

## Abstract

**Objective:** This research was an attempt to compare risk-taking and cognitive distortion between students with and without addiction tendency. **Method:** This descriptive research was a causal-comparative study whose statistical population consisted of all male high school students in Bostanabad city in the academic year of 2014-2015. The number of 200 students (100 students with addiction tendency and 100 students without addiction tendency) was selected from among the students as the research participants. Addiction Tendency Scale, Risk-Taking Scale, and Cognitive Distortion Scale were used for data collection purposes. The data were analyzed via MANOVA test. **Results:** The results of this research showed that risk-taking and cognitive distortion in students with addiction tendency were higher than those in normal students. **Conclusion:** The findings of this study revealed that risk-taking and cognitive distortion are among the important variables in addiction tendency. Therefore, it is necessary to take risk-taking and cognitive distortion into consideration according to the current research findings in order to provide services pertaining to prevention, psychopathology, and counseling programs. **Keywords:** risk-taking, cognitive distortion, addiction tendency

# On the Comparison of Risk-Taking and Cognitive Distortion in Students With and Without Addiction Tendency

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## Introduction

Addiction and drug abuse have been among the most serious problems in the human society in recent years and have also been among the most complex human phenomena. With regard to the young population of Iran, drug addiction is one of the issues that threatens the young generation, especially students, and this period is the peak of the manifestation and outbreak of addiction (Salimi, Gohari, Kermanshahi, & Javdan, 2015). Statistics show that about 16 percent of Iranian addicts are under the age of 19 years (Dadkhah, Shalchi & Yaghouti, 2015). Addiction is a physical, psychological, and social disease where numerous pre-addictive factors are involved in its incidence (Galanter, 2006). However, not all the individuals who are exposed to drugs get addicted, but a person gets addicted who has addiction tendency (Hiroi, & Agatsuma, 2005). Before the person begins to take addictive drugs during the period of growth along with the formation of his/her behaviors, thoughts, ideas, and personal characteristics, the grounds for the emergence of addiction are provided (Dadkhah, Shalchi & Yaghouti, 2015).

The existence of addiction tendency will affect adolescents' risk-taking for drug use since adolescence is an important growth period that is associated with the process of identity formation. Some part of this growth process is risk-taking that appears in the form of unhealthy behaviors, such as cigarette smoking and the use of other substances (Ahmadi Tahour, Asgari & Toughiri, 2013). Risk-taking is a behavior that leads a person to be exposed to physical and psychological threats, and even death. Moore (2000) defines risk-taking as a phenomenon in which one exposes him/herself to a loss or injury in such a way that there is a high probability of getting harmed. In addition, Valentina, Luca, Mercedes, Francesca, & Sabrina (2016) reported that risk-taking in adolescents has a significant role in the experience of drug use. In this regard, Lee & Park (2015) also showed that there is a positive relationship between risk-taking and drug use and smoking. Lindgren, Mullins, Neighbors, & Blayney (2010) found that there was a significant relationship between risk-taking and drug use (alcohol, narcotics, and hallucinogenic drugs). Doherty, Appel, & Murphy (2004) concluded that risk-taking behaviors have a relationship with alcohol consumption, drug use, aggressive behavior, and illegal conduct. In addition, in regard to addiction tendency, cognitive factors are among the areas of interest to researchers. In this regard, consideration and attention to cognitive distortions have assumed great importance since one's concepts or beliefs are the subject of cognitive distortions. Due to the fact that the majority of these concepts and beliefs start from childhood, the thought processes that support such concepts may reflect childhood mistakes. Cognitive distortions appear when information processing is false or ineffective. In other words, information analysis is sometimes distorted in people's minds. These types of distortions, which are called cognitive errors or cognitive distortions, appear in various forms. These

distortions, when occurring alternately and frequently, can lead to discomforts or psychological disorders and abnormal behaviors, such as drug use (Goldin, Manber-ball, Werner, Heimberg, & Gross, 2009). Hedayatfard & Mahboobeh (2015) showed that people with substance abuse obtained high scores in cognitive distortions compared to normal people. In the same way, Ahmadi Tahour & Najafi (2011) indicated that impaired cognitive beliefs act as an important psychological factor in the prediction of people's tendency to drug use. Haji Alizadeh, Bahraini, Naziri & Modares Gharavi (2009) reported that there was a higher percentage of the individuals with cognitive distortions among substance abusers than healthy subjects. Miller, Adam, & Chrstianne (2013) found that the children who gained high scores in cognitive distortions were more susceptible to substance abuse. In addition, Zainah, Rohany, Asmawati, Rozainee, & Fatimah (2014) reached the conclusion that the addicts with high scores in cognitive distortions had a lower tendency to treatment. However, the results of some studies have shown that the availability of risk-taking has not been effective in tendency to cigarette smoking and drug use (Lee & Park, 2015), and these variables are also considered as the factors for the acquisition of achievements (Mazloumi, Latifi & Asaee, 2007). Therefore, doing research in this area is always important and, addiction prevention is mandatory due to the numerous and widespread problems caused by it. In this regard, it is noteworthy that addiction prevention requires the identification of the risk factors and the underlying factors in drug dependence. Accordingly, this study aimed at comparing risk-taking and cognitive distortion between students with or without addiction.

## **Method**

### **Population, sample, and sampling method**

A causal-comparative research method was used for the conduct of this study. The statistical population of this study consisted of all male high school students in Bostanabad city in the academic year of 2014-2015 (N=902). After the conduct of necessary coordination with the Education Office of East Azerbaijan Province and obtaining the permission for the conduct of this research, the Addiction Tendency Scale was administered to 500 students and, thereby, the students with addiction potential were identified. Then, 100 students with high scores on addiction tendency (cut-off score of higher than 50) were chosen and 100 students without addiction tendency were randomly selected from the population.

### **Instruments**

1. **Addiction Potential Scale:** This scale was constructed by Weed, & Butcher (1992) and has been validated in Iran by Kordmirza, Azad & Eskandari (2003). This scale contains 41 items, which are answered based on a four-point Likert scale from strongly disagree (0) to strongly agree (3) and the total score ranges

from 0 to 108. Higher scores represent a higher degree of the respondent's addiction potential and readiness. The Cronbach's alpha coefficient of this scale has been reported equal to 0.90. Moreover, the convergent validity of this scale has been assessed and its correlation with Hopkins Symptom Checklist-25 has been obtained equal to 0.45. To assess its reliability, the normal group's scores have been compared with drug users' scores, and the mean score of the drug using group was higher (Zargar, 2006). The cut-off point for screening equals 50.

2. Adolescents' Risk-Taking Scale: This scale has been developed by Zadeh-Mohammadi, Ahmad Abadi & Heidari (2011). This scale consists of 38 items wherein respondents announce their agreement or disagreement on the items on a 5-point Likert scale from strongly agree (5) to strongly disagree (1). The Cronbach's alpha coefficient for this scale has been reported to be in the range of 0.44 to 0.94. It contains the following subscales: sexual risk-taking, hazardous driving, violence, cigarettes, narcotic drugs and psychotropic substances, and alcohol.

3. Cognitive Distortion Scale: This scale has been developed by Beck, Baruch, Balter, Steer, & Warman (2004) to measure cognitive insight and contains 15 items. Respondents are requested to rate the degree of their approval of each statement on a 4-point scale (from strongly agree to strongly disagree). The Cronbach's alpha coefficient of this scale has been reported to lie in the range of 0.68 to 0.74. This scale measures the following components: all-or-nothing thinking, overgeneralization, mental filter, disqualifying or discounting the positive, catastrophizing, magnification/minimization, emotional reasoning, should and must statements, labeling, and personalization.

## Results

It is notable that 80% of students of the participants with addiction potential and 50% of the participants without addiction potential were the first-child in family. From among the students with addiction potential, 62% were studying in Humanities while 57% of the students without addiction potential were studying in experimental sciences. In addition, 33% of the students with addiction potential reported to have experienced smoking and alcohol drinking, and the other group did not have any history of drug use. The mean and standard deviation of the age of students with and without addiction potential were equal to 17.90 (0.61) and 17.88 (0.84) years, respectively. The results of t-test indicated the equality of mean values of age for the groups ( $P > 0.05$ ). The descriptive statistics of the research variables are presented in the following table for each group.

**Table 1: Descriptive statistics of risk-taking and cognitive distortion for each group**

<i>Variable</i>	<i>With addiction potential</i>		<i>Without addiction potential</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
<b>Risk-taking</b>	59.41	8.88	42.50	5.21
<b>Cognitive distortion</b>	99.90	14.49	1.35	9.86

Multivariate analysis of variance should be used to investigate the difference between the groups in the linear combination of the variables. One of the assumptions for using this test is the equality of error variances. The results of Leven's test showed that this assumption has been met in risk-taking variable ( $F = 1.35$ ,  $P > 0.05$ ) and cognitive distortion ( $F = 1.24$ ,  $P > 0.05$ ). The results of multivariate analysis of variance were indicative of a significant difference between the groups ( $P < 0.001$ ,  $F = 8.04$ , Wilks's lambda = 0.18). Univariate analysis of variance was used to assess difference patterns as in Table 2.

**Table 2: Results of univariate analysis of variance for the examination of patterns of differences**

<i>Variable</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>	<i>Eta squared</i>	<i>Power</i>
<b>Risk-taking</b>	69075.64	7.610	0.001	0.67	1
<b>Cognitive distortion</b>	15340.77	27.700	0.001	0.56	1

As it is observed in Table 2, there is a significant difference between the two groups in both variables. Regarding the descriptive statistics, the group with addiction potential had gained higher scores in both variables.

## Discussion and Conclusion

The present study was an attempt to compare risk-taking and cognitive distortion between students with or without addiction potential. The results showed that there is a significant difference between the two groups of students in terms of risk-taking in such a way that the risk-taking mean score in students with addiction potential was higher. This finding is in line with the research findings reported by Wagner (2001), Doherty, Appel, & Murphy (2004), Lindgren, Mullins, Neighbors, & Blayney (2010), Lee & Park (2015), and Valentina, Luca, Mercedes, Francesca, & Sabrina (2016). In their survey, Valentina, Luca, Mercedes, Francesca, & Sabrina (2016) reported that risk-taking in adolescents has a significant role in the experience of drug use. Lee & Park (2015) found that there was a positive correlation between risk-taking and drug use. Lindgren, Mullins, Neighbors, & Blayney (2010) claimed that there was a relationship between risk-taking and drug use (alcohol, narcotics, and hallucinogenic drugs). Doherty, Appel, & Murphy (2004) concluded that risk-taking behaviors have a relationship with alcohol consumption, drug use, aggressive behavior, and illegal conduct. To explain this finding, one can argue that adolescence is associated with the process of identity formation. A section of this growth process is risk-taking that appears in the form of unhealthy behaviors, including cigarettes smoking and the consumption of other substances (Ahmadi Tahour, Asgari &

Toghiri, 2013). In the meantime, the adolescents with a high degree of risk-taking are more likely to be exposed to abnormal behaviors. Similarly, according to the optimal level of arousal theory, risk-taking and sensation-seeking individuals need new and fresh experiences in order to reach the level of arousal and some of them may opt for substance abuse as a new experience. The need for making new experiences and escape from monotony in people with high risk-taking and sensation-seeking can be an effective factor in drug abuse (Zuckerman, 1994).

The other section of the results showed that there is a significant difference between the students with and without addiction potential, and the mean score of distortion scores in students with addiction potential was higher than that in the peers without addiction potential. This finding is consistent with those of the studies carried out by Ahmadi Tahour & Najafi (2011), Haji-Alizadeh, Bahrainian, Nasiri & Modares Gharavi (2009), Miller, Adam, & Chrstianne (2013), Zainah, Rohany, Asmawati, Rozainee, & Fatimah (2014), and Hedayatfard & Mahboobeh (2015). Ahmadi Tahour & Najafi (2011) claimed that impaired cognitive beliefs act as an important psychological factor in the prediction of people's tendency to drug use. In the same way, Haji Alizadeh, Bahraini, Naziri & Modares Gharavi (2009) reported that there was a higher percentage of the individuals with cognitive distortions among substance abusers than healthy subjects. Miller, Adam, & Chrstianne (2013) indicated that the children who gained high scores in cognitive distortions were more susceptible to substance abuse. In addition, Zainah, Rohany, Asmawati, Rozainee, & Fatimah (2014) reported that the addicts with high scores in cognitive distortions had a lower tendency to treatment. Similarly, Hedayatfard & Mahboobeh (2015) showed that people with substance abuse obtained higher scores in cognitive distortions compared to normal people. To interpret this finding, one can argue that cognition is an important mediator in substance abuse. The existence of cognitive distortion disrupts self-regulation behaviors and induces various psychological consequences, such as stress, anxiety, and so on. In such a situation, the person takes on the use of the substance to extricate him/herself from this pressure. In this regard, distorted cognitive beliefs weaken coping skills, form cognitive (irrational fighting beliefs) and behavioral interactions (ineffective behaviors), and provide the grounds for substance use. Therefore, specific cognitive interventions as well as behavioral interventions can be useful and effective in counteracting the distorted beliefs, and it is possible to prevent the occurrence of addiction by equipping individuals with appropriate and effective cognitive strategies and skills. Since the individuals with cognitive distortions and risk-taking are prone to addiction, it is necessary to emphasize these psychological characteristics in educational and training programs of addiction prevention and treatment.

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