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# Cognitive Emotion Regulation Strategies among Regular Persons and Participants in Methadone or Narcotics Anonymous Treatment Programs

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## Abstract<sup>5</sup>

The purpose of the present study was to compare the cognitive emotion regulation strategies among normal persons and persons in methadone or Narcotics Anonymous (NA) treatment programs. This causal-comparable study enrolled all addicted persons from Kangavar, Iran. The study population comprised 80 participants in methadone and NA treatment programs who were divided into two groups of 40 persons per group. Participants were selected by the simple random sampling method. An additional 40 persons were chosen as the normal group. All participants (n=120) answered the Cognition Emotion Regulation Questionnaire (CERQ). The acquired data of the present study showed a significant difference in emotion regulation strategies among the three groups. Further, findings indicated that persons under methadone treatment use emotion regulation strategies more than normal persons and those under NA treatment. Emotions are one of the most important factors that lead persons toward addiction. Therefore, individuals who can use emotion regulation strategies show little tendency toward addiction.

**Keywords:** Cognitive Emotion Regulation, Methadone treatment, Narcotics Anonymous treatment

## 1. Introduction

Today, addiction is one of the most prevalent psychiatric disorders that threatens health, political-economic consistency and the social structure of different countries.

Addiction is a physical, mental, social and spiritual disease (Galanter, 2006). Psychological, social and biological concerns are among the different factors important in the path toward drug dependency (Magid, Colder, Stroud, Nichter, & Nichter, 2009). Recent studies have relied upon risk factors and multiple etiologies rather one etiology. Social factors are important in the path to addiction, however biological and psychological factors are also of importance (Glantz & Pickens, 1992), hence addiction is one of the diseases affected by biological, social and mental dimensions (Khayatipour, Ghorban Shiroudi, & Khalatbari, 2011).

Emotion regulation, as one of the psychological variables, is important according to numerous researchers (Garnefski & Kraaij, 2006). Emotion regulation has been described as an individual's attempt to maintain, control and increase experience and show emotion (Robertson, Daffern, & Bucks, 2012).

Emotion regulation includes strategies that determine the type of emotion, as well as when and how to show that emotion (Szczygieł, Buczny, & Bazińska, 2012). Many studies have researched the role of emotion

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regulation in decreasing stressors (Garnefski & Kraaij, 2006). When a person becomes emotional, optimism and good feeling are insufficient for control of emotions. Having the best cognitive function is necessary for management of one's emotions (Damasio, 1994). Those who use emotion regulation strategies control the type of their experiences. The ability to regulate emotions is known as one feature of emotional intelligence(Bar-On & Parker, 2000).

Yoo, Matsumoto and Le Roux (2006) have stated that emotion regulation is one of the most important factors in predicting positive adjustment. According to Trinidad and Johnson (2002), persons with high emotional regulation are more capable of predicting the needs of others, understand others' unwanted pressures, have better emotional control and therefore show more resistance against addiction. On the other hand, Parker and colleagues (2008) have concluded that low emotional regulation is important in the trend toward addiction. Trinidad and colleagues (2004) state that persons with low emotional regulation tend to use addiction to control their negative emotions. Of note, emotional regulation can be conscious or unconscious, permanent or transient, behavioral or cognitive.

Cognitive regulation of emotion acts upon recalling emotional information(Ochsner & Gross, 2005) and includes all cognitive styles used to increase, decrease or maintain one's emotions(Gross, 2001). The cognitive regulation of emotion is useful in the control or regulation of emotions and causes the creation of adjustment, particularly after negative emotional experiences(Morris, Silk, Steinberg, Myers, & Robinson, 2007).

Two important attitudes in emotion regulation are the regulation strategies that become activated before an accident occurs and strategies that become activated following an accident or after the creation of an emotion. Emotion regulation strategies that become activated before an accident are important for the control of negative emotion(Gross, 1998). Cognitive strategies of emotional regulation are known as the way of person's cognitive processing in dealing with stressors(Samani & Sadeghi, 2010).

Studies have identified nine different strategies of cognitive emotional regulation: self-blame, acceptance, rumination, positive refocusing, refocusing upon planning, attitude of acceptance, positive reappraisal, catastrophizing and other-blame (Garnefski, et al., 2002).

**Table 1: Description of Different Strategies for Regulation of Cognitive Emotion (Garnefski, Koopman, Kraaij, & Ten Cate, 2009)**

<b>Emotion</b>	<b>Regulation strategies</b>	<b>Description</b>
Negative	Self-blame	Recent unpleasant situations occurred because of him/her self
	Other-blame	Recent unpleasant situations occurred because of others
	Rumination	Stressful situations led him / her to have a busy mind
	Catastrophizing	Believes the current situation to be more dangerous than what it actually is.
Positive	Putting into perspective	Decreases the importance of an unpleasant accident via improving the attitude
	Positive refocusing	Remembers his/her positive experiences in dealing with stressful (unpleasant) situations.
	Positive reappraisal	Paying attention to the benefit of experiences resulting from existing situations in dealing with stressful circumstances and emphasizing to their effectiveness.
	Acceptance	Believing that existing situations are inevitable in dealing with stressful circumstances.
	Planning	Planning to decrease negative results in dealing with stressful situations.

Table 1 describes each of the cognitive strategies that regulate emotion. The most prevalent means of cognitive emotion regulation that control stressors include two types. The type 1 strategies consist of negative strategies such as self-blame, other-blame, rumination and catastrophizing. The type 2 strategies include positive strategies such as putting into perspective, positive refocusing, positive reappraisal, acceptance and planning.

According to numerous researchers, cognitive emotional strategies are very important in diagnostic and therapy plans for clinical psychology. Researchers believe that persons with different emotional disorders use different strategies in dealing with stressful situations (Garnefski, Rieffe, Jellesma, Terwogt, & Kraaij, 2007).

Narcotics Anonymous (NA) is an association comprised of individuals whose main purpose is to help persons overcome their addictions in 12 steps. Their association helps persons to re-establish communication with others (Green, Fullilove, & Fullilove, 1998). Of note, In Iran, NA consists of 120,000 addicted persons working toward being healthy. Currently, over 143,000 weekly sessions are conducted in 116 countries in 65 different language (Aliverdinia, 2009).

Research has shown that individuals who adeptly use emotional regulation strategies are more successful in curing period and vice versa (Doran, McChargue, & Cohen, 2007). Parker and colleagues (2008) have indicated that difficult recognition of emotions and having unsuitable effective communication with others results in addiction. They state that addiction is created by having low positive emotional regulation strategies and not being able to effectively control emotions. Foxet al. (2007) have found that regulating, understanding, and managing emotions in addition to controlling impulsiveness, particularly during the first stages of drug dependency is difficult for cocaine users.

Numerous researchers believe that emotional regulation strategies are very important in psychology diagnostic and therapy plans. Difficulty in regulating emotions is known as a result of mismanagement of emotions among addicted persons. In other words, addicted persons use negative emotion regulation strategies.

The purpose of the present study was to compare cognitive emotion regulation strategies in normal persons and those under methadone or NA treatment. Prior research has not emphasized positive and negative cognitive emotion regulation strategies. The intent of this research is to clarify the role of emotion regulation strategies in those with a tendency toward addiction and the identification of constructive and non-constructive treatment strategies.

## **2. Materials and Methods**

This casual-comparable study examined the rate of cognitive emotion regulation among persons undergoing methadone and NA treatments, and normal persons.

### **Sampling Method**

All addicted individuals from Kangavar, Iran were considered for participation. The simple random sampling method was used to divide 80 addicted individuals in to two groups (n=40) of those undergoing methadone and NA treatments. An additional 40 individuals were chosen as the normal group, for a total of 120 participants.

### **Cognition Emotion Regulation Questionnaire (CERQ)**

The Cognition Emotion Regulation Questionnaire (CERQ) was used in this study. This questionnaire was designed by Granefski, Kraaij and Hoven (2007). The CERQ solely pertains to a person's thoughts following negative experiences. The main version of this questionnaire includes nine subscales (self-blame, other-blame, rumination, catastrophizing, putting into perspective, positive refocusing, positive reappraisal, acceptance and planning ) for total 36 items. This questionnaire is scored from 1 (always) to 5 (never). A total score is acquired by 36 items scores which indicates emotion regulation of cognitive strategies (from 36 to 180). In a Persian sample and culture, using back translation strategy, the validity of this questionnaire

according to Cronbach's alpha coefficient has been determined from 79% to 87% (Samani & Sadeghi, 2010; Raza & Hanif, 2013; Ali & Raza 2015).

### 3. Results

Mean age of participants was 33.58 with standard deviation 5.68. As seen in Table 2, the self-regulation total mean among subjects was 87.15 with standard deviation 10.59. The mean and standard deviation for the self-regulation subscales amongst all subjects are shown in Table 1. The entire self-regulation total mean for the normal group was 81.07 with standard deviation 10.64, for the methadone treatment group, it was 95.92 with standard deviation 8.65 and for the NA group, it was 84.47 with standard deviation 7.56.

**Table 2: Mean and Standard Deviation of Self-Regulation and Its Items amongst Subjects**

Emotion	Regulation strategies	Minimum	Maximum	Mean	SD
Negative	Self – blame	4	15	9.88	2/24
	Other – blame	3	10	6.75	1.71
	Rumination	4	15	10.04	2.35
	Catastrophizing	3	15	9.65	2.14
Positive	Putting into perspective	5	15	10.25	2.56
	Positive refocusing	5	15	10.05	1.96
	Positive reappraisal	3	15	9.20	2.54
	Acceptance	4	15	10.49	2.77
	Planning	5	15	10.82	2.51
<b>Total</b>		<b>65</b>	<b>123</b>	<b>87.15</b>	<b>10.95</b>

One-way analysis of variance (ANOVA) was used to compare the rate of self-regulation in the three groups. According to Table 3, a significant difference existed among the rate of self-regulation for the three groups.

**Table 3: ANOVA for Comparing Self-Regulation of the Methadone, NA and Normal Groups**

Source	Sum of Squares	df	Mean squares	F	Significant level
	4842.46	2	2421.23	30.04	0.001
	9427.52	117	80.57		
<b>Total</b>	14269.98	119			

**Table 4: Results of the Scheffe Test for Comparing the Rate of Cognitive Emotion Regulation Strategies in Three Groups**

Groups	Means	Standard error	Significant level
<b>Normal persons – NA group</b>	-3.40	2.007	0.24
<b>NA Group – persons on methadone program</b>	-14.85	2.007	0.001
<b>Normal persons – person in methadone program</b>	-11.45	2.007	0.001

Table 4 shows the results of the Scheffe test. A significant difference existed in the self-regulation mean for the normal and methadone treatment groups. Further, there was a significant difference between the NA and methadone treatment groups. However, no significant difference was observed between the normal and NA groups. The results of this study have confirmed hypothesis one, which states: "There is a difference between the rate of cognitive emotion regulation among the methadone, NA and normal groups". Hence,

persons under treatment with methadone use emotional regulation strategies more than those in the normal and NA groups.

Multivariate of ANOVA (MANOVA) was used for hypothesis two. As seen in Table 5, a significant difference existed among the groups in using cognitive emotion regulation strategies. Hypothesis two, which states: "There is a difference in the rate of using cognitive emotion regulation strategies among persons on methadone program, NA and normal groups" was confirmed. The group under treatment with methadone used negative subscales of emotion regulation more than those in the NA and normal groups. However, normal persons used the rumination subscale more than the other groups. A significant difference was not observed in subscales that included other-blame and catastrophizing among the groups. Those under treatment with methadone used the positive subscales of emotion regulation that included putting into perspective, acceptance and planning refocusing more than the NA and normal groups. However, the NA group used the reappraisal indicator more than the methadone and normal groups. There was no difference in planning refocusing observed among the groups.

**Table 5: MANOVA Comparing the Self-Regulation Subscale among Three Groups**

<b>Emotion regulation strategies</b>	<b>Normal person</b>	<b>Persons on methadone program</b>	<b>NA persons</b>		
<b>Subscales</b>	<b>M±S</b>	<b>M±S</b>	<b>M±S</b>	<b>F</b>	<b>Significant level</b>
<b>Negative</b>					
Self – blame	9.95±1.94	10.70±2.45	9.00 ±2.01	6.28	0.003
Other- blame	6.57±1.67	6.90±1.86	6.77±1.60	0.36	0.96
Rumination	2.17±8.80	2.07±11.47	2/07(9/90)	15/64	0/001
<b>Positive</b>					
Catastrophizing	9.20±1.95	10.25±2.15	9.50±2.21	2.62	0.07
Putting into perspective	10.22±2.08	11.65±2.82	8.90±1.98	13.96	0.001
Positive refocusing	9.70±1.68	10.52±2.37	9.92±1.70	2.04	0.13
Positive reappraisal	8.20±2.05	8.95±2.74	10.45±2.31	9.19	0.001
Acceptance	9.25±2.45	13.05±2.09	9.17±2/45	44.09	0.001
Planning refocusing	9.17±2.24	12.45±2.20	10.85±1.96)	23.38	0.001

**4. Discussion and Conclusion**

The purpose of the present study was to compare the cognitive emotion regulation strategies among persons treated by methadone and NA, as well as normal persons. According to the results a significant difference existed in emotion regulation strategies among persons treated by methadone, those treated by NA and normal persons. A significant difference existed among the three groups in subscales of rumination, planning refocusing, positive reappraisal, putting into perspective, self-blame and acceptance. However, there was no difference in the subscales of positive refocusing, catastrophizing and other-blame among the groups. Therefore, low emotion regulation resulted in dangerous behaviors such as addiction. This finding was congruent with Parker and colleagues (Parker, et al., 2008) who determined that a low level of emotional

regulation was important in the tendency toward addiction to narcotics (Marlat&Goordoon, 1985). Persons with high emotional regulation were more capable of predicting others' wants, controlled their emotions better and were more resistant against the use of narcotics (Trinidad & Johnson, 2002). In contrast, persons with low emotional regulation tended to abuse narcotics in order to control their negative emotions (Trinidad & Johnson 2002).

It can be stated that emotion regulation strategies are very important in dealing with stressors. When a person feels pressure for abusing narcotics, weak management of emotions increases the probability of abusing those drugs. In contrast, effective management of emotions decreases this probability. Persons with high positive emotional regulation use favorite checking strategies in situations where there is a high probability of abusing narcotics. Those under treatment with methadone receive psychologist services and become familiar with emotional issues, and learn to control emotions in different situations. Therefore, persons under methadone treatment more often use cognitive emotion regulation strategies than persons treated by NA and normal individuals. This finding is congruent with the results by Fox, Hong and Sinha (2008) who have indicated lack of self-awareness and inability to control emotion among narcotic drugs and alcoholism.

The present research specified that difficulties and extensive deficiency of emotions resulted in the abuse of narcotics. Addiction was used as an avoidance checking strategy, which was negative and ineffective in controlling and decreasing their problems. This study concluded that emotional failure against stressors was an important factor in the tendency toward narcotics use. This finding was congruent with a study by Parker, Taylor and Bagby (2001) who showed that difficulty in recognition of emotions in addition to the use of negative emotions against stressors resulted in abuse of narcotics.

Since emotion regulation is known to be an important factor for all individuals, it is clear that distress with emotional regulation may result in mental injury (Amstadter, 2008). According to the present study, a person's tendency to use some cognitive emotion regulation strategies is related to emotional deficiencies. These strategies can predict a person's behaviors in dangerous situations such as abusing narcotics. Cognitive emotion regulatory strategies are cognitive responses to recalling events of emotions that try to regulate the intensity of emotional experiences (Gross, 2009).

It is suggested that a comparison of emotion regulation strategies in the other groups should be performed. In addition, addiction therapists should use effective therapies upon the development of favorite emotion regulation strategies for abusers of narcotics in order to decrease negative clinical results. One of the research limitations is the small number of participants. Therefore, Caution should be taken for generalization of the results.

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