# The Predicting Role of Difficulties in Emotion Regulation and Distress Tolerance in Students' Addiction Potential

**Abstract**

**Objective:** This study aimed to determine the predicting role of difficulties in emotion regulation and distress tolerance in addiction potential of university students. **Method**: The study sample included 180 students of Allameh Tabatabaei University (82 males and 88 females) who were selected randomly. For this correlational study, the Addiction Potential Scale, Difficulties in Emotion Regulation Scale, and Distress Tolerance Scale (Simons & Gaher, 2005) were distributed among selected sample. **Results**: The results showed that difficulties in emotion regulation and its subscales could predict 37.5 percent of addiction potential wherein lack of emotional clarity, had the most prominent role. Also, distress tolerance was not significantly related to addiction potential. **Conclusion**: According to the results, it can be mentioned that students' training in emotion regulation is a contributory factor in the prevention of addiction.

**Keywords**

Addiction Potential, Distress Tolerance, Difficulties in Emotion Regulation

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**Introduction**

Substance abuse disorders have given rise to in a serious clinically concern along with significant economic, social, and personal costs that cause high self-destructive and harmful levels to health such as suicide attempts (Mino, Bousquet & Broers, 1999), intravenous drug use (Dinwiddie, Reich & Cloninger, 1992), and high-risk sexual behaviors (Langer & Tubman, 1997 & Gratz & Tull, 2010). Every year a large number of drug-dependent persons lose their lives through direct and indirect consequences of drug use (Martin, Weinberg & Bealer, 2007). Different models and theories representative of biological, social, and environmental factors have been proposed in terms of addiction (Ayvasik & Sumer, 2010). Khantzian's self-medication theory considers this issue from a psychological perspective (1997). Khantzian has not overlooked other biological, social and cultural aspects of drug dependence, but vies them as contributory factors to other theories. Khantzian believes that drug users utilize physiological and psychological properties of the substances used to achieve emotional stability since they describe negative emotions and restlessness as unbearable and frustrating and are unable to manage these emotional states without relying on substance. According to this theory, drug addiction is considered as an instrument for the regulation of stressful emotions. This theory assumes that many people turn to addiction due to the low distress tolerance and impaired emotional regulation (Khantzian, 1997, 1993; Suh, Ruffins & Robins, 2008; cited in Azizi, Mirzayi & Shams, 2010).

Emotion regulation is considered as the processes through which individuals respond to environmentally conscious and unconscious expectations (Aldao, Nolen- Hoeksema & Schweizer, 2010). Failure in the regulation of emotion is referred to as dysregulation. Affect dysregulation is defined as maladaptive methods of responding to emotions that include unwelcome responses, difficulty in controlling behavior in the context of emotional distress, and failure in the functional use of emotions as information (Gratz & Roemer, 2004). There is a variety of physiological disorders and symptoms that are associated with affect dysregulation, such as: 1) Pain, 2) Smoking, 3) Cutting 4) Eating disorders and 5) Addiction (Macklem, 2007; translated by Kiani & Bahrami, 2011). Similarly, a number of studies have shown that difficulties in emotion regulation are interrelated with a wide range of disorders, including substance abuse (Hayes, Wilson, Gifford, Follette & Strosahl, 1996), pervasive anxiety disorder (Mennin , Heimberg, Turk & Fresco, 2002), and posttraumatic stress disorder (Cloitre, 1998; Gratz & Roemer, 2004). People who have undergone weak emotion regulation strategies are more likely than others susceptible to high-risk behaviors as a means to relieve negative emotions (Auerbach, Abela & Ringo Ho, 2007).

Distress tolerance is among the common scales for research on affect dysregulation. Distress tolerance has been defined as one's ability to experience

negative emotional states and tolerate them (Si Simons & Gaher, 2005). In fact, distress tolerance is a variable of individual differences that refers to the capacity of experience and resistance against emotional distress (O'Cleirigh, Ironson & Smits, 2007). Distress tolerance has been increasingly observed in the development of new insights about the initiation and maintenance of trauma, as well as prevention and treatment of addiction (Zvolen-Sky & Otto, 2007; cited in Bernstein, Vujanovic, 2011). People with low distress tolerance are engaged in dysregulation behavior in a misguided attempt to deal with negative emotions (Keough, Riccardi, Timpano, Mitchell & Schmidt, 2010) and seek to relieve their emotional pain with turning to destructive behaviors such as drug use. An emotion-based coping strategy such as alcohol abuse and other substances may result in one's rapid escape from negative emotions. This strategy, is considered as an appropriate approach, especially for those who have low distress tolerance (Lazarus, 1991; cited in Azizi et al., 2010).

  In this framework, the research findings obtained by Daughters et al. (2009) on 231 white and black American adolescents showed that low distress tolerance increased the risk of alcohol use among whites, delinquent behaviors among blacks, and symptoms of internalizing disorders among women. Pottera, Vujanovic, Marshall-Berenz, Bernsteind's study results (2011) showed that mediating distress tolerance is a coping motive in the relationship between posttraumatic stress and marijuana use. In a study focused on determining the mediating role of distress tolerance in impulsivity and alcohol use, Marshall-Berenz, Vujanovic & MacPherson (2011) concluded that distress tolerance plays a mediating role in this respect and the individuals turn to alcohol use in order to escape from stress and psychological distress (Andami, 2013). Azizi et al (2010) showed that smoking dependency, emotional regulation disorder, and distress tolerance are correlated. Although most of the studies have been conducted in support of difficulties in emotion regulation and distress tolerance in drug consumers; few researches, if any, have examined the effectiveness of these constructs in non-consumers that is important in prevention. Hence, the aim of this study was to determine the predicting role of difficulties in emotion regulation and distress tolerance in addiction potential of university students.

## Method

  The present study was a correlation one followed by a descriptive method. All the students of Allameh Tabatabaie University in bachelor's program constituted the study population. The number of 170 students (82 males and 88 females) was selected by random cluster sampling method.

**Instrument**

1. Addiction potential scale: This questionnaire is composed of 90 yes/no questions and three subscales. They have been extracted from Minnesota Multiphasic Personality Inventory. The subscale entitled ''Addiction Potential Scale'' contains 39 items and its content is quite heterogeneous and does not seem to be directly related to substance abuse. The reliability of the scale has been reported to be 0.69 and 0.77 in men and women with an interval of one week, respectively. The second subscale was Addiction Acknowledgment Scale whose content has been extracted from Minnesota Inventory and is specifically related to substance abuse. It consists of 13 items. The third subscale is "Mac Andrew Alcoholism – Revised'' or "Alcohol Potential" that has been constructed to distinguish mental illness alcoholic sufferers from others and consists of 49 questions. Maryland (1985) reported test-retest coefficient of this subscale to be 0.82 and 0.75 in male and female samples within a 6-week interval, respectively (cited in Minooei & Saleh, 2003). The validation results of a study carried out on two addicted and non-addicted groups showed high reliability measures for the total scale and subscales (Minooei & Saleh, 2003).

2. Difficulties in Emotion Regulation Scale: This questionnaire has been developed by Gratz (20004) (cited in Aminian, 2009). This questionnaire is a self-report measure that assesses the difficulties in emotion regulation more comprehensively than existing instruments in this area and contains 36 items and 6 subscales, as follows: 1) Non-acceptance of Emotional Responses; 2) Difficulties Engaging in Goal-Directed Behavior; 3) Impulse Control Difficulties; 4) Lack of Emotional Awareness; 5) Limited Access to Emotion Regulation Strategies; and 6) Lack of Emotional Clarity. The scale items are scored on a five-value Likert scale. Higher scores indicate greater difficulties in emotion regulation in this scale. Gratz has reported the reliability of this scale 0.93 and has reported it through Cronbach's alpha to be 0.80. Aminian (2009) reported the reliability of this questionnaire to be 0.86 and 0.80 through Cronbach's alpha and split-half reliability methods, respectively. To assess the validity of the questionnaire, with the score correlated with the Zuckerman Sensation Seeking questionnaire showed significant correlations exist between them (26/0 = r). Similarly, its criterion-based reliability was significantly in correlation with Zuckerman Sensation Seeking questionnaire (r=0.26).

3. Distress Tolerance Scale: This scale is a self-report measure of emotional distress tolerance by Simons & Gaher (2005). Items of this scale assess distress tolerance based on the capabilities of individuals in emotional distress tolerance, mental evaluation of distress, the degree of attention to negative emotions in the case of occurrence, and regulatory measures to relieve the distress. This scale consists of 15 items and four subscales, namely ability to tolerate emotions, absorption by negative emotions, mental assessment of distress, and ability to regulate emotions. Items are rated on a 5-point Likert scale wherein higher scores

represent greater levels of distress tolerance. Alpha coefficients for the subscales have been obtained 0.72, 0.82, 0.78, and 0.70, respectively. Intra-class correlation value was obtained 0.61 after six months. As well, it has been specified that this scale enjoys desirable convergent and criterion-related validity. This scale is positively correlated with acceptance, negatively correlated with coping strategies of alcohol and marijuana use, and also negatively correlated with alcohol and marijuana use for improvement (Simons and Gaher, 2005). Andami (2013) obtained 0.86 for its Cronbach's alpha value. Azizi, Mirzayi & Shams (2009) also reported the Cronbach's alpha and test-retest reliability of the questionnaire to be 0.67 and 0.79, respectively.

## Results

Descriptive statistics of the variables studied are represented for males and females in separation in Table 1.

**Table1: Descriptive statistics of the variables for males and females in separation**

| Variables | Female: mean (SD) | Male: mean (SD) |
|---|---|---|
| Preparedness for Addiction | 21.02 (3.28) | 19.41 (3.37) |
| Addiction Acknowledgement | 2.66 (1.51) | 2.57 (1.51) |
| Mac Andrew Alcoholism | 19.33 (4.44) | 20.01 (4.83) |
| Addiction Potential | 43.01 (7.21) | 42.00 (7.55) |
| Non-acceptance of Emotional Responses | 13.19 (4.99) | 12.82 (4.72) |
| Difficulties Engaging in Goal-Directed Behavior | 14.98 (5.05) | 13.50 (3.87) |
| Impulse Control Difficulties | 15.07 (5.36) | 13.85 (4.81) |
| Lack of Emotional Awareness | 17.38 (3.03) | 17.38 (2.87) |
| Limited Access to Emotion Regulation Strategies | 17.58 (6.29) | 16.13 (5.26) |
| Lack of Emotional Clarity | 10.44 (2.87) | 10.46 (3.58) |
| Difficulties in Emotion Regulation | 88.64 (19.48) | 84.15 (19.47) |
| Tolerance | 7.18 (2.13) | 6.93 (2.07) |
| Absorption | 5.28 (1.53) | 5.59 (1.74) |
| Appraisal | 9.88 (3.98) | 10.16 (4.16) |
| Regulation | 9.97 (3.28) | 10.46 (2.89) |
| Distress Tolerance Scale | 32.31(7.69) | 33.13 (6.79) |

The correlation matrix of the variables for the total sample is presented in the following table.

**Table 2: Pearson correlation matrix between the variables of addiction potential, difficulties in emotion regulation, and distress tolerance**

| variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.11 | 0.32** | 0.69** | 0.15** | 0.28** | 0.21** | 0.12 | 0.21** | 0.23** | 0.28** | 0.01 | 0.14 | 0.37 | -0.14 | 0.02 |
| 2 | | 1 | 0.47 | 0.57** | 0.31** | 0.24** | 0.34** | 0.10** | 0.37** | 0.26** | 0.39** | -0.02 | -0.07 | 0.02 | -0.19* | -0.02 |
| 3 | | - | 1 | 0.88** | 0.18 | 0.10 | 0.18 | 0.08 | 0.13 | 0.23** | 0.20** | -0.09 | 0.01 | -0.13 | -0.83 | -0.13 |
| 4 | | - | - | 1 | 0.25** | 0.25** | 0.29 | 0.13 | 0.26** | 0.31** | 0.35** | -0.05 | -0.01 | -0.06 | -0.10 | -0.10 |
| 5 | | - | - | - | 1 | 0.48** | 0.49** | 0.02 | 0.60** | 0.40** | 0.74** | 0.03 | 0.02 | 0.10 | 0.04 | 0.09 |
| 6 | | - | - | - | - | 1 | 0.68** | -0.02 | 0.73** | 0.43** | 0.82** | 0.15 | 0.06 | 0.28** | 0.03 | 0.23** |
| 7 | | - | - | - | - | - | 1 | -0.03 | 0.72** | 0.46** | 0.83** | 0.16* | 0.03 | 0.22** | -0.03 | 0.16* |
| 8 | | - | - | - | - | - | - | 1 | 0.04 | 0.22** | 0.19* | -0.03 | -0.03 | -0.12 | -0.16* | -0.15 |
| 9 | | - | - | - | - | - | - | - | 1 | 0.52** | 0.90** | 0.13 | 0.10 | 0.26** | -0.05 | 0.18* |
| 10 | | - | - | - | - | - | - | - | - | 1 | 0.68** | 0.11 | 0.04 | 0.06 | -0.10 | 0.03 |
| 11 | | - | - | - | - | - | - | - | - | - | 1 | 0.13 | 0.06 | 0.22** | -0.04 | 0.16* |
| 12 | | - | - | - | - | - | - | - | - | - | - | 1 | 0.21** | 0.22** | 0.29** | 0.58** |
| 13 | | - | - | - | - | - | - | - | - | - | - | - | 1 | 0.18* | 0.23** | 0.49** |
| 14 | | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0.23** | 0.76** |
| 15 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 | 0.69** |
| 16 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |

*$P < 0.01$ & **$P < 0.001$

1-Preparedness for Addiction, 2- Addiction Acknowledgement, 3- Mac Andrew Alcoholism, 4- Addiction Potential, 5- Non-acceptance of Emotional Responses, 6- Difficulties Engaging in Goal-Directed Behavior, 7-Impulse Control Difficulties, 8- Lack of Emotional Awareness, 9- Limited Access to Emotion Regulation Strategies, 10- Lack of Emotional Clarity, 11- Difficulties in Emotion Regulation, 12- Tolerance, 13- Absorption, 14- Appraisal, 15- Regulation, 16- Distress Tolerance Scale

As it can be seen in the table above, there is a significant positive relationship between Addiction Potential Scale (total score of the scale) and the total score of Difficulties in Emotion Regulation Scale. In addition, Addiction Potential Scale is significantly and positively correlated with five subscales of Difficulties in Emotion Regulation Scale, namely Non-acceptance of Emotional Responses, Difficulties Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity.

Stepwise regression analysis was performed to assess the predictive ability of Difficulties in Emotion Regulation Scale and Distress Tolerance Scale on potential addiction, as follows:

**Table 3: Model summary of regression of potential addiction based on difficulties in emotion regulation and distress tolerance**

| Predictors | F | P | R | Adjusted $R^2$ |
|---|---|---|---|---|
| **Difficulties in Emotion Regulation** | 27.372 | 0.0005 | 0.375 | 0.136 |
| **Difficulties in Emotion Regulation and Distress Tolerance** | 16.707 | 0.0005 | 0.409 | 0.168 |

As seen in the above table, Difficulties in Emotion Regulation Scale has been inserted into the equation and explains 13.6% of the variance in Addiction

Potential. Then, Distress Tolerance has been entered into the equation and 16.8% of the variance pertaining to Addiction Potential is explained by these two variables.

In the last step, the regression coefficients have been presented in the following table.

**Table 4: Regression coefficients of Addiction Potential based on Difficulties in Emotion Regulation and Distress Tolerance in the last step**

| Predictors | B | β | t | P |
|---|---|---|---|---|
| **Difficulties in Emotion Regulation** | 0.147 | 0.401 | 5.596 | 0.0005 |
| **Distress Tolerance** | 0.163 | 0.166 | 2.309 | 0.022 |

Stepwise regression analysis was performed to evaluate the power of the subscales of Emotion Regulation and Distress Tolerance in predicting Potential Addiction, as follows.

**Table 5: Model summary of regression analysis of potential addiction based on difficulties in emotion regulation and distress tolerance**

| Predictors | F | P | R | Adjusted $R^2$ |
|---|---|---|---|---|
| **Lack of Emotional Clarity** | 55.06 | 0.0005 | 0.363 | 0.127 |
| **Lack of Emotional Clarity and Impulse Control Difficulties** | 15.26 | 0.0005 | 0.396 | 0.147 |

As seen in the above table, Lack of Emotional Clarity has been entered into the equation and explains 12.7% of the variance in Addiction Potential. Then, Impulse Control Difficulties has been entered into the equation and 14.7% of the variance pertaining to Addiction Potential is explained by these two variables.

In the last step, the regression coefficients have been presented in the following table.

**Table 6: Regression coefficients of Addiction Potential based on Difficulties in Emotion Regulation and Distress Tolerance in the last step**

| Predictors | B | β | F | P |
|---|---|---|---|---|
| **Lack of Emotional Clarity** | 0.59 | 0.282 | 3.490 | 0.001 |
| **Impulse Control Difficulties** | 0.235 | 0.178 | 2.200 | 0.029 |

## Discussion and Conclusion

Given the negative economic, social, personal, and familial consequences of drug addiction, this area has attracted the attention of many researchers. On the other hand, it has always been reiterated that prevention is far less costly than treatment. Therefore, the investigation of the factors related to the preparedness of most people for addiction assumes importance. In recent years, emotion

regulation and its relation to mental health has been the focus of more research. The results of this study showed that there was a significant positive relationship between addiction acknowledgment and the subscales of difficulties in emotion regulation. This finding is consistent with that of Auerbach et al. (2007). Auerbach et al. (2007) argue that those who demonstrate high levels of emotion regulation deficits are more susceptible to the high-risk behaviors that subsequently lead to depression or anxiety compared to their counterparts. According to these researchers, the individuals who have undergone weak emotion regulation strategies are prone to use high-risk behaviors as a means to relieve negative emotions far more than other people. Affect dysregulation contributes to the increase of individuals' tendency to high-risk behaviors such as drug use (Khantzian, 1997, 1993; Suh et al., 2008; cited in Azizi et al., 2010). In the present study, emotional clarity was found as the strongest factor in the prediction of addiction potential among the subscales of emotion regulation. In this study, a significant relationship was found between distress tolerance and addiction potential. As it was mentioned earlier, the majority of the studies conducted in this area have focused attention on clinical samples rather than on normal samples that was the focus of this study. Many of such studies have emphasized the concept of distress tolerance among sufferers and/or among those prone to the risk of psychological trauma axis 1 and 2 (Gross & Munoz, 1995; Lynch & Bronner, 2006; Brown, Lejuez, Kahler, Strong, 2002; Zvolen-Sky & Otto, 2007; cited in Bernstein, Vujanovic, 2011). For example, research on drug consumers and people with drug dependence has shown the intolerance of physical and emotional feelings as a key to the description of the basic mechanism of preservation and maintenance of drug use (Brown, Lejuez, Kahler, Strong & Zvolen-Sky, 2005; Chaney, Roszell & Cummigs, 1982; Otto, Powers & Fischmann, 2005; cited in Zvolen-Sky et al., 2011). Thus, according to the findings of this study, it can be argued that low distress tolerance is probably a significant variable for the prediction of the addiction risk in a sample of non-users. It is so while previous research on samples of drug users have confirmed the relationship of this variable with relapse and continuity of drug use. However, to account for this insignificance in sample of non-users, some research has shown that when people are under stress, they look for an immediate pleasure to regulate their emotions in these conditions. This negative and inefficient strategy is particularly evident in those with a low tolerance for emotional distress. For example, Tice et al. (2001) have referred to the impulsive behaviors that these individuals apply while experiencing stress. From among such behaviors, it is possible to refer to eating for release from feelings of depression, looking for an immediate pleasure at present rather than awaiting greater rewards in the future' and/or going to the movies rather than cramming at the night before the exam's day (Macklem, 2011). Thus, it appears that non-users of drugs having a low tolerance for emotional distress might turn to other immediate pleasures apart from drug use when they experience extreme stress.

Drug use is a way to regulate emotions and get rid of physical and emotional pain in drug-dependent people while facing severe stress. In fact, it will have a negative reinforcement .

In this regard, Pottera et al. (2011) argue that those marijuana users who have been exposed to trauma or stress are likely to use marijuana as a way to cope with negative emotional states when the severity of post-traumatic stress rises. This is due to the fact that such people suffer a low distress tolerance. Another point that shows itself prominently in this study is that the desire to use drugs in people with low distress tolerance increases while they experience intense stress. Hence, severe stress in non-consumers might be an important variable to be greatly considered. For example, the students who experience severe stress at the night before the exam's day are more susceptible to turn to narcotic drugs and psychotropic drugs. Therefore, one of the suggestions for further studies in terms of the role of distress tolerance in normal subjects is to see whether or not these people have experienced severe stress in recent days. The findings of this study can help therapists, counselors, and mental health professionals with the prevention of drug tendency in student groups. One of the limitations of the present study was that it was carried out in one city upon a limited number of participants and also that only students constituted the study sample; therefore, discretion should be exercised in generalizing the results to other groups. As it was mentioned above, this research has been conducted on a non-clinical sample; therefore, it should be cautiously decided upon the generalization of the study results to clinical samples.

Longitudinal and interventionist studies with this theme must be done on normal and clinical groups in order to quench the need of future studies.

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