Modeling of Attitude towards Drug Addiction among University Students in Tehran

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Abstract

Objective: The present study was an attempt to assess a model of important antecedents of attitude towards drug addiction in order to gain a more complete understanding of this construct. This model examines the role of family solidarity, personality traits, peer attachment, neophilia, and social support in attitudes towards drug addiction. **Method:** The study sample included 570 individuals from Tehran University students who were selected through convenient sampling. The research instruments included NEO-Personality Inventory (Short Form), Social Support Scale, Family Solidarity Scale, Neophilia Scale, Inventory of Parent and Peer Attachment. The proposed model was evaluated by using Structural equation modeling. **Results:** Based on the results, the indexes enjoyed acceptable goodness of fits. Family solidarity and personality traits had direct and indirect effects on attitudes towards drug addiction while peer attachment, neophilia, and social support had a significant direct effect on attitudes towards drug addiction. **Conclusion:** These findings were consonant with those of the previous research and could explain attitudes towards drug addiction.

Keywords: family solidarity, social support, structural equation modeling, attitudes towards drug addiction, personality traits

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Introduction

One of the major problems in today's world of drug addiction is that it is possible to achieve an appropriate and acceptable solution to prevent and overcome this global problem despite the enormous efforts and costs of fighting against it (Rezai & Senobari, 2013). According to Bandura's social learning theory, people acquire their beliefs and attitudes about substance abuse from their addicted friends or parents. In addition, the quality of parent-child relationship is of great importance (Bandura, 2001). Based on social learning model of drug use (Simons & Robertson, 1989), some environmental factors such as the parents, deviant peers, and individual factors like personality traits are also associated with drug use.

In recent years, numerous studies have investigated the role of individual, family, and social factors in substance abuse where family has been introduced as the strongest predictor of substance abuse (Costello, Erkanli, Copeland & Angold, 2010; Turner, Irwin & Millstein, 2014; Mohammadkhani, 2007). In some studies, the impact of exclusion (Rohner, Khaleque & Cournoyer, 2012) and familial and marital problems (Molavi & Rasoulzade, 2004) have been referred to as the factors effective in tendency to drug use. On the other hand, deviant peers is another strong predictors of substance abuse (Harakeh & Vollebergh, 2012; Bahr & Hoffmann, 2008; and Pilkington, 2007). Another research has demonstrated the effect of peer pressure as a predisposing factor that affects maladaptive responses (Castro, Maddahian, Cournoyer & Bentler, 1987). Personality traits are also among the factors effective in attitudes toward addiction to drug (Siegel, 1998; Terracciano, Löckenhoff, Crum, Bienvenu & Costa, 2008; Dagher & Robbins, 2009; Kotov, Gamez, Schmidt & Watson, 2010). In fact, people who have positive beliefs and attitudes, such as big ambitions, relief of pain and physical fatigue, tendency to psychological comfort, and the capability of substance abuse without the possibility of addiction are more likely to use drugs and become addicted more than others (Eslamdoust, 2011). The other factors effective in attitudes toward drug addiction include social support (Dobkin, Civita, Paraherakis & Gill, 2002; DuBois & Silverthorn, 2005; and Daughters, Lejuez, Bornovalova, Kahler, Strong & Brown, 2005) and neophilia (Franken, Muris & Georgieva, 2006; Kopetz, Lejuez, Wiers & Kruglanski, 2013).

Several studies have put emphasis on the role of individual, familial, and social variables as the factors underlying substance abuse. However, the causal direct or indirect relationship of these factors and the way they influence drug use are not completely clear. Accordingly, this study aims to investigate the causal model of the relationship of personality traits, family solidarity, peer attachment, social support, and neophilia with attitudes toward addiction among students in Tehran. Figure 1 shows the proposed model in this study.

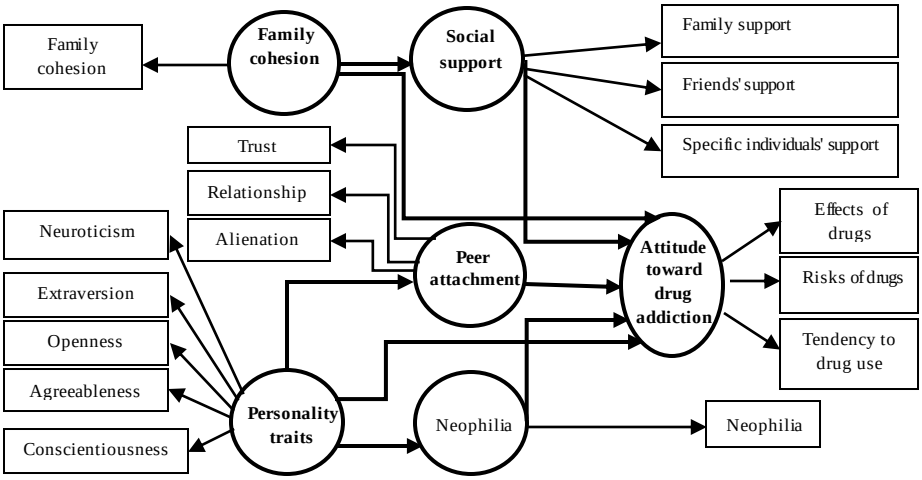

Figure 1: The proposed model of the factors influencing attitudes towards drug addiction

Method

Population, sampling, and sampling method

All the students in Tehran universities constituted the population of this study. The research sample consisted of 570 students that enjoyed the required adequacy since this sample size meets the condition of three participants for any questions (Tabachnick & Fidel, 2012). Since the total of the instrument questions in this study equaled 190 items, at least 570 participants seemed to be enough for the sample. For sampling, a list of various universities in Tehran was prepared at first and four universities were randomly selected. In the next stage, the required sample was selected via convenience sampling method from among the male and female students of each university and each participant was delivered a 190-item questionnaire. Due to the sensitivity of this subject and the need for the participants' satisfaction and trust for sincere collaboration with regard to the research, the researchers effectively communicated with them and spoke with them about the nature and purpose of the questionnaire before the completion of the questionnaire. It was also explained to them about the confidentiality and anonymity of the data.

Instruments

1. Family Solidarity Scale: This scale was constructed by Razavieh & Samani (2000) and consists of 28 questions through which one can determine the unity between the family members and the total degree of family solidarity. This scale

has been developed based on a series of texts in the field of solidarity and with inspiration from Olson's mixed model (1999). The items of the scale are scored and responded within five options, i.e. Strongly Disagree (0), Disagree (1), No Idea (2), Agree (3), and Strongly Agree (4). Razavieh & Samani organized this scale based on 8 factors, namely solidarity with parents, the duration of interaction, location, decision-making, affective relationship, marital relations, and parent-child relationship. The Cronbach's alpha coefficient of .90 and the total reliability coefficient of .79 have been reported for this scale (Razavieh & Samani, 2002). The reliability of the instrument in the study was obtained equal to .72.

2. Substance Abuse Attitude Survey (SAAS): This scale was designed by Delavar et al. (2004) and contains three subscales, namely attitude towards the effects of drug use, attitude towards the risks of drug use, and tendency towards the use of drugs. The items of the scale are scored and responded within five options, i.e. Strongly Disagree (0), Disagree (1), No Idea (2), Agree (3), and Strongly Agree (4). In this study, it was attempted to use the final version of the questionnaire (as short as possible) while maintaining desirable validity and reliability. Therefore, 22 items were left out from the 54 questions because of their low homogeneity with the total of the questions and, thereby the final scale was prepared with 32 questions (17 questions pertaining to the subscale of effects, 9 questions pertaining to the subscale of risks, and 6 questions pertaining to the subscale of tendency). Cronbach's alpha coefficients were reported .908, .918, and .910 for the first, second, and third subscales, respectively. This represents the good internal consistency of the subscales. In the same way, test-retest reliability coefficients of .847, .861, and .851 were reported for the first, second, and third subscales, respectively. This indicates the proper reliability of the subscales over time (Pasha Sharifi & Rezai, 2009). Cronbach's alpha reliability of the scale in the study was obtained equal to .83.

3. NEO-Personality Inventory (Short Form): This questionnaire was introduced by Costa & McCrae (1995). The short form of this scale has been designed in 60 questions to measure five personality factors. This test is today considered as an integrated model in terms of factor analysis since it reflects five main factors. Due to the extensive application of this scale in the personality assessment of healthy subjects as well as in clinical assessments, it can be one of the most suitable personality assessment instruments. In recent years, this test has been the subject of intense research on clinical samples of healthy adults. Hence, its usefulness has been evaluated both in clinical and research trends. This questionnaire measures 5 main personality factors and each factor measures 6 traits. Therefore, it measures the total of 30 personality traits and provides a comprehensive assessment of personality. The short form of this questionnaire contains 60 items, which will be used if there is a short time limit for the administration of the test and general information about personality is sufficient. Anyone with the least education and literacy-higher than primary education- can

respond to the items of the questionnaire. This questionnaire was administered to 208 American students within a three-month interval and the correlation coefficients were obtained from .75 to .83. The long-term reliability of this questionnaire has been also evaluated. A longitudinal 6-year-long study on the subscales of neuroticism, extraversion, and openness to experience led to the reliability coefficients of .68 to .83 in personal reports and in couples' reports. The reliability coefficients of the two factors of agreeableness and conscientiousness were obtained equal to .79 and .63, respectively. Garusi Farshi (2001) standardized the test by conducting a study on a sample with the size of 2,000 students of Tabriz University, Shiraz University and the Medical Sciences Universities of these two cities and the reliability coefficient of .56 to .87 was obtained for the five main factors. Cronbach's alpha coefficients of neuroticism, extraversion, openness, agreeableness, and conscientiousness were obtained equal to .86, .73, .56, .68, and .78, respectively. The correlation between the self-report short form (S) and the revised evaluation form (R) was used to examine the content validity of the test where the maximum correlation was obtained equal to .66 for extraversion and the minimum correlation was obtained equal to .45 for agreeableness. This questionnaire is scored based on Likert scale (strongly disagree, disagree, no idea, agree strongly agree). The reliability of this tool in the study was obtained equal to .75 via Cronbach's alpha.

4. Multidimensional Scale of Perceived Social Support: This instrument was designed by Zimet, Dahlem, Zimet & Farley (1988) and consists of 12 items. Multidimensional Scale of Perceived Social Support provides a subjective assessment from the adequacy of social support.

This scale measures perceptions of the adequacy of social support in three sources, namely family, friends, and significant other. Each item is scored based on a 7-point Likert scale from strongly disagree (0) to strongly agree (4). In this scale, each of the four points has been assigned to one of the factor groups of family, friends, and significant other based on sources of social support. In addition, the sum of the individuals' scores in the items of each scale leads to the overall score of individuals in each of the three subscales. Zimet et al. (1988) evaluated the psychometric characteristics of the Multidimensional Scale of Perceived Social Support and showed that this is a valid and reliable instrument for the measurement of perceived social support (Zimet et al., 1988). The reliability of this tool in the study was obtained equal to .69 via Cronbach's alpha.

5. Neophilia Scale: This scale was constructed by Walker & Gibbins in 1989 and shows one's feelings towards his/her new events as well as others' events. It consists of 31 questions that are scored from Strongly Disagree (0), Disagree (1), no idea (2), and Agree (3), and Strongly Agree (4). It is noteworthy that some items are scored in reverse. The reliability of this scale has been reported to be equal to .85 via Cronbach's alpha. (Janda, 2009, translated by Besharat & Habibnejad). The reliability of this tool in the study was reported to be equal to .79 through Cronbach's alpha.

6. Inventory of Parent and Peer Attachment: This questionnaire was developed by Armsden & Greenberg (1987) to assess the quality of attachment to parents and peers and contains separate scales for measuring attachment to mother, father, and close friends. This scale considers important individuals as sources of psychological security. Each of the three instruments contains three subscales, namely mutual trust, communication, and alienation. The total score of the scale is preferred to the subscales' scores and, thereby, it is recommended. The scores of this scale are correlated with multiple scales, such as psychological self-concept, self-esteem, optimism, life satisfaction, problem solving, and locus of control. The items are scored from Strongly Disagree (0), Disagree (1), no idea (2), and Agree (3), and Strongly Agree (4). The retest reliability of the scale has been obtained equal to .86 and the internal consistency of the subscales of trust, communication, and alienation equals .91, .87, and .72, respectively (cited in Khojastehmehr, Mombeini & Aslani, 2013). The reliability of this scale in the study was obtained equal to .81 via Cronbach's alpha.

Results

The descriptive statistics of the variables are presented in the following table.

Table 1: Descriptive statistics of the variables under study

Variable	*Mean*	*SD*
Neuroticism	4.23	.66
Extraversion	4.12	.54
Openness	4.02	.59
Agreeableness	3.89	.38
Conscientiousness	3.91	.45
Family solidarity	3.95	.68
Attachment to peers	4.11	.54
Social support	4.23	.71
Neophilia	3.79	.34
Attitudes toward addiction	4.64	.65

The correlation matrix of the latent variables is presented in the table below.

Table 2: Correlation matrix of the latent variables

Latent variables	*Personality traits*	*Family solidarity*	*Attachment to peers*	*Social support*	*Neophilia*
Personality traits	1	-	-	-	-
Family solidarity	**.44	1	-	-	-
Attachment to peers	**.42	*.16	1	-	-
Social support	**.35	**.63	*.16	1	-
Neophilia	**.27	**.23	**.21	*.11	1
Attitudes toward addiction	**.22	**.18	**.15	**.23	*.15

* P<.05; **P<.01

In this study, a conceptual model was proposed for the antecedents of attitude toward drug addiction according to previous studies. The relationships between the variables were estimated in order to evaluate the proposed model by means of structural equation modeling and through maximum likelihood estimation. The main hypothesis of this study refers to the model fitness with the data, which represents to what extent the model fits the relevant data. In fact, this fitness indicates the fitness degree of the variance-covariance matrix of the sample with the variance-covariance matrix of the population through various indexes (Jackson, Dezee, Douglas & Shimeall, 2005).

Table 3: Measures of goodness of fit

χ^2	*df*	*Sig.*	*RMSEA*	*NFI*	*CFI*	*RFI*	*RMR*	*GFI*
9.340	26	.99	.01	.99	.99	.99	.02	.97

As it is observed in the above table, chi-square value to degree of freedom is not significant at the level of .05. Similarly, the root mean square error of approximation (RMSEA) and root mean square residual (RMR) are less than .05; and the norm fit index (NFI), comparative fit index (CFI), relative fitness index (RFI), and goodness of fit index (GFI) are all close to one. Finally, it can be concluded that all the fitness indexes take advantage of a desirable goodness of fit and the model fits the data. The direct and indirect as well as the total effects of the latent variables are reported in the table below.

Table 4: Direct and indirect effects of the latent variables with regard to attitudes toward addiction

Independent variables	*Direct effects*	*Indirect effects*	*Total effects*
Personality traits	*.36	*.27	**.76
Family solidarity	**.71	*8.28	**.99
Attachment to peers	**.64	*.23	**.87
Social support	*.40	-	*.40
Neophilia	**.76	-	**.76

* P<.05; **P<.01

As it is observed in the table above, the total effect of all the variables is significant. The direct effects of personality traits and family solidarity on attitudes towards drug addiction are significant at the significance levels of .05 and .01, respectively. The indirect effects of these two variables on attitudes toward drug addiction were significant at the level of .05. The direct effects of peer attachment and neophilia were significant at the level of .01 and the direct effect of social support was significant at the level of .05.

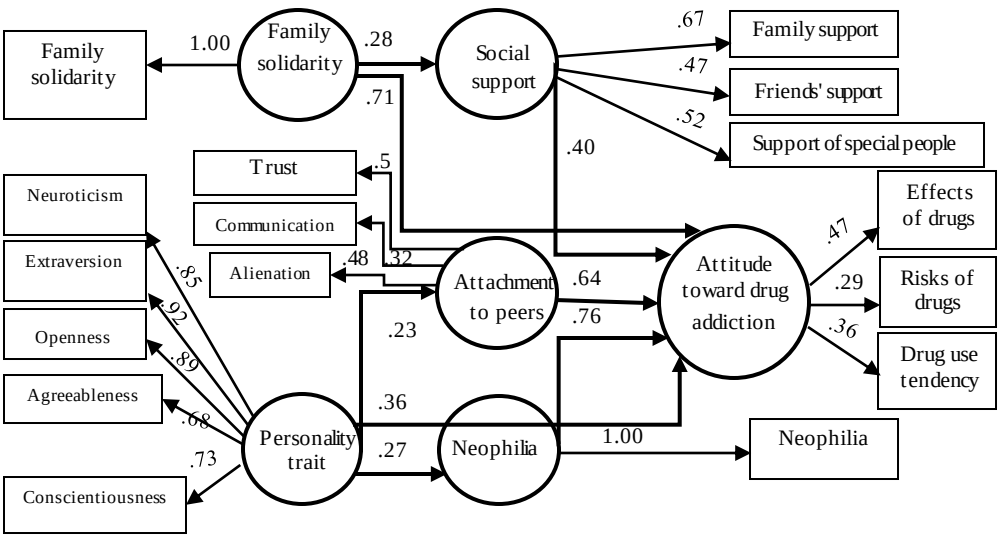

Fig. 2: Standardized coefficients of the final model of factors effective in attitudes toward drug addiction

Discussion and Conclusion

This study was an attempt to examine the goodness of fit of the comprehensive model related to the important antecedents of attitudes toward drug addiction in order to gain a better and more complete understanding of drug addiction. This research was carried out through structural equation modeling whose results indicated the good fit of the final model with the observed data. This finding was consistent with the results reported by Mohamadkhani (2008). The results of structural equation modeling on the impact of family factors on attitudes towards drug addiction were consistent with those of the research done by Rohner et al. (2007), Costello et al. (2010), Turner et al. (2014), Mohamadkhani (2008), and Molavi & Rasoulzadeh (2004). Accordingly, there is no proper affective relation between parents and children in most addicts. This can lead to an underlying tension in the family and may bring higher tendency to addiction in children. It seems that when children's emotional needs are not met in the family and the person trusts other people than his/her family, the conditions for children's deviation and deception by strangers will be provided.

The result pertaining to the impact of personality traits on attitudes toward drug addiction is consistent with the results of the studies conducted by Simons & Robertson (1989), Terracciano et al. (2008), Dagher & Robbins (2009), Kotov (2010), and Eslamdoust (2010). Siegel (1998) stated that the addicted people's personality traits such as weak "I", anxiety, low range of frustration tolerance, and imagination are all operative. The present study also emphasizes individual's

preparation for drug addiction in terms of personality traits. The addicts' beliefs and thoughts about narcotics have an essential role in their tendency to drug use.

The result related to the impact of peer attachment on attitudes towards drug addiction was consistent with the results of several studies carried out by Castro et al. (1987); Harakeh & Vollebergh (2012); Bahr & Hoffmann, (2008); and Pilkington (2007). The important and outstanding variable influencing adolescents' attitudes to drug use is the effects of those peers that have been selected for making communications. Thus, one of the major risk factors that makes an individual attempt to experience substance abuse is peer attachment that appears to be more common in teens and young people.

The current research finding on the impact of social support on attitudes toward drug addiction was consistent with those of the studies conducted by Dobkin (2002), DuBois & Silverthorn (2005), and Daughters (2005). The majority of studies in this area confirm the existence of a significant relationship between the components of social support and attitudes to drug addiction. The results of the present study were obtained by using a valid questionnaire in desirable conditions. Therefore, it is possible to emphasize the existence of a significant relationship between social support and attitudes towards drug addiction.

The research finding obtained regarding the impact of neophilia on attitudes toward drug addiction was in the same direction with those of the studies done by Franken et al. (2006) and Köpetz et al. (2013). This study also confirms the effectiveness of neophilia and curiosity on drug addiction. Similarly, provision of information in this case is not enough because it is possible that this information has a devastating effect and results in people's desire and tendency to substance abuse. In fact, these people intend to meet their sense of neophilia and curiosity by turning to substance abuse. However, if this information is designed and presented with a specific training and familiarizes people with the harmful consequences of substance abuse, people will satisfy their sense of neophilia and curiosity and will not tend to substance abuse anymore.

Neophilia had the highest direct effect on attitude towards drug addiction. Hence, neophilia can play a major role in the early stages of the formation of attitudes towards drug addiction and may greatly increase the risk of experiencing substance abuse. On the other hand, social support had the highest indirect impact on attitude towards drug addiction. This suggests that social support plays an effective mediating role and it is possible to considerably reduce the risk of positive attitude towards drugs among the population of university students. According to the reported standardized coefficients, the most effective path starts from family solidarity and achieves attitudes towards drug addiction by the mediating role of social support and ultimately has the greatest impact on attitudes toward drug use. Therefore, practitioners can control one of the most important ways to the emergence of a positive attitude towards drug addiction through concentration and the implementation of strategies on the mentioned

path. The proposed model in this study is not the only fit model and, thereby, it is suggested that this model be evaluated in in other populations or samples as well.

Reference

Bahr, S. J., & Hoffmann, J. P. (2010). Parenting Style, Religiosity, Peers, and Adolescent Heavy Drinking, Journal of Studies on Alcohol and Drugs, 71(4), 539-543.

Bandura, A. (2001). Social cognitive theory: An genetic perspective, *Annual review of psychology*, 52(1), 1-26.

Castro, F. G.; Maddahian, E.; Newcomb, M. D.; & Bentler, P. M. (1987). A multivariate model of the determinants of cigarette smoking among adolescents, *Journal of health and social behavior, 28(3), 273-89*.

Conners, N. A.; Bradley, R. H.; Whiteside Mansell, L.; Liu, J. Y.; Roberts, T. J.; Burgdorf, K.; & Herrell, J. M. (2004). Children of mothers with serious substance abuse problems: An accumulation of risks, *American Journal of Drug and Alcohol Abuse, 30(1), 85-100*.

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory, *Psychological assessment, 4(1),* 5-13, http://dx.doi.org/10.1037.

Costello, E. J.; Erkanli, A.; Copeland, W.; & Angold, A. (2010). Association of family income supplements in adolescence with development of psychiatric and substance use disorders in adulthood among an American Indian population, *The journal of the American medical association (JAMA), 303(19),* 1954-1960.

Dagher, A.; & Robbins, T. W. (2009). Personality, addiction, dopamine: insights from Parkinson's disease, *Neuron, 61(4),* 502-510.

Daughters, S. B.; Lejuez, C. W.; Bornovalova, M. A.; Kahler, C. W.; Strong, D. R.; & Brown, R. A. (2005). Distress tolerance as a predictor of early treatment dropout in a residential substance abuse treatment facility, *Journal of Abnormal Psychology, 114(4),* 729-34, DOI: 10.1037/0021-843X.114.4.729.

Dobkin, P. L., Civita, M. D., Paraherakis, A., & Gill, K. (2002). The role of functional social support in treatment retention and outcomes among outpatient adult substance abusers, *Addiction, 97(3)*, 347-356.

DuBois, D. L., & Silverthorn, N. (2005). Characteristics of natural mentoring relationships and adolescent adjustment: Evidence from a national study, *Journal of Primary Prevention, 26(2),* 69-92.

Eslamdoust, S. (2011). *Addiction (Etiology and Treatment),* Tehran, Payame Noor Publication.

Franken, I. H., Muris, P., & Georgieva, I. (2006). Gray's model of personality and addiction, *Addictive behaviors, 31(3),* 399-403.

Harakeh, Z., & Vollebergh, W. A. (2012). The impact of active and passive peer influence on young adult smoking: An experimental study, *Drug and alcohol dependence, 121(3),* 220-223.

Hawkins, J. D.; Catalano, R. F.; & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention, *Psychological bulletin, 112(1),* 64-9.

Jackson, J. L., Dezee, K., Douglas, K., & Shimeall, W. (2005). *Introduction to structural equation modeling (path analysis)*, Pre-course PA08, Society of General Internal Medicine (SGIM), Washington, DC.

Louis Janda (1998). *Personality Tests*, translated by Besharat & Habibnejad (2009), Abiz Publication.

Köpetz, C. E.; Lejuez, C. W.; Wiers, R. W.; & Kruglanski, A. W. (2013). Motivation and Self-Regulation in Addiction A Call for Convergence, *Perspectives on Psychological Science, 8(1), 3-24*.

Kotov, R., Gamez, W., Schmidt, F., & Watson, D. (2010). Linking "big" personality traits to anxiety, depressive, and substance use disorders: a meta-analysis, *Psychological bulletin, 136(5),* 768-821, DOI: 10.1037/a0020327.

Mohammadkhani, S. (2007). Structural Model of alcohol, tobacco, and other drugs use among adolescents at risk: direct and indirect impact of personal and social factors, *Journal of Research in Psychological Health*, 1 (2) 5-14.

Mohamadkhani, S. & Bashghareh, R. (2008). Emotional intelligence and coping styles as predictors of general health, *Journal of Research in Psychological Health*, 2 (1), 37-47.

Molavi, P. & Rasoulzade, B. (2004). Factors affecting the youth's tendency to drug use, *Quarterly Journal of Fundamentals of Mental Health*, 6 (21 & 22), 49-55.

Nunnally, J. C.; Bernstein, I. H.; & Berge, J. M. T. (1967). *Psychometric theory*, *226*, New York: *McGraw-Hill*.

Pilkington, H. (2007). Beyond 'peer pressure': Rethinking drug use and 'youth culture', *International Journal of Drug Policy, 18(3)*, 213-224.

Rohner, R. P.; Khaleque, A.; & Cournoyer, D. E. (2012). *Introduction to parental acceptance-rejection theory, methods, evidence, and implications,* University of Connecticut.

Samani, S. (2002). The relationship of personality traits with marital satisfaction and family solidarity, *Journal of Iran University of Medical Sciences*.

Siegel, L. (1998). *Criminology: Theories, Patterns, and Typologies,* Belmont, CA: West.

Simons, R. L.; & Robertson, J. F. (1989). The impact of parenting factors, deviant peers, and coping style in the etiology of adolescent drug use, *Family Relations, 38*, 273-81.

Tabachnick, B. G., & Fidel, L. S. (2013). *Using multivariate statistics*, New York, Pearson publication.

Terracciano, A., Löckenhoff, C. E., Crum, R. M., Bienvenu, O. J., & Costa, P. T. (2008). Five-Factor Model personality profiles of drug users, *Bio Med Central Psychiatry, 8(1),* 1-10, DOI: 10.1186/1471-244X-8-22.

Turner, R. A., Irwin Jr, C. E., & Millstein, S. G. (2014). Family structure, family processes, and experimenting with substances during adolescence, *Risks and Problem Behaviors in Adolescence, 1(1l),* 229.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support, *Journal of personality assessment, 52(1),* 30-41.