

Comparison of Alexithymia, Self-Harm Behavior and Emotional Processing in Mono-Substance-Dependent Individuals and Normal Individuals

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Abstract-The aim of the current research is to compare alexithymia, self-harm behavior and emotional processing in mono-substance-dependent individuals and normal individuals. The research method is causal-comparative. The population of the research includes mono-substance-dependent individuals hospitalized in substance withdrawal centers in 2015 in Yasuj city. The sample of the research comprises 50 mono-substance-dependent individuals hospitalized in substance withdrawal centers in Yasuj city and 50 healthy individuals which were selected on convenience sampling. The research instruments include alexithymia scale, self-harm behavior questionnaire and emotional processing scale. To analyze data, independent t-test method was used. Results of the research showed that there is a significant relationship between mono-substance-dependent individuals and normal individuals in terms of alexithymia, self-harm behavior and emotion processing which, in general, mono-substance dependent-individuals have higher mean in alexithymia, self-harm behavior and emotion processing than healthy individuals.

Keywords- *Alexithymia, Self-Harm Behavior, Emotional Processing, Mono-Substance -Dependent Individuals*

I. INTRODUCTION

Substance abuse, regardless of what angle from which it is viewed, is a chronic phenomenon which causes a lot of physical, psychological, social, familial and economical harms so that the suffered person faces serious decline in individual and social functions. In Diagnostic and Statistical Manual of Mental Disorders-IV-TR (DSM -IV-TR), substance abuse is a non-conforming substance use pattern which leads to frequent problems and undesirable consequences (such as substance use in dangerous situations as well as legal, social and legal issues (Poorafkari, 2007).

One of the variables which is disordered in substance dependent-individuals is emotional processing. From Rachman's viewpoint, emotional processing is a process whereby emotional turmoils are absorbed or decreased and other experiences and non-disordered behaviors continue.

Rachman points out that when most individuals deal with the most of disordered incidents and events successfully in life, emotional processing occurs within them. Many evidences show that emotional regulations and processing are associated with success or failure in various areas of life (Schutte, Malouf, Thorsteinsson, Bhullar & Rooke, 2007; Jakobs, 2008; Parker, Taylor, Eastbrook, Schell & Wood, 2008). The low level of emotional regulation which is due to inability in coping with and managing emotions effectively plays role in substance use initiation (Goleman, 1995; Parker et al., 2008). Also, evidence suggest that the process of emotional processing in substance and alcohol-dependent -individuals is harmed and these individuals have problems with the identification of emotional facial expressions. Also, the low emotional intelligence is a characteristic of these individuals (Garcia et al., 2006). Substance dependent individuals have main weakness in self-regulation strategies, emotional processing and consciousness (Kornreich et al., 2003). Hence, the main question of the current research is: is there any difference between mono-substance, two- substance, poly-substance-dependent -individuals and normal individuals in alexithymic, emotional processing and self-harm behavior variables?

Comparison of alexithymia, self-harm behavior and emotional processing variables in mono-substance -dependent individuals and normal individuals, comparison of alexithymia in mono-substance-dependent individuals and normal individuals, comparison of self-harm behaviors in mono-substance-dependent individuals and normal individuals, comparison of emotional processing in mono-substance -dependent individuals and normal individuals.

II. CONCEPTUAL DEFINITIONS

Substance abuse: Substance abuse is a pattern of maladaptive substance use which is characterized by significant, undesirable and relapsing consequences related to frequent substance use. In order that a criterion to be complied with abuse, substance-related problems should occur frequently or continue over a 12-month period. Person may face frequent

failure in his or her main duties, use substance frequently in situations that are physically dangerous, create legal problems, which leads to frequent social and interpersonal problems. (American Psychiatric Association, as cited in Poorafkari, 2007).

Alexithymia: Alexithymia is said to have difficulty with self-regulation and inability to process emotional information cognitively (Bagby and Taylor, 2003). Alexithymia is a multidimensional feature based on poverty in imaginations, difficulty in explaining or naming feelings, difficulty in recognizing feelings of physical sensations surrounding an event and external event.

Self-harm behavior: Self-harm behavior is any activity, either directly or indirectly, which is implemented on person by himself/herself with no intention of suicide, it is a phenomenon which still has not obtained many findings with respect to its cause and it is like an incomplete puzzle. Actions such as burning, cutting and self-mutilating are characteristics of self-harm behavior (Favazza, 2007). Self-harm behaviors are distinguished from acts intended to suicide, mental disorders, mental retardations and physical disabilities.

Emotional processing: Emotional processing is a return to non-patient behavior after emotional turbulence reduction.

III. RISKY MENTAL FACTORS

Substance-dependent individuals compared to another individual, have more psychological issues and predicaments, although it has been specified that depression disorders or anxiety are known to be the most common illness among substance dependent individuals. In addition to the experience and high level of tolerance to worry or depression in substance-dependent individuals, there is a vulnerability to other mental disorders such as disorders associated with eating (severe anorexia or decreased appetite) in these individuals (Trasiporian, 2009).

IV. SUBSTANCE-DEPENDENCE CONSEQUENCES

A. *Medical problems*

Individuals, who use strong substances such as heroin, cocaine, and crack, are exposed to unknown health risks related to using these substances. In these cases, death is due to overdose, physical and mental deterioration, malnutrition, high blood pressure, infections and diseases due to infected needles and impurity of drugs (Botvin and G.J, Griffin, 2008).

B. *Social consequences*

Substance use affects negatively individuals and their families. Because of being substance-dependent, these individuals may pay two heavy additional penalties for: First, to earn money enough to finance substance costs, many individuals tend to do their prostitution, women for sales, daughter for sales. Second, their substance use makes them accept this risk (Yunesi and Mohammadi, 2001).

V. RATIONAL EMOTIVE THERAPY THEORY

The cognitive perspective, which has a long history in psychotherapy, has various approaches. Rational emotive behavior therapy approach is one of the most popular approaches to this perspective. This approach was first introduced by Albert Ellis as rational emotive therapy and finally as rational emotive behavior therapy in 90s to the world of psychotherapy (Dryden, 2008). The main principles of rational emotive therapy can be expressed simply that emotion is result of person's interpretation of an event rather than the event itself. Yet, the way in which it changes the individual's beliefs depends on whether beliefs could be rational or irrational. Irrational and irrational thoughts lead to problems such as self-blame, aggression, harm, feelings of guilt and shame from anxiety, behaviors such as evading, social behaviors of addiction and isolation (Allis, 2003).

VI. GROUP THERAPY OF SUBSTANCE-DEPENDENT INDIVIDUALS WITH RATIONAL EMOTIVE APPROACH

Definition of Group Therapy: Basically group therapy is a pure branch of the individual therapy has long been regarded as a secondary therapy. However, over the years, there has been an increasing number of advanced forms of group therapy that have notable and unique group benefits. As a result, the group therapy has become an effective therapeutic approach within the framework of its norms. Being truly worthwhile therapeutic treatment, group therapy provides a wider range of therapeutic benefits than individual therapy. These definitions have common yet different points, and in all definitions, the emphasis has been on the convening of more than two individuals for the formation of the group. Also, the interaction, action and reaction between the members and the purposefulness are included in common facets of the provided definitions. Based on these definitions, it can be said that it is a convening group with more than two people that share common goals and interactions. Moreover, they are interested in their needs and satisfaction and follow certain rules and regulations. Furthermore, rapport and intimacy are governed by them and they are united to achieve common goals. (Pakdel and Soltani, 2004).

VII. GROUP THERAPY OF SUBSTANCE-DEPENDENT INDIVIDUALS

In group therapy, substance-dependent individuals are focused on the members' capacity to set goals for therapy, including controlled use, complete avoidance and prevention of disease relapse. The purpose of the group therapy is creating a fundamental change in substance-dependent person's lifestyle, including the avoiding drugs, growing individual honesty and beneficial social skills, eliminating and overwhelming illegal behavior and anti-social tendencies. (Khadiviy Zand, 2003). Group therapist should regard the group as a social division, observe all theories of the system, consider behavioral interactions between the members in sessions. Also, it should be noted that the main goal of the group therapy sessions is to

make the patient adapt to the non-substance use society and resist against life's problems (Liaghat, 2006).

So, the benefits of Group Therapy for Substance-Dependent Individuals are:

- a. When people share a common illness and pain, they are convening, feeling togetherness and unity. So, this state makes patient exit from solitude and isolation.
- b. Group members pay attention to each other, understand each other and empathy with other because they sympathize with each other. Also, when someone in the group succeeds in carrying out a duty and finds a solution to his/her problem, all groups members model him/her. This imitation may be conscious or unconscious. The successful people of each group would attract others so that their improvement speed increases.
- c. In this group, there is an opportunity to examine interpersonal interactions and the group is a sample of population. Therefore, the therapist cannot examine and modify patient behavior in the group as an example of his/her social behavior.

VIII. ALEXITHYMIA AND PREVALENCE OF ALEXITHYMIA

In 1948, a psychiatrist named Jurgen Ruesch noticed that patients with psychosomatic disorders (psychosomatic disorders means physical illnesses in which mental and stressing factors contributing to their development or exacerbation, such as duodenal ulcer, asthma, high blood pressure, etc.) are unable to recognize their feelings and unable to talk easily about their feelings. Also, these people are weak in fantasy and imagination. A few years later, the famous American psychologist Karen Horney spoke of patients who did not respond well to psycho-therapies because they were unaware of their emotional experiences and did not know their emotions. People with alexithymia complain of physical symptoms rather than speaking of their feelings. In other words, they display their emotions with physical symptoms. Physicians are completely familiar with this experience, especially in societies such as Iran where most people with anxiety and depression disorders refer to clinics with physical complaints and sporadic pains since they do not know their main problems have the psychological aspect, which stems from the suppression of feelings, especially the unpleasant emotions. These patients usually find themselves physically ill and often seek medical treatments. Although frequent referrals and laboratory tests do not corroborate the physical cause of their illness and ultimately these patients are referred to psychiatric specialists, these patients believe that their disease is physical. According to the scientific definition, alexithymia has four basic characteristics (Shahgholian, Moradi, Kafi, 2007).

- a. The inability to identify and distinguish their feelings, as well as the inability to distinguish physical problems from psychological problems
- b. The inability to express affections and feelings to others.
- c. Weak imagination or little fantasy in daily life.

- d. A specific pattern in thought and reflection so that the individual is more focused on the whole and is incapable of paying attention to details and accuracy in subtle points.

With respect to the performed researches, various results have been obtained regarding the level of alexithymia and its relation with age, sex, and level of education. Some findings have shown that alexithymia is seen at an older age and in men. For example, in a study, the prevalence of alexithymia in men was 9-17% and in women was reported 5-10% (as cited in Mehrabizadeh, Afshari and Davoudi, 2010). It was also found that the lower the level of education, the higher level of alexithymia increases. One explanation for the greater prevalence of alexithymia in men is that men are verbally weaker than women, therefore, they have more problems in describing their feelings verbally; on the other hand, given that women are emotional, they can experience and recognize their affections and emotions and describe them to others (Verest & Bermond, 2001; as cited in Heshmati, Ghorbani, Rostami et al., 2010).

IX. SELF-HARM TREATMENT

A. Discussion about Self-Harm Treatment

One of the risks associated with self-harm is to be drug-dependent. Furthermore, when self-mutilation is habitual, it's very difficult to withdraw it. Like other addictions, self-harm requires professional help and treatment. It is essential to find a doctor who specializes in self-harm.

- a) The use of tricyclic antidepressants in severe depression can reduce the desire for self-harm
- b) Cognitive-Behavioral Therapy: (A kind of psychotherapy) it can teach a person to control their feelings healthily.
- c) The history of abuse or incest can lead a person to harmful behaviors. In these cases, treatments used to treat a post-traumatic stress disorder are also effective for self-harm.
- d) Hypnosis and other relaxation techniques can help reduce stress which causes self-mutilation.
- e) The group therapy can reduce shame and embarrassment stemming from self-harm. Also, it makes the person has feeling of proper catharsis.
- f) Family therapy can help a person in two directions: First, history or memories that stress the person are not addressed in the family. Second, family members learn to interact without bias and judgment (Morgan, Krueger & Watson, 2009).

B. Self-Harm Behavior in Substance-Dependent Individuals

The stimulants of the nervous system on one hand and the suppressors of the of the nervous system functioning (opiates) on the other hand, can have psycho-motor effects on person and can predispose a person to harm, in particular, to harm themselves (Soroush et al, 2006). Self-harm behavior is a behavior that results from injury, physical or psychological harm, and violent behavior towards oneself. Harmful behaviors (self-harm) and amputation are known as these behaviors

(Gelder, 2001). Substance abuse also affects the sensory and motor system, judgment and reasoning of the individual, and put him/her in danger of self-harm. Individuals who were exposed to self-harm behaviors were reported that they began to harm themselves after being addicted (RANZCP, 2005).

In one of the studies aimed at understanding the relationship between feelings, sexual behavior and four drugs and stimulants (cocaine, methamphetamine, opium, and alcohol) the sexual behavior inventory with a group of men and women consisting of 188 opium-dependent people, 19 cocaine and crystal meth-dependent people, 91 alcohol-dependent people was used. The mean age of participants was 34 years and 1% of them were male and the mean number of educational years was 14 years. The results showed that opium users, compared with other drug users, believed less that thoughts, feelings, sexual desire and the likelihood of their sexual activity increased with drug use. They also believed less that the obsessive and extreme use of drugs engages the person with sex. The likelihood of having unusual high-risk sexual behavior was lesser in them. Also, they felt the need for treatment less than other groups. However, methamphetamine users (crystal meth) believed that their sexual performance and pleasure increases with drug use and they believe more than other users that sexual relationship and methamphetamine use were firmly linked to each other. Cocaine users also believed that their substance use engaged them with sex obsessively and extremely. Moreover, there was a strong relationship between cocaine use and their sexual behavior (Rawson, R.A; washton et al., 2002).

X. METHOD, RESEARCH VARIABLES AND ANALYSIS

A. research method

The research method used in this research is causal-comparative. In this method, the researcher seeks to explore the relationship between specific factors or the type of behavior that has already existed or occurred through the study of their obtained results. In other words, the researcher is looking for the possibility of cause and effect relationships through observing and studying the existing results and their previous background with the hope of finding the cause of the phenomenon occurrence or the cause of the action (Delawar, 2001). Thus, two groups of substance-dependent individuals (mono-substance) and normal individuals were compared in terms of alexithymic, self-harm behaviors and emotional processing variables.

B. Population, Sample, Sampling Method and Sample Size

The population of the current research consists of substance-dependent people (mono-substance) hospitalized in withdrawal centers in Yasuj in 2015 and they passed detoxification stage. The sample of the study is 50 mono-substance-dependent individuals hospitalized in withdrawal centers in Yasuj in 2015 and 50 healthy individuals who were selected from detoxified individuals on convenience sampling. The normal group was selected from non-drug addicts' families as the comparison group. According to the Morgan's Table, the appropriate sample for the research of such population size is

approximately 50 people. Furthermore, Groups were also matched in terms of age, education, and marital status.

C. Criteria to participate in the research

Substance-dependent to one drug (crystal meth, heroin and opium, crack, etc.) 2. Passing the detoxification stage 3. Age range of 15-45 years 4. The range of education from middle school to the bachelor's degree 5. Lack of mental retardation or brain damage 6. Lack of chronic psychological and physical illness.

D. Instruments

In this research the instruments are:

a) Alexithymia scale: Alexithymia Toronto Scale for children and adolescents was taken from the original version of the Alexithymia Scale for Adults (Bagby, Parker, Taylor, 1994) which was created by Rieffe, Oosterveld and Meerum (2006). The questionnaire has 20 items, which is answered on three scales (completely, to some extent and by no means) Also, it measures three factors for the inability to identify feelings, the inability to describe feelings, and the objective thinking style. The Cronbach's alpha coefficient was obtained 0.75. The correlation coefficient of the subscales of this test with the checklist of psychological symptoms were reported in the range from 0.17 to 0.48 (Rieffe et al., 2006). In the Persian version of the alexithymia scale, Cronbach's alpha coefficients for total alexithymia and three sub-scales of difficulty in identifying feelings, difficulty in expressing feelings and objective thinking were 0.85, 0.82, 0.75, and 0.72, respectively. Test-retest reliability of alexithymia scale in a sample of 67 subjects in two rounds with a four-week interval from ($r = 0.80$) to ($r = 0.87$) for the total alexithymia and the different subscales were confirmed. The concurrent validity of the alexithymia scale, in terms of the correlation between the subscales of this test and the scales of emotional intelligence, psychological well-being and psychological distress was confirmed. The results of Pearson's correlation coefficients showed that there is a significant correlation between the score of the subjects in the total alexithymia scale with emotional intelligence ($P < 0.000$, $r = -0.80$), psychological well-being ($P < 0.001$, $r = -0.78$) and psychological distress ($P < 0.001$, $r = -0.44$). The correlation coefficients between the subscales of alexithymia and the above variables were also significant. The results of confirmatory factor analysis also confirm the existence of three factors of difficulty in identifying feelings, difficulty in describing feelings and objective thinking in the Persian version of the alexithymia scale (Besharat, 2007).

b) Self-harm behavior: This scale is made by Gratz (2001) and has 44 items. Subjects answer the questions correctly and falsely. Cronbach's alpha coefficient and its test-retest were reported 0.85 and 0.74, respectively.

c) Emotional Processing Scale: Emotional Processing Scale (Baker et al., 2007) is a self-reporting scale of 38 items used to measure emotional processing styles. Each substance is graded according to Likert scales (from totally I disagree to totally I agree). This scale has 8 components (harassment, suppression, lack of awareness, non-control, separation, avoidances, disturbance and external factors). Psychometric properties are promising in the revised version, especially with

regard to specifying the difference between groups. The Cronbach's alpha coefficients and the test-retest of this scale were 0.92 and 0.79, respectively. In order to determine the coefficient of validity, this scale was correlated with the emotional regulation. The results showed that there is a significant negative correlation between these two scales ($r = 0.54$). In the preliminary study which was performed on 40 university students, the coefficient of validity was obtained 0.77. The Cronbach's alpha coefficient in the present study is calculated 0.95 (Lotfi, 2010).

d) Addiction severity index: This index was developed by Reelick et al. (2006) and has 28 substances. This indicator is answered as yes or no. Cronbach's alpha coefficients are obtained 0.87. The coefficient of validity is reported as satisfactory.

E. Research Variables

- Independent variable: The condition of subjects (being mono-substance-dependent and being normal)
- Dependent: Self-harming behavior alexithymia and emotional processing
- Control: Age, education, sex and marital status

In this study, substance-dependence (mono-substance) and being normal are considered as independent variables, and self-harming behaviors and emotional processing were considered as dependent variables. Groups are also matched in terms of age, education, and marital status.

F. Procedure

A letter of introduction from the Islamic Azad University-Yasuj branch was provided. Then the researcher attended withdrawal centers, hospitals, private clinics of psychiatrists and physicians in Yasuj city. The subjects were interviewed and tested. A questionnaire was used to collect required information. After providing list of substance-dependent people and normal people and selecting them, the purpose of the research was first expressed to them. Then research tests were given to them and they were asked to comment carefully. The data were collected individually and at withdrawal centers' location, hospitals or private clinics of psychiatrists and physicians. Then, the data were analyzed using SPSS.

XI. DESCRIPTION AND ANALYSIS

A. Data Analysis

To analyze data, descriptive statistics (mean, standard deviation, etc.) and inferential statistics (for all three independent t-test hypotheses) were used. Data was analyzed by SPSS version 20.

B. Descriptive Findings

As shown in below table, the mean age of mono-substance-dependent individuals is 35.21 and the mean age of normal individuals is 36.10.

TABLE I. THE MEAN AND STANDARD DEVIATION OF AGE VARIABLE IN TWO GROUPS OF MONO-SUBSTANCE-DEPENDENT INDIVIDUALS AND NORMAL INDIVIDUALS

Variable	Group	Mean	Standard Deviation
Age	mono-substance-dependent individuals	35.21	6.96
	normal individuals	36.10	6.77

TABLE II. MEAN AND STANDARD DEVIATION OF ALEXITHYMIA, SELF-HARMING AND EMOTIONAL PROCESSING VARIABLES IN TWO GROUPS

Variable	Group	Mean	Standard Deviation
Alexithymia	Mono-substance-dependent individuals	40.33	5.85
	Normal individuals	24.97	2.84
Self-harm	Mono-substance-dependent individuals	25.28	4.27
	Normal individuals	14.66	2.29
Emotional processing	Mono-substance-dependent individuals	60.20	11.60
	Normal individuals	38.46	5.70

As shown in Table 2, the mean age of mono-substance-dependent individuals and healthy individuals for the alexithymia variable is 40.33 and 24.97, in the self-harm variable is 25.28 and 14.66 and in the emotional processing, variable is 60.20 and 38.46 respectively.

C. Findings Related to Hypotheses

As shown in below table, the z-values of Kolmogorov-Smirnov for the alexithymia self-harm and emotional processing variables are equal to 0.165, 0.142 and 0.159 respectively which are not at significance level ($P \geq 0.05$), that is, the distribution of variables among the sample with its distribution in the population is normal.

TABLE III. ONE SAMPLE KOLMOGOROV-SMIRNOV TEST FOR NORMALITY ASSUMPTION OF RESEARCH VARIABLES

Test	Alexithymia	Self-harm	Emotional processing
Kolmogorov-Smirnov test	0.165	0.142	0.159
The significance level	0.35	0.50	0.51

D. Hypothesis Testing

First hypothesis: There is a difference between mono-substance-dependent individuals and normal individuals in terms of alexithymia.

TABLE IV. INDEPENDENT T BETWEEN TWO GROUPS OF MONO-SUBSTANCE-DEPENDENT INDIVIDUALS AND NORMAL GROUP IN THE ALEXITHYMIA VARIABLE

Variable	Levene's test for equality of variances			Independent t-test for the means		
	F	Sig	t	df	Sig	Mean differences
Alexithymia	28.86	0.23	20.42	148	0.00	15.36

As shown in Table 4, Levene's test ($F = 28.86$) is not significant at ($P > 0.05$), which indicates that the variance of the alexithymia variable is equal in the two groups. Also, first hypothesis, that is, "there is a difference between mono-substance-dependent individuals and normal individuals in terms of alexithymia", was confirmed at ($P \leq 0.01$) level, that is, the null hypothesis is rejected and alternative hypothesis is on the ground that there is a significant difference between the mono-substance-dependent individuals group and the control group in terms of the alexithymia.

Second hypothesis: There is a difference between the mono-substance-dependent individuals and normal people in terms of self-harm behaviors.

TABLE V. INDEPENDENT T BETWEEN TWO GROUPS OF MONO-SUBSTANCE-DEPENDENT INDIVIDUALS AND THE NORMAL GROUP IN THE SELF-HARM BEHAVIOR

Variable	Levene's test for equality of variances			Independent t-test for the means		
	F	Sig	t	df	Sig	Mean differences
Self-harm behavior	18.54	0.35	18.94	148	0.00	10.61

As shown in Table 5, the Levene's test ($F = 18.54$) is not significant at ($P > 0.05$), which indicates that the variance of self-harm behavior variable in the two groups is equal. Also, second hypothesis, that is, "there is a difference between the mono-substance-dependent individuals and normal people in terms of self-harm behaviors", was confirmed at ($P \leq 0.01$) level, that is, the null hypothesis is rejected and alternative hypothesis is on the ground that there is a significant difference between the mono-substance-dependent individuals group and the control group in terms of the self-harm behavior.

Third hypothesis: There is a difference between mono-substance-dependent individuals and normal people in terms of emotional processing.

TABLE VI. INDEPENDENT T BETWEEN TWO GROUPS OF MONO-SUBSTANCE-DEPENDENT INDIVIDUALS AND THE NORMAL GROUP IN THE EMOTIONAL PROCESSING VARIABLE

Variable	Levene's test for equality of variances			Independent t-test for the means		
	F	Sig	t	df	Sig	Mean differences
Emotional processing	35.08	0.07	16.56	148	0.00	24.73

As displayed in Table 6, the Levene's test ($F = 35.08$) is not significant at ($P > 0.05$), which indicates that the variance of emotional processing variable in the two groups is equal. Also, third hypothesis, that is, "there is a difference between mono-substance-dependent individuals and normal people in terms of emotional processing", was confirmed at ($P \leq 0.01$) level, that is, the null hypothesis is rejected and alternative hypothesis is on the ground that there is a significant difference between the mono-substance-dependent individuals group and the control group in terms of emotional processing.

XII. RESULT AND DISCUSSION

Based on the findings of the current research, the first hypothesis, that is, "there is a difference between mono-substance-dependent individuals and normal individuals in terms of alexithymia," was confirmed. The results obtained from this study are consistent with other studies (Alloy, 2006; Baver, 2009; Besharat, 2008; Mazaheri et al., 2010; Berwin, 2009), which suggests that there is a significant difference between mono-substance-dependent individuals and normal people in terms of alexithymia. The results of the study showed that the mean of alexithymia scores between mono-substance-dependent individuals and normal individuals was significantly higher. In explaining this finding, it can be said that alexithymic people tend to use substance to overcome affective states and to reduce their anxiety (Garcia, 2001). Also, alexithymia has a positive relationship with neuroticism, depression, anxiety, neurosis and introversion, and has a negative relationship with extroversion and socialization (Garcia, 2003). This can be a reason for drug addiction in these individuals. Also, according to the results of studies that parents' inadequacy could play a role in the formation of alexithymia in children, the role of the family can be considered as an important factor in the addiction of these individuals (Garcia, 2003). Childhood upbringing and the role of parents, especially mothers, in the formation of the child's personality in adulthood is very important and finally, it is one of the possible reasons for people tendency to use substance, widespread problems and shortcomings in the domain of emotion. Emotional deficiency of people in facing with stressful events is the core of psychopathology. Also, another possible reason is that they want to relax from annoying emotional and laborious states. In other words, they use substance use as an avoidant, negative, and ineffective coping strategy to reduce their problems (Cooper et al., 1992). People with a history of depression along with alcohol and drug abuse show a higher degree of alexithymia than non-addicted patients without a history of depression (Coleman, Hinds & Anderson, 1998). So, it can be concluded that alexithymia is closely related to the symptoms of depression. Therefore, it is likely that alexithymia is not directly predictive of addiction, however, symptoms of depression may be as a mediator between alexithymia and psychological disorders, disorders caused by drug and alcohol abuse (Garnefski, 2009). Kornreich et al. (2003) investigated "impaired emotional facial expression recognition in alcoholics, opiate dependence subjects, methadone-maintained subjects and mixed alcohol-opiate antecedents subjects compared with normal controls". To this end, 11 photos with feelings of joy, anger, grief and hatred contents were given to five groups of 30 people. The groups included recently detoxified alcoholics, drug addicts receiving methadone, detoxified addicts, detoxified alcohol and drug dependent people, and control group. The results suggest low scores in detoxified alcoholics, detoxified substance and alcoholic-dependent individuals compared to methadone recipients and detoxified substance-dependent individuals. All four scores were lower than the control group. The previous results also obtained impaired emotional facial expression in alcoholics, which confirmed the scores of the first two groups. Baver (2009) states that alexithymia is closely related to depression symptoms, and depression symptoms act as

mediators between alexithymia and psychosomatic diseases and substance abuse disorder. Research evidence suggests that alexithymia plays an important role in emergence of substance use (Martin et al., 2009).

Also, the second hypothesis of the research, that is, "there is a difference between the mono-substance-dependent individuals and normal people in terms of self-harm behaviors," was confirmed. The results obtained from this study, were consistent with other researchers (Jastik et al., 2005; Rodriguez, 2001; Bayro et al. 2003; Evren and Evren, 2005; Stephen T. Chermac, 2010; A.L Sakliadiz, 2010; Taraghi Jah and Najafi, 2008; Shayan et al., 2010) and suggest that there is a significant difference between mono-substance-dependent individuals and normal individuals in terms of self-harm behavior. The results of the study showed that the mean scores of self-harm behaviors between substance-dependent individuals and normal individuals were significantly higher. In explaining this finding, it can be said that, according to Rachman (1980), individuals with disordered emotional processing have problems such as neurosis, introversion, insomnia, fatigue, unhappiness, inability to direct constructive thoughts, obsessive-compulsive disorder, confusing dreams, unpleasant disturbing thoughts, disordered/distressed behaviors, and so on. On the other hand, the inability to deal effectively with emotions and managing them is a factor for the low level of emotional regulation and the onset of drug use (as cited in Parker et al., 2008). Therefore, it can be indicated that people with the above characteristics do not have the ability to regulate and manage their emotions and this is an important factor in starting to use substances. This poor processing can result in less understanding of the negative and harmful consequences of substance use and therefore failure against psychological and social pressures to use substances. Research results suggest that among substance-dependent, psychedelic drug and alcohol-dependent on individuals, childhood harming events and traumatic events of this period are associated with the frequency of self-harm behaviors (Rodriguez, 2010). Alcohol and drugs are considered as one of the important factors in self-harming and even suicidal behavior among adolescents and young people.

Also, the third hypothesis of the research, that is, "there is a difference between mono-substance-dependent individuals and normal people in terms of emotional processing" was confirmed. The results obtained from the current study are consistent with other studies (Garnofsky and Craige, 2006; Garcia et al., 2006; Kashani Movahed, 2005; Khosropoor et al., 2008), which suggests that there is a significant difference between mono-substance-dependent individuals and normal people in terms of emotional processing. In explaining this, it can be said that emotional intelligence is low in substance-dependent individuals and this is a factor in cognitive impairment of these individuals. Substance-dependent individuals have pivotal weakness in recognizing emotional facial expressions, decision making, consciousness strategy and self-regulation and the level of stimulability in these people is higher than normal group. Individuals with emotional problems and weakness in emotional processing have problems with interpersonal relationships, their performance is weak and due

to lack of confirmation and failure, their self-respect is low. Furthermore, their undesirable performance makes them depressed and distressed and in many cases, make them addicted (Rosenblum et al., 2005).

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