedness), which were .81, .76, .74, and .79, respectively.

Young (1998) applied a 20-item Internet Addiction Test to measure the internet addiction. The study applied the Persian translation of Young's Internet Addiction Test developed by Mohammadsalehi et al. (2015). The questions are set on a five-point Likert scale. The scores range from 0 to 100. A high score indicates a greater dependency on the internet and the severity of the problems resulting from the overuse of it. The example items include: *How often do you fear that life without the internet would be boring, empty, and joyless?* and *How often do you find that you stay online longer than you intended?*. In study Mohammadsalehi et al. (2015), the Cronbach's alpha was .917; 95% CI [.901, .931]. In the current research, Cronbach's alpha method was employed to measure the reliability coefficient of the internet addiction questionnaire, obtained via Cronbach's alpha coefficient of .92.

Results

As a preliminary analysis, mean, standard deviation, and bivariate correlations between all the variables were calculated (see Table 1). The results revealed that all the relationships are significant at $p < .01$ level except the relationship of conversation orientation with conformity orientation, which is significant at $p < .05$. These correlational analyses provided insights into the bivariate relationships among the research variables.

Table 1. *Mean, Standard Deviation, and Bivariate Correlations Between All Variables.*

Variables	M	SD	2	3	4
1. Conversation	51.15	13.19	−.16*	.28**	−.22**
2. Conformity	34.26	9.07		−.27**	.22**
3. Basic Needs	95.49	18.74			−.44**
4. Internet addiction	37.45	13.32			

Note. *$p < .01$, **$p < .001$.

To test the hypotheses, the mediation analyses were conducted by the use of PROCESS macro (Hayes, 2013; Model 4). This macro offers the possibility to test both direct and indirect effects and provides confidence intervals based on bootstrapping for the mediated effect.

Hypothesis one predicted that the psychological needs satisfaction of girl students will mediate the relationship between the conversation orientation of family communication and internet addiction. A mediation test was conducted with the PROCESS Model 4. The results indicated that more conversation orientation of family communication was related to the higher levels of psychological needs satisfaction ($b = 0.29$, $SE = 0.06$, $t = 4.56$, $p < .001$). In addition, the greater psychological needs satisfaction was connected with the low levels of internet addiction ($b = −0.30$, $SE = 0.04$, $t = −6.80$, $p < .001$; see Table 2).

Table 2. *The Total and Direct Effect of Family Communication and Psychological Needs.*

		Outcome	Effect		SE	t	p
Model 1	Conversation	Needs	direct	0.29	0.06	4.56	< .001
	Conversation	Addiction	total	−0.17	0.05	−3.49	< .001
			direct	−0.08	0.05	1.73	.085
	Needs	Addiction	direct	−0.30	0.04	−6.80	< .001
Model 2	Conformity	Needs	direct	−0.29	0.07	4.31	< .001
	Conformity	Addiction	total	0.17	0.05	3.48	< .001
			direct	0.09	0.05	1.82	.070
	Needs	Addiction	direct	−0.30	−0.04	−6.80	< .001

To investigate a mediating role of psychological needs satisfaction, a 95% bias-corrected confidence interval (CI) based on 10,000 bootstrap samples was employed. A significant mediating effect was found such that conversation orientation of family communication indirectly decreases internet addiction by increasing the psychological needs satisfaction of female students, $b = −0.09$, Boot $SE = 0.03$, 95% CI [−0.17, −0.03]. Because a 95% confidence interval does not include zero, then the indirect effect was significant. A Sobel indirect effect test also

revealed that the mediating effect of psychological needs satisfaction on the relationship between the conversation orientation of family communication and internet addiction was of significance (Sobel Z = −3.76, p < .001). The direct effect of conversation orientation of family communication on internet addiction was not significant (b = −0.08, SE = 0.05, t = −1.73, p = .085). The total effect of conversation orientation of family communication on internet addiction was significant (b = −0.17, SE = −0.05, t = −3.49, p < .001). Therefore, hypothesis one was supported (see Table 3).

Table 3. *The Indirect Effect of Family Communication on Internet Addiction via Psychological Needs.*

	b	Boot SE	95% CI	Sobel Z	p
Conversation	−0.09	0.03	[−0.17, −0.03]	−3.76	< .001
Conformity	0.09	0.03	[0.04, 0.15]	3.62	< .001

Note. Bootstrapped standard errors and confidence intervals were computed using 10,000 bootstrap samples. SE = standard error, CI = confidence interval.

Hypothesis two predicted that the psychological needs satisfaction of girl students' will mediate the relationship between the conformity orientation of family communication and internet addiction. The results implied that more conformity orientation of family communication was related to the lower levels of psychological needs satisfaction (b = −.29, SE = 0.07, t = −4.31, p < .001). Additionally, greater psychological needs satisfaction was connected with low levels of internet addiction (b = −.30, SE = 0.04, t = −6.80, p < .001).

A 95% bias-corrected confidence interval (CI) based on 10,000 bootstrap samples was employed to investigate the mediating role of psychological needs satisfaction. A significant mediating effect was found such that the conformity orientation of family communication indirectly increases internet addiction by decreasing the psychological needs satisfaction of female students, b =.09, Boot SE = 0.03, 95% CI [0.04, 0.15]. Because a 95% confidence interval does not include zero, then the indirect effect was significant. A Sobel indirect effect test also found that the mediating effect of psychological needs satisfaction on the relationship between the conformity orientation of family communication and internet addiction was significant (Sobel Z = 3.62, p < .001). The direct effect of conformity orientation of family communication on internet addiction was not significant (b = 0.09, SE = 0.05, t = 1.82, p = .070). The total effect of conformity orientation of family communication on internet addiction was significant (b = 0.17, SE = 0.05, t = 3.48, p < .001). Therefore, hypothesis two was supported (see Table 3).

Discussion

The objective of this study was to investigate the mediating role of satisfying the basic psychological needs in the relationship between family communication patterns and internet addiction among female high school students. The findings revealed that the basic psychological needs play a mediating role in the relationship between family communication models with internet addiction. Deci and Ryan (2000) hypothesized that the appropriate and supportive family relatedness could result in basic need satisfaction which itself contributes to appropriate behaviors and better adaptation. Satisfying basic psychological needs provides the conditions for psychological growth, cohesion, and well-being and explains a wide range of individual behaviors (Tian et al., 2018). According to Deci and Ryan (2000), social contexts (family, school, and community environment) and individual differences support satisfying basic needs, facilitate the natural growth process, and create cohesion between the internal needs and extrinsic motivations whereas deprivation in satisfying the needs of independence, adequacy, and relatedness is associated with poor motivation, performance, and mental health. Previous studies demonstrated the mediating role of satisfying basic psychological needs in the relationship between family relatedness and variables, such as well-being (Kocayoruk, 2012). Based on the McMaster model, the main function of the family is to meet the individual needs of family members, which is one of the determinants of healthy family functioning (Epstein et al., 2003). The family members are affected by the functioning of the family, which can influence the mental health of people and their addiction to the internet (Cacioppo et al., 2019). When the function and structure of the family and its subdivisions (the degree of solidarity among members, the ability to express themselves, the degree of conflict, the organization of affairs between members) are somewhat dysfunctional and the individual's adjustment becomes unbalanced and the incompatibility therefore leads to an unpleasant state in the person, the person uses external and environmental forces to eliminate the state of imbalance and rebalance.

In highly conformity-oriented family environments, the parents make decisions for the family and children are expected to behave accordingly (Koerner & Fitzpatrick, 2002a). Jantzer et al. (2006) proposed that the adolescents in conformity-oriented families could not easily speak and express their views; they cannot say "no" and face many problems in many situations. They are sometimes forced to do something against their wills and beliefs, which can be a reason for their lack of competence and need satisfaction. The children of high-conformity families are not involved in the family decision-making. The interpersonal exchanges and relatedness of these families reflect obedience to parents and other adults; the independence, individuality, attitudes, and beliefs of the children are not regarded in the family environment (Fitzpatrick & Koerner, 2005). Communication in these families reflects the obedience to the parents and adults (Rueter & Koerner, 2008). Such families experience very poor conversations and discussions due to not allowing the children to satisfy their needs and develop their abilities. Once there are no interactions among the family members and emphasis is placed on the high conformity and the similarity of parents and children beliefs, the adolescents may conclude that their beliefs are not respected in the family, their autonomy and competence are ignored, and their need for communication and interaction within this family is not satisfied. Consequently, they decide to use cyberspace as a close friend for simple communication, in which they are free to choose friends, places, times and subjects of communication and to gratify their needs in various ways (Seidman, 2013).

The internet provides a more popular platform for people. In this context, users can exchange information, express opinions, seek emotional support, and build social relationships with others (Park & Park, 2014) and these benefits are less common in the families with a conformity orientation. The basic need satisfaction creates a positive reinforcement and motivates reengagement in the activity (Robinson & Berridge, 2003). People become addicted to the internet and cyberspace since their basic needs are not met in the real world. The utilization of technologies bridging the gaps and psychological needs or creating excitement is more likely to lead to addiction (Masur et al., 2014). Some research has also proved that men use the internet primarily for entertainment and leisure while for women it is primarily for interpersonal communication (Weiser, 2000) and the activity of the female users is more towards emotional orientation, interpersonal relationships, and making friends (B. Sun et al., 2020). These findings revealed that the tendency to interpersonal relationships in the internet is higher in females and these interpersonal relationships are probably to compensate for the dissatisfaction with communication needs in families with conformity orientation. Therefore, the females of conformity-oriented families are more likely to use the internet and cyberspace excessively because they satisfy their needs outside the family and via the internet.

Since in conversation-oriented families, family members communicate freely, frequently, and independently with others without any restrictions and spend some time interacting and discussing various topics, their personal activities, thoughts, and feelings (Fitzpatrick, 2004); therefore, their sense of acceptance by others and meeting their needs is reinforced. These families support autonomy. The supportive environments for autonomy encourage people to set goals, guide their behavior, choose their ways to solve problems, and pursue their desires and values (Ryan, 1993). According to the theory of Self-Determination, the supportive environments of autonomy, which emphasize initiative, satisfy the three basic psychological needs of autonomy, competence, and relatedness (Reeve, 2014). To this end, these female students are less likely to go to cyberspace because people usually become dependent on cyberspace when their basic needs are not met in the real world (Song et al., 2004). When the individual needs are met in the family, school, and community, people are rarely drawn to the extreme use of the internet and cyberspace; hence, they experience the internet and the virtual world in parallel to real-world communications. In general, it can be said that meeting the basic psychological needs of female students in conversation-orientated families makes their members feel competence, freedom of action, intimate relationship, and less in need of the internet to meet their needs.

Overall, the present study indicated that the female students with the conversation-oriented families did not feel affectional deficiency and were less likely to use the internet excessively due to their psychological needs and intimate relationships among family members. It is, therefore, suggested that the parents provide the home for a cordial and receptive relationship with their children to be able to spend more time inside and outside the home and prioritize their children's needs in order for the children not to feel any affectional deficiency leading to the excessive use of the internet. Indeed, this study had some limitations. The first limitation was the small female-only population of high school students in Yasouj; therefore, caution should be exercised in generalizing the results. Second, given that this study is correlational, any causal inferences from the findings of this study should be avoided. In addition, self-report was adopted as the measurement in this research; hence, future studies could tackle the same issue applying other instruments. Examining the role of gender in the relationship between

variables could also be an important topic for future studies. Due to the cultural differences of societies, it is also suggested that the comparative studies be conducted in different countries regarding the relationship between the patterns of family relationships, satisfaction of basic needs, and internet addiction. Moreover, herein, the basic needs are considered as a general variable in the analysis; how the dimensions of the family communication patterns relate to the satisfaction of each of the basic needs separately and the question that the dissatisfaction of which of the basic needs is associated with the internet addiction could be important topics for future research.

Conflict of Interest

Authors' Contribution

Fariborz Nikdel: conceptualization, methodology, investigation, formal analysis, writing—review & editing, supervision. **Mohammad Parvinian Nasab**: conceptualization, data collection, investigation, writing—original draft.

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