

## Moderating Role of Emotion Dysregulation between Psychological Distress and Suicidal Ideation among Substance Users

Muhammad Zakaria<sup>1\*</sup>, Shazia Hasan<sup>2</sup>, Sabiha Dar<sup>3</sup>, Lubna kanwal Dar<sup>4</sup>

<sup>1,3,4</sup> Department of Psychology University of Central Punjab Lahore Pakistan

<sup>2</sup> Professor, Department of Psychology University of Central Punjab Lahore Pakistan

\*zakria108@gmail.com

---

### ABSTRACT

The current study aims to investigate the moderating role of difficulty in emotion regulation between psychological distress (depression, anxiety, and stress) and suicidal ideation among substance users. The study also focused to find out the difference of emotion dysregulation, suicidal ideation, depression, anxiety, and stress between substance users and non-users. In this study the cross sectional and correlational research design was used and the data was collected from different public and private hospitals and rehabilitation centers of Lahore city Pakistan on 10th/March/ 2018 to 28th/August/2018 from (N=120) participants, (N=60, 50%) were substance users (N= 60, 50%) were non-users. The difficulty emotional regulation scale (DERS), suicidal ideation attributes scale (SIAS), and depressions, anxiety, stress (DASS) scale were used in Urdu language to obtain the data from participants. Results of the current study showed that emotional instability is positively increasing the correlation between psychological distress and suicidal ideation in substance users. The significant positive was also found in emotion dysregulation, suicidal ideation and psychological distress among substance users and non-users.

The study concluded that emotion dysregulation as a key factor which increases the chances toward substance use and triggers multiple psychological problems like depression, anxiety, and stress. The study further found that the substance users have more psychological issues like depression, anxiety and stress as compared to non- users because of emotional un-stability.

### Keywords

Emotion dysregulation, substance users, suicide, psychological distress, survey

---

### Introduction

The group of substance use disorder included all classes of substance like caffeine, cannabis, Opioid, opium bhang etc. Substance use disorders are the group of problems associated with psychological, physiological, behavioral and cognitive symptoms. The substance use disorder changed in basic brain circuits that may continue beyond detoxification in severe disorders. The behavioral changes exhibit the regular relapses and craving for substance use. The identification of substance related issues are based on a maladjusted pattern of behaviors and lack of poor control and substance abuse group. They may also express a continuous craving to decrease or regulate drug use and may report several unsuccessful tries to decrease or discontinue drug use<sup>1</sup>. The term substance intoxication may occasionally continue beyond the time when the intakes of substance are reported in the body. Intoxication includes psychological and physiological changes that are problematic and also affects the central nervous functions. These long term problems of intoxication must be

important from withdrawal i.e., symptoms started by declining blood and tissue due to drugs<sup>2</sup>.

Difficulty in emotion regulation is a process in which an individual has a lack of emotional stability that leads to a maladjustment pattern of behavior. The emotion dysregulation causes the lack of concentration, relationships problems, guilt feelings and prevention of negative actions. Lack of emotion regulation leads to a number of psychological disorders e.g., depression, anxiety, stress and substance abuse disorders especially in adolescents and adults. The emotional dysregulation can be familiar as characteristics of drug abuse. Lack of emotion regulation generates the predisposition to intake the substance and finally develops the substance dependence behavior<sup>3</sup>. The difficulty in emotion regulation seems to be an important contributor to cause and maintain the drug addiction. Difficulty in emotion regulation also included effortful controls that are associated with drug addiction. Emotional un-stability not only defines the link of beginning and risk for drug addictions, but also relates to developing the different stages of drug addictions<sup>4</sup>.

Cognitive theory explains substance abuse in terms of cognitive structure. The theory further explained that substance intoxication develops a syndrome which directly affects the central nervous system. It further creates troubles in perception, thinking, concentration and decision making abilities. Self-regulation is a significant factor caused by substance use disorders. Self-regulation or emotion regulation includes execution of an action plan to change the way of behaviors. Changing of circumstances in self-regulation develop the imbalance and poor ability to control the emotions. Addictive behaviors are seen as the consequence of having an extreme dependence on external structures that have less ability to regulate emotion properly. Substance dependent individuals excessively use substances to overcome psychological problems, but the over use of substances increases the psychological problems and may also cause suicidal thoughts and attempts<sup>5</sup>.

### Literature Review

Emotion dysregulation are associated with lower stress acceptance similar to the dimension of non-acceptance of emotions, impulsivity distressed, and suicidal thoughts & behaviors. The consequences of impulsivity had shown the common relationship with suicidal behavior shown in earlier researches<sup>6</sup>. The different researches indicated that the difficulties in emotion regulation strategies could differentiate individuals with a suicidal behavior from without suicide. Particularly the perceived lack of ability to successfully control one's emotions positively connected with negative mood. The different aspects of lack of emotion regulation reported between individuals with a record of multiple suicidal attempts<sup>7</sup>. A recent neuroscience research study showed that emotion dysregulation is a significant factor of substance abuse and dependence. Several research studies indicated that people who cannot bear sensitive situations of emotions may turn to use the substances for relaxation psychological difficulty in emotion regulation have a strong risk of substance abuse in the young adult population<sup>8</sup>.

Another research results shows that the substance abuse increases the severity level of depressive

symptoms. Moreover, different researches results indicated the co-morbidities among the anxiety disorders and drug abuse, the study identify pattern of anxiety disorders with substance use disorders<sup>9</sup>. The adults suffering with substance abuse develop anxiety disorders with during childhood or adolescent. Different studies about the community and clinical population shows that the diagnosis of substance abuse with anxiety disorder may increase risk of other problems. Whereas all anxiety disorders are related with drug addiction problems. Substance abuse or dependency is related with different disorders such as psychological distress. A research study result indicated that over 70% of substance abusers are suffering with depression, anxiety and personality disorders<sup>10</sup>. The different research of substance and stress proposed that the stress contribute an important role in the drive to drug addiction. The self-medication of anxiety has projected that individuals use substance to improve their mood and decrease the distress. Primarily a substance may be used to adapt the tension and distress<sup>11</sup>.

### Methods

#### Sample and Participants

The sample size was consisted of 120 adults' for present study via convenient sample techniques at the age range 18 -35 with equal presentation on the basis of substance users and non-users. The age range of participants was selected based on WHO (2018), report which stated that the adults have high surpassed rate of emotion un-stability, suicide and psychological distress. The sample size was calculated through G Power software. Those participants were selected for current study that used the substance from at least 1 year. Participants with relapse and living with family were include in study. The non-user's participants were selected from general population via using random sampling technique. The data was composed from multiple drugs rehabilitation centers and different public and private hospitals of Lahore city Pakistan.

#### Measurements tools

In current study the translated version questionnaires were used for data collection which included difficulty emotional regulation scale<sup>12</sup>,

suicidal ideation attributes scale<sup>13</sup>, and depression anxiety stress scales<sup>14</sup>. DERS Scale has 36 items and 6 sub-scales. Scale measures the emotion dysregulation. The reliability demonstrates that the scale has a high internal consistency (0.93). The reliability of the scale was calculated during the test-retest was (0.88,  $P < 0.01$ ). SIDAS used to recorded the presences of suicidal thoughts and identify the severity level of these thoughts. Scale has 5 items and responses are shown on the 10 points. The high score of items shows the severe suicidal thoughts. DASS were used to record the score of depression, anxiety and stress. It's consisted 42 items. Its included three subscales and each subscale have 14 items. It is a 4 point likert scale. The scores range from 0 to 3. The reliability of scale is 0.87.

### Data analysis

SPSS version 21 was used to evaluate the data. Correlational analysis, hierarchical multiple regression analyses and t test analysis was run to analyze the data of current paper.

### Procedure

The approval was taken from the drug rehabilitation centers and hospitals authorities. Substance abusers were approached for data collection from different hospital and rehabilitation centres of Lahore Pakistan. The participants were briefed on the essence and intent of current research before the research questionnaires administration. First, the researcher fulfilled the consent form, from participants then administered the difficulty emotion regulations, suicidal ideation, depression, anxiety stress screening scales. Based on the instructions given, the participants were asked to fill out a questionnaire.

### Results

The moderation term was created based on previous studies. The previous research finding explored that the psychological distress has direct association with suicidal ideation but not mention how the emotional dysregualtion works between these two variables but in current study we investigate how the difficulties in emotion regulation works as a moderator between the

psychological distress and suicidal ideation among substance users.

Bivariate correlations between variables measures are displayed in Table1, presented for substance users. As shown in the table, Emotion dysregulation (ED) was positively and significantly related to depression, ( $r = .322^*$ ), anxiety, ( $r = .326^*$ ) and stress ( $r = .320^*$ ), but positively non-significantly associated with suicidal ideation ( $r = .214$ ), in substance users. Similarly depression was positively and significantly correlated to anxiety ( $r = .779^{**}$ ), stress ( $r = .737^{**}$ ), and suicidal ideation ( $r = .290^*$ ). Furthermore the anxiety and stress is significant positive correlated with each other but anxiety is non-significant positive correlated with suicidal ideation. The suicidal ideation is non-significant positive associated with emotion difficulty and anxiety but significant positive associated with depression and stress among substance users.

Table: 1 Inter-correlations among measures for substance users.

Variables	1	2	3	4	5
Emotion dysregulation (ED)	---	.322*	.326*	.320*	.214
Depression	---	---	.779**	.737**	.290*
Anxiety	---	---	---	.824**	.187
Stress	---	---	---	---	.294*
Suicidal ideation (SI)	---	---	---	---	---

$N = 120$ ; \*\* $p < 0.01$ ., \* $p < 0.05$  Coefficients are for both substance users ( $N = 60$ ), non-users ( $N = 60$ )

Tests for a possible moderating impact of demographic variable, difficulty in emotion control in psychological distress and suicidal ideation findings were used in hierarchical regression analysis, several different analyses were performed with depression, anxiety and stress, and suicidal ideation as the dependent variables of drug users for the total study. The demographic variables were entered as a covariate in the first step. In Step2, scores for psychological distress were entered and emotion dysregulation scores were entered in phase 3 as a moderating variable and investigate the demographic variable and moderating effects on variables. Table 2 summarizes the outcomes of these studies. We

found, as can be seen in Table 2, that the emotion dysregulation was significantly positively moderated in the relationship of Psychological distress and suicidal ideation [ $\beta = .333$ ,  $t(60) = 0.637$ ,  $p < 0.05$ ] among substance users.

TABLE: 2. Hierarchical Regression analysis results for the moderating effect of emotion dysregulation, between depression, anxiety, stress and suicidal ideation in substance users.

Variables	$\Delta R$	B	P
Model 1	0.70		
Birth order		.216	.034
Qualification		.334	.000
Socioeconomic status		.316	.001
Marital status		.145	.026
Family structure		.321	.053
R	.345		
R <sup>2</sup>	.121		
F	2.60		
Model 2	0.78		
Depression		.332	.024
Anxiety		.320	.152
Stress		.214	.022
R	.354		
R <sup>2</sup>	.125		
F	2.67		
Model 3	.76		
Moderator variable		.333	.000
R	.444		
R <sup>2</sup>	.214		
F	2.56		

Note: Dependent Variable: Suicidal ideation (SI) & moderator is emotion dysregulation: (ED).

The statistical analysis of independent t test was compute to measure the differences of emotion dysregulation, suicidal ideation and psychological distress (depression, anxiety and stress) between substance users and non-users. The analysis shows in Table 3, that there is statistically significant ( $*P < 0.05$ ) differences in difficulty in emotion regulation, suicidal ideation and psychological distress (depression, anxiety and stress) among substance users and non-users. The table revealed the mean score of DERS in substance users ( $m=97.70$ ,  $sd= 18.786$ ) is high as compared and non-users ( $m=96.82$ ,  $sd= 25.019$ ). Table also indicated that the mean score in suicidal ideation in substance users ( $m=9.02$ ,  $sd= 13.547$ ), is high as compared to non-users mean score ( $m=8.17$ ,  $sd= 10.073$ ). The table also explained the mean

score of depression in substance users ( $m=14.47$ ,  $sd= 8.726$ ) is high as compare to mean score of non-users ( $m=13.53$ ,  $sd= 8.028$ ), the mean score of anxiety in substance users ( $m=13.38$ ,  $sd= 7.831$ ) is more than mean score of non-users ( $m=12.42$ ,  $sd= 9.869$ ), & mean score of stress in substance users ( $m=15.62$ ,  $sd= 8.122$ ) high as compare to stress in non-users ( $m=12.93$ ,  $sd= 9.272$ ). The overall results were analyzed based on mean comparison which indicates that there are significant differences among the both populations based on variables.

Table:3 Independent t tests measure the differences of emotion dysregulation among substance users and non-users.

Substance users (60)			Non user (60)		CI 95%					
Variable	M	sd	M	Sd	T	P	Df	LL	UL	Cohen d
DERS	97.70	18.786	96.82	25.019	3.22	.00	118	9.61	10.02	0.0126
SI	9.02	13.547	8.17	10.073	6.28	.00	118	5.56	10.77	0.071
Depression	14.47	8.726	13.53	8.028	1.33	.00	118	1.44	15.61	0.11
Anxiety	13.38	7.831	12.42	9.869	9.45	.00	118	8.77	14.97	0.10
Stress	15.62	8.122	12.93	9.272	1.08	.00	118	1.54	15.33	0.309

Note: DERS = Difficulty emotion regulation scale, SI= Suicidal ideation, M= mean, SD= standard deviation, t= T-test, df= degree of freedom, LL= lower level, UL= upper level  
 $*p < .05$ ,  $N = 120$

## Discussion

Finding of the present study indicates that the moderating role of emotion dysregulation between



psychological distress and suicidal ideation among substance users. The analysis also revealed the significant positive difference in difficulty in emotion regulation, psychological distress and suicidal ideation between substance users and non-users

The current study results found the significant positive differences among the both populations based on study hypothesis, ( $p < 0.05$ ). According to the previous literature the emotion dysregulation and substance abuse are inter-related with each other. Studies show that lack of emotional stability increases the chance of individuals to engage in substance use and also substance abusers have difficulties in emotion regulation. Other previous studies<sup>15, 16</sup>, also prove the difference of difficulty in emotion regulation among substance users and non-users, studies further explained that lack of emotion stability leads to maladaptive coping strategies which are shown in individuals who frequently use cannabis, opioid, smoking cigarettes and other substances to reduce their stress. Additionally, another study finding shows that frequently using substances may affect the brain function that causes the difficulty to control or express emotions that lead to emotion regulation problems. The substance non-users' individuals have more positive coping skills that they don't move to negative coping to reduce the problematic situation, but they handle the situation through the positive skills they did not use substance and have positive effect on brain functions and less problems in controlling and expressing their emotion regulation.

This is exacerbated by the fact that substance use frequently damages or destroys familial, professional, personal, and financial relationships and further increasing the risk of suicide, substance use actually increases the severity and duration of depressive episodes, and despite any temporary relief they may provide, actually greatly increasing the likelihood of suicidal thoughts (suicidal ideation). Even worse, many substances severely impact judgment, leading to suicide ideation<sup>19</sup>. Suicidal ideation and substance use disorders have a very close relationship. More than 90% of people who fall victim to suicide suffer from depression, have

substance abuse disorder, or both loss of relationships, job and other financial problems and may lose all hope they starting suffer depression and substance abuse combine to form a vicious cycle that all too often leads to suicide. Many who experience such severe depression and other conditions frequently turn to substance use, gambling, and other risky behaviors to numb their pain and/or alleviate their negative feelings which increase the risk of suicide. Some evidence showed that the dis-inhibition of the certain substances caused and facilitated suicidal ideation and increased risk factors of suicidal thoughts, while depression and other mood disorder is the main cause of suicidal ideation and attempts<sup>17</sup>.

The outcomes of recent study studies have shown that all patients with drug use disorders have a poorer quality of life relative to non-users. By altering behavior, self-esteem, diet, work and social relationships, violence, loss of interpersonal confidence, addiction alters normal life and these changes can lead to psychological disorder (depression, anxiety and stress)<sup>19</sup>.

The finding of current study in table 3 indicated that difficulty in emotion regulation significantly positively moderated the relationship of depression, anxiety and stress with suicidal ideation among substance users. The results of the present study are consistent with a number of previous studies. Emotion dysregulation is commonly characteristic in a number of clinical settings, and describes several clinically relevant behaviors and problems, such as depression, substance addiction and suicidal ideation. There are many researches which revealed that the substance intoxication develops a syndrome which directly affects the central nervous system and develops the disturbance in perception, thinking, concentration and decision making which are considered emotion dysregulation. The consequence of the disturbance occurs in form of interpersonal relationships problems, guilt feeling inability to inhibit negative behaviors, social isolation feeling loneliness, serious physical and mental health problems and suicidal ideation. Difficulties in emotion regulation also develop through environmental factors such as changing the location, losing relationship, separation and rejection and depression and after some time the

suicidal ideation. The social isolation, poor coping skills result into un-stability of emotion regulation which increases the risks of depression, stress, anti-social behavior, weakness in decision making and increased tendency of suicidal ideation. The excessive and long-term use of substances affected the neurological, cognitive and behavioral function. For example, individuals who use substances have experienced behavioral, emotional changes and cognitive processes that are characterized as poor emotion regulation, depression, stress, aggression and impulsivity and suicide<sup>19</sup>.

Substance use disorders defects mental functions to increase emotion regulation problems individuals with substance use disorders have less positive emotions in their social interactions and it correlated with having less intimacy, more uncertainty, conflicts, psychological problems and suicidal ideation Many research studies have shown that people reflect their emotion dysregulation with isolation, psychological distress, substance use, delinquency, and suicide<sup>20</sup>.

### Conclusion

The aim of the study was to examine the emotion dysregulation, suicidal ideation and psychological distress between patients with substance use disorders. The result of the study showed that the substance use disorder may lead the emotion regulation problems as well as the suicidal ideation and psychology distress between patients with substance use disorders. In the study the substance use disorders defines as “group of psychological, physiological, behavioral and cognitive, symptoms demonstrating that the person continues using of substance identify the important substance associated problems”. In our present study the emotion dysregulation are also define with fundamental characteristics to “the positive relations with substance use disorders, suicidal ideation and psychological distress.

The present study demonstrates the link between emotion dysregulation suicidal ideation and psychological distress, which illustrate that the significant association in these variables among patient with substance use disorders. The findings to the study described that there was a positive

association among the emotion dysregulation, suicidal ideation and psychological distress. The views of the current study sample support the hypotheses. The previous studies along with the findings also proved our hypotheses which showed that emotion dysregulation had the high level of suicidal ideation and psychological distress (depression, anxiety and stress). The recent study illustrate that, there had been a positive association among the emotion dysregulation with suicidal ideation. For instances, if an individual had the inability to control their emotions, than they had leads the psychological distress which causes the risky behavior of suicidal ideation.

From the study, it was found that, there were significant differences in emotion dysregulation, suicidal ideation and psychological distress between patient with substance use disorders and non users. The view of present study and sample support the hypotheses which define that there are significant differences among them. The previous researches also proved that they both s substance abusers and non-users face the different condition along with psychological problems. Present studies also support our hypothesis that there are significant differences among these variables.

### Limitations and Future Research Direction

This article recommended that the psychologist should work on individuals' emotion un-stability and coping skill to control suicidal thoughts and attempts and other psychological problems.

The study recommended that the family of patients should educate about the substance use disorders and its related problems like lack of emotion regulation, suicidal ideation and psychological problems. The family should make the strict roles regulation for their children to overcome the substance using and other problems. Furthermore, it is suggested that parental training program could be improve and increased effectiveness of substance user's quality of life.

The findings of the study can be implicated among patient with substance user and non-users. According to our study, it has been identified to enhance and provoke the awareness, which can control and manage their substance use related disorders and better know how to address their problems.

The study provides a scientific proof through the study finding to government and private hospitals and rehabilitation centers to hire the more psychologist staff to treat the patient's emotion problems and taught him the positive coping skill to manage and express their emotion in an effective ways.

Conflict of interest: No possible conflicts of interest have been declared by the author(s) with respect to the study, authorship, and/or publication of this paper.

Funding disclosure: For the research, authorship, and/or publication of this article, the author(s) received no financial support.

## References

- [1] Diagnostic and Statistical Manual of Mental Disorders, (2005). American Psychiatric Association, 4th ed.; American Psychiatric Association: Washington, DC, USA,
- [2] Diagnostic and Statistical Manual of Mental Disorders, (2012). American Psychiatric Association, 4th ed.; American Psychiatric Association: Washington, DC, USA,
- [3] Killgore, W. D., Yurgelun-Todd, D. A. (2007): Neural correlates of emotional intelligence in adolescent children. *Cognitive, Affective, & Behavioral Neuroscience*. 7(2): 140-151.
- [4] Cheetham, A., Allen, N. B., Yucel, M., & Lubman, D. I. (2010). The role of affective dysregulation in drug addiction. *Clinical Psychology Review*, 30, 621–634.
- [5] Diaz R. M, Fruhauf A. G(1991). The origins and development of self-regulation: A developmental model on the risk for addictive behaviors:
- [6] interpersonal psychological theory of suicidal behavior and lifetime number of suicide attempts. *Journal of Affective Disorders*, 129, 261–269.
- [7] Apter, A., Gothelf, D., Orbach, I., Weizman, R., Ratzoni, G., Har- Even, D., et al., (1995). Correlation of suicidal and violent behavior in different diagnostic categories in hospitalized adolescent patients. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 912–918.
- [8] Bender, T. W., Gordon, K. H., Bresin, K., & Joiner, T. E. (2011). Impulsivity and suicidality: The mediating role of painful and provocative experiences. *Journal of Affective Disorders*, 129, 301–307.
- [9] Timothy, E. Wilens., MaryKate -Martelon, Jesse, P. Anderson., Rachel Shelley Abrahamson, and Joseph, Biederman, (2013). Difficulties In Emotional Regulation and Substance Use Disorders: Massachusetts General Hospital, Pediatric Psychopharmacology Unit, Boston, MA 02114, USA; Harvard Medical School, Department of Psychiatry, Cambridge, MA 02115, USA
- [10] Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, 62(6), 617–627. doi:10.1001/archpsyc.62.6.617
- [11] Compton WM, Thomas YF, Stinson FS, Grant BF (2007). Prevalence, correlation, disability and comorbidity of DSM-IV drug abuse and dependence in the united states: result from the National Epidemiologic Survey on Alcohol and Related Conditions. *Arch Gen Psychiatry*; 64 (5) 566-576
- [12] Hasin DS, Stinson FS, Ogburn E, Grant BF (2007) Prevalence, correlation, disability and comorbidity of DSM-IV drug abuse and dependence in the united states: result from the National Epidemiologic Survey on Alcohol and Related Conditions. *Arch Gen Psychiatry*; 64 (5) 566-576
- [13] Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, 26, 41–54.
- [14] Spijker, B. A. J., van Straten, A., & Kerkhof, A. J. F. M. (2014). Effectiveness of online self-help for suicidal thoughts: Results of a randomised controlled trial. *PLoS ONE*, 9(2). Article ID e90118.

- [15] Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scale* (2nd ed.). Sydney: Psychology Foundation.
- [16] Tull MT, Weiss N, Adams C, Gratz K. (2012). The contribution of emotion regulation difficulties to risky sexual behavior within a sample of patients in residential substance abuse treatment. *Addictive Behaviour*. 37(10):1084-92.
- [17] Jones H, Hebb L (2003). The experience of loneliness: objective and subjective Factors. *The International Scope Review*;5(9):41-68.
- [18] Aguilar de Arcos F, Verdejo-Garcia A, Ceverino A, Montanez-Pareja M, Lopez-Juarez E, Sanchez-Barrera M, Lopez-Jimenez A, Perez-Garcia M (2008), PEPSA Team. Dysregulation of emotional response in current and abstinent heroin users: negative heightening and positive blunting. *Psychopharmacology* (Berl.). 198:159–166.
- [19] Kelly, T. M., Cornelius, J. R., & Clark, D. B. (2004). Psychiatric disorders and attempted suicide among adolescents with substance use disorders. *Drug and Alcohol Dependence*, 73(1), 87–97.