

## Abstract

**Objective:** This study aimed to examine the relationship of personality traits and negative life events with coping styles by the mediating role of negative affects in drug dependent people.

**Method:** This was a correlational study wherein the number of 152 participants (drug users) completed Cloninger's Temperament and Character Inventory, Pickel's Life Events Inventory, Positive and Negative Affect Schedule (PANAS), and Endler & Parker's Coping Inventory for Stressful Situations.

**Results:** Novelty seeking had an indirect effect on emotional coping styles. Although anger had a mediating role in this relationship, it did not play such a role in the relationship of low self-directedness and negative life events with emotional coping styles. Harm avoidance had a direct effect on avoidant coping styles. Fear and sadness played a mediating role in the structural relationship of harm avoidance and negative events with avoidant coping styles. Reward dependence had an indirect effect on avoidant coping styles. Sadness had a mediating role in the structural relationship between reward dependence and avoidant coping styles. **Conclusion:** People with traumatic personality traits show negative affects by experiencing stressful negative events, which lead to traumatic coping style, including addiction.

**Key Word:** Personality Traits; Negative Events; Negative Affects; Coping Styles

# An Evaluation of Personality Traits and Negative Life Events in Explaining Negative Coping Strategies among Drug Dependent People: The Mediating Role of Negative Affects

Ali Beigi, Siyavash Talepasand

## Ali Beigi

Ph.D student in psychology of education Shahrood Meyami  
Semnan  
Iran  
E-mail: ali.beygi@yahoo.com

## Siyavash Talepasand

Associate Professor  
Department of Psychology University of Semnan  
Semnan  
Iran



## Research on Addiction Quarterly Journal of Drug Abuse

Presidency of the I. R. of Iran  
Drug Control Headquarters  
Department for Research and Education

Vol. 9, No. 35, Autumn 2015  
<http://www.etiadjohi.ir/>

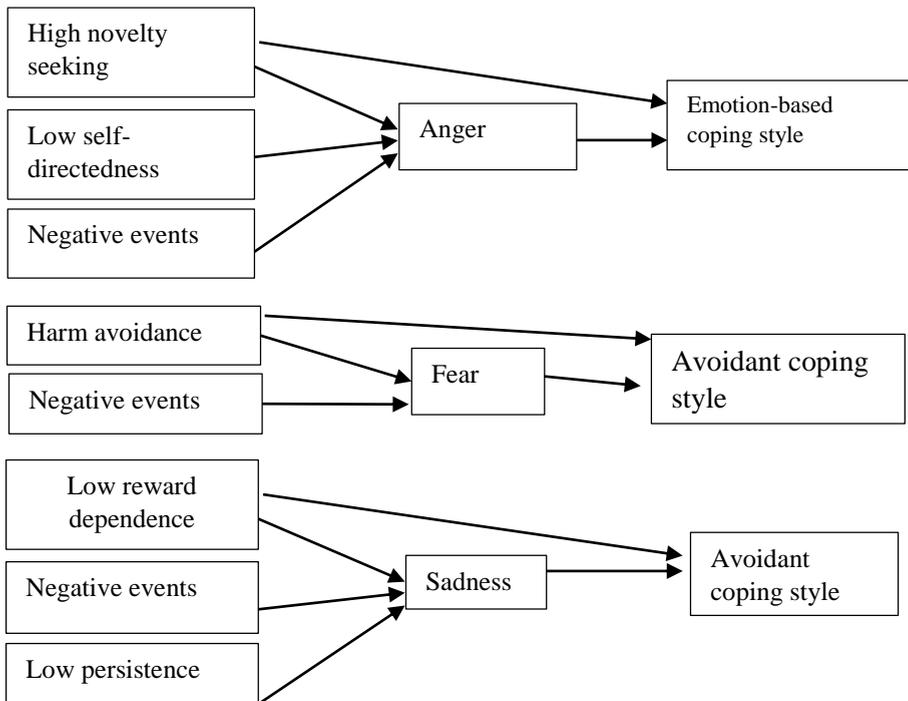
## Introduction

Drug dependence can cause physical damages, such as malnutrition, physical illness, mortality, and the risk of suicide attempt (Cooper, Russell, Skinner, Frone & Mudar, 2002; Schiffer, Pedersen, Broers, Widdershoven & Denollet, 2008, Sadock & Kaplan, 2007), family problems such as divorce, separation, and family violence; and mental health problems such as aggression, depression, stress, anxiety, and psychosomatic states (Alegría, Hasin, Nunes, Liu, Davies, Grant & Blanco, 2011), and crime (Sadock & Sadock, 2007). The problem-generating use of substances leads to a wide range of psychosocial consequences, including the difficulty in reaching life goals and the increase of interpersonal conflicts (Bondy, 1996; Sloan, Costanzo, Belsky, Holmberg, Malone, Wang & Kertesz, 2011). Despite extensive damages of drug use, the examination of underlying mechanisms of chronic drug use is the major source of awareness-raising that can promote the development of appropriate intervention strategies. Research on the etiology of problem-causing substance use refers to factors such as personality traits and emphasizes the powerful role of people's personality traits in interaction with other environmental factors with regard to the initiation and continuation of drug use (Dermody, Cheon & Munuck, 2014). Most of the people who use narcotic substances hold distinct personality characteristics. These intrinsic and specific features gradually expand and intensify the path of drug use, which means that people who are more prone to drug use suffer from more vulnerable personality traits (Oraki, Mokri & Kiai, 2013; Le Bon, et al., 2004; Arnau, Mondon & Santacreu, 2008). Cloninger has reported the existence of two main dimensions for personality: temperaments and characters. The former refers to the biological aspects of personality and contains four subscales, namely novelty seeking, harm avoidance, reward dependence, and persistence. The latter refers to the social and cultural aspects of personality and consists of three subscales, namely self-directedness, cooperativeness, and self-transcendence (Cloninger, 1987). When people with these personality characteristics are put under stressful environmental conditions, they opt for various strategies for coping. Research has clearly shown the relationship between traumatic personality traits and the possibility of drug abuse (Oraki et al., 2013, Le Bon et al., 2004, Arnau et al., 2008).

It seems people with traumatic personality traits experience high degrees of confusion, worry, distress, and stress under negative and stressful circumstances and show negative affects (Dermody et al., 2014). The process through which the negative stressful event increases risk of substance abuse has been hypothesized as negative affect model (Wills & Shiffman, 1985). According to this model, negative affects can mediate the relationship between stressful negative events and substance abuse. In particular, people use drugs to relieve the negative affect, which is created by stressful negative events (Cooper, Rachel & George, 1988). However, not all studies support the mediating role of negative

affects in the problematic use of drugs and stressful negative events (McCreary & Sadava, 2000). However, the negative affects that act as internal disorder or depressed mood have been considered as a mediator in studies on adolescents and other populations (Hussong & Chassin, 1994, Handley & Chassin, 2008). One of the possible reasons to account for the conflicting findings is the ignorance of negative affect components. One of the possible reasons to explain the conflicting findings is the ignorance of negative affect components. Recent studies have focused on the integration of the components of negative affects as mediators (Handley & Chassin, 2008) and on the role of negative affects in the problematic use of drugs (Colder & Chassin, 1993, Dermody et al., 2013). Negative affect components include fear, anger, sadness, and guilt (Watson & Clark, 1992). The researchers who use the combination of negative affect components measure the average or mean score of some specific components. In such a situation, the mediating role of negative affects may be ignored since it is possible that only a certain component of negative affects is related to drug use. For example, Hussong, Hicks, Levy & Curran (2001) showed that merely component sadness was associated with alcohol consumption among students, but other components such as anger, fear, guilt or negative affects are not so. However, that study was merely conducted on alcohol dependent individuals; therefore, this result is likely to be different from the results of studies conducted on drug users. The preferred style of people should also be given special attention, which means that people with traumatic personality traits, such as novelty seeking, high harm avoidance, low self-directedness, and low reward dependence use improper coping strategies. Therefore, the likelihood of drug use in such people witnesses an increase (Arnau et al., 2008; Oraki et al., 2013; Zuckerman, 2007; Salmani, Hassani & Arianakia, 2014). When being under stressful negative events, people with traumatic personality traits express this dominant negative affect, which often livens a special coping style in the individuals (Ball, 2004, 2005). People with low self-directedness and novelty seeking, if placed under stressful negative events, show negative affects, particularly anger; and use the preferred emotion-focused coping style. Those with low reward dependence and low persistence, if placed under stressful negative events, show negative affects, particularly sadness, which reinforces avoidant coping style in such persons (Ball, 2004, Ball, 2005, Roudsari, Alililou & Irani, 2008). With these assumptions, in some people with drug abuse or drug dependence, there is the possibility of the prevalence of a certain type of personality traits that makes them prone to experience specific negative affects and use a preferred coping style. According to these studies, when people with traumatic personality traits experience a negative stressful event, they are likely to turn to drug use to cope with negative affects resulting from negative events. It seems that people turning to self-medication via drug use lack a consistent and alternative coping strategy that reduces negative affects associated with stress (Cooper et al., 1988). Similarly, those who cannot effectively cope with the

negative affects arising from stressful factors may tend to drug use. It seems that personality traits have a significant role in this process (Zuckerman, 2007, Salmani et al., 2014, Oraki, et al., 2013, Le Bon et al., 2004, Arnau et al., 2008). According to what was mentioned, the aim of the present study was to examine the mediating role of negative affects in the relationship of personality traits and negative life events with coping styles in people with drug dependence. The hypothetical models of the study are presented below.



**Figure 1: Hypothetical models of avoidant coping style a) the mediating role of anger b) the mediating role of fear c) the mediating role of sadness**

## Method

### Population, sample, and sampling method

The statistical population of this study consisted of all the drug dependent people in Shahroud and Meyami cities who had referred to methadone maintenance treatment clinics in 2014. From among this population, the number of 152 drug dependent persons was selected in line with the inclusion criteria via random cluster sampling as the participants of the study. The criteria for the inclusion of participants in the sample were: the history of minimum 6 months of abstinence from drug use, use of traditional drugs only (opium and its syrup), and not suffering any specific mental illness other than drug use that is registered

through checking the psychiatric and medical history of the individuals, and also with patients' self-report and the information of those accompanying patients in the treatment centers. Due to the large number of questionnaires and questions, the data were collected in two stages. The questionnaires were administered individually. In total, the completion of the questionnaires approximately took 40 days.

### **Instrument**

1. Life Events Inventory: This scale was developed by Pickel (1991) and evaluates individuals' stressful life events. The short form of this scale contains 51 items, which are answered by yes or no answers representing whether the respondent has experienced an event or not. The participants should mark the events they have personally experienced during the past few years. In this test, some questions (e.g., graduation) are not considered as negative events. In this study, these questions are regarded as stressful life events if the respondent has assigned a high score to response section pertaining to stress (cited in Poorshahbaz, 1993). The test-retest reliability coefficient of the total scale has been reported equal to .78 (Poorshahbaz, 1993). In the present study, Cronbach's alpha of .74 was obtained for the scale.

2. Cloninger Temperament and Character Inventory (TCI): This scale has been constructed to evaluate personality traits and features via inheritance (temperaments) or through the environment (character). This scale consists of 125 items that are answered in yes/no modes. Indeed, the scale contains seven subscales as follows: 1) Novelty seeking, 2) Harm avoidance, 3) Reward dependence, 4) Persistence, 5) Cooperating, 6) Self-transcendence, and 7) Self-directedness. The first four subscales assess the dimension temperaments and the other three subscales assess the dimension character. Kaviani & Pournaseh (2005) reported the internal consistency coefficients of the questionnaire on seven subscales in the range of .55 to .80 while their test retest reliability coefficients ranged from .73 to .90. In the present study, Cronbach's alpha coefficient of the subscales was obtained ranging from .75 to .92.

3. Coping Inventory for Stressful Situations: This questionnaire was constructed by Endler & Parker (1990) and measures three styles, namely Emotion-, Task-, and Avoidance-oriented coping. The dominant style of each individual is determined according to his/her score in each of the three dimensions. In other words, each of the behaviors that achieves the highest score in the scale will be considered as an individual's preferred coping style. The short version of this questionnaire was standardized on a number of teachers in Iran by Farahani & Mohammadkhani (2010). This form consists of 21 items and measures triple coping styles. Coping Inventory for Stressful Situations is an instrument that can be used both for healthy adults and youth and for unhealthy populations. It can be even used for different occupational groups. The scoring of the instrument is the same for various groups. The reliability of the factors of

the scale was reported equal to .80, .83, and .72 for emotion-focused, problem-focused, and avoidance-focused styles, respectively (Jafarnejad, 2003). In the present study, Cronbach's alpha coefficients for problem-focused coping, emotion-focused coping, and avoidance-focused coping styles were obtained .81, .78, and .82, respectively.

4. Positive and Negative Affect Schedule (PANAS): This scale includes 20 items (Watson & Clark, 1992) wherein 10 items assess positive affects and 10 other items assess negative affects. The items are scored based on a 5-point scale. Negative affects contain four subscales, including fear (anger, fear, and scare), guilt (guilt and shame), anger (hostility and jittery), and sadness (distress, upset, and irritability) (Watson and Clark, 1992). Retest reliability coefficient of the scale has been reported .75. In the present study, Cronbach's alpha coefficient was obtained .81 for the scale.

## Results

The descriptive statistics and correlation matrix of the variables under study are presented in the table below.

**Table 1: Descriptive statistics and correlation matrix of the variables under study**

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
Anger	5.29	1.94	1	-	-	-	-	-	-	-	-	-
Sadness	9.09	2.73	.30**	1	-	-	-	-	-	-	-	-
Fear	4.25	.84	-.08	.07	1	-	-	-	-	-	-	-
Avoidance	22.16	2.59	-.07	.31**	.03	1	-	-	-	-	-	-
emotion- focused	21.36	4.59	.43**	.14	-.35**	.32**	1	-	-	-	-	-
Novelty- seeking	27.14	2.68	.29**	.20*	.39**	-.02	.33**	1	-	-	-	-
Harm avoidance	30.89	2.88	-.07	.25**	.50**	.32**	.06	.46**	1	-	-	-
Self- directedness	36.78	3.43	-.26**	-.18*	.20*	-.25**	-.26**	.32**	.50**	1	-	-
Persistence	7.73	1.56	.07	-.09	.04	.10	.03	.33**	.47**	.17	1	-
Reward dependence	21.55	2.21	.03	.13	.50**	.23*	-.02	.36**	.38**	.32**	.03	1
Negative events	50.52	4.77	.31**	.24*	.24*	.36**	.14	.04	.09	-.16	.01	.20

\*  $P < .05$ ; \*\*  $P < .01$

The results of the model fitness showed that the data fit to some extent model 1. Chi-square with degree of freedom equal to eight is 78.22 and the ratio of Chi-square to degree of freedom is equal to 8/9. Other fitness indexes are as follows: CFI=.94, GFI=.88, and NFI=.91. In the same way, for model 2, Chi-square with degree of freedom equal to four was obtained 35.25 and the ratio of Chi-square to degree of freedom was obtained 8/8. Other fitness indexes are as follows: CFI=.85, GFI=.93, and NFI=.88. In model 3, Chi-square with degree of freedom equal to seven was obtained 53.43 and the ratio of Chi-square to degree of freedom was obtained 7/6. Other fitness indexes are as follows: CFI=.89,

GFI=.92, and NFI=.93. The direct and indirect effects of the variables are presented in the table below.

**Table 2: Standard coefficients for endogenous and exogenous variables on emotional coping styles**

Variable	Anger	Fear	Sadness	Persistence	Reward dependence	Harm avoidance	Negative event	Self-directedness	Novelty-seeking			
	<u>Direct</u>	<u>Direct</u>	<u>Direct</u>	<u>Indirect</u>	<u>Direct</u>	<u>Indirect</u>	<u>Direct</u>	<u>Indirect</u>	<u>Direct</u>			
Anger	-	-	-	-	-	-	-	.35	.11	-	.22	
Fear	-	-	-	-	-	-	.16	.28	-	-	-	
Sadness	-	-	-	.14	-	.24	-	.49	-	-	-	
Emotion focused	-	-	.72	-	-	-	-	.13	-	.12	.31	.23
Avoidant-focused	.72	.55	-	.24	.34	.33	.34	.38	.34	-	-	-

Significant coefficients have been underlined

In model 1, novelty seeking has a direct effect on anger ( $Y = .221$ ,  $SE = .05$ , and  $P < .001$ ). Novelty seeking has a direct significant effect on emotion-focused coping style ( $Y = .227$ ,  $SE = .151$ , and  $P < .001$ ). The indirect effect of novelty seeking on emotion-focused coping style is significant by the mediating role of anger (IE stand = .312). The comparison of direct and indirect effects of the standard shows that novelty seeking is affected indirectly, other than directly by emotion focused coping style. In this model, negative life events have a direct effect on anger ( $Y = .349$ ,  $SE = .030$ , and  $P < .001$ ). Negative life events have no significant indirect effect on emotional coping styles through the mediating role of anger ( $P < .05$ ). The direct structural effect of anger on emotional coping styles is significant ( $Y = .733$ ,  $SE = .179$ , and  $P < .01$ ). In this way, in the first model, anger plays a mediating role in the structural relationship of novelty seeking with emotional coping styles, but it does not play a mediating role in the relationship of low self-directedness and negative life events with emotional coping styles. In model 2, harm avoidance has a direct significant impact on fear ( $Y = .162$ ,  $SE = .21$ , and  $P < .001$ ) and on avoidant-focused coping style ( $Y = .381$ ,  $SE = .163$ , and  $P < .001$ ). The indirect effect of harm avoidance on avoidant-focused coping style is significant through the mediating role of fear (IE stand = .341). The comparison of direct and indirect effects of the standard shows that harm avoidance has more a direct effect on avoidant-focused coping style than an indirect effect. In addition, negative life events have a direct

significant effect on fear ( $\beta = .285$ ,  $SE = .030$ , and  $P < .001$ ). The indirect effects of negative events on avoidance coping style is significant through the mediating role of fear (IE stand = .341). Fear has a direct significant impact on avoidance coping style ( $\beta = .548$ ,  $SE = .581$ , and  $P < .001$ ). In this way, in model 2, fear plays a mediating role in the structural relationship of harm avoidance with avoidance coping style and also in the structural relationship between negative life events and avoidance coping style. In model 3, reward dependence has a direct negative impact on sadness ( $\beta = -.238$ ,  $SE = .98P$ , and  $P < .001$ ) and on avoidant-focused coping style ( $\beta = -.331$ ,  $SE = .193P$ , and  $P < .001$ ). The indirect effect of reward dependence on avoidant-focused coping style is significant through the mediating role of sadness (IE stand = .341). The comparison of direct and indirect effects of the standard shows that reward dependence has more an indirect effect on avoidant-focused coping style than a direct effect. In addition, negative life events have a direct significant effect on sadness ( $\beta = .495$ ,  $SE = .091$ , and  $P < .001$ ). The indirect effect of negative life events on avoidance coping style is significant through the mediating role of sadness (IE stand = .395). Overall, persistence has a direct significant impact on sadness ( $P < .05$ ). The endogenous variable of sadness has a direct significant impact on avoidance coping style ( $\beta = .733$ ,  $SE = .512$ , and  $P < .001$ ). Thus, in the third model, sadness plays a mediating role in the structural relationship of reward dependence with avoidant-focused coping style and also in the structural relationship between negative life events and avoidant-focused coping style. However, sadness does not play a mediating role in the structural relationship of persistence with avoidant-focused coping style.

### **Discussion and Conclusion**

This study examined the mediating role of negative affects in the relationship of personality traits and negative life events with coping styles in patients with drug dependence. The results showed that there is a significant relationship between some traumatic personality traits such as novelty seeking, harm avoidance, reward dependence, persistence, self-directedness, and negative life events with negative affects and coping styles. In the present study, novelty seeking and negative life events were revealed to have a significant positive relationship with anger and emotion-focused coping style. Similarly, there was a significant positive relationship between anger and emotion-focused coping style. This means that when people with high novelty seeking experience stressful negative events, they show negative affects, particularly anger due to their specific personality trait and, thereby, emotion-focused coping styles are activated. This finding is consistent with other research findings in this area

(Magid, Colder & Stroud, 2009; Dermody et al., 2014, Roodsari et al., 2009; Abolghasemi, Kiamarsi & Momeni, 2013). These studies clearly indicate the relationship between novelty seeking and unsuitable coping styles. People with novelty-seeking personality traits are sensation-seeking, curious, and impulsive. In addition, these people make decisions based on their instant feelings and there is very little possibility for them to make their decisions on a reasonable basis. These people do not care about laws and regulations or pay attention to laws and rules in a lesser extent than others do. Furthermore, people with the personality trait of novelty seeking seek higher levels of sensation and often turn to new high-risk behaviors without any thinking and do not pay any attention to the outcomes and consequences of such behaviors. These people are profligate, and act based on poor management on their economic life. In general, these people often experience negative affects (Cloninger, 1987). When under stressful negative events, there will be a much higher probability of experiencing negative affects in these people. In such circumstances, one's management over his/her behavior and decisions becomes weaker, the person acts impulsively and immediately, and uses inappropriate emotion-focused coping skills to solve the problems. In the present study, it was also found that the relationship between the personality trait of novelty seeking and emotion-focused coping style in indirect structural factor (through the mediation role of anger) is stronger than the direct structural factor. This means that novelty seekers may tend to new, exploratory, and risky behaviors by experiencing anger and under negative stressful events; therefore, they are likely to experience drug use (Magid et al., 2009, Roodsari et al., 2008).

In the present study, it was found that high levels of harm avoidance are negatively correlated with fear and avoidance coping style. Persons with harm avoidance are concerned about the possible negative consequences in most affairs, experience feelings of fatigue and impatience, and are irritable and sensitive. These people suffer from low self-confidence, experience worry, discomfort, and stress in social situations, especially when interacting with strangers and also suffer from a very low ability to cope even with the ordinary course of their lives. These people are unable to pursue their goals. This means that such people, when faced with a negative stressful event, become nervous and anxious and lose their self-confidence and energy, and hence negative affects, especially fear prevail such people, and they view their situations intolerable (Cloninger, 1987) and are incapable of providing solutions to solve problems. For this reason, these people experience fear and distress, especially in the face of negative stressful events, take a behavioral and psychological withdrawal position towards problems, and use avoidance coping style, which may orient them to drug use (Dermody et al., 2014, Magid et al., 2009).

Another finding of the study was the significant negative relationship of reward dependence and sadness with avoidance coping style. This means that people with low reward dependence show negative affects, particularly sadness

when faced with stressful negative events and use inappropriate coping strategies, especially avoidance strategy. This finding of the study is consistent with other relevant research findings in this area (Haren & Mitchell, 2003). Those with low reward dependence are indifferent, isolated, self-contained, and fugitive from the community. These people are oblivious to the feelings of others, act selfishly in different responsibilities, do not assign importance to the opinion of others in their performance, prefer not to enjoy emotional engagement in their relations, and are fugitive from receiving and providing social support (Cloninger, 1987). People with low reward dependence undergo exhaustion, stress, anxiety, distress, and sadness in the face of negative stressful events since they suffer from low perceived social support. Therefore, they use destructive coping strategies, such as drug use in order to extricate from the experienced negative affects (Dermody et al., 2014).

In the present study, it was found that when people with traumatic personality traits are placed under stressful conditions, they manifest their dominant negative affect, which leads to a specific coping style and provides the conditions for substance dependence. This study was conducted with a correlational design and the relationships obtained from different models should not be interpreted as causal statements. Another limitation of this study pertains to the location where it was carried out. Since it was conducted on drug dependent people of Shahroud and Meyami cities, the findings are not generalizable to other populations. Drug-dependent individuals participating in the study only took traditional drugs (opium and syrup). It is recommended that researchers test the proposed models in different communities in future studies so that evidence from the development and integration of the models can be achieved, regardless of the type of drug.

## Reference

- Abolghasemi, A., Kiamarsi, A. & Momeni, S. (2013). Comparison of temperament and character between drug addicts and non-addicts. *Quarterly Journal of Research on Addiction*, 27, 125-136.
- Alegria, A. A., Hasin, D. S., Nunes, E. V., Liu, S. M., Davies, C., & Grant, B. F. (2011). Comorbidity of generalized anxiety disorder and substance use disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Journal of Clinical Psychiatry*, 71(9), 1187-95.
- Arnau, M., Mondon, S., & Santacreu, J. (2008). Using the temperament and character inventory (TCI) to predict outcome after inpatient detoxification during 100 days of outpatient treatment. *Alcohol Alcohol*. 43(5):583-8.
- Ball, S. A. (2004). *Personality traits, disorders, and substance abuse*. In R. M. Stelmack (Ed.), on the psychobiology of personality: Essays in honor of Marvin Zuckerman. New York: Pergamon.
- Ball, S. A. (2005). Personality traits, problems, and disorders: Clinical applications to substance use disorders. *Journal of Research in Personality*, 39, 84-102.

- Bondy, S. J. (1996). Overview of studies on drinking patterns and consequences. *Addiction, 91*, 1663–1674.
- Cloninger, C. R. (1987). A systematic method for clinical description and classification of personality variants. *Genetic Psychiatry, 44*(6), 573-88.
- Colder, C. R., & Chassin, L. (1993). The stress and negative affect model of adolescent alcohol use and the moderating effects of behavioral under control. *Journal of Studies on Alcohol, 54*, 326–333.
- Cooper, M. L., Russell, M., & George, W. H. (1988). Coping, expectancies, and alcohol abuse: A test of social learning formulations. *Journal of Abnormal Psychology, 97*, 218–230.
- Cooper, M. L., Russell, M., Skinner, J. B., Frone, M. R., & Mudar, P. (2002). Stress and alcohol use: Moderating effects of gender, coping, and alcohol expectancies. *Journal of Abnormal Psychology, 101*, 139–152.
- Dermody, S.S., Cheong, J., & Munuck, S. (2013). An evaluation of the stress negative affect model in explaining alcohol use. The role of components of negative affect and coping style. *Substance use & Misuse, 48*, 297-308.
- Endler, N. S., & Parker, J. D. A. (1990). Multidimensional Assessment of Coping: A Critical Evaluation. *Journal of Personality and Social Psychology, 58*, 844-854.
- Folkman, S., & Lazarus, R. S. (1988). Coping as a mediator of emotion. *Journal of Personality and Social Psychology, 54*, 466–475.
- Handley, E. D., & Chassin, L. (2008). Stress-induced drinking in parents of adolescents with externalizing symptomatology: The moderating role of parent social support. *American Journal of Addiction, 17*, 469–477.
- Haren, E., & Mitchell, C.W. (2003). Relationships between the five-factor personality model and coping styles. *Psychology and education: and interdisciplinary journal, 40*, 1, 38-49.
- Hussong, A. M., & Chassin, L. (1994). The stress-negative affect model of adolescent alcohol use: Disaggregating negative affect. *Journal of Studies on Alcohol, 55*, 707–718.
- Hussong, A. M., Hicks, R. E., Levy, S. A., & Curran, P. J. (2001). Specifying the relations between affect and heavy alcohol use among young adults. *Journal of Abnormal Psychology, 110*, 449–461.
- Jafarnejad, P. (2003). *The relationship between Big Five personality traits, coping styles and psychological health of in students of Tarbiat Moallem University in the academic year 2003-04*, MA thesis in Psychology, unpublished, Tarbiat Moallem University of Tehran.
- Le Bon, O., Basiaux, P., Streeel, E., Tecco, J., Hanaka, C., & Hansenne. M. (2004). Personality profile and drug of choice; A multivariate analysis using Cloninger's TCI on heroin addicts, alcoholics, and a random population group. *Drug Alcohol Depend, 73*(2), 175-82.
- Kaviani, H. & Pournaseh, M. (2005). Validation and Normalization of Cloninger Temperament and Character Inventory on an Iranian population. *Tehran University Medical Journal of Medical Sciences, 63*, (2), 89-98.
- Magid, V., Colder, C.R., & Stroud, L.R. (2009). Negative affect, stress and smoking in college students: Unique associations independent of alcohol and Marijuana use. *Addictive Behaviors, 34*, 11, 973-975.

- McCreary, D. R., & Sadava, S. W. (2000). Stress, alcohol use and alcohol-related problems: The influence of negative and positive affect in two cohorts of young adults. *Journal of Studies on Alcohol*, *61*, 466–474.
- Oraki, M., Mokri, A. & Kiai, M. (2013). Relationship between Craving for Methamphetamine and Personality Characteristics among Patients in Methadone Maintenance Treatment Program, *Iranian Journal of Psychiatry and Clinical Psychology*, *13*, 177-186.
- Poorshahbaz, A. (1993). On the relationship between stressful life events and personality type in the patients with blood cancer. M.A. thesis in clinical psychology, *Tehran Institute of Psychiatry*, 136, 142.
- Roudsari, A., Alililou, M. & Irani, (2008). The Comparison of Personality Traits, Personality Disorders, and Problem-solving Strategies in Self-introduced Addicts and Normal Population, *Iranian Journal of Clinical Psychiatry*, *14* (3), 289-297.
- Sadok, B. & Sadok, V. (2007). *Psychiatry Synopsis*. Tehran, Shahrabi Publication. (Published in the original language, 2003).
- Salmani, B., Hassani, J. & Arianakia, E. (2014). Evaluating the role of personality traits (conscientiousness, agreeableness and sensation seeking), in risky behaviors. *New Advances in Cognitive Science*, *16*, 1-10.
- Schiffer, A., Pedersen, S., Broers, H., Widdershoven, J., & Denollet J. (2008). Type-D personality but not depression predicts severity of anxiety in heart failure patients at 1-year follow-up. *Journal of Affect Disorder*, *106*(1-2), 73-81.
- Sloan, F. A., Costanzo, P. R., Belsky, D., Holmberg, E., Malone, P. S., Wang, Y., & Kertesz, S. (2011). Heavy drinking in early adulthood and outcomes at midlife. *Journal of Epidemiology Community Health*, *65*, 600–605.
- Watson, D., & Clark, L. A. (1992). Affects separable and inseparable: On the hierarchical arrangement of the negative affects. *Journal of Personality and Social Psychology*, *62*, 489–505.
- Wills, T. A., & Shiffman, S. (1985). *Coping and substance use: A conceptual framework*. Orlando, FL: Academic Press.
- Zuckerman M. (2007). *The Sensation Seeking and Risky Behavior*. Washington DC: American Psychological Association.