

Abstract

Objective: The aim of this study was to examine the casual relationship between family communication patterns and addiction potential with the mediating role of neuroticism and openness to experience among male high school students in Ahvaz.

Method: In this descriptive-correlational study, all the male high school students in the academic year 2016-17 constituted the research population. From this population, 400 students were selected from Municipal Districts 2 and 3 of Ahvaz through multistage cluster random sampling method. Iranian Addiction Potential Scale, Revised Family Communication Patterns, and NEO Personality Traits Inventory (neuroticism and openness to experience) were used for data collection in this study. **Results:** The proposed model had an acceptable fitness to the data. Overall, the results showed all the direct paths except the path from communication of conformity to openness to experience were found significant. The indirect paths were also significant except the path from communication of conformity to openness to experience.

Conclusion: The evaluated model has a good fit and is an important step in identifying the factors that are effective in addiction potential. Therefore, the model can be useful for the design and development of addiction prevention programs.

Keywords: addiction potential, family communication patterns, neuroticism, and openness to experience

The Causal Relationship between Family Communication Patterns and Addiction Potential through the Mediating Role of Neuroticism and Openness to Experience

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Introduction

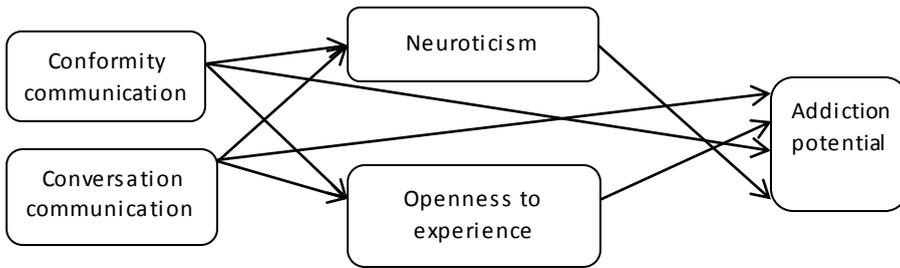
The adolescence period is one of the most important and most sensitive years in each person's life. Adolescence is a transitional period from childhood to adulthood, in which the individual has problems, conflicts and different crises in this period. In this period, adolescents encounter rapid and physical changes, puberty crisis, personality problems, mental health, identity formation, social problems, various ethical and religious issues, and somewhat is subject to confusion and role ambiguity. The adolescent psychology reflects the fact that they are physically transforming, emotionally immature, have limited experience and are based on the environment from cultural perspective. Teenagers neither benefit from childhood benefits, nor do they enjoy adulthood privileges; they live in dreams and imaginations, but they are faced with reality (Sarrami, 2014). Today, easy access to drugs is a painful reality, especially for teenagers. Some of these causes are due to the growth of this group. In this regard, students are of particular importance as one of the vulnerable sectors of the society, because they make the future generation and any kind of damage to this class will lead to shattering the foundations of society.

In the current era in which natural and artificial forms of drugs are produced and distributed to underground markets widely, identification and control of these drugs is difficult. According to US statistics, more than 250 types of psychedelics are being bought and sold, which are constantly increasing (Houman, 2016). Dependence and drug use have significant and undesirable psychological, social, human effects on the structure and functioning of society. Drug use damages the cognitive processes and exacerbates the psychological problems of the addiction and increases the risk of unintentional harm and death (Berk, 2014). According to global reports, the age of onset of drug addiction is estimated to be between 16 to 20 years and continues to decline. According to the US national drug administration, in 2004, about 2.5 million people over the age of 12 suffered from substance-related disorder (Kaplan, & Sadock, 2015). There are no accurate statistics on the number of drug dependents in the country. However, the results of the research indicate the worrisome amount of addictability among adolescents. In a study on 75,000 adolescents aged 14-19 years old in different provinces of the country in 2003, it was found that 27.5% of the population was exposed to drug addiction (Azimi, 2008, Quoted from Zamani Gharenejad Noghani, 2011). Also, the studies on students' addiction indicate the considerable and even critical development of this phenomenon in the country. Jazayeri, Rafiei and Nazari (2002; quoted by Zamani Gharenejad Noghani, 2011) reported that 25% of high school students in Tehran tend to be drug use, of whom 5% have used drugs. There are many reasons regarding the tendency to use drugs in adolescents. One of the effective factors in addiction is Family Communication Patterns. The family has a unique communication system that is different from friendship and work relationships. The power of the

family is such that, despite the distance between the members and even the death of some of them, even its impact remains. The main value of the family is the result of relationships family created by its members (Goldenberg and Goldberg, 2000, quoted from Darwish, 2013). Family and family communications play a crucial role in the society. But, these communications are not always effective, and can sometimes turn the family's relaxed and happy atmosphere into an unpleasant and stressful environment. In general, the prevalence of favorable relationships within the family makes it possible for the children to develop their mental, emotional, psychological and social aspects, and is the most important factor in preventing the occurrence of delinquent behaviors. The unfavorable functioning of the family causes disturbing emotional relationships among family members, and this confusion can lead the teenager to drug use (Goldenberg and Goldenberg, 2000, quoted by Darwish, 2013).

Other factors associated with drug use are personality traits, neuroticism and openness to experience. Personality can be defined in five broad traits of neuroticism, extroversion, agreeableness, conscientiousness, and openness to experience (Coasta, & Mccrae, 1995). These five personality factors are relatively stable during puberty. Based on this description, the variables of neuroticism and openness to experience are considered as two important internal and individual variables related to addiction potential. The results of the research in Zahedan University of Medical Sciences showed that neuroticism and openness to experience are important predictors of drug use tendency among young people and has always had several problems in the life of human beings (Nick Manesh and Aderm, 2011). Also, the results of the research of Annabelle et al. (2014), showed that among adolescents susceptible to drugs, neuroticism and openness to experience personality traits are important predictors of addiction potential.

This research studies the protective and risk factors in addiction potential field in order to provide suggestions and recommendations for the prevention of drug use and the elimination of this harmful habit among adolescents. Recognition of the contextual factors and interventions to eliminate is the most important step in this path. This research seeks to investigate the question of whether family communication patterns (conversation orientation and conformity orientation) have a causal relationship with addiction potential through the mediating role of personality traits (neuroticism and openness to experience)? The proposed model regarding the relationship between the variables is presented in Chart 1.



Method

Statistical population, sample and sampling method

This research is descriptive and correlational. The statistical population of this study includes 27,767 male students of Ahwaz's state high school who studied at the second grade in the academic year of 2016-2017, of which, 400 students were selected through multistage cluster random sampling method. The sampling in this study was that at first, districts 2, 3 were selected randomly among the four districts of education in Ahvaz city and then among the schools of these two districts, 8 schools were selected (from each district, four schools) and among the students of these schools, some were selected as sample of study and they responded to the questionnaires.

Iranian Addiction Potential Scale, Revised Family Communication Patterns, and NEO Personality Traits Inventory (neuroticism and openness to experience)

Instrument

1- Iranian Addiction Potential Scale: This scale was developed by Zargar (2006) and consists of 36 items with 5 lie assessment items. Items 6, 12, 15, 21, and 33 are scored inversely and two passive potential factors (8 items) and active potential (28 items) are evaluated. The responding is of strongly agree (3), agree (2), disagree (1) and strongly disagree (0). The minimum and maximum scores are 0 and 108, respectively. Zargar (2006) reported the reliability of total scale, active factor, and passive factor using Cronbach's alpha method as 0.90, 0.91, and 0.75, respectively. The convergent validity of this scale was obtained via its correlation with the score of 25- item questionnaire of clinical symptoms (SCL25) of 0.45 which was significant (Zargar, Najarian and Noami, 2008).

2- Revised Family Communication Patterns: This self-assessment scale is designed by Fitzpatrick, M. A., & Ritchie (1994) and includes 26 items. The responding is based on a 5-point scale (5 = strongly agree agree to 1 = strongly disagree). The first 11 items are related to the conformity orientation, and the next 15 items are related to conversation orientation. Fitz and et al (1994) reported the content validity, criterion, and structure validity and reliability (Cronbach's alpha and test retest) as desirable. In Iran, Kouroshonia (2006) reported the reliability of this instrument through the Cronbach's alpha

coefficient for communication dimension of 0.87 and 0.81 for conformity dimension.

3- NEO Personality Traits Inventory, Short Form: This questionnaire was designed by Coasta, & Mccrae (1995) with 185 items. In this research, a 60 - item short form was used. This version was first translated into Persian by Kiamehr (2002), which evaluates five characteristics of neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Each of these properties is measured with 12 questions. Responding is based on a five-point scale of strongly disagree to strongly agree. The minimum and maximum score in this questionnaire for each property is 0 and 48, respectively, and based on the correction key, some questions are reversed. Coasta, & Mccrae (1995) used Cronbach's alpha and Spearman-Brown split half to determine the reliability coefficient. The reliability coefficient of neuroticism subscale is 0.79 and openness to experience as 0.80. The reliability coefficients of these two subscales in Iran were reported as 0.75 for neuroticism and openness to experience 0.80, respectively (Garrusifarshi, 2001).

Results

The descriptive statistics of the studied variables are presented in Table 1.

Table 1: Descriptive Statistics of the Studied Variables

<i>Variables</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Minimum score</i>	<i>Maximum score</i>
Communication pattern of conformity	379	35.97	9.76	12.00	55.00
Communication pattern of conversation	379	41.68	12.27	16.00	71.00
Neuroticism	379	25.64	6.69	12.00	48.00
Openness to experience	379	25.44	5.43	14.00	44.00
Addiction potential	379	55.50	18.55	19.00	101.00

Because the basis of the path analysis method is the correlation between variables, the correlation matrix of the studied variables is presented in Table 2.

Table 2: Correlation Matrix of the Studied Variables

<i>Variables</i>	<i>1</i>	<i>2</i>	<i>4</i>	<i>3</i>
Communication pattern of conformity	1	-	-	-
Communication pattern of conversation	0.35*	-	-	-
Neuroticism	0.41*	-0.43*	-	-
Openness to experience	-0.09	0.47**	-	-0.09
Addiction potential	0.49**	0.55**	-0.09	0.60**

*P <0.01, ** P <0.001

The standard and non-standardized coefficients of the paths are presented in Table 3.

Table 3: The Standard Paths and Coefficients of the Studied Variables in the Model

<i>Paths</i>	<i>Standard estimation</i>	<i>Non-standard estimation</i>	<i>Standard error</i>	<i>Critical ratio</i>	<i>Significance</i>
The communication pattern of conversion to : neuroticism	-0.13	-0.24	0.024	-5.641	0.001
The communication pattern of conversion to : openness to experience	0.23	0.53	0.022	10.884	0.001
Communication pattern of conformity to :neuroticism	0.13	0.18	0.031	4.202	0.001
Communication pattern of conformity to :openness to experience	0.03	0.05	0.028	1.080	0.280
Neuroticism :to :addiction potential	0.65	0.24	0.120	5.476	0.001
Openness to experience to : addiction potential	0.47	0.13	0.135	3.506	0.001
Communication pattern of conversation to : :addiction potential	-0.57	-0.37	0.067	-8.449	0.001
Communication pattern of conformity :to addiction potential	0.38	0.20	0.074	5.121	0.001

As it can be seen, all direct paths other than the path of communicative pattern of conformity are consistent with openness to experience at the level of 0.001. Fitness indicators are presented in Table 4.

Table 4: Fit Indices of the Proposed Model

<i>Index</i>	<i>Value</i>	<i>Index</i>	<i>Value</i>
Chi-square	2/30	Incremental Fit index (IFI)	0.998
Goodness of Fit index (GFI)	0.998	Comparative Fit Index (CFI)	0.998
Adjusted Goodness of Fit index (AGFI)	0.958	Tucker-Lewis Index (TLI)	0.973
Root Mean Square Error (RMSEA) Approximate	0.059	-	-

As shown, in the fit test of the proposed model, the Chi-square fit test was not significant ($P > 0.05$). Other fit indicators of the proposed model are also suitable, which indicates that fitting of the proposed model is in good. In order to investigate the multiple and indirect relationships of the proposed model, Bootstrapping method was used in the Pricher and Hayes (2008) computer

instructions. The results of the Bootstrapping method for evaluating indirect paths are presented in Table 5.

Table 5: Results of the Bootstrapping Method for the Investigation of Indirect and Intermediate Paths

<i>Paths</i>	<i>Boot</i>	<i>Standard error</i>	<i>Upper limit</i>	<i>Lower limit</i>	<i>Significance</i>
Communication pattern of conformity to neuroticism to addition potential	0.0577	0.0204	0.0979	0.0125	0.001
Communication pattern of conformity to openness to experience: to addiction potential	0.0020	0.0028	0.0100	-0.018	0.39
Communication pattern of conversion to neuroticism: to addiction potential :	-0.2781	0.0425	-0.1978	-0.3646	0.0005
Communication pattern of conversion: to openness to experience: to addiction potential	0.1192	0.0341	0.1894	0.0578	0.0003

In the bootstrapping method, for all indirect assumptions, the 95% confidence interval and the number of bootstrap re-sampling for paths 1 and 2 of the table 1000 and for paths 3 and 4, 2000 were selected.

Discussion and Conclusion

The purpose of this study was to investigate the causal relationship between family communication patterns and addiction potential with the mediating role of neuroticism and openness to experience among students. The results indicated a negative relationship between communication pattern of conversation and addiction potential. Also, the results showed a negative relationship between communication pattern of conversation and personality trait of neuroticism, and there is a positive relationship between communication pattern of conversation and personality trait of openness to experience. The results also showed that there is a positive correlation between communication pattern of conformity and addiction potential and psychosocial personality trait of neuroticism, but this pattern was not associated with personality trait of openness to experience. The results also showed that there is a positive relationship between personality trait of openness to experience and neuroticism. These results are consistent with the findings of Davis, Natalie, & Loxton (2014), Annabelle et al. (2014), Butterfield, & Sidelinger (2009), Davoudi, Mehrabizadeh Honarmand and Hashemi (2017), Rahmanian, Zamani and Alibazi (2015), Khorrami and Farbod Mofidi (2015), Vatankhah, Akbari Shayeh, Delawar, Riahi, and Pak (2014), Hajali (2014), Haratyan (2013), Heydarinejad (2013), Barani Oladi, Navidian, Kaveh Farsani (2013), Zarei and Asadi (2011), Sadeghi (2010).

This research also showed that there is a negative relationship between communication pattern of conversion and addiction potential with the mediating

role of neuroticism personality trait and there is a positive relationship between the communication pattern of conversation and for addiction potential with the mediating role of openness to experience personality trait. These findings are consistent with the results of the researches by Davudi et al (2017), Haratayan (2013) and Heydarinejad (2013). The results also showed that there is a positive correlation between communication pattern of conformity and addiction potential with mediating role of neuroticism personality trait and there is no positive relationship between communication pattern of conformity and addiction potential with the mediating role of openness to experience and this is consistent with the results of research by Rahmanian et al. (2015), Baran Olaadi et al (2013), Heydarinejad (2013), Zarei and Asadi (2011).

Individuals with communication pattern of conformity have authoritarian and controlling parents. Such parents allow less independence for their children and, as a result, have a lot of psychological pressure on their children. These people are often overwhelmed with neuroticism and tend to addiction for their mental problems. Also, individuals with anxiety have more conformity, and probably the people with conformity with the fear and anxiety caused by the rejection of the group perform conformity and follow others views. Individuals with open to experience personality trait, are freely seeking new experiences and ideas, so they are inventive, independent, brave and constructive, and these qualities are not in the individuals with conformity who follow the other views and avoid fighting and have weak self-expression or probably these properties are found a few. Individuals with a communication pattern of conformity are often conservative and follow others' views, and these features are more relevant to fanatic and inflexible people. Those who achieved lower scores in openness to experience scale, their behavior is subject to custom and have conservative views (Coasta, & Mccrae, 1989). Therefore, it can be stated that the communication pattern of conformity can not be related with the mediating role of openness to experience with addiction potential. The tendency to experience negative emotions such as fear, sadness, anger, sin, and disgust are the core elements of the neuroticism. They have less ability to adapt to the environment. Drug use can be subject to individual characteristics and features. That is, some characteristics lead to drug use tendency, for example, depressed and anxious teenagers show high addiction potential. Based on behavioral theory, drug abuse often results in a period of negative attitudes toward oneself and others, the problem of social interaction with other peers and unacceptable social behavior to achieve self-esteem and satisfaction. Thus, children educated with the communication pattern of conversation can experience new situations; in the families with the communication pattern of conversation, suitable conditions for discussion of all family members are provided and people are free to express their own views. Also, there is high security sense in these families and mostly those who are developed by this model have high social health. Also, those educated by conversation communication pattern are mostly independent,

autonomous and these features are opposed to the characteristics of people with neuroticism personality trait. Individuals with neuroticism have less ability to control impulses and have less adaptive ability to adapt to different conditions. Families educated via the communication pattern of conversation are less likely to suffer neuroticism due to autonomy and freedom in beliefs expression and their addiction tendency is low.

On the other hand, it is possible that these people due to their freedom and autonomy, without any fear of rejection by others can experience new conditions and these experiences can be sometimes negative such as addiction experience.

Since the family is one of the most important factors in addiction potential, it is suggested that preventive measures be taken within the framework of family education, life skills education, parenting styles and communication patterns at the beginning of the formation of family for the couples. Development of appropriate educational programs to change and modify personality traits, as well as teaching happiness in life in schools and universities, can be an effective step in preventing and controlling addiction. It is suggested that this research be done on girls, different age and socio-economic conditions, and combining other variables such as unemployment, poverty, urbanization, or rural life etc. Concerning the limitations of this research, we can say that the results of this study are based on the examination in male students of second of high school in Ahvaz city. Thus, generalizing these results to other people should be done cautiously.

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