Causal Relationship of Diffused Identity and Self-Efficacy with Addiction Potential: the Mediating Role of Sense Seeking

Abstract

Objective: This study aimed at examining the pattern of the causal relationship of diffused identity and self-efficacy with addiction potential via the mediating role of sense seeking in female students of Shahid Chamran University of Ahvaz. **Method:** The statistical population of this study consisted of the female students of Shahid Chamran University of Ahvaz in 2016 and sampling was conducted by random cluster sampling method (300 participants). The following measures were used to evaluate the research variables: Berzonsky Identity Style Inventory-Sixth Grade (1989), Schwartzer & Jerusalem's Generalized Self-Efficacy Scale (1979), Arnett's Sensation Seeking Scale (1994), and Weed & Butcher's Addiction Potential Scale (1989). The proposed model was evaluated using path analysis. **Results:** The results showed that the proposed model fits the data. In addition, all path coefficients among the variables in the whole sample were statistically significant. Moreover, the direct paths of diffused identity, self-efficacy, and sensation seeking towards addiction potential and sensation seeking were statistically significant. On the other hand, the results showed that the indirect relationship of diffused identity and self-efficacy with addiction potential were also significant through sensation seeking. **Conclusion:** The findings contain practical implications.

Keywords: diffused identity, self-efficacy, addiction potential, sensation seeking

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Introduction

Today, addiction and its unpleasant consequences are among the most important public health problems worldwide (Dali & Marlatt, 2005, as cited in Oraki, 2011); and the World Health Organization (2003) has referred to this phenomenon as an alarming and worrying event in the world (2003, as cited in Naderifar, Ghaljayi, Akbarizadeh, & Ebrahimi-Tabas, 2010). The emphasis on traditional prevention methods does not meet today's problems, and the current substance abuse requires extensive prevention interventions. In this regard, it seems necessary to understand and explore the causes of this addictive behavior in order to prevent it. In fact, the complex nature of addiction-related problems suggests the need for the conduct of multidimensional and organized research in this regard; therefore, the research that can control and study the factors affecting addiction will be more promising (Akbarizardkaneh, Rostami, & Zare'an, 2008). Taking a realistic look at the issue of addiction, one readily finds that the consumption of substances has existed centuries ago, and there is no country currently that has been exempted from its expansion. This issue is not an only individual and personal item, but also involves social harm, which also has harmful and irreversible effects on the moral, social, and economic aspects of society in addition to its threat to the physical and mental health of individuals (Ahmadvand, 2008). University students, like other young people, are not immune to this problem. The effects of drug use on students are profound and sometimes deadly (Parvizi, Ahmadi, & Nikbakht Nosratabadi, 2005, as cited in Rezakhani Moghadam et al., 2012). Substance use in the university student population will cause harm, including the disruption of the education process and the consequent recession, the increased prevalence of substance access in the student community, and the promotion of consumption culture in the whole society due to the role model nature of educated people for common people (Rahimi Movaghar, Mohammad, & Razaghi, 2002, as cited in Rezakhani Moghadam et al., 2012). Many students encounter different stressors at universities for the first time. For example, individual, interpersonal, and educational pressures as well as issues, such as leaving home, confronting independence, connecting with new friends, and peer pressure can put students at risk of drug use (Larimer, Kilmer & Lee, 2005). The World Health Organization defines addiction as: "A chronic condition that disturbs people and society through repeated use of drugs and stimuli (natural or industrial)". Addiction potential refers to the talent for addiction; in other words, those with a higher degree of addiction potential are more likely to become addicted than others (Zargar, Najjarian, & Na'aami, 2008).

One of the factors that plays an important role in the onset of addiction is the identity style. The successful growth of identity leads to the development of decision-making ability, academic achievement, the ability to communicate well with family and other community members, the conduct of behaviors confirmed

by the society, and unrestricted entry into the university. On the other hand, the growth of improper identity leads to inability in critical decision-making, behavioral problems, repeated academic failure, substance abuse, and inability to communicate properly with others (Schultz & Schultz, 2004, as cited in Ahmadi, Taghipour, & Khodabakhshi Koolayi, 2009). Diffuse-avoidant identity styles one of the identity styles that is associated with the addiction potential. The individuals with a diffuse-avoidant identity style assign scant attention to their future and long-term consequences of their actions and, thereby, they adopt decisions based on emotions, and postpone their actions and decisions in such a way that these consequences and outcomes determine their course of action. Such individuals postpone facing the problems and conflicts as far as possible. While choosing and practicing, their behavior is led by immediate external consequences and demands. In such a situation, they tend to show short-term actions before the time they embark on making long-term amendments in the sense of their identity (Berzonsky, & Ferrari, 2009). Various studies in this domain have indicated that diffuse-avoidant identity style has a relationship with alcohol drinking and drug use (Jones, Ross, & Hartman, 1992; Nouri & Ghorbani, 2010; Samavi, 2008; White, Wampler, & Winn, 1998; as cited in Hosseini-al-Madani, Ahadi, Karimi, Bahrami, & Mo'azedian, 2011).

Self-efficacy is another variable that is related to addiction potential and is one of the most effective subjects in theories and models of behavioral change, especially Bandura's theory of Social Cognition and its effects in various fields, including drug use and drug abuse, have been reported frequently (Burleson, & Kaminer, 2005). Self-efficacy refers to people's beliefs about their ability to organize motivations, cognitive resources, and the exertion of control over a particular event (Masoudnia, 2007). Self-efficacy is one's judgment of his/her capabilities and abilities to manage proactive life situations (Bandura, 2006). In his social cognitive theory, Bandura (1993) makes a mention of the concept of self-efficacy and emphasizes individual perception and personal efficiency as a mediator. This means that when a person performs an act, s/he judges his/her abilities and merits, and this judgment influences his/her thinking, emotions, affects, and outcome of the action. Research findings indicate that there is a significant relationship between self-efficacy and substance abuse (Dolan, Martin, & Rohsenow, 2008, Tate et al., 2008, McKellar, Ilgen, & Moos, 2008). Kiamarsi, & Abolghasemi (2011) concluded that self-efficacy, sensation seeking, and stress coping strategies can play an important role in predicting substance abuse susceptibility in university students.

Sensation seeking is one of the other variables relating to addiction potential. Since sensation seeking describes the degree of person's openness to new experiences, it can play an important role in the etiology of addiction. Sensation seeking is a kind of hereditary desire to start a passionate activity in response to new stimuli. People with a high degree of sensation seeking are usually diversity seekers, bored, impulsive in gaining rewards, unable to accept failure, and

generally disorderly (Huth-Bocks, 2002). There is ample evidence that regards the availability of a significant relationship between substance abuse and sensation seeking (Chandra, Krishna, Benegal, & Ramakrishna, 2003, Dervaux, & Bayle, 2001). Ghasemi et al. (2011) compared sensation seeking between addicted and healthy people and showed a significant difference in sensation seeking between the two groups.

Considering the above-mentioned points and the role of predictive and mediating variables in determining various effects on addiction potential, a model of relationships between these variables was designed. Although previous research has examined the intended variables in a simple mode, no model has been designed to include all these variables to date. Therefore, in this study, the proposed model in Figure 1 was tested and the following research question was responded to: What effect diffuse-avoidant identity and self-efficacy have on addiction potential through sensation seeking?
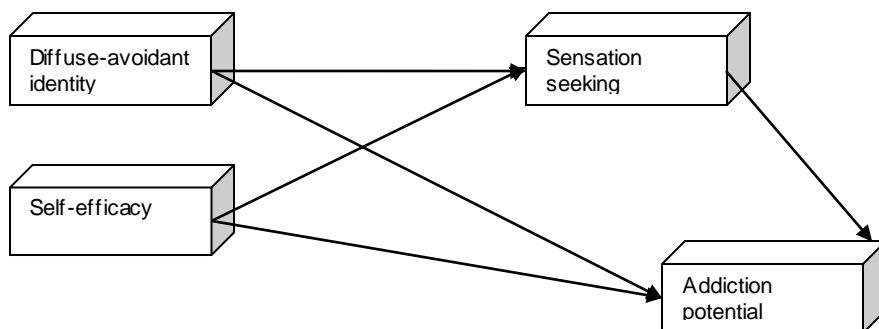
Fig. 1: The Proposed Model of Direct and Indirect Effects of Diffuse-Avoidant Identity and Self-Efficacy on Addiction Potential through Sensation Seeking

Method
Population, Sample, and Sampling Method
The present study is a correlational research with path analysis. The statistical population of this study consisted of the female students of Shahid Chamran University of Ahvaz in 2016. The research sample included a 300-female-student group where the sampling was conducted by random cluster sampling method. In this way, five colleges were randomly selected from among the colleges of Shahid Chamran University of Ahvaz. In the next stage, four classrooms were randomly selected from each college and, then, the questionnaires were distributed among the female students of these classes. The mean value and standard deviation of the female students' age were equal to 29.24 and 4.69 years, respectively. In terms of educational degree, out of 300 students, 35 ones (11.6%) were associate's students, 147 ones (49%) were bachelor's students, 98 ones (32.6%) were master's students, and 20 ones (6/6%) were studying at the PhD level.

Instruments

1. Identity Style Inventory-sixth grade: This questionnaire was first developed by Berzonsky (1989) in order to assess the informational, normative, and diffuse/ avoidant identity styles. In this tool, identity commitment is also measured separately. This questionnaire is a paper-and-pen tool that consists of 40 items, 11 ones of which are related to the informational identity style, 10 items pertain to the diffuse-avoidant identity style, 9 ones belong to normative identity style, and 10 items are related to the degree of identity commitment (Ghaderi, & Mostafa'ea, 2012). This questionnaire is scored based on a 5-point Likert scale, from strongly disagree, somewhat disagree, not certain, to somewhat agree, and strongly agree. White et al. (1998) reported the Cronbach's alpha coefficients of 0.73, 0.67, and 0.69 for informational, normative, and diffuse-avoidant styles, respectively. White et al. (1998), examined the convergent validity of the scale through the agreement of the original form of identity styles (revised sixth grade) and reported desirable it to be (P <0.001). In the present study, the Cronbach's alpha reliability of this scale was obtained equal to 0.89.

2. Generalized Self-Efficacy Scale: This scale is a self-reporting tool for adults (over 12 years of age) that was constructed by Schwartzer, & Jerusalem in 1979 (as cited in Ranjbar Noushei et al., 2013) in order to evaluate social and general self-efficacy. Schwartzer, & Jerusalem revised this test in 1981 and reduced the number of items to 10 ones. This questionnaire is responded to based on a 4-point Likert scale (not at all correct to completely correct) (Kamarzarin, Zare, & BrockieMilan, 2012). Cronbach's alpha coefficients of this scale were obtained equal to 0.88 in Canada, 0.81 in Costa Rica, 0.81 in Germany, 0.88 in the United Kingdom, 0.82 in France, 0.84 in Spain, 0.91 in Japan, 0.89 in Indonesia, and 0.75 in India, which are indicative of the favorable internal consistency of the scale in different countries of the world (Kamarzarin, et al., 2012). In this study, the reliability coefficient of this scale was obtained equal to 0.88 via Cronbach's alpha.

3. Arnett Sensation Seeking Scale: This scale was developed by Jeffrey Arnett (1994, as cited in Rajabi, Narimani, & Hosseini, 2013). It contains 20 items and 2 subscales, namely novelty and intensity. This scale has been specified with a concept of sensation seeking with the need for the novelty and intensity of stimulus as two minor axes. Instead of emphasizing any genetic and biological foundations that were considered in the fifth edition of Zuckerman, this scale takes into account the role of socialization and social interaction in guiding behavior (Carretero, Dios, & Salinas, 2008, as cited in Rajabi, Narimani, & Hosseini, 2013). The items of this scale are scored based on a Likert scale (from never = 1 to very much = 4). In Arnett's study (1980, as cited in Kiamarsi, & Abolghasemi, 2011), the Cronbach's alpha coefficients of this scale and its subscales were obtained within the range of 0.83 to 0.86.

4. Addiction Potential Scale: This scale was developed by Weed, & Butcher (1992, as cited in Zargar, Najjarian, & Na'aami, 2008) and some attempts were

made to validate it in Iran (Kordimiza, Azad, & Eskandari, 2003, as cited in Zargar, Najarian, & Na'aami, 2008). In this research, the Iranian version of Addiction Potential Scale was employed. This scale has been constructed by Zargar (2006, as cited in Zargar et al., 2008) according to the psychosocial state of the Iranian society. It consists of two factors and 41 items (36 items plus 5 lie detector items). In the first factor (active potential), most of the items were related to antisocial behaviors, desire to use drugs, positive attitude towards drugs, depression, and sensation seeking; in the second factor (passive potential), the majority of items pertained to non-assertiveness and depression. In a study conducted by Zargar (2006, as cited in Zargar, Najarian, & Na'aami, 2008), the reliability of this scale was reported equal to 0.91 through Cronbach's alpha where the coefficients of 0.91 and 0.75 were obtained for the first factor (active) and the second factor (passive), respectively. In this study, the Cronbach's alpha coefficient of 0.94 was obtained for this scale.

Results

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

Table 1: Descriptive Statistics of Research Variables in the Selected Sample

| Variables	Mean	SD	Min.	Max.
Diffuse-avoidant identity	38.71	6.45	25	50
Self-efficacy	29.64	6.37	19	40
Sensation seeking	67.64	8.34	41	79
Addiction potential	71.32	20.31	14	105

The correlation matrix of the variables is presented in Table 2.

Table 2: Correlation Matrix of the Research Variables

Variables	Self-efficacy	Sensation seeking	Addiction potential
Diffuse-avoidant identity	-0.34**	0.42**	0.57**
Self-efficacy	1	-0.35**	-0.54**
Sensation seeking	-	1	0.58**
Addiction potential	-	-	1

** $P<0.001$

The path analysis method was used to test the relationship of diffuse-avoidant identity and self-efficacy with addiction potential under the mediating role of sensation seeking among university students. Therefore, the proposed model is presented in Fig. 2.
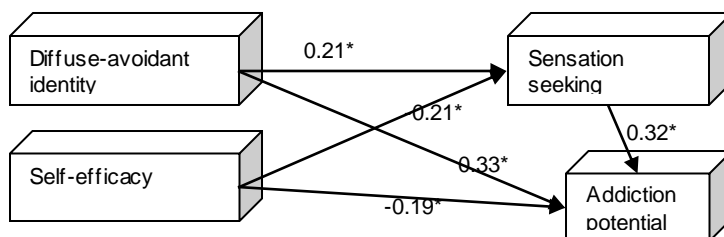
Fig. 2: Proposed Model along with the Standard Coefficients of the Variable Paths

According to Fig. 2, it is observed that all path coefficients are significant at the level of 0.05. The fitness of the proposed model was also assessed. A combination of fitness indices was used to determine the fitness of the proposed model with the data. Table 3 shows the fitness indices of the proposed model.

Table 3: Fitness Indices of the Proposed Podel in this Study

Indices	2χ	df	X2 /df	GFI	AGFI	NFI	CFI	IFI	TLI	RMSEA
Proposed model	5.08	3	1.69	0.99	0.96	0.99	0.99	0.99	0.98	0.04

According to Table 3, the values of the fitness indices of the proposed model, including the Chi-square to the degree of freedom (1.69), the goodness of fit (0.994), the comparative goodness of fit (0.96), the incremental fitness index (0.99), the Tucker-Lewis index (0.98), comparative fit index (0.99), normative fit index (0.99), and root mean square error of approximation (0.04) showed that the proposed model fits the data well.

Bootstrap was used to study the hypotheses regarding the indirect relationship between the variables. Some hypotheses of the proposed model indicate indirect and intermediate paths between the research variables. In this research, the indirect relations of variables (with a mediator) were tested by bootstrap method. Table 4 shows the estimation results of indirect paths for indirect hypotheses.

Table 4: Results of Bootstrap Test for the Intermediary Paths of the Research in the Proposed Model

Paths	Bootstrap (lower bound)	Bootstrap (upper bound)	Confidence interval
Diffuse-avoidant identity → Sensation seeking → Addiction potential	0.0330	0.1167	0.95
Self-efficacy → Sensation seeking → Addiction potential	-0.1261	-0.0342	0.95

Since the upper and lower bounds of the indirect paths do not include zero, the significance of these paths is indicated. Therefore, the structural equation modeling analyses supported the good fit of the proposed model with the data and the verification of direct and indirect paths.

Discussion and Conclusion

The aim of the present study was to investigate the causal relationship of diffuse-avoidant identity and self-efficacy with addiction potential through the mediation of sensation seeking in female students of Shahid Chamran University of Ahvaz. As it was observed, the proposed model was approved along with all the research hypotheses. To explain the model confirmation, it can be stated that the underlying mechanism of drug use in people with a diffuse-avoidant identity is not so complicated. Non-commitment to the positive goals and the membership of such individuals in anti-social groups, pessimism, anger, feelings of insecurity, hopelessness, and the loss of a clear sense of identity can facilitate their tendency toward drug use (Waterman, 1984; Kröger, 2000; as cited in

Sheikholeslamzadeh, & Kakouyi, 2011). On the other hand, when faced with undesirable and stressful events, individuals with high self-efficacy exhibit greater resistance and do not accept negative thoughts about themselves and their abilities. Accordingly, the feeling of self-efficacy helps them to resist substances and pressure of friends and control their behaviors (Taromian, 2008, as cited in Kiamarsi, & Abolghasemi, 2011). It can also be argued that those who have a low self-efficacy will be easily convinced that their efforts are futile when faced with difficulties. Therefore, they easily give up hope and quit making any efforts. However, individuals with high self-efficacy overcome the barriers by improving their self-management skills and perseverance and, thereby, they are more likely to stand problems, be more dominant over the affairs, and experience less uncertainty. Hence, the perception of self-efficacy can help maintain health promoting behaviors and refrain from willingness to drug use (Bandura, 2006). In addition, sensation seekers are the individuals who are curious about the fertility of the inner experience and the outside world and their life is full of experience. These people seek to enjoy new theories and unconventional values and have a lot of positive and negative feelings in comparison with those who obtain a low score in this index (Fathi Ashtiani, 2012, as cited in Vatankhah, Akbari Shayeh, Delavar, Riahi, & Pak, 2014). In addition, sensation seekers need new and sometimes dangerous experiences to reach the level of arousal according to arousal theory; this may orient them to drug abuse (Wagner, 2001). According to Zuckerman (1979, as cited in Mehrabizadeh Honarmand, Shaheni Yeilagh, & Fathi, 2008), the sensation seeking structure is related to the amount of arousal that the central nervous system requires to receive from external sources of stimulation. Sensation seekers prefer permanent brain stimulation but people with less sensation seeking prefer less brain stimulation. Most of the substances consumed by humans increase arousal and stimulation. This is why the individuals with more sensation seeking tend to drug use more than the individuals with a lower level of sensation seeking. In addition, sensation seekers predict the drug-related risks to a lesser extent and are more inclined towards substances due to their low anxiety and high irritability and impulsivity when faced with stimulants, such as opiates (Magid , McLean & Coolder, 2007, Comao, Stewart & Pamela, 2001; as cited in Ghasemi et al., 2011).

Due to the characteristics of people with a diffuse-avoidant identity style, it can be argued that such individuals do not create any harmony and consistency among different sources of identity and, thereby, they are confused and, in comparison with other styles, they are skeptical and open to new experiences. The openness of these individuals to new experiences can be one of the key personality factors leading them to experience substance use and even substance abuse. On the other hand, since they have not yet gained a solid, independent, and mature identity, they have a poor performance in interpersonal relationships and the acquisition of life skills and other psychological functions; therefore, they cannot adjust their relationships with others well and fail to cope with life

problems. Thus, they undergo academic failure and social mal-adaptation, and are more likely to be absorbed into subculture substance use groups in vulnerable and hazardous conditions. In addition, sensation seekers are curious and their life is full of experience. These people seek to enjoy new theories and unconventional values and have a lot of positive and negative feelings in comparison with those who obtain a low score in this index (Fathi Ashtiani, 2010). Moreover, sensation seekers need new and sometimes dangerous experiences to reach the level of arousal according to arousal theory; this may orient them to drug abuse (Fathi Ashtiani, 2010, as cited in Vatankhah et al., 2014).

From Bandura's point of view, the enjoyment of or an increase in self-efficacy can make a threatening position more secure (Benyon et al., 2010; Bandura, 1997; Dwyer, & Cummings, 2001). In this way, when faced with undesirable and stressful events, individuals with high self-efficacy can control their thoughts, exhibit greater resistance, and do not accept negative thoughts about themselves and their abilities. In contrast, the individuals with low self-efficacy avoid any action that they believe to be beyond their ability, find stressful situations uncontrollable, and more often turn to inefficient emotion-focused coping strategies, such as avoidance, abstinence, creation of destructive friendships, and the consumption of drugs and alcohol (Benyon et al., 2010; Bandura, 1997; Dwyer, & Cummings, 2001; Williams et al., 1992). In sum, the individual's beliefs about efficacy play a crucial role in controlling stressful situations. Accordingly, the existence of low self-efficacy beliefs prevents coping with stressful situations. In fact, such individuals have low self-controlling thoughts, which lead to negative thoughts about the self and their abilities. Hence, these people who feel more stressful and consider themselves incapacitated and ineffective easily surrender and feel depressed, anxious and frustrated, and, thereby, they turn to alcohol and narcotics in order to cope with their psychological problems and achieve relaxation and better feelings.

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