Structural Model of Psychosocial Factors in the Addiction Potential of Adolescents with Mediating Role of the Co-dependency

Fariba Pazani, Ahmad Borjali, Hassan Ahadi, Adis Kraskian-Mojembari

Fariba Pazani
Ph.D. student of Health Psychology, Islamic Azad University, Karaj, Iran

Ahmad Borjali
Associate Professor of Psychology Department, Allameh Tabatabai University, Tehran, Iran
E-mail: Borjali@Atu.ac.ir

Hassan Ahadi
Professor of Health Psychology, Islamic Azad University, Karaj, Iran

Adis Kraskian-Mojembari
Assistant Professor of Psychology Department, Islamic Azad University, Karaj, Iran

Abstract

Objective: The aim of this study is to explain the structural model based on the mediating role of co-dependency in psychological and social factors with adolescents' addiction potential. **Methods**: This study was descriptive and structural equation modeling. The study population included all boy and girl students in District 16 of Education in Tehran who attended public schools in the second period in Academic Year 2015-2016. The sample comprised 400 students who were selected using multi-stage cluster sampling and responded to Addiction Potential Scale, Stonebrink's co-dependency scale, Keen's social health, and psychological factors (risk factors and protective substance). **Results:** The results showed that model fit indices after modification and deletion of non-significant relationship between some subscales of variables and covariance social factors; both co-dependency and addiction potential were desirable. **Conclusion:** It seems co-dependency as a learned behavior, including self-neglect and loss of individual identity are formed under the influence of psychological factors and mediate relationship of these social factors and psychosocial factors and readiness for addiction potential.

Keywords: Psychosocial factors, adolescent addiction potential, co-dependency

Research on Addiction Quarterly Journal of Drug Abuse
Presidency of the I. R. of Iran
Drug Control Headquarters
Department for Research and Education
Vol. 10, No. 40, Winter 2017
http://www.etiadpajohi.ir

Introduction

Today, social harms are among the major concerns of human societies. Each society, in accordance with its conditions, culture, the transition and development process, its growth and degeneration, faces a variety of problems that have undeniable effects in the development of society. Smoking, alcohol drinks and other illicit drugs by adolescents are one of the most significant health, psychological and social challenges somehow engaging most countries in the world and incurring many problems on societies (Hawkins, Catalano, & Miller, 1992). The adolescence is a significant evolutionary period that is associated with identification. Part of this growth process is an excitement seeking that manifests itself in the form of unhealthy sexual behaviors, alcohol consumption, smoking, and other substances. Consumption of substances among adolescents has different causes. Some adolescents consider alcohol and drugs as a kind of outbreak and as a way of facilitating social ties and increasing dignity among peers. Some adolescents consume substances to seek pleasure, combat boredom, satisfy curiosity, and escape or cope with problems (New Hampshire, 1995).

Botvin & Kantor (2000) showed that the average age of the first drink of alcohol, smoking cigarettes and other substances among students was about 12 years of age. While the average age of the first consumption of hashish was reported at about 14 years of age. Typically, the first cigarette experience occurs between the ages of 11 and 15 (Wilford, 1992) and leads to regular consumption in two to three years (Pierce & Gilpin, 1996). Addiction as a social harm, along with problems such as unemployment, poverty, divorce, etc. influenced by the individual psychological reasons which are formed in the context of the family, with his peers and in society. Due to its numerous consequences in the political, economic and cultural system, the country requires serious attention and determination to reduce its damage, especially in the main target population, i.e. adolescents. Effective factors in addiction such as low psychological capital, lack of communication skills, poor self-concept and so on along with biological, spiritual, cultural and social factors, indicate the complexity of this social harm.

Adolescence is the transition from childhood to adulthood with features such as rapid physical, emotional and cognitive changes, the process of identification, peer influence and excitement seeking provide a good context for influencing social harms especially addiction. Co-dependence as a personality trait formed in the context of a person's social relationship is a connect loop to the lack of individual and social health and is the basis of many addictive behaviors, especially drug use. Mohammadkhani (2005) surveyed the prevalence of alcohol consumption, cigarettes and other drugs in high school students in 10 provinces of the country and showed that a total of 19% of students at least once smoked cigarettes, alcoholic beverages or other substances. Based on the findings of this study, 14.7% of students reported smoking cigarettes, 9.8% alcohol consumption

and 2.5% of students reported other substances. Given the fact that no factor alone is a necessary and sufficient condition for substance consumption and consumption of substances is the result of a combination of various factors, in order to cope with this phenomenon, it is necessary to consider the role of aggravating factors in the tendency to consume substances simultaneously. In preparation for the use of substances, two psychological and social areas were considered. In the psychological dimension, the risk of substance abuse and delinquent behaviors is often seen in people who have behaviors such as excitement seeking, low avoidance of harm, and poor control of impulse (Kodjo, & Klein, 2002; Mohammadkhani, 2007).

Other factors beyond the substance consumption include the unfamiliarity of adolescents with life skills and unfamiliarity with happy ways of life and being sociable. In this regard, Botvin and Griffin (2004) consider decision-making skills, coping with anxiety, communication skills and courage. Kuperminc and Allen (2001) investigated the relationship between social orientation and social problem solving skills and behaviors. The findings showed that the positive social orientation plays a significant role in the amount of delinquency behaviors and drug consumption (Kuperminc & Allen, 2001; quoted by Mohammadkhani, 2007). In terms of psychological characteristics, we can point to factors such as self-concept and optimism that are expressed in the framework of resilience by the adolescents who, despite the existence of factors such as poverty, and the inefficient family, have been successful in their lives. Negative self-concept is one of the effective factors in substance consumption that adolescents consume to compensate for their shortcomings and to establish relationships with peers with anti-social behaviors. Disappointment and pessimism in the future discourage people from changing their way of life and solving their problems, and thus turn to substances to evade discomfort.

Regarding the social factors, Durkheim believes that any kind of disconnection between the individual and the society in such a way that people are not absorbed in the social frameworks provides an anomaly and conducive to the growth of social deviations. According to Keyse (1998), social health means a person's personal report of the quality of its relationship with others. In his view, social health is a combination of several factors that in total show how well a person is performing in his social life, for example, as a neighbor, partner and citizen. He believes that social health includes five components, which include social integration, which means assessing the individual's quality of interrelationship in society and social groups. Social contribution represents an individual's assessment of his social value. The social acceptance is the individual's interpretation of society and the characteristics of others. Social coherence is about people who hope for the future of the community and believe that they themselves and others benefit from the potential for social development and that the world can be better for them and for others. In the context of the individual and social anomy, a kind of addiction is formed as co-dependence, in

which the individual does not value himself much. These people enter into relationships that are unilateral and emotionally malicious or associated with abuse. This type of addiction was used initially to describe the relationship that exists among the family members of the alcohol addict, but it can include all those who live in abusive families and social anomies. Durkheim identifies two types of anomy: one at the individual level and the other at the social level. Anomy at the individual level is a kind of individual feeling of abnormalities that are accompanied by disorders within one person and is, in essence, a sense of abnormality, emptiness, and powerless. In social anomy, individual emotions are measured in relation to the social system. When there is no social balance, the person lacks the means to regulate his behavior and adapt it to the social criteria prescribed and also lacks the sense of collective support and social support. Here, we can say that social factors are effective on both types of disorder, that is, the sick society produces sick people and the increase in the sick people in the community itself leads to the sickness of the community (Yazdanpanah, 2003).

Wanderman and Florin (2000) argue that participation in the community through participation contributes to the idea that individuals have an ideal in life and is indicative of the health of individuals. Gamson argues that participation in social movements encompasses the development of personal identity and represents an opportunity for self-understanding. According to Hughey, Speer, and Peterson (1999), community participation gives young people the opportunity to expand social relationships with people other than their families and peers in different social situations and help them develop a proper understanding of themselves and others, and thereby reinforce their social identity (Cicognani, Menezes, Nata, & Marcon, 2007). Socialization means the harmonization and alignment of the individual with values, and norms and social group attitudes is one of the main tasks of education for students. The transformation of a heterogeneous society into a unified and integrated society through the development and strengthening of culture and common identity is a significant function of the educational system. The study of social factors emphasizes the role of education in the transfer of culture, socialization, autonomy reduction, and the strengthening of social order along with innovation and change. Social health and social capital with significant components of trust, solidarity and social participation are one of the most significant indicators of development. With the decline in health and social capital, we will see discrimination, inequality, migration, lack of public trust, reduced social participation, the decline of charity, the increase in deviations and addiction, and the collapse of the family and the intergenerational gap (Akbari, 2004).

Considering the above, the main problem of the researcher in this study was to develop a structural model considering the intermediary role of co-dependence in relation to psychological and social factors with adolescent's addiction potential and its fit according to the experimental data. The main

question of the research is whether the co-dependence mediates the effect of psychosocial factors on the addiction potential?

Method

Statistical Population, Sample and Sampling Method

The research method is descriptive correlational. The statistical population of the present study comprised female and male students who were studying the second period of public high schools in the Academic Year 2015-16 in district 16, Tehran. The age range of these students was 16-18. Based on the random cluster sampling method, in the first stage, two high schools were randomly selected from 7 high schools for the two sexes. In the second stage, among the second class high schools, a class was randomly selected from among the second period high schools. According to many researchers, the minimum sample size for modeling is 200 people (Hu, 2008; quoted by Naseri Palangard, Sadeghi Boroujerdi, Yousefi & Sadeghi Kalani, 2016). Durbin and Klein (2006) also believe that minimum 10 and maximum 20 samples are needed in exploratory factor analysis for each variable. In this study, the sample population was 400 in total, 200 female students and 200 boys.

Instruments

1. Addiction Potential Questionnaire: This questionnaire consists of three subscales of addiction potential, addiction admission, and alcoholism, derived from the Minnesota multidimensional questionnaire. The addiction potential scale has been developed as an indicator of correlated personality factors of addictive disorders by Weed, Butcher, Mckenna, and Ben-Porath (1992) and includes 39 questions. The scale of addiction admission, in principle, measures the scale of admission or acceptance, which was developed by Weed et al. (1992) to measure the likelihood of accepting alcohol or medication problems. This scale consists of 12 questions. The alcoholism scale was also developed by MacAndrew (1965) and originally designed to distinguish outpatient mental patients who do not have substance and alcohol abuse, and it was made up of people under treatment for alcohol abuse with 49 questions. On the scale of addiction potential, the female and male cut-off scores are 23 and 24, respectively. On the scale of addiction admission, the women's cut-off score is 2 and male 3. Finally, in the scale of alcoholism, the cut-off score is 20 for females and 22 for males. In Minooie and Salehi's research (2003), entitled the practicality of credibility, validity and standardization of addiction potential tests, addiction admission and alcoholism in order to identify those exposed and susceptible to substance abuse among the students the results showed that the two groups of addicts and students differed in scores, which shows a reasonable validity. The validity of the test was also reported by Minooei and Salehi (2003) by Cronbach's alpha 0.54 and 0.5 by making it into two halves.

2. Stonebrink's co-dependence questionnaire: This questionnaire was developed by Stonebrink (1988), which consists of 29 items and 4 subscales of need for control (7 questions), interpersonal dependence (8 questions), self-alienation (7 questions)) and interconnectedness (7 questions) that are used to measure the co-dependence in the family and friends of drug addicts. The score is in the form of a 4-degree Likert point that is considered for "never", "sometimes", "often" and "always", for points 0, 1, 2, 3, respectively. Questions 1, 5, 9, 13, 17, and 25 are the subscale of the need for control; Questions 2, 6, 10, 14, 18, 22, 26, and 29 sub-scale of interpersonal dependence; Questions 3, 7, 11, 15, 19, 23, and 27 sub-scales of self-alienation; questions 4, 8, 12, 16, 20, 24, and 28 are sub-scales of interconnectedness. The alpha coefficient for the total was 0.79, for the need to control 0.45, for interpersonal dependence is 0.75. To assess the convergent validity, a significant relationship was found between its scores and the poor performance family.

3. Keyse's Social Health Questionnaire: The questionnaire consists of 20 items and 5 subscales, which has been developed by Keyse at the McArthur Scientific Foundation in 2004. In several studies, its validity and credibility were tested. Questions 1 to 4 pertain to the subscale of social flourishing, questions 5-7 are related to the subscale of social solidarity, questions 8 to 10 belong to social coherence, questions 11 to 15 belong to the subscale of social acceptance, and questions 16 to 20 belong to the subscale of social participation. The scoring for this questionnaire is based on the 5-point Likert scale as very high, = 5 to very low = 1. Its reliability for the whole scale was 0.78, social integration was 0.71, social acceptance 0.74, social participation 0.74, social flourishing 0.70, and social solidarity 0.77 (Baba Poor Kheiruddin, Tusi & Hekmati, 2009).

4. The Psychological Factors Questionnaire (Risk Factors and substance consumption): This questionnaire is based on the model of risk and protective factors and the composite model of the onset of drug use (Botvin, & Kantor, 2000), which are made of components including the theory of the substance consumption etiology within the field of cognitive-emotional theories (Ajzen &Fishbein, 1980; Fishbein & Ajzen, 1975), Social Learning Theories (Bandura, 1986), Social Development Theory (Hawkins and Weis, 1985), Social Control Theory (Elliot, 1989), Social Ecosystem Model (Kumper & Turner, 1991), the theory of self-humiliation (Kaplan, 1975), the multi-stage social learning model (Simons, Conger, & Whitbeck, 1988); Family interaction theory (Brook, Brook, Gordon, Whiteman, & Cohen (1990), and the theory of trouble-making behavior (Jessor, Donovan, & Costa, 1991), which are normalized on approximately 3000 students in Iran.

Result

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

Table 1. Descriptive Statistics of the Studied Variables

Variables	*Number*	*Mean*	*The standard deviation*	*Variables*	*Number*	*Mean*	*The standard deviation*
Social flourishing	400	9.96	1.93	**Excitement seeking**	400	19.19	4.97
Social Solidarity	400	10.11	2.16	**Interpersonal dependence**	400	13.22	4.46
social coherence	400	11.02	2.68	**Need for control**	400	11.73	2.63
Social acceptance	400	12.05	2.79	**Self-alienation**	400	9.06	3.69
social participation	400	16.60	3.02	**Interconnectedness**	400	10.93	3.73
Self-concept	400	10.63	3.67	**Addiction potential**	400	20.34	4.72
Courage	400	20.78	4.72	**Addiction admission**	400	4.63	1.74
Optimism	400	11.04	4.24	**Alcoholism**	400	22.27	5.46

After doing the proposed software reform and creating covariance between some subscales, the goodness of fit indices of the model were in a favorable situation and the structural model of the relationship between psychosocial factors in the adolescents' potential well fitted with the mediating role of co-dependence.

Table 2. Indices of Goodness of Fit Analysis in the Final Model

Index name	*Goodness of fit indices*	
	Value	*Limit*
$\frac{\chi 2}{df}$	2.55	Less than 3
(Root mean estimation error) RMSEA	0.70	Less than 0.1
CFI (comparative fit index)	0.91	Higher than 0.9
NFI (Normed fit index)	0.92	Higher than 0.9
GFI (Goodness of fit index)	0.95	Higher than 0.9
AGFI (adjusted goodness of fit index)	0.91	Higher than 0.9

As it can be seen, the goodness of fit indices of the model after correction and elimination of irrational relationships and the creation of covariance among some subscales of variables of social factors, co-dependence and addiction potential are in a favorable situation. The correctional diagram in non-standardized mode is presented in the following table.

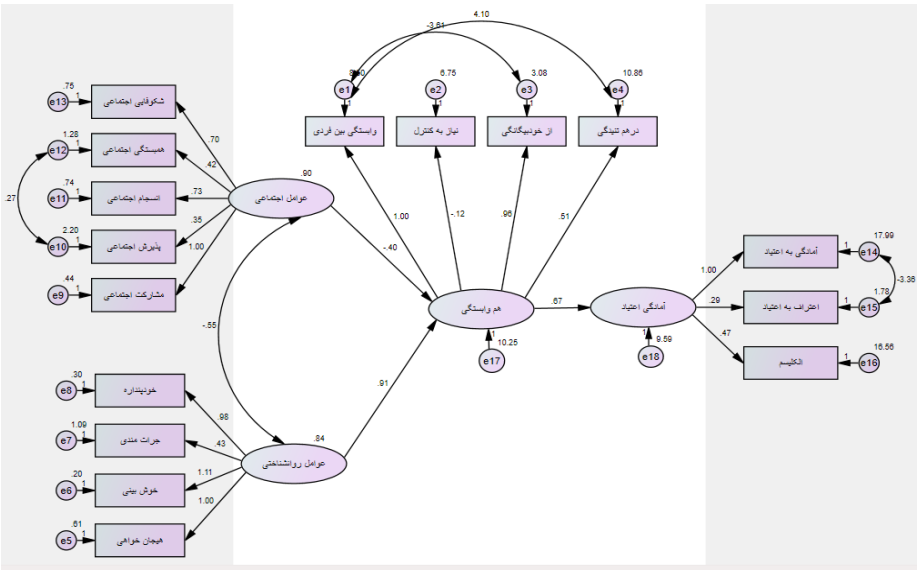

Figure 1. Correction Model in Non-standardized Mode

The correction Figure in the standardized mode is presented in the following table.

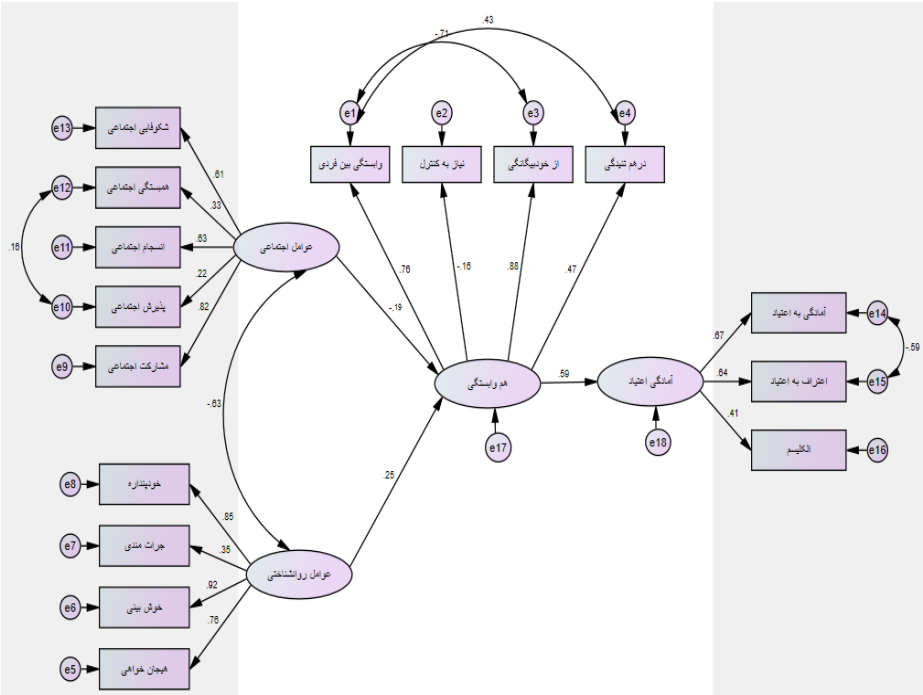

Figure 2. Correction Model in Standardized Mode

Discussion and Conclusion

Co-dependence is a good substrate for the emergence of addiction and obsessive-compulsive behaviors. Cermak (1986) refers to co-dependence as a personality disorder that is determined based on the need to manage and control affairs in order to cope with intense adverse outcomes, to neglect one's needs, to deviate the limits and boundaries of intimacy and separation, depression and illnesses related to stress and pressure. Regarding the multidimensional status (physical, mental, emotional, and spiritual) of co-dependence and its generalization to different development stages of life, the present study shows the relationship between the formation of co-dependence with both psychological and social factors with social health components. Co-dependence, as a valid diagnostic concept (Harkness & Cotrell, 1997), is an acquired behavior that is shaped under the effects of growth in a dysfunctional family and social disorders and plays a significant role in creating addictive and coercive behaviors such as Internet addiction, work, ... and medications. Co-dependence can be cured and in situations where most of its causative factors are not under the control of the education system and therapists, the identification of this situation in adolescents and intervention can have a significant preventive effect on social harm, especially substance consumption. This treatment involves separating a person from a disharmonious relationship that requires a clear and vivid idea of "self." The concept of who we are and what our goals and intentions are and what limitations we consider for our involvement in life. The finding of this study that is the favorable goodness of fit of the structural model of the relationship between psychosocial factors with the mediating role of co-dependence in the adolescent addiction preparation is in line with that of Parker, Faulk, & Lobello (2003), which considered co-dependence as a disorder separate and independent from behavioral harms. The results of this model regarding with the role of psychological factors with the co-dependence is consistent with the results of the research done by Knudson and Terrell (2012); Marks, Blore, Hine, and Dear (2012); Talwar, Verma, Singh, and Sharma (2011); Ho, Cheung, and Cheung (2010); Loughead (1991); and Carvajal, Clair, Nash, and Evans (1998).

The relationship of co-dependence with social factors in the intended model is consistent with the results of Chang (2010) on the relationship between co-dependence and cultural orientation and research of Heydarnejad, Bagheri Benjar, and Esanlou (2012). The relation of co-dependence in the intended model with the substance consumption is in line with the results of the research of Cullen and Carr (1999), and Motawali Khan and Ahmadi (2015). Another finding of this model is the mediating role of co-dependence on the impact of psychological and social factors on the addiction potential. Van Eck, Markle, and Flory (2012) showed that excitement seeking is a moderating variable between the symptoms of attention deficit / hyperactivity disorder and drug abuse in adolescence. Hicks, Schlegel, Friedman, and McCarthy (2009) showed that the expectation of the socialization consequences following alcohol

consumption is positively correlated with the self-concept improvement associated with alcohol consumption.

Shayer, Botvin, and Diaz (1999) concluded that perceived adequacy and effective refusal skills were related with reduced alcohol consumption, and stated that both should be an integral part of school-based prevention strategies. Carvajal et al. (1998) examined three factors of optimism, happiness and self-esteem that are mainly related to psychological and physical well-being in a social penetration model for predicting drug abuse. The results showed that these variables play a decisive role in avoiding drugs. In explaining the mediating role of interconnectedness, we can mention the following consistent studies. Winstanley et al. (2008) in their research showed that the average and high level of social capital has a negative relationship with consumption and dependence on substances. The disorganization of the place of residence has a positive relationship with the substance consumption and dependence on it. In line with this finding, Greenfield, Rehm, and Rogers (2002) showed that there is a significant relationship between social integration and alcohol consumption. Also, Lochman and Wayland (1994) showed that adolescents with low social acceptance and high aggression have a positive correlation with marijuana, drugs, alcohol consumption and delinquent activities.

These findings can be explained within the framework of the self-humiliation theory. Based on this theory, general self-esteem is the main factor in substance abuse and its prevention. Adolescents who feel they are rejected by others and do not have acceptable social performance, show some reactions: first, they feel they should symbolically fight against the standard criteria and values, second, they avoid traditional social models; third, they feel that they can enhance their self-esteem by doing unconventional behaviors and ultimately connect with deviating peers who strengthen value in them. This view introduces concepts of self-esteem, isolation and distraction from society and communication with deviant peers, and relies on interpersonal traits and concepts of commitment and attachment theories as well as social learning to explain substance abuse. Mental and personal weaknesses and inadequacies along with inappropriate social, and family conditions and lack of proper human relationships gradually face the person with mental and psychological problems. In the study of the lives of addicts, family disorder is most clearly seen in most cases, and many addicts seek addiction to escape these disturbances and psychological problems. Therefore, parents should eliminate the background of any mental and psychological harm in the family.

Considering that in this research model, quantitative methods were used to understand the relationship between variables. Using longitudinal and long-term methods can aid in improving the results. This research was conducted in the adolescent group and its generalizability is limited to other age groups such as young people and middle-aged people. Another limitation of this research is the data collection information tools, which is a kind of self-report, and yet the

credibility of the responses of individuals is contemplative. It is suggested that research be conducted on the addiction preparation and its outcomes in societies other than the high school students. It is suggested that other models that are not used based on the risky and protective variables in this study be used to predict the tendency towards adolescent addiction and to compare the level of their explanations and their results with the present research model.

Reference

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Akbari, Amin (2004). The Role of Social Capital in Participation of Investigating the Impact of Social Capital on Social Political Participation. Master's thesis, Faculty of Social Sciences, University of Tehran.

Babapur Kheyruddin, Jalil; Tusi, Fahimeh and Hekmati, Isa (2009). The role of determinant factors in social health of students of Tabriz University. *Quarterly Journal of New Psychological Research, 4 (16), 19-1*.

Bandura, A. (1986). *Social foundations of thought and action: a social cognitive theory*. Englewood cliffs, NJ: prentice hall.

Botvin, G. J., & Griffin, K. W. (2004). Life Skills Training: Empirical Findings and Future Directions. *Journal of Primary Prevention, 25(2), 211-232*.

Botvin, G. J., & Kantor, L. W. (2000). Preventing alcohol and tobacco use through life skills training. *Alcohol research and health, 24(4), 250-257*.

Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: a family interactional approach. *Genetic, social, and general psychology monographs, 116(2)*, 111-267.

Carvajal, S. C., Clair, S. D., Nash, S. G., & Evans, R. I. (1998). Relating optimism, hope, and self-esteem to social influences in deterring substance consumption in adolescents. *Journal of Social and Clinical Psychology, 17(4)*, 443-465.

Cermak, T. (1986). *Diagnosing and treating codependence*. Minneapolis, MN: Johnson Institute Books.

Chang, S. H. (2010). *Codependency among college students in the United States and Taiwan: A cross cultural study*. Doctor of Philosophy (PhD), Ohio University, Counselor Education (Education).

Cicognani, E., Menezes, I., Nata, G., & Marcon, A. (2007). Place identity and sense of community among students. In M. Garcia-Ramirez, V. Luque-Ribelles, R. Morano Bàez (Eds.) *Proceedings of the International Seminar "Integrating new migrants in the new Europe: a challenge for Community Psychology*", (Seville, 19-21 September).

Cullen, J., & Carr, A. (1999). Codependency: An empirical study from a systemic perspective. *Contemporary Family Therapy, 21(4)*, 505-526.

Durbin, C. E., & Klein, D. N. (2006). Ten-year stability of personality disorders among outpatients with mood disorders. *Journal of abnormal psychology, 115*, 75-84.

Eliot, F. (1989). Theory and the professions. *Indiana law journal, 64(3)*, 423-432.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Greenfield, T. K., Rehm, J., & Rogers, J. D. (2002). Effects of depression and social integration on the relationship between alcohol consumption and all-cause mortality. *Addiction, 97(1)*, 29-38.

Harkness, D., & Cotrell, G. (1997). The social construction of co-dependency in the treatment of substance abuse. *Journal of Substance Abuse Treatment, 14(5),* 473-480.

Hawkins, J. D., & Weis, J. G. (1985). The social development model: An integrated approach to delinquency prevention. *Journal of Primary Prevention, 6(2),* 73-97.

Hawkins, J. D., Catalano, R. F., & Miller, J. U. (1992). Risk and protective factor for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112,* 64-105.

Heydarnejad, Ali Reza; Bagheri Benjar, Abdolreza and Esanlou Ali (2012). Comparison of social capital in addicted and non-addicted youths. Quarterly Journal of Addiction Research, 6 (24), 95-85.

Hicks, J. A., Schlegel, R. J., Friedman, R. S., & McCarthy, D. M. (2009). Alcohol primes, expectancies, and the working self-concept. *Psychology of Addictive Behaviors, 23(3),* 534-538.

Ho, M. Y., Cheung, F. M., & Cheung, S. F. (2010). The role of meaning in life and optimism in promoting well-being. *Personality and individual differences, 48(5),* 658-663.

Hughey, J., Speer, P. W., & Peterson, N. A. (1999). Sense of community in community organizations: Structure and evidence of validity. *Journal of community psychology, 27(1),* 97-113.

Jessor, R., Donovan, J. E., & Costa, F. M. (1991). *Beyond adolescence: Problem behavior and young adult development.* New York: Cambridge University Press.

Kaplan, M. (1975). *Leisure: Theory and Policy*. New York: Wiley.

Keyes, C. L. M. (1998). Social well-being. *Social psychology quarterly, 61(2),* 121-140.

Knudson, T. M., & Terrell, H. K. (2012). Codependency, perceived inter-parental conflict, and substance abuse in the family of origin. *The American Journal of Family Therapy, 40(3),* 245-257.

Kodjo, C. M., & Klein, J. D. (2002). Prevention and risk of adolescent substance abuse: the role of adolescents, families, and communities. *Pediatric Clinics of North America, 49(2),* 257-268.

Kumpfer, K. L., & Turner, C. W. (1991). The social ecology model of adolescent substance abuse: implications for prevention. *International journal of the addictions, 25(4A),* 435-463.

Lochman, J. E., & Wayland, K. K. (1994). Aggression, social acceptance and race as predictors of negative adolescent outcomes. *Journal of the American academy of child and adolescent psychiatry, 33(7),* 1026-1035.

Loughead, T. A. (1991). Addictions as a process: Commonalties or codependence. *Contemporary family therapy, 13(5),* 455-470.

MacAndrew, C. (1965). The differentiation of male alcoholic outpatients from nonalcoholic psychiatric outpatients by means of the MMPI. *Quarterly Journal of Studies on Alcohol, 26,* 238-246.

Marks, A. D., Blore, R. L., Hine, D. W., & Dear, G. E. (2012). Development and validation of a revised measure of codependency. *Australian Journal of Psychology, 64(3),* 119-127.

Minooi, Mahmoud and Salehi, Mahdiyeh (2003). The validity, reliability, and standardization of APS, AAS, and MAC tests. *Quarterly Journal of Addiction Research, 1 (3), 77-107.*

Mohammadkhani, Shahram (2005). A comprehensive school advisory and counseling program. Tehran: *Ministry of Education and Cultural Affairs and Advice Bureau*.

Mohammadkhani, Shahram (2007). Structural Model of Drug Abuse in Adolescents at Risk: Assessing the direct and indirect effects of individual and social factors. *Quarterly journal of psychological health, 2 (6), 17-5*.

Motavalli, Mohammad Massoud; Khan Ahmadi, Usman (2015). Investigating the relationship between source control and co-dependence among spouses of people with addiction. *International Conference on Modern Approaches to the Humanities*.

Naseri Polangard, Vali, Sadeghi Boroujerdi, Saeed, Yousefi, Bahram and Sadeghi Kalani, Ahdiyeh (2016). The impact of the quality of services provided on the loyalty of gymnastic club customers based on the SERVQUAL model (with the mediating role of customer satisfaction). *The first national conference on sport science developments in the field of health, prevention and championship*.

Newcomb, M. D. (1995). Identifying high-risk youth: Prevalence and patterns of adolescent drug abuse. *NIDA Research Monograph, 156,* 7-38.

Parker, F., Faulk, D., & LoBello, S. (2003). Assessing codependency and family pathology in nursing students. *Journal of Addictions Nursing, 14*, 85-90.

Pierce, J. P., & Gilpin, E. (1996). How long will today's new adolescent smoker be addicted to cigarettes? *American Journal of Public Health, 86,* 253-256.

Simons, R. L., Conger, R. D., & Whitbeck, L. B. (1988). A multistage social learning model of the influences of family and peers upon adolescent substance abuse. *Journal of Drug issues, 18*(3), 293-315.

Stonebrink, S. (1988). *A measure of co-dependency and the impact of socio-cultural characteristics*. Unpublished master thesis, University of Hawaii School of social work.

Talwar, U. K., Verma, A. N., Singh, R., & Sharma, V. (2011). Co-dependency and Marital Adjustment in Depression. *Delhi Psychiatry journal, 14 (1),* 110-115.

Van Eck, K., Markle, R. S., & Flory, K. (2012). Do conduct problems and sensation seeking moderate the association between ADHD and three types of stimulant use in a college population? *Psychology of addictive behaviors, 26(4),* 939-947.

Wandermans, A., & Florin, P. (2000). *Citizen participation and community organization*. In J. Rappaport, E. Seidman (Eds). Handbook of community psychology (pp. 247-272). Dordrecht: Kluwer Academic Publishers.

Weed, N. C., Butcher, J. N., McKenna, T., & Ben-Porath, Y. S. (1992). New measures for assessing alcohol and drug abuse with the MMPI-2: The APS and AAS. *Journal of personality assessment, 58(2),* 389-404.

Wilford, B. B. (1991). Prescription drug abuse: some considerations in evaluating policy responses. *Journal of psychoactive drugs, 23,* 343-349.

Winstanley, E. L., Steinwachs, D. M., Ensminger, M. E., Latkin, C. A., Stitzer, M. L., & Olsen, Y. (2008). The association of self-reported neighborhood disorganization and social capital with adolescent alcohol and drug use, dependence, and access to treatment. *Drug and alcohol dependence, 92(1),* 173-182.

Yazdanpanah, Leyla (2003). Investigating the Factors Affecting Social Participation of Citizens Above 18 Years in 22 Districts, Tehran. Doctorate thesis, Allame University, Faculty of Social Sciences.