

Abstract

Objective:

Objective: The aim of this study was to compare the thought control, mindfulness, and attachment styles between students with high and low tendency to addiction. **Method:** The present study was a causal-comparative research and its statistical population consisted of University of Mohaghegh Ardabili's students in the academic year of 2015-2016 where 283 participants were chosen by systematic random sampling method and completed the questionnaires. Luciano et al.'s Thought Control Questionnaire, Braun and Ryan's Mindful Attention Awareness Scale, Mirhesami's Tendency to Addiction, and Collins and Read's Adult Attachment Style Questionnaire constituted the measurement instruments used in this study. **Results:** The results showed that the students with higher tendency to addiction enjoyed a lower level of thought control; and the degree of mindfulness in the students with a lower tendency to addiction is more than that in the other group. Moreover, the mean scores of avoidant attachment, and ambivalent attachment in students with a high tendency to addiction were higher than those in students with a low tendency to addiction. **Conclusion:** The difference between the two groups in these variables shows the importance of thought control, mindfulness, and attachment style in students' tendency to addiction and implicitly indicates the positive effects of mindfulness and self-control training on the prevention of addiction among students.

Keywords: thought control, mindfulness, attachment styles, tendency to addiction

Comparison of Thought Control, Mindfulness, and Attachment Styles between Students with High and Low Tendency to Addiction

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Introduction

Addiction refers to the pathogenic dependence on the use of one or more types of narcotic drugs that causes the incidence of drug-seeking behaviors. In this situation, if the person does not take the intended narcotic drugs, s/he will be inflicted with deprivation symptoms (Bahari & Garousi, 2013). Addiction, as a physical illness, is a major personal and social problem that threatens the society's health from socio-economic, political, and cultural perspectives inasmuch as the physical and psychological complications it brings to addicts (Dinmohamadi, Amini, & Yazdan-khah, 2007). Substance abuse in Iran is one of the most important cultural, social, and health issues in such a way that more than 90% of the people worry about this issue. Statistics indicate that 2.65% of the adults in Iran suffer from substance abuse, and a 20-year meta-analysis conducted on students suggests that the substance abuse trend is steadily rising (Sarami, Ghorbani & Taghavi, 2013). Different evidence suggests that addiction is currently one of the costliest and biggest problems in our society, and young adults, as the stimulating engine of the country, are among the most vulnerable group in this regard (Rafeei & Alipour, 2015). The importance of this stratum of the community and its tendency to drug use and vulnerability to addiction have converted university students' addiction prevention programs into one of the major axes (Dick, & Hancock, 2015). There are a large number of facilitators that increase university students' tendency to addiction, such as the experience of living with low family monitoring, peer impacts, easy access, stress, and future career concerns. The tendency or potential to use drugs is one of the most serious predictors of addiction; in fact, it can be claimed that the first step of addiction pertains to a tendency that results from the individual's subjective evaluations of the issue (Gha'emi, Samsmam Shari'at, Asef Vaziri & Baluchi, 2008).

According to addiction potential theory, some people are potentially more likely to get addicted, and if they are exposed to addiction, they will become addicted sooner. However, if an individual does not have addictive potential, s/he will not get addicted. Accordingly, addicted people experience a relatively different lifestyle from the healthy people and grow in psychosocial areas in such a way that they become prone to addiction (Zainali, Vahdat & Garadingeh, 2010). The majority of addicts have had many psychological and personality failures and disorder before addiction while these disorders appear to be more destructive after drug addiction (Oraki, Bayat & Khodadoost, 2012). From among personality traits, thought control is one of the most important factors that is based on the relatively new approach of self-regulation. Based on self-regulation models, one's problems in thought control and the use of wrong thinking strategies lead to his/her involvement in addiction (Sa'ed, Yaghoubi, Roshan, & Soltani, 2011). The low level of thought control whose causative role has been recognized in most of the addiction theories is a part of the set of

deficiencies pertaining to the malfunctioning of prefrontal cortex for intelligent control, which is observed in people at high risk of drug use (Tarter, et al., 2003).

Intelligent control (or mental control) is referred to as the ability to suppress a dominant response to provide a non-dominant response. This ability is the amount of control that a person has over his/her impulses and emotions and includes the ability to focus and change attention. Self-control is one of the skills related to executive performance and is a method for the desired management of individuals' feelings and behaviors. Thought control is, in fact, an attempt not to contemplate a particular thought (such as drug use) (Vohs & Baumeister, 2004). In Sa'ed et al.'s study (2011), "uncontrollability" and the need for "thought control" in addicted people were reported to be significantly more inefficient than those of the other group. Addicted individuals like those with a deficiency in the prefrontal cortex are not sensitive to the future consequences of their behavior and have some problems in thought control, self-regulation, and decision-making in life (Bisma Becharar et al., 2001).

One of the important attributes experienced in substance abuse disorder is the temptation or desire to consume drugs. The World Health Organization has introduced temptation as the foundation for the onset of drug dependence, loss of control, and relapse (Drummond, 2000). According to most of the existing theories, temptation can be considered as the central phenomenon and the main factor in the persistence of substance abuse and also relapse to substance abuse after therapeutic courses (Ekhtiari, Behzadi, Oghabian, Edalati & Mokri, 2006). Accordingly, the most important component of personality and behavior that can resist against this temptation is the control of thoughts and emotions because self-control is an intrapersonal conflict between reason and desire (Rachlin, 1995). Research has shown that people who are not able to control their emotions are more likely to be persistent consumers of substances (Wells, 1995). In their study, Basarhpour, Atadokht, Khosrovian, & Narimani (2013) reported a negative relationship between self-control and substance abuse, and stated that individual differences in cognitive self-control can affect the therapeutic effects of substance abuse disorders. Cognitive control can also be a predictor of drug use craving among addicts (Basharpour et al., 2014). In addition, Kokkonen, Kinnunen, & Pulkkinen (2002) reported that low self-control in adolescence would predict tobacco dependence in adulthood.

Research on individual differences supports the potential importance of mindfulness in substance abuse because of its relationship with self-control (Karyadi, & Cyders, 2015). Mindfulness helps one understand that negative emotions are not a permanent constituent of his/her personality. It also allows the individual to respond with reflection rather than show incidental reaction to events (Emanuel, Updegraff, Kalmbach, & Ciesla, 2010). Different dimensions of mindfulness can be related to addiction. One of the most widely used scales of mindfulness introduces the following five facets as the constituent factors of mindfulness: acting with awareness (being in the present moment and

consciousness of the action we are doing), describing (the ability to express the inner and outer experiences), observing (presence in internal and external experiences), nonjudging of inner experience (acceptance of feelings and experiences without positive or negative evaluation), and nonreactivity to inner experience (allowing the emotions to come and go) (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). According to Bishop, et al. (2004), two key concepts are emphasized in mindfulness: 1) Paying attention to what is happening right now (recent experience); and 2) Adopting an open, curious, and receptive attitude relative to those experiences. Mindful consciousness (acting with awareness) can be predictive of alcohol abuse more than the other facets of mindfulness (Karyadi, & Cyders, 2015). This variable has been reported to be the best predictor of uncontrolled substance abuse in Levin, Dalrymple, & Zimmerman's study (2014).

Various studies have shown that the increase in the rate of mindfulness can support a person in exposure to risky situations, significantly reduce the level of anxiety in him/her by knowledge about what is happening around him/her, and increase the ability to cope with the temptations created in relation to drug consumption (Oraki et al., 2012). Bowen et al. (2006) conducted a study on addicts and showed that doing mind-boggling exercises led addicts to experience a significant reduction in drug use, anxiety, and depression three months later. Other studies have also supported the effectiveness of mindfulness in drug use craving (Brewer, Bowen, Smith, Marlatt, & Potenza, 2010). All of these studies, in fact, indicate the importance of increasing the mindfulness state in reducing the desire and tendency to substance abuse. One of the reasons for the effectiveness of mindfulness therapy for addicts has been the reinforcement of patients' motivations for treatment and the increase in their consciousness and awareness of their performance (Oraki et al., 2012). One of the mechanisms that is likely to contribute to the relationship of mindfulness with addictive behaviors is the representation of behaviors in individuals' minds. According to action identification theory, one's interpretation of his/her behavior with high or low expressions is the basis of his/her perception of the self and the continuation of that behavior (Vallacher, & Wegner, 1987). For example, working with a musical instrument can be identified as a low-level action (like the fingers' play on wires) or can be represented as a high-level action (like a musician's behavior). Addictive behaviors, such as alcohol abuse, can be identified as low-level actions (such as quaffing a liquid) or high-level actions (such as relieving stress). Based on this theory, when a behavior is unfamiliar, the low-level representation will become dominant, the behavior will persist automatically as a habit, and will allow the representation of a high-level action. This theory suggests that the ability to use both high- and low-action identities leads to self-regulation (Wegner, Vallacher, & Dizadji, 1987). According to this theory, various studies have shown that the abuse of a substance is the automatized result of a degree of behavioral representation in the person's mind. For example, the

degradation of the representation of alcohol consumption from a high-level action (relieving stress) to a low-level behavior (quaffing a fluid) can turn it into a habit and, actually, alcohol abuse. Mindfulness allows a person to monitor his/her behavior and prevent unwanted behavior by being vigilant and conscious about various components of the behavior that s/he performs (Schellhas, Ostafin, Palfai, & de Jong, 2016). This situation actually increases one's control of his/her behavior and reveals mindfulness identification with self-control. In fact, the consciousness caused by mindfulness can change the person's mental state from fantasy and/or rumination about the future, etc. to the objective understanding of the position for dominating high-risk behaviors.

Although the factors pertaining to the onset of drug use may be a simple curiosity, the factors pertaining to the persistence of drug use can be related to attachment styles. According to self-deterministic theory, attachment is one of the three basic psychological needs of humans (Ryan & Deci, 2000). Initial attachment experiences with caregivers guide the feelings, thoughts, and behaviors in later relationships. According to attachment theory, early experiences with parents and secure or insecure attachment style affect the coming close relationships, and the children who are not emotionally attached to one parent will have more delinquent tendencies (Baldwin, Baldwin, & Cole, 1990). Attachment styles affect the person's methods to deal with stressful situations; in addition, separation from the source of the immune system can be related to the disruption of the relationship between the person and the human resources around him/her and his/her tendency to drug use to escape fear, anxiety, and taking refuge in dreams (Bahadori Khosroshahi, Hashemi Nosrat Abad & Beyrami, 2010).

Besharat, Ranjbar Noshiri & Rostami (2008) showed that there is a difference between family functioning of the patients with opioid disorders and family functioning of normal people; in addition, ineffective familial characteristics can predict the intensity of opioid disorders among drug addicts. Bahr, Maughan, Marcos, & Li (1998) conducted a study on the relationship between attachment styles and drug use on 13250 adolescents and found that attachment to parents was associated with the risk of drug use during adolescence.

In addition to the numerous pieces of research evidence regarding the relationship between substance abuse and attachment styles, some studies have investigated the relationship between "addictability" or addiction potential and attachment and have reported the existence of a significant relationship between the two variables. In this regard, Zeinali, Vahdat & Garadingeh (2010) argued that there is a negative relationship between the parental authoritative parenting style and children's willingness to addictiveness; and there is a positive relationship between the authoritarian parenting style and children's willingness to addictiveness. Moreover, there is a positive correlation between the parental neglectful parenting style and children's tendency to addiction. It has also been reported that the maternal neglectful parenting style is the predictor of children's

addiction tendency; however, the paternal neglectful parenting style was not found to be the predictor of children's addiction tendency. According to Nurco, & Lerner (1996), the parents who cannot support their children emotionally are more likely to have children who use alcohol or drugs. Mothers' inattention to the children's needs leads to the development of insecure attachment styles in the children, and this brings about failure in self-regulation and the lack of mental structures associated with internal control of behavior in children. As a result, these individuals become dependent on external things and objects, and drug use becomes one of the methods to compensate for their internal deficiencies. Therefore, substance abuse is represented as an ineffective strategy for coping with emotional disturbances in people with anxious-avoidant attachment styles (Asghari, Alipour & Sayadi, 2015).

Khosroshahi Bahadori et al. (2010) claimed that positive attitude toward substance use has a negative relationship with secure attachment style and has a positive relationship with insecure ambivalent and avoidant attachment styles. One of the primary functions of attachment is the regulation of emotional experiences in interpersonal relationships. Individuals with secure attachment style seek social support when faced with emotional stresses, while people with insecure attachment style take refuge in other remedies, such as alcohol or drug use for the purpose of emotional self-regulation. Substance abuse is, in fact, an artificial passive strategy and an attempt to cope with insecure attachment, reduce emotional distress, and modify interpersonal relationships. Individuals with secure attachment style have the ability to process their adaptive emotional information and to use efficient and effective communication methods and to manage their affective and emotional relationships. Secure attachment can predict the individuals' well-being through communication with adaptive and adapted strategies, and appropriate emotional relationships, whereas insecure attachment is linked to negative mood, anxiety, avoidance, and interpersonal problems via maladaptive strategies of emotional and affective regulation (Schindler, Thomasius, Sack, Gemeinhardt, & Küstner, 2007). Anderson (2012) believes that insecure attachment is recognized as an important vulnerability factor to addiction, and avoidant attachment has the highest positive correlation with substance abuse from among the insecure attachment patterns. It has been proven that people with secure attachment simply find help from others while accepting the situation, but avoidant people have difficulty accepting the available situation and finding support, and are oversensitive to negative emotions and attachment patterns (Kobak, & Sceery, 1988). Ambivalent and avoidant people always suffer from some sort of distress. These people are distracted and show negative emotions in the face of new situations, and may take refuge in ineffective emotional regulation methods, such as substance use to escape from their unpleasant situations (Kassel, Wardle, & Roberts, 2007). The individuals with avoidant attachment styles struggle to achieve personal power and compensatory self-confidence, and prevent stressful memories and

thoughts. Unlike the individuals with insecure-avoidant attachment style who encounter difficulty in emotional reconstruction, people with insecure-ambivalent style face difficulty both in differentiation and reconstruction, are more sensitive to negative information, and experience higher levels of emotional stress. People with anxious styles also experience higher levels of emotional stress. In addition, anxious attachment style (ambivalent) is characterized by a negative model of the self, while the avoidant style is represented by the negative model from others (Feeney, & Noller, 1996).

According to the theory of addiction potential and considering the importance of prevention in health policies, it is essential that the individuals at risk and their psychological characteristics be identified and preventive measures be taken in this regard. Therefore, this research is an attempt to respond to the following question: Do the students who are prone to addiction more than others differ from other students in terms of thought control, mindfulness, and attachment styles?

Method

Population, sample, and sampling method

The present study was carried out through a causal-comparative research method on a statistical population including University of Mohaghegh Ardabili's students in the academic year of 2015-2016 (approximately 13000 students). From among these students, the number of 370 participants was chosen in accordance with Cochran formula and by systematic random sampling method. After the exclusion of the incomplete questionnaires, 283 individuals remained as the final participants in the data analysis stage. The participants who had obtained the score above 3 (a total score of 48) from the range of 1 to 5 in terms of "addiction potential" were placed in the group with a high level of addiction potential and the remainder were placed in the group with a low level of addiction potential.

Instruments

1. Addiction Potential Questionnaire: This scale consists of 16 questions and its general objective is to measure individuals' tendency to addiction from three dimensions, i.e. social, individual, and environmental domains. It has been designed by Mirhesami (2009) and has been inspired by the research projects conducted by Farhad et al. (2006). The items are scored based on a 5-point Likert scale and, thereby, the total score is in the range of 16 to 80. Higher scores in this scale represent one's higher tendency to addiction. Cronbach's Alpha reliability of the scale has been reported to be 0.79 in a sample of students (Mirhesami, 2009). Cronbach's alpha coefficient in this study was obtained equal to 0.65.

2. Mindful Attention Awareness Scale: This has been designed by Brown, & Ryan (2003) and contains 15 questions. It measures the level of awareness about

daily experiences and being released from past and future mental attitudes (e.g., questions on eating, driving, and living without awareness or with awareness). The items are answered based on a 6-point scale from 6 = almost always to 0 = almost never. The total score varies from 0 to 175, and higher scores are indicative of higher levels of mindfulness. The psychometric properties of this scale have been verified. It enjoys acceptable validity and has a high positive correlation with most of the indicators related to well-being and mental health. The Cronbach's alpha coefficients in seven sample groups that have used this tool have been reported to range from 0.82 to 0.87 (Brown, & Ryan, 2003). In Iran, this instrument has been used and the Cronbach's alpha coefficient of 0.82 has been reported for it, and it has also been shown that there is a relationship between mindfulness and self-knowledge and mental health (Ghorbani, Bing, Watson, Davison, & Mack, 2003). The Cronbach's alpha coefficient in the study was obtained equal to 0.80.

3. Thought Control Questionnaire: The Thought Control Ability Questionnaire, designed by Luciano, Algarabel, Tomás, & Martínez (2005), was used. This questionnaire has been designed to measure perceived ability of thought suppression. It consists of 25 questions that are scored based on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Its Cronbach's alpha was reported to be equal to 0.92 in the initial measurement and was reported to be 0.88 through test-retest method within an 8-week time interval. The factor analysis carried out on this questionnaire among students of Isfahan University showed that the factor loadings of 23 questions were higher than 0.59 (Barati & Arizi, 2015). In this study, Cronbach's alpha coefficient of the scale was obtained equal to 0.87.

4. Collins & Read Adult Attachment Questionnaire: Collins and Read (1990, cited in Pakdaman, 2001) constructed this questionnaire and prepared its materials based on descriptions of Hazan-Shaver attachment self-report on the three main attachment styles. It consists of 18 questions that are scored on a 5-point Likert scale from not at all corresponds to my state (1) to extremely corresponds to my state (5). It measures three subscales of Anxiety (equivalent to ambivalent attachment style), Depend (equivalent to secure attachment style), and Close (equivalent to avoidant attachment style) where each of the subscales has 6 questions. Researchers have shown that the subscales of Close, Depend, And Anxiety have remained stable over a period of 2 months and even over a period of 8 months, and reported Cronbach's alpha for each subscale to be above 0.80 in 3 samples of students. The results of re-test reliability of this questionnaire within a one-month interval showed that it had a reliability coefficient of 0.95 (Pakdaman, 2001). In this study, Cronbach's alpha reliability of this questionnaire was obtained equal to 0.68.

Results

The descriptive statistics of demographic variables are presented in Table 1 according to the type of tendency.

Table 1: Descriptive statistics of the sample group based on the type of drug addiction tendency

<i>Variable</i>		<i>Low tendency to addiction</i>		<i>High tendency to addiction</i>	
		<i>N</i>	<i>Percentage</i>	<i>N</i>	<i>Percentage</i>
Gender	Female	107	72	42	28
	Male	48	38	78	62
Educational program	Associate's	3	43	4	57
	Bachelor's	139	43	105	57
	Graduate studies	15	68	7	32
Residence	Native	107	56	83	43
	Nonnative	51	62	31	38
	Engineering	10	56	8	44
	Basic Sciences	29	74	10	26
	Agricultural	20	45	24	55
Faculty	Literature and Humanities	22	55	18	45
	Mathematical Sciences	16	73	6	27
	Psychology and Educational Sciences	30	59	21	41
	Electrical and Mechanical	18	72	7	28
	Uncertain values	17	25	27	18

The descriptive statistics of the research variables are presented in Table 2 based on the type of drug tendency.

Table 2: Descriptive statistics of the research variables based on the type of drug tendency

<i>Variable</i>	<i>Students with low tendency to addiction</i>		<i>Students with high tendency to addiction</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Thought control	75.51	13.66	68.31	13.62
Mindfulness	61.47	8.85	52.72	10.21
Avoidant attachment	8.35	3.36	9.57	3.99
Secure attachment	12.09	3.21	11.59	3.49
Ambivalent attachment	6.90	3.57	9.76	3.58

Multivariate analysis of variance should be used to examine the differences between the groups in terms of the research variables. One of the assumptions of using this parametric test is the equality of covariance matrices. The results of the Box test indicated that this assumption has been met ($P > 0.05$, $F = 2.88$). In addition, the results of Leven's test were indicative of the satisfaction of the assumption of the equality of error variances. Therefore, multivariate analysis of variance was run and its results showed the presence of a significant difference

($P < 0.001$, $F = 14.974$, Wilks's $\lambda = 0.754$). Univariate analysis of covariance was used to examine the patterns of difference as follows.

Table 3: Results of ANCOVA for examining the patterns of difference in the variables based on the type of addiction tendency

<i>Variable</i>	<i>Mean Squares</i>	<i>F</i>	<i>Sig.</i>
Mindfulness	531.74	59.39	0.0005
Thought control	3582.85	19.24	0.0005
Avoidant attachment	103.87	7.82	0.006
Secure attachment	1.28	0.11	0.735
Ambivalent attachment	566.60	44.31	0.0005

As it has been shown in Table 3, there is a significant difference in mindfulness according to the type of addiction tendency ($P < 0.001$, $F = 59.39$). Based on the descriptive statistics, the students with lower addiction potential were reported to have gained higher scores. Moreover, there was a significant difference in thought control regarding the type of addiction tendency ($P < 0.001$, $F = 19.24$). Based on the descriptive statistics, the students with lower addiction potential were reported to have gained higher scores. In addition, there was a significant difference in terms of avoidant attachment according to the type of addiction tendency ($P < 0.01$, $F = 7.82$). Regarding the descriptive statistics, the students with lower addiction potential obtained lower scores. Finally, there was a significant difference in ambivalent attachment according to the type of addiction tendency ($P < 0.001$, $F = 44.31$). Considering the descriptive statistics, the students with lower addiction potential were reported to have obtained lower scores. However, no significant difference was observed in terms of secure attachment.

Discussion and Conclusion

The results showed that the students with a higher addiction tendency have lower thought control than the students with a lower degree of addiction tendency. This finding is consistent with that of the study conducted by Kokkonen et al. (2002) who had introduced low self-control in adolescence as a predictor of tobacco dependence in adulthood. In a study carried out by Basharpour et al. (2014), it was found that cognitive control could also be a predictor of drug craving among addicts. The prevalence of thought control inefficiencies and problems in addicted individuals has also been reported by Sa'ed et al. (2011). Probably, the poor functioning of the prefrontal cortex in these individuals leads to a lack of intelligent control because this problem is more likely to occur in people at higher risk of drug use (Basharpour et al., 2014). The other reason for the difference between the two groups of university students in terms of the degree of thought control pertains to their ability to act in acting non-impulsively and disagreeing with their desire and temptation that plays an effective role in addiction (Drummond, 2000) and thought control (Rachlin, 1995).

The theory of self-regulation has shown that the loss or weakness of thought control and the use of wrong strategies in the thinking process can lead to

addiction. One of the most important differences between addicts and non-addicts is the ineffectiveness of thought control in the group of addicts (Sa'ed et al., 2011). The thought control ability reflects the individuals' level of control over the impulses and emotions. Self-control is a management method of people's feelings and behavior and is, in fact, an attempt to avoid contemplating a particular thought (such as drug use) (Vohs & Baumeister, 2004). It is natural that a group of students with a higher level of addiction potential than others will have less control over their thinking. This group is not sensitive to the consequences of their behavior and shows problems in thought control (Becharar et al., 2001). The high thought control in the group with a low level of addiction potential makes it more successful than the other group in the face of temptation (as the central phenomenon of drug abuse) because self-control is the key to the successful resolution of the inner conflict between reason and temptation (Rachlin, 1995), and people with less thought control are not able to control their emotions and are likely to be permanent drug users (Wells, 1995).

In addition, the results showed that the level of mindfulness in the students with a lower degree of addiction potential is greater than that in the other group. Few studies have compared mindfulness between the groups at risk of addiction and normal groups; and most of the studies in this area have investigated the effectiveness of mindfulness exercises in addicts (e.g., Bowen, 2006). One of the reasons for the effectiveness of mindfulness therapies has been the reinforcement of patients' motivations for treatment and the increase in their consciousness and awareness of their performance (Oraki et al., 2012). Palinkas et al. (1996) attribute the preventive cause of mindfulness in addiction to the ability to significantly reduce the level of anxiety and increase the power of coping with the temptations associated with drug use (cited in Oraki et al., 2012). Mindfulness allows a person to monitor his/her behavior and prevent unwanted behavior by being vigilant and conscious about various components of the behavior that s/he performs. The level of anxiety in the person with a higher level of mindfulness decreases significantly with awareness of the events occurring around him/her. In fact, an increase in mindfulness reinforces the person in exposure to risk situations. Mindfulness increases the power of coping with the temptation of substance abuse. One of the reasons for the effectiveness of mindfulness treatments in addicts can be the enhancement of motivation and increased consciousness and awareness of their own performance. Moreover, based on action identification theory, mindfulness alerts the individual about the various components of his/her behaviors and makes him/her monitor his/her behaviors and prevent unwanted behaviors (Schellhas et al., 2016). Therefore, it is natural that the scores of the two groups of students differ in the level of mindfulness.

In addition, the mean score of avoidant attachment and ambivalent attachment in students with high addiction tendency was higher than those in the other group. This finding is consistent with that of the studies carried out by

Kassel et al. (2007), Anderson (2012), Schindler et al. (2007), Bahadori Khosroshahi et al., (2010), McNally, Palfai, Levine, & Moor (2003), and Caspers, Cadoret, Langbehn, Yucuis, & Troutman (2005) who indicated that insecure attachment is an important factor of vulnerability to addiction and is related to substance abuse. According to Molnar, Sadava, DeCourville, & Perrier (2010), anxious attachment style is a risk factor for substance abuse. Casper et al. (2005) have also demonstrated the existence of a relationship between substance abuse and insecure attachment style. The findings of this study are also consistent with the results reported by Zeinali et al. (2010) who found a positive relationship between the parental authoritative parenting style and tendency to addictiveness. However, the current findings are not consistent with the finding reported in the majority of related studies in terms of the negative relationship between secure attachment and substance abuse. As Newcomb (1995) has stated, substance abuse is adopted by the individuals with an insecure attachment style as a self-treatment approach to emotional distress and lack of control and also as a way to cope with emotional distress. Possibly, ambivalent and avoidant individuals may use drugs as an ineffective emotion regulation method to escape from the negative emotions they experience (Kassel et al., 2007). It seems that anxiety is correlated with perceived attachment and distress and substance abuse is adopted as a self-medication method against emotional distress (Newcomb, 1995) and as an attempt to cope with emotional distress and the lack of control (Petraitis, Flay, Miller, Torpy, & Greiner, 1998).

Insecure attachment in children can lead to the failure of self-regulation and the inability of the psychological structures associated with the internal control of behavior in children; thus, these individuals will become highly dependent on the external affairs and objects and use substances as one of the methods to compensate for their inadequacies. The insecure attachment style has an impact on individuals' approaches to encounter stressful situations and contributes to the reduction of healthy interpersonal links; accordingly, it leads to people's tendency to drug use to escape fear and anxiety, and to take refuge in dreams and fantasies. Another reason for the effectiveness of attachment styles in people's addiction potential is their effect on self-regulation. According to Nurco, & Lerner (1996), insecure attachment results in self-regulation failure and the lack of psychological structures associated with internal control of behavior in children. One of the reasons for the positive attitude to drug use among the individuals with insecure attachment is the fact that the regulation of emotional experiences in interpersonal relationships is rooted in attachment. For this reason, people with a secure attachment style seek social support when faced with emotional stress, while those with an insecure attachment style take refuge in other methods, such as drinking alcohol or drug use to regulate their emotions (Khosroshahi Bahadori et al., 2010).

The use of self-report scales and the non-examination of other effective variables, such as family and social factors are among the limitations of this

research. On the whole, considering the significant difference between students with high and low addiction potential in terms of attachment style, thought control, and mindfulness, it seems that these variables are important in the prediction of student addiction and it is necessary to hold training workshops on self-control and mindfulness with emphasis on the prevention of addiction among students. Using scales such as Addiction Potential Scale, it is possible to identify the groups exposed to risk and organize self-control, self-regulation, and mindfulness workshops to take an effective step in addiction prevention. Early interventions on parents and the training of secure attachment styles and appropriate communication with children can also be among the other suggestions of this study for future research.

Reference

- Andersen, T. E. (2012). Does attachment insecurity affect the outcomes of a multidisciplinary pain management program? The association between attachment insecurity, pain, disability, distress, and the use of opioids. *Social Science & Medicine*, 74 (9), 1461-1468.
- Asghari, F., Alipour, G. & Sayadi, A. (2015). On the Prediction of Opium Addicts' Changeability through Early Maladaptive Schemas and Attachment Styles. *Quarterly Journal of Research on Addiction*, 9 (35), 85-98.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1), 27-45.
- Bahadori Khosroshahi, J., Hashemi Nosrat Abad, T., & Beyrami, M. (2010). On the relationship of attachment styles and resilience with tendency to substance use. *Quarterly Journal of Research on Addiction*, 4 (14), 17-30.
- Bahari, F., & Garousi, K. (2013). *Addiction Counseling and Treatment (A Guide to Changing Addiction Behavior in Addicts)*. Tehran: Danjeh Publication.
- Bahr, S. J., Maughan, S. L., Marcos, A. C., & Li, B. (1998). Family, religiosity, and the risk of adolescent drug use. *Journal of Marriage and the Family*, 60, 979-992.
- Baldwin, A. L., Baldwin, C., & Cole, R. E. (1990). *Stress-resistant families and stress resistant children*. In J. Rolf, A. S. Master, D. Cicchetti, K. H. Neuhuterlein, & S. Weintraub (Eds.), *Risk and protective factors in the development of psychopathology*. New York: Cambridge University Press.
- Barati, H., & Arizi, H. (2015). Investigating the Reliability and Validation of Luchiano and His Colleagues' Thought Control Ability Questionnaire. *Knowledge & Research in Applied Psychology*, 16 (1, cont. 59), 33-41.
- Basharpoor, S., Atadokht, A., Khosravinia, D., & Narimani, M. (2013). The Role of Cognitive Self-Control and Self-Compassion on Prediction of Treatment Motivation in People with Substance Dependence. *Journal of Health and Care*, 15(4), 60-70.
- Basharpoor, S., Khosravinia, D., Atadokht, A., Daneshvar, S., Narimani, M., & Massah, O. (2014). The Role of Self-compassion, Cognitive Self-control, and Illness Perception in Predicting Craving in People With Substance Dependency. *Practice in Clinical Psychology*, 2(3), 183-192.

- Bechara, A., Dolan, S., Denburg, N., Hinds, A., Anderson, S. W., & Nathan, P. E. (2001). Decision-making deficits, linked to a dysfunctional ventromedial prefrontal cortex, revealed in alcohol and stimulant abusers. *Neuropsychologia*, 39(4), 376-389.
- Besharat, M., Ranjbar Noshiri, F., & Rostami, R. (2008). Comparison of family function between patients with substance abuse and normal people, *Journal of Psychology & Education*, 38 (3), 137-156.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical psychology: Science and practice*, 11(3), 230-241.
- Bowen, S., Witkiewitz, K., Dillworth, T. M., Chawla, N., Simpson, T. L., Ostafin, B. D., & Marlatt, G. A. (2006). Mindfulness meditation and substance use in an incarcerated population. *Psychology of addictive behaviors*, 20(3), 343-347.
- Brewer, J. A., Bowen, S., Smith, J. T., Marlatt, G. A., & Potenza, M. N. (2010). Mindfulness-based treatments for co-occurring depression and substance use disorders: what can we learn from the brain? *Addiction*, 105(10), 1698-1706.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in Psychological well-being. *Journal of Personality and Social Psychology*, 84, 822-848.
- Caspers, K. M., Cadoret, R. J., Langbehn, D., Yucuis, R., & Troutman, B. (2005). Contributions of attachment style and perceived social support to lifetime use of illicit substances. *Addictive Behaviors*, 30(5), 1007-1011.
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58(4), 644-663.
- Dick, D. M., & Hancock, L. C. (2015). Integrating basic research with prevention/intervention to reduce risky substance use among college students. *Frontiers in psychology*, 6, 1-6.
- Dinmohamadi, M., Amini, K., & Yazdan-khah, M. (2007). Survey of Social and Environmental Factors Related to the Relapse of Addiction in Volunteer Addicted Individuals In Welfare Organization of Zanjan. *Journal of Zanjan University of Medical Sciences*, 15 (59), 85-94.
- Drummond, D. C. (2000). What does cue-reactivity have to offer clinical research? *Addiction*, 95, 129-144.
- Farchad, M. (2006). *Social Pathology and Sociology of Deviations*. Tehran: Moallem Publication.
- Ekhtiari, H., Behzadi, A., Oghabian, M., Edalati, H., & Mokri, A. (2006). Visual cues inducing craving in heroin injecting drug users. *Advances in Cognitive Science*, 3, 43-51.
- Emanuel, A. S., Updegraff, J. A., Kalmbach, D. A., & Ciesla, J. A. (2010). The role of mindfulness facets in affective forecasting. *Personality and Individual Differences*, 49(7), 815-818.
- Feeney, J. A., & Noller, P. (1996). *Adult attachment (Vol. 14)*. Sage Publications.
- Gha'emi, F., Samsam Shari'at, M., Asef Vaziri, M. & Baluchi, D. (2008). The Relationship Between Perspective, Knowledge and Sources of Information About The Addiction, With a Tendency to Drug Abuse, From Azad Khorasgan Students' Point of View, *Knowledge and Research in Applied Psychology*, 38 (12), 93-104.

- Ghorbani, N., Bing, M. N., Watson, P. J., Davison, H. K., & Mack, D. A. (2003). Self-reported emotional intelligence: Construct similarity and functional dissimilarity of higher order processing in Iran and United States. *International Journal of psychology*, 37, 297-308.
- Karyadi, K. A., & Cyders, M. A. (2015). Elucidating the Association between Trait Mindfulness and Alcohol Use Behaviors among College Students. *Mindfulness*, 6(6), 1242-1249.
- Kassel, J. D., Wardle, M., & Roberts, J. E. (2007). Adult attachment security and college student substance use. *Addictive behaviors*, 32(6), 1164-1176.
- Kobak, R. R., & Sceery, A. (1988). Attachment in late adolescence: Working models, affect regulation, and representations of self and others. *Child development*, 59, 135-146.
- Kokkonen, M., Kinnunen, T., & Pulkkinen, L. (2002). Direct and indirect effects of adolescent self-control of emotions and behavioral expression on adult health outcomes. *Psychology and Health*, 17(5), 657-670.
- Levin, M. E., Dalrymple, K., & Zimmerman, M. (2014). Which facets of mindfulness predict the presence of substance use disorders in an outpatient psychiatric sample? *Psychology of Addictive Behaviors*, 28(2), 498-506.
- Luciano, J. V., Algarabel, S., Tomás, J. M., & Martínez, J. L. (2005). Development and validation of the thought control ability questionnaire. *Personality and Individual Differences*, 38(5), 997-1008.
- McNally, A. M., Palfai, T. P., Levine, R. V., & Moore, B. M. (2003). Attachment dimensions and drinking-related problems among young adults: The mediational role of coping motives. *Addictive behaviors*, 28(6), 1115-1127.
- Mirhesami, S. (2009). *Investigating the role of family in youth and adolescents' tendencies toward addiction*, M.A. thesis. Payame Noor University.
- Molnar, D. S., Sadava, S. W., DeCourville, N. H., & Perrier, C. P. (2010). Attachment, motivations, and alcohol: Testing a dual-path model of high-risk drinking and adverse consequences in transitional clinical and student samples. *Canadian Journal of Behavioural Science*, 42, 1-13.
- Newcomb, M. D. (1995). Identifying high-risk youth: Prevalence and patterns of adolescent drug abuse. *NIDA Research Monograph*, 156, 7-38.
- Nurco, D. N., & Lerner, M. (1996). Vulnerability to narcotic addiction: Family structure and functioning. *Journal of Drug Issues*, 26(4), 1007-1025.
- Oraki, M., Bayat, S., & Khodadust, S. (2012). Study of Effectiveness Mindfulness Cognitive Therapy and Marlatt Relapse Preventive Intervention for Mental Health in Male Crack Addictions. *Health Psychology*, 1, 22-30.
- Pakdaman, S. (2001). *On the relationship between attachment and socialization in adolescents*. Ph.D. Dissertation, Faculty of Psychology and Educational Sciences, University of Tehran.
- Petratis, J., Flay, B. R., Miller, T. Q., Torpy, E. J., & Greiner, B. (1998). Illicit substance use among adolescents: A matrix of prospective predictors. *Substance Use & Misuse*, 33(13), 2561-2604.
- Rachlin, H. (1995). Self-control: Beyond commitment. *Behavioral and brain sciences*, 18(11), 109-121.
- Rafiey, H., & Alipour, F. (2015). Development and Validation of a Scale for Measuring Youth's Attitudes to Substance Abuse in Iran. *Social Welfare*, 15(57), 95-107.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55(1), 68-78.
- Sa'ed, O., Yaghoubi, H., Roshan, R., & Soltani, M. (2011). Comparison of ineffective meta-cognitive beliefs between drug dependent individuals and nondependent individuals. *Quarterly Journal of Research on Addiction*, 5 (17), 75-90.
- Sarrami, H., Ghorbani, M., & Taghavi, M. (2013). On the investigation of two decades of drug prevalence research among Iranian university students. *Quarterly Journal of Research on Addiction*, 7 (27), 9-36.
- Schellhas, L., Ostafin, B. D., Palfai, T. P., & De Jong, P. J. (2016). How to think about your drink: Action-identification mediates the relation between mindfulness and dyscontrolled drinking. *Addictive Behaviors*, 56, 51-56.
- Schindler, A., Thomasius, R., Sack, P. M., Gemeinhardt, B., & Küstner, U. (2007). Insecure family bases and adolescent drug abuse: A new approach to family patterns of attachment. *Attachment & Human Development*, 9(2), 111-126.
- Tarter, R.E., Kirisci, L., Mezzich, A., Cornelius, J.R., Pajer, K., Vanyukov, ..., Clark, D. (2003). Neurobehavioral disinhibition in childhood predicts early age at onset of substance use disorder. *American Journal of Psychiatry*, 160(6), 1078-1085.
- Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological review*, 94(1), 3-15.
- Vohs, K. D., & Baumeister, R. F. (2004). *Understanding self-regulation: An introduction*. In: R. F. Baumeister, & K.D. Vohs, Editors, *Handbook of self-regulation, Research, theory and its applications*, Guilford, New York.
- Wegner, D. M., Vallacher, R. R., & Dizadji, D. (1989). Do alcoholics know what they're doing? Identifications of the act of drinking. *Basic and Applied Social Psychology*, 10(3), 197-210.
- Wells, A. (1995). Meta-cognition and worry: A cognitive model of generalized anxiety disorder. *Behavioural and cognitive psychotherapy*, 23(3), 301-320. DOI: 10.1017/S1352465800015897.
- Zeinali, A., Vahdat, R., & Garadingeh, K. (2010). The Relationship Between Parenting Style and Addiction Susceptibility in Children, *Journal of Family Research*, 6 (23), 335-352.