

## Abstract

**Objective:** The present study was aimed at determining the difference in personality patterns, irrational beliefs, and impulsivity in the male drug abusers under treatment. **Method:** In this causal-comparative research, 40 male drug abusers under treatment were selected via convenience sampling method as the participants of the study. In the same way, 40 normal men among the whole population of Talesh city were selected via purposive sampling. The two groups were matched in terms of demographical characteristics (age, gender, education level, and marital status) and were evaluated by means of Eysenck Perceived Stress Inventory, Jones Irrational Beliefs Scale, and Barratt Impulsivity Inventory. **Results:** The results of the study showed that addicts received higher scores in extraversion, neuroticism, and psychoticism compared to the normal people. In terms of irrational beliefs and impulsivity, there was also a significant difference between the two groups in such a way that addicts had higher irrational beliefs and impulsivity. **Conclusion:** The personality patterns, irrational and unrealistic beliefs, and high levels of impulsivity are some factors that lead to higher tendency towards drug use and targeting these factors in the drug abusers under treatment leads to the prevention of relapse into drug use.

**Keywords:** Personality, Irrational Beliefs, Impulsivity, Drug Use

# Personality Patterns, Irrational Beliefs and Impulsivity among the Male Sufferers of Drug Abuse Disorder under Treatment

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## Introduction

Substance use and drug dependence is one of the major biological, psychological, and social problems in which all the countries are undoubtedly involved. Substance use is the most important health problem in youth. The annual World Health Organization's report in 2005 shows that there are 200 million people addicted to different types of opiates in the world. Several factors are involved in drug use. To design programs effective in the prevention of drug use, it is necessary to understand the etiology of this phenomenon and its related factors (Sporniker et al., 2004; cited in Arji & Heydari, 2011). Over the past few decades, various theories have been proposed to explain clearly the causes of tendency to drug use. Such theories have covered a wide range of underlying factors such as genetic, psychological, and social aspects. Personality is one of the most powerful psychological factors predictive of risky behaviors such as substance abuse (Polimeni, Moore & Gruenert, 2010). Tendency to drug use and its persistence impose irreparable damage to the body of community at micro and macro levels. In addition to the prevalence of family crisis and personality disorder, the use of such substances questions the position and strength of the users' personality and makes them economically vulnerable. Personality is referred to as the relatively stable pattern of traits, attitudes or characteristics that sustain one's behavior to some extent. More specifically, personality is comprised of traits or tendencies that lead to individual differences in behavior, stability of behavior over time and persistence of behavior in various situations. These attributes can be unique, but their patterns are different in each person (Feist and Feist, 2008). According to Eysenck, two types of personality display highest susceptibility in committing offense. The first group includes neurotic extraverts or those who need high stimulation from the environment because of their biological features. In addition, their sympathetic nervous system is speedy in reactions without contrastive balancing of the para-sympathetic system. Psychotics constitute the second group. They are vindictive and apathetic toward others. Ashoori, Habibi Askarabad, Turkmen Malayeri & Javan Ismaili (2009) reported a negative correlation between the personality traits of extraversion and conscientiousness and isolation and sense of loss in addicts. Other studies have shown that low scores in the subscales of conscientiousness and agreeableness and high scores in the subscales of neuroticism and extraversion are correlated with high-risk behaviors such as drug use (Trobest, Herbst, Masters & Costa, 2002). Arji & Heydari (2011) showed that there is a significant difference between addicts and non-addicts in terms of neuroticism, conscientiousness, agreeableness, and extraversion. Impulsive and risk-taking behaviors that are generally referred to as risky behaviors entail a wide range of immature and hedonistic behaviors, along with high degrees of risk. It can be claimed that impulsivity is the core of many social ills such as sexual perversion, morbid gambling, substance abuse, personality disorders, and delinquency (Evenden,

1999). In Iran, a strong need is felt to do research on impulsivity and impulsive behavior due to the young population of the country and the high rate of crime and drug abuse. Various definitions have been proposed for the concept of impulsivity. Some of these definitions include "human behavior without sufficient thought," "instinct practice without resorting to the inhibition of the ego" and "quick action of mind without foresight and conscious judgment". Although it is easy to give some examples of impulsive behavior, the precise definition of impulsivity is difficult because many different ideas exist in knowing a behavior impulsive or not (Evenden, 1999). Based on orbitofrontal dysfunction model, smoking is followed by personality traits such as extraversion and impulsivity (Mitchell, 1999; Skinner & Aubin & Berlin, 2004; Bickel & Odum & Maddah, 1999), risk-taking, novelty seeking, and avoidance of monotony (Lejuez et al., 2003), and antisocial personality (Barry, Fleming, Manwell & Copeland, 1997). Impulsivity is a behavioral endophenotype moderating the risk of stimulant dependence that can get worse if exposed to chronic drug abuse. Impulsivity is greatly prevalent among drug-dependent people and has been discussed as one of the determinants and consequences of substance abuse (Ersche, Turton, Pradhan, Bullmore & Robbins, 2010; De Wit, 2009; Blanchard, Mendelsohn, D., Stamp, 2009). Impulsivity has been defined as a lack of inhibition control in response to a reinforcing stimulus (Stanford et al., 2009). The results of the research carried out by Ersche et al (2011) showed that cocaine dependence was related with a comprehensive system of abnormal reduction of the amount of gray matter in orbitofrontal, Cingular cortex, and insular cortex. It seems that impulsive people are susceptible to change from recreational cocaine use to compulsory use (Verdejo-Garcia, Lawrence & Clark, 2008; Potenza & Taylor, 2009). Research findings also suggest that exposure to cocaine increases impulsivity (Ersche et al., 2010). Finally, a belief and thinking, whether consciously or unconsciously, provides people with the willingness to understand events in a certain way and do certain actions. Irrational beliefs are desires and goals that appear in the form of essential priorities and are transformed into obligatory and definitive goals. If these goals are not met, confusion and anxiety will appear (Bernard, 1991; cited in Sadegh, 2004). Ellis believes that irrational beliefs are absolute, prejudicial, and dogmatic and are based on the do's and don'ts and cause negative emotions such as depression, anxiety, and anger. Therefore, they play a destructive role in the achievement of one's goals. Ellis emphasizes that the kind of thinking and belief may orient or distract people to drug use. Addicts' attitudes are often unconscious, exaggerated, absolute, and uncompromising and such addicts do not show proper function in confrontation with failure (Ellis, 2003). Burns (1997) believes that one's attitudes turn into self-opposite and lead to stagnation and inertia if they do not get reviewed and reassessed. In other words, non-adaptive thinking is the root of many irrational behaviors such as addiction. Burns proposed 10 kinds of irrational thinking which lead to the recognition of wrong thoughts and incorrect

mood and behavior. These types of thinking methods or cognitive errors include belief in the do's and don'ts, personalization, overestimation and underestimation, labeling, disregarding the positive affairs, emotional reasoning, all or nothing thinking, overgeneralization, mental filters, and hasty conclusions and strengthen the faulty mental picture of the person day by day (cited in Mobaraki, 2011). Given the above-mentioned points, the main research question in this study is formulated as: Is there any significant difference in extraversion, neuroticism, psychosis, impulsivity, and irrational beliefs between male drug abusers under treatment and normal people?

## **Method**

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

A causal-comparative research design was employed in this study. All the male addicts in the 24-26-year-old age range in rehabilitation centers of Talesh city constituted the statistical population of the study. Then, 40 male drug abusers under treatment were selected via convenience sampling as the participants of the study. In the same way, 40 normal men among the whole population of Talesh city were selected via purposive sampling. These two groups had been matched in terms of demographical characteristics such as age, gender, education level, and marital status.

### **Instrument**

Barratt Impulsivity Inventory 11th version (BIS-11): This questionnaire was constructed by Professor Ernest Barratt (Barratt, Stanfor, Kent & Felthous, 2004). Its scores have a very good relationship with Eysenck Impulsivity Questionnaire and the structure of the questions including in it represents dimensions of hasty decision making and lack of foresight. This questionnaire contains 30 questions which evaluate three factors of cognitive impulsivity, motor impulsivity, and non-planning impulsivity. The questions have been formulated in multiple-choice formats and the highest possible score of the scale is 120. The scores in the range of 52 to 71 show normal limits of impulsivity, the scores above 71 show extremely high impulsivity, and the scores below 52 represent overly controlled people (Knyazev & Slobodskaya, 2006) or the participants who have not answered the items correctly (Azimi, 2011). Results have shown that the Persian translation of BIS enjoys desirable validity and reliability. Ekhtiari et al (2008) obtained the reliability coefficients among addicts and non-addicts .781 and .788 (cognitive impulsivity), .741 and .631 (motor impulsivity), .437 and .476 (non-planning impulsivity), and .845 and .831 (total impulsivity) (cited in Azimi, 2011).

Jones Irrational Beliefs Scale: This questionnaire consists of 100 5-choice questions, that are scored from 1 to 5 and also contains 10 separate subscales.

This test was designed by Jones in 1968 and is considered as one of the most frequently used instruments for measuring irrational beliefs in the world. Most research in connection with irrational beliefs have used this questionnaire. As per the results of the study done by Woods, the number of papers and 25 doctoral dissertations had used this instrument up to the spring of 1992 (cited in Mobaraki, 2011). Bernard (1989) argues that this questionnaire enjoys desirable validity. Validity of this test was obtained in three ways: 1. Through its correlation with a variety of tests that measure the emotional distress; 2. Through the calculation of its correlation with irrational beliefs related to other tests, such as Fact and Opinion Test II, or rational behavior test; 3. Through testing the sensitivity of the test to changes of people's ideas that has been created via rational-emotional therapy. Smith and Zavarvsky reported a high correlation between scores on the questionnaires and tests of emotional disturbances there. In this research, the relationship between 66/0 and 71/0 respectively. Smith and Zavarvsky reported a high correlation between scores on the questionnaires and tests of emotional disturbances (.66 and .71). The correlation of this test with such tests as anxiety scale, Beck Depression, and test of anger status was obtained .77, .70, and .51, respectively, all of which are significant. Jones (1968) reported the reliability coefficient of .92 for the whole scale and the range of .66 to .80 (average of .74) for its ten subscales via test-retest reliability. Tugessler & Karst (1972 and 1973) reported the test-retest reliability coefficient of .88 for the whole test and that of .45 to .95 for its subscales (cited in Mobaraki, 2011). In an Iranian case, Taghipour (1994) administered the test to a sample of 106 people, including 88 single and 18 married students from Allameh Tabataba'i University. The results of his study led to the Cronbach's alpha coefficient of .71 for this test (cited in Mobaraki, 2011).

**Eysenck Personality Questionnaire:** Eysenck started activity in the context of test construction in 1947 and initially paid attention to two basic measures of neuroticism and extraversion-introversion. He stressed on the first two dimensions and added the third dimension entitled psychoticism. These three dimensions constitute the three-factor personality theory of Eysenck. Eysenck & Long (1996) pointed out that ample evidence from different cultures indicates the existence of these three dimensions (Lawrence & Oliver, 2002). Eysenck Personality Questionnaire was constructed in 1963 to assess some aspects of personality such as introversion-extraversion and diagnosis of personality disorders such as mental psychoticism, antisocial disorder, neuroticism, and social acceptance for different age groups, including children, teens, and adults with 48 themes. Thereafter, the questionnaire was transformed into the today's version. One of the two types of tests proposed by Eysenck targets children from 7 to 15 years old and the other one has been designed for the population older than 16 years old. The children's version measures aggression instead of psychoticism. In order to determine the reliability and validity of the questionnaire, Eysenck administered it on a single group at two different time

intervals. The internal reliability coefficient of this scale was reported  $P=.78$ ,  $E=.90$ ,  $N=.88$ , and  $L=.82$  for men and  $P=.76$ ,  $E=.85$ ,  $N=.85$ , and  $L=.79$  for women. In addition, Eysenck (1975) reported the following retest reliability coefficients with a one-month interval on 230-participant sample:  $P=.77$ ,  $E=.83$ ,  $N=.76$ , and  $L=.76$  for men and  $P=.81$ ,  $E=.89$ ,  $N=.81$ , and  $L=.80$  for women (cited in Fathi Ashtiani, 2009). In Iranian sample, retest reliability coefficient with a two-month interval was reported as follows:  $P=.72$ ,  $E=.92$ ,  $N=.89$ , and  $L=.88$  (Fathi Ashtiani, 2009).

## Results

Descriptive statistics of the variables of the study are presented for each group in the following table.

**Table 1: Descriptive statistics of the variables of the study for each group**

<i>Variable</i>	<i>Addicts</i>		<i>Normal group</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
<b>Extraversion</b>	12.52	2.81	5.80	3.24
<b>Neuroticism</b>	13.05	4.70	5.45	3.7
<b>Psychoticism</b>	13.32	5.05	4.75	2.47
<b>Total impulsivity</b>	66.67	9.39	41.40	6.99
<b>Cognitive impulsivity</b>	22.17	5.00	13.67	3.82
<b>Motor impulsivity</b>	22.00	5.05	12.52	4.26
<b>Non-planning</b>	23.25	6.45	14.00	3.65
<b>Irrational beliefs</b>	19.64	2.84	19.16	2.58
<b>Demand for social approval</b>	28.22	4.49	26.07	4.88
<b>High self-expectations</b>	31.70	5.61	28.55	5.18
<b>Blame proneness</b>	29.57	4.73	26.82	5.08
<b>Reaction to failure</b>	25.97	3.87	24.32	4.64
<b>Emotional irresponsibility</b>	23.70	4.58	21.7	3.49
<b>Anxious overconcern</b>	32.12	4.28	29.62	5.5
<b>Problem avoidance</b>	23.92	5.35	22.17	3.83
<b>Dependency</b>	31.05	5.32	26.17	4.81
<b>Disillusionment with change</b>	31.65	4.15	25.50	5.28
<b>Perfectionism</b>	26.52	3.56	23.8	5.42

Multivariate analysis of variance should be used to compare the variables between the two groups. The employment of this parametric test will be allowed if some assumptions are satisfied, one of which is the equality of error variances which is evaluated by Leven's test. The results of this test suggested the satisfaction of this assumption ( $P>.05$ ). The equality of the covariance matrices is another assumption for this test. The results of Box's test showed that this assumption has also been met. Due to the satisfaction of the assumptions, MANOVA was conducted and the results indicated the existence of a significant difference in linear combination of the variables of the study between the two

groups ( $P < .001$ ,  $F = 58.280$ , Wilks Lambda = .31). Univariate analysis of variance was used to examine differences in patterns as follows.

**Table 2: Univariate analysis of variance representing differences in patterns**

<i>Variable</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>	<i>Eta squared</i>
<b>Extraversion</b>	904.51	98.21	.001	.56
<b>Neuroticism</b>	36.45	91.1	.001	.45
<b>Psychoticism</b>	1470.61	93.08	.001	.54
<b>Cognitive impulsivity</b>	1445.00	72.88	.001	.48
<b>Motor impulsivity</b>	1795.51	74.1	.001	.48
<b>Non-planning</b>	1602.05	59.68	.001	.49
<b>Demand for social approval</b>	92.45	4.2	.04	.05
<b>High self-expectations</b>	198.45	6.78	.01	.08
<b>Blame proneness</b>	151.25	6.27	.01	.07
<b>Reaction to failure</b>	54.45	2.97	.09	-
<b>Emotional irresponsibility</b>	80.00	4.85	.03	.06
<b>Anxious overconcern</b>	125.00	5.13	.02	.06
<b>Problem avoidance</b>	61.25	2.83	.09	-
<b>Dependency</b>	475.31	18.48	.001	.19
<b>Disillusionment with change</b>	766.45	33.54	.001	.30
<b>Perfectionism</b>	148.51	7.07	.01	.08

As it can be observed in the table above, there is a significant difference between the two groups in all the components except in reaction to failure and problem avoidance. As per the descriptive statistics, the addicts obtained higher scores in all the components compared to the normal group.

## Discussion and Conclusion

The present study aimed to determine differences in personality traits, impulsivity, and irrational beliefs between people with substance abuse disorder and normal subjects. The findings of this study showed that there was a significant difference in terms of extraversion between people with substance abuse disorder and normal subjects. This means that the level of extraversion is higher in those taking drugs than in normal people. The results of this study confirmed the results of research conducted by other researchers (Trobest et al., 2002, Ashouri et al., 2009) and suggest that high scores on extraversion scale are correlated with high-risk behaviors such as drug use. The personality trait of extraversion is characterized by sociability and cheerfulness and, thereby, is associated with positive emotions. Extroverted people are active and their nature is in contradiction with stability and inertia (Ashouri et al., 2009). Extroverted people promote positive emotions through various strategies such as substance abuse and risky behaviors (Cooper, Agocha & Sheldon, 2000). Eysenck's theory that criminal and antisocial individuals receive higher scores on extraversion scale has been approved. Based on a set of empirical studies, Eysenck proved

that there are three main factors of extraversion, neuroticism, and psychoticism in personality and extroverted people are more likely to act in an antisocial and lawless fashion since they greatly need excitement and irritability (Alilou, Ismaili, Vahedi & Rezai, 2009). Another finding of the present study was reflective of the existence of a significant difference in terms of neuroticism between people with substance use and normal people; in other words, drug users showed higher levels of neuroticism compared to the normal group. The probable explanation for this hypothesis can be the correlation of high scores in neuroticism with high-risk behaviors such as substance use (Trobest et al., 2002). Ashouri and et al (2009) also demonstrated that there was a positive relationship between feeling of guilt and self-destruction in addicts. Badribooy et al. (1998) showed that high scores in neuroticism was associated with suicide in people with substance abuse. This personality construct is characterized by states of anxiety, depression, feelings of guilt, restlessness and moodiness, and emotional instability. Eysenck believes that these people are chronically infected with utmost sensitivity (cited in Ashouri et al., 2009). To account for this finding, one can refer to the availability of the relationship between neuroticism and negative emotions. Neurotic individuals are prone to drug use and risky behaviors for dealing with negative emotional states. Individuals with high neuroticism have more irritable autonomic nervous system compared to normal people. In fact, high neuroticism is correlated with extreme reactivity and psychic instability. Also, a significant difference was found between people with substance abuse disorder and normal subjects in terms of psychoticism. This means that psychoticism is found in higher degrees in drug dependent people compared to normal people. Eysenck investigated the relationship between the three dimensions of personality and coping styles and came to the conclusion that the increase of psychoticism scores was positively correlated with an increase in emotion-oriented coping styles. Similarly, such people take alcohol and drugs more than other people and their behaviors are antisocial-like. Psychoticism is an important factor for committing crime in adults. The behavior of psychotics is very similar to that of antisocial individuals (Eysenck, 1996; cited in Alilou et al., 2009).

In general, several studies suggest that drug dependence affects all aspects of one's personality (Ghale'iha, Farhadinasab, Zarabian & Main Nia, 2008). Almost in all research on drug dependence, personality traits have been referred to as a factor that affects addicts.

The other research finding here was that there was a significant difference between people with substance abuse disorder and normal subjects in terms of impulsivity which is consistent with the finding of the studies done by Skinner et al. (2004), Bickel et al. (1999), Mitchell (1999), Little (2000). Similarly, Rezvanfard, Ekhtiari, Mokri & Kaviani (2007) concluded that smokers with high dependence showed that a more rapid decrease in delayed value compared with nonsmokers. This means that smokers tend to immediate rewards, though

smaller ones, and display higher impulsivity. In terms of the role of impulsivity and sensation seeking in addictive behavior, many studies have been done. These studies suggest that these factors are effective in the initiation, development, and persistence of drug dependence (Caspi, Roberts & Shiner, 2005).

Kinteborg, Hum & Shalling (1992; cited in Kaynia, 1996) conducted a study on a group of criminals and showed that these people lay in high levels of sensation seeking, a great sense of adventure seeking, and were reckless in embracing risk. There is some convincing clinical evidence that addiction is related with adaptive neural changes in the skeletal frontal networks that are influenced by impulsivity and compulsion related to drugs (Porrino, Smith, Nader & Beveridge, 2007; Porrino et al., 2002; Everitt & Robbins, 2005).

Impulsivity can be evaluated from various aspects, including risk-taking. Risk-taking is referred to as tendency to do the things that are associated with some degree of positive and negative consequences (Jessor, 1998). Due to the harmful effects of drug use, drug use can be classified in high-risk behaviors. From the neurological perspective, brain imaging studies suggest that the two following areas of prefrontal cortex are affected by long-term use of drugs: anterior cingulate and orbital frontal cortex. These two areas are responsible for the final decision making and judgment about impulse and reward, the consequent ethical considerations, and the creation of balance between them. Accordingly, it is decided whether to act on impulse or not. Today, it has been proved that the dysfunction of these areas, especially orbital frontal cortex has a prominent role in control of impulsive behaviors and these disorders are viewed as key features of neuronal pathology (Fakhraee, 2008). Based on orbital frontal dysfunction model, smoking is followed by personality traits such as extraversion, impulsivity, risk-taking, novelty seeking, monotony avoidance, and antisocial personality (Rezvanfard et al., 2007).

The other finding of the study is that a significant difference was found between people with substance abuse and ordinary people in terms of irrational beliefs. Haj Husseini & Akhavan Tafti (2003) reported that attributional style in young addicts is more pessimistic than in young non-addicts. Irrational beliefs are desires and goals that are viewed in the form of essential priorities so that confusion and anxiety will appear if these goals are not met. Studies have shown that people who focus on irrational beliefs in life will confront more difficult situations in life and it is difficult for them to achieve happiness (Yakelsun & Simeno, 1976; cited in Mobaraki, 2011). In fact, the results of this study confirm Ellis's Rational Behavior Emotive Therapy approach. Ellis considers his approach a global perspective and believes his 11-fold irrational beliefs may exist in all humans. According to Ellis and Beck's view, the existence of several common irrational beliefs and attitudes in drug abusers leads to low tolerance of frustration and, thereby, negative emotions such as anger and sadness arise. One of these irrational beliefs is that things should always go on in line with desires. When one expects everything to be of his/her own accord, she/he will become

irritable and agitated and ignores other ways of goal satisfaction if she/he is faced with the smallest obstacles. In such a situation, these people tend to substance abuse in order to deal with problems and tension; therefore, high negative mood which is the underlying cause of substance abuse is directly related with irrational beliefs (Mobaraki, 2011). Addicts often attribute their addiction to uncontrollable craving for drug use, but inefficient thoughts intensify craving. A very important factor in psychological dependence of patients is the belief that abstention from drug use will cause intolerable side effects. Another fundamental belief is the feeling of inability in control of drug use craving among addicts. Cognitive therapy is a psychotherapeutic system that tries to change maladaptive and dysfunctional beliefs and behaviors and teach control methods. The most important limitation of this study was the employment of self-report instruments for investigating the variables of the study. In addition, since the sample of the study included the men hospitalized in rehabilitation centers, generalization of the results to other groups with substance abuse disorder should be done with care and caution. The infeasibility of comparing gender differences and the low sample size were the other limitations of this study. It is suggested that similar studies be conducted on larger samples and in other patient groups, with the inclusion of other personality traits, if possible.

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