

The effectiveness of treatment based on acceptance and commitment on emotional dysregulation in depressed students

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Abstract

Introduction: About 90% of students exhibit certain symptoms of depression, and if the intensity of these depressive symptoms in students is considerable, they require specialized assistance, as the manifestations of depression can lead to numerous problems and challenges in their lives. The present study was conducted with the aim of investigating the effectiveness of acceptance and Commitment therapy on emotional dysregulation in depressed students.

Method: This research is a semi-experimental applied study, with a pre-test-post-test design with an experimental and control group, and the statistical population in this research is all students with depression living in Dorud who were studying at the university in the academic year of 2024. Through available sampling method and according to the entry criteria, 34 students were selected and then they were randomly divided into two groups of 17 people (experimental group and control group). Beck depression questionnaire and Gertz and Roemer emotional dysregulation questionnaire were used. Two levels of descriptive statistics and inferential statistics (analysis of covariance) were used to analyze the collected data.

Results: The findings of the current research showed that the mean emotional dysregulation scores of the two experimental and control groups in the post-test phase ($p=0.0001$) is significant. That is, there is a significant difference between the experimental and control groups. And it seems that acceptance and commitment therapy can be a practical treatment for depression in students in treatment and counseling centers. Discussion and conclusion: According to research findings, treatment based on acceptance and commitment was effective on emotional dysregulation in depressed students. Therefore, it is suggested to use

this treatment to improve emotional dysregulation in depressed students

Key words: acceptance and commitment, emotional dysregulation, depression.

Introduction:

According to research, nearly 90% of students display certain symptoms of depression (1). When the intensity of depressive symptoms in students is significant, they necessitate professional assistance, as these symptoms can lead to various problems and challenges in their lives (2). Typically, depression in young students is linked to symptoms including self-hatred, feelings of insignificance (3), elevated anxiety levels (4), and thoughts of suicide (5).

Since students are regarded as the future architects of society and their well-being is among the paramount objectives in any community, acceptance and commitment therapy has been demonstrated to be effective in the treatment of depression in numerous studies, including those conducted by Izkian et al. and Fedril et al. (6, 11). Depression, frequently referred to as “the common cold of the mind,” is an emotional disorder distinguished by fluctuations in mood and emotions.

It is a persistent, recurrent condition that can potentially jeopardize an individual's life, characterized by symptoms including dissatisfaction, loss of previous interests and abilities, diminished self-esteem, spontaneous negative thoughts, feelings of sadness and guilt, emotional and mood dysregulation, as well as alterations in appetite and sleep patterns. Its prevalence among students, especially female students, is nearly double that of their male counterparts, and it holds the highest lifetime prevalence rate among psychiatric disorders, estimated at approximately 17% (12, 15).

On the contrary, as reported by the World Health Organization, depression currently ranks fifth in healthcare expenditures and is projected to become the second leading cause of illness, following cardiovascular diseases, posing a threat to human health and lives globally by the year 2025 (16). This condition results in personal and familial distress, career devastation, breakdowns in interpersonal communication, and an overall diminished ability to maintain a normal life.

In relation to the ramifications of depression, the World Health Organization underscores that depression ranks as the second foremost cause of

disability and functional impairment across all individual health concerns (17). Individuals afflicted with depressive disorders not only endure symptoms of depression but also witness a deterioration in their quality of life and personal performance, resulting in consequences that directly influence their interpersonal relationships (18, 20). Depression stands as one of the primary contributors to the prevalence of diseases and serves as the principal cause of mortality in contemporary society, imposing a considerable economic burden on all sectors of society (21).

As numerous studies reveal, depression is recognized as a mood disorder (22), and the American Psychiatric Association (23), in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, classifies depressive disorders as encompassing disruptive mood dysregulation disorder, major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, substance/medication-induced depressive disorder, depressive disorder attributable to another medical condition, other specified depressive disorders, and unspecified depressive disorder (24).

Depression, identified as an emotional disorder, is marked by profound feelings of sadness, worthlessness, guilt, social withdrawal, disturbances in sleep and appetite, and a reduction in sexual desire along with diminished interest or pleasure in ordinary activities. The two defining characteristics of depression are a persistently unhappy mood and a lack of interest and enjoyment in nearly all customary activities and hobbies (25). A shared attribute of all these disorders is the presence of sadness, sensations of emptiness, or irritability, coupled with cognitive and physical alterations, which considerably affect an individual's functional ability.

The distinctions among these disorders pertain to the timing, underlying cause, or duration of the disorder (26). To put it differently, depression may be characterized as a mood state featuring irritability and the avoidance of activity, or apathy and indifference, which can influence an individual's thoughts, behaviors, emotions, happiness, and overall well-being. Depression has the potential to result in an inability to concentrate on various aspects of personal and social life, as well as work, which represents a primary area of concern for those affected (27).

Therefore, if the symptoms of depression are mild and accompanied by negative emotions, without attention and intervention, they may develop into chronic conditions and elevate the risk of more severe issues, such as suicidal ideation (28). It should be emphasized that individuals with depression experience emotional dysregulation, as depression is fundamentally a disorder of emotional regulation. Persistent negative affectivity and a prolonged decrease in positive affectivity are significant characteristics in the diagnosis of major depressive episodes (29). Furthermore, Zhang et al. (30) and Wolf et al. (31) have demonstrated that depression impairs emotional processing in individuals, resulting in challenges in regulating emotions. Therefore, focusing on such a variable in individuals with depression is essential.

Emotional dysregulation generally presents as an endeavor to evade emotions (32). The amplification and neutralization of emotions represent two distinct forms of emotional dysregulation. As emotions escalate, they are perceived as unwelcome, intrusive, overpowering, and troublesome. The neutralization of emotions hinders their expression (33, 34). Research has indicated that Acceptance and Commitment Therapy (ACT), supplemented with cognitive-behavioral techniques, aids in enhancing and diminishing emotional dysregulation (35). Furthermore, ACT has been investigated as a therapeutic approach for women experiencing depression (36). In a study conducted by Derakhshan and associates, it was discovered that ACT substantially alleviated challenges in emotion regulation and self-harming behaviors among individuals diagnosed with borderline personality disorder (37).

Acceptance and Commitment Therapy (ACT) represents a type of behavioral therapy that appears to concentrate on modifying the role of emotions and feelings, rather than changing their nature, frequency, or substance. ACT, as it is commonly referred to, is based on a philosophical framework known as functional contextualism, which stems from a research initiative concerning cognition and language referred to as Relational Frame Theory. ACT consists of six fundamental processes: acceptance, cognitive defusion, the self as context, present-moment awareness, values, and committed action, which result in enhanced psychological flexibility (38).

Izkian et al. presented evidence in their research indicating that ACT enhanced self-compassion, diminished self-harming behaviors, and facilitated improvements in emotional dysregulation among students (39). The results of numerous studies underscore the necessity for greater focus on the manifestations of depression in women (40, 41). Karimi, in a study, revealed that ACT markedly alleviated anxiety, depression, and negative cognitive emotion regulation strategies, while concurrently promoting positive cognitive emotion regulation strategies (42).

The bulk of research pertaining to Acceptance and Commitment Therapy (ACT) concentrates on its effectiveness in addressing depression and anxiety. The findings from the majority of studies conducted in various countries suggest the efficacy of this therapeutic approach in enhancing mental and physical metrics, including depression, pain-related anxiety, catastrophizing, quality of life, life satisfaction, self-efficacy, and pain (43, 45). Consequently, this study holds considerable importance as it seeks to alleviate depression, and its findings can assist all treatment centers, educators, educational administrators, and counselors in enhancing and mitigating depression among girls.

Ruiz FJ et al. , in a study concerning ACT and RNT, which encompassed general RNT, experiential avoidance, cognitive fusion, values, and overall flexibility during a one-month follow-up, concluded that ACT was effective in alleviating emotional symptoms (46). Likewise, Gençdoğan B et al demonstrated in their research that ACT significantly enhanced negative emotions, feelings of worthlessness, self-loathing, perceptions of failure, and negative thoughts (47). Given that students experiencing depression frequently encounter emotional dysregulation, ACT may assist in mitigating their depression. Consequently, this research sought to address the inquiry: Is Acceptance and Commitment Therapy effective in managing emotional dysregulation in students suffering from depression?

Method:

The current study is an applied, semi-experimental investigation utilizing a pretest-posttest design, encompassing both an experimental group and a control group. The statistical population for this

research comprised all depressed students living in Dorud who were enrolled at the university during the academic year 2024. A total of 34 students were chosen employing a convenience sampling approach, based on the established inclusion criteria, and were subsequently randomly allocated into two groups of 17 participants each (experimental and control groups).

The criteria for Inclusion were as follows: being a student or officially registered at a university in Dorud, achieving a score exceeding 18 on the Beck Depression Inventory, providing informed consent, and expressing a willingness to engage in the research. Moreover, the individuals in both the experimental and control groups had not undergone any psychological treatment or training prior to the commencement of the study. The criteria for exclusion comprised a lack of cooperation with the researcher (failure to attend sessions consistently) and an inability to complete the designated tasks of the educational protocol.

Ethical principles, which include confidentiality, the privacy of information, and the acquisition of informed consent, were upheld in this study. To examine the data obtained from the questionnaires, both descriptive and inferential statistics were employed. In the section dedicated to descriptive statistics, indicators such as the mean, standard deviation, minimum, and maximum scores were computed. In the section concerning inferential statistics, multivariate analysis of covariance (MANCOVA) was utilized.

Research Tools:

a) Beck Depression Inventory (BDI):

This questionnaire, conceived by Beck in 1963 and subsequently revised in 1994, serves the purpose of assessing depression. It comprises 21 items, each assigned a score ranging from 0 to 3. The maximum attainable score on this scale is 63, with every item evaluating a distinct symptom of depression. The threshold score for the

questionnaire is 18. Its test-retest reliability varies from 0. 48 to 0. 86, with an average reliability coefficient of 0. 86 (48). In Iran, Fathi, Birashk, Atef Vahid, and Dobson (27) conducted the administration of the questionnaire to a sample comprising 94 individuals and published a Cronbach's alpha coefficient of 0. 91, a split-half reliability coefficient of 0. 89, and a test-retest reliability of 0. 94 after a span of one week. In the current study, the reliability as determined by Cronbach's alpha was 0. 81.

b) **Emotional Dysregulation Questionnaire:**

The original Emotional Dysregulation Scale is a 41-item self-report instrument created by Gratz

and Roemer (49) for the clinical assessment of emotional dysregulation. The items within this scale were formulated and chosen following several discussions with colleagues well-versed in the literature on emotion regulation. The response range for the scale follows a Likert-type format from 1 to 5, where 1 means "almost never" (0-10%), 2 means "sometimes" (11-35%), 3 means "half of the time" (36-65%), 4 means "most of the time" (66-90%), and 5 means "almost always" (91-100%). One item was removed due to its low correlation with the overall scale, and four items were removed because of their low or dual factor loading. As a result, 36 items remained from the original 41-item scale.

| Items | Components |
|-------------------------|---|
| 11-12-21-23-25-29 | Non-acceptance of emotional responses |
| 33-26-20-18-13 | Difficulties engaging in goal-directed behavior |
| 27-24-19-14-3-33 | Impulse control difficulties |
| 34-17-10-8-6-2 | Lack of emotional awareness |
| 36-35-31-30-28-22-16-15 | Limited access to emotional regulation strategies |
| 9-7-5-4-1 | Lack of emotional clarity |

The components of this scale measure various aspects of difficulty in emotional regulation. Items 7, 6, 2, 1, 8, 10, 17, 20, 22, 24, and 34 are reverse scored. Higher scores indicate greater difficulty in emotional regulation. The minimum possible score is 36, and the maximum score is 180. A score between 36 and 72 indicates low difficulty in emotional regulation, a score between 72 and 108 indicates moderate difficulty, and a score above 108 indicates high difficulty in emotional regulation. Factor analysis revealed six factors: Non-acceptance of emotional responses,

difficulties engaging in goal-directed behavior, impulse control difficulties lack of emotional awareness, limited access to emotional regulation strategies, and emotional clarity. The results show that this scale has high internal consistency, with a Cronbach's alpha of 0.93 (25). Based on data from the research by Azizi, Mirzaei, and Shams (25), the Cronbach's alpha for this questionnaire was estimated to be 0.92. In the present study, the reliability using Cronbach's alpha was found to be 0.91.

Acceptance and Commitment Therapy (ACT) Protocol

(Adapted from the Depression Treatment Manual by Zettle & Hayes, Strössel & Wilson)

| Session content | Sessions |
|---|------------------|
| Introducing group members to the research topic / An introduction to depressive disorder and its effects on them / The impact of psychological treatments on it / Assessment and conceptualization of creative helplessness | Session 1 |
| Creative Helplessness / Exploring the Inner and Outer World in Acceptance and Commitment Therapy / Challenging Control Strategies | Session 2 |
| Identifying Personal Values / Clarifying Goals / Defining Actions and Obstacles / Extracting the Experience That Control is a Problem | Session 3 |
| Exploring Values and Deepening Previous Concepts / Cognitive Defusion from Depressive Thoughts and Feelings | Session 4 |
| Explaining Cognitive Fusion and Defusion / Practicing Defusion Exercises / Assessing the Client's Defusion Ability | Session 5 |
| Explaining Fusion with the Conceptualized Self / Teaching How to Defuse from It / Differentiating the Conceptualized Self | Session 6 |
| Mindfulness and Emphasis on Being Present / The Importance of Values | Session 7 |
| Exploring Life Story and Committed Action / Reflecting on Achievements and the Client's Ongoing Goals | Session 8 |

Methodology:

After screening male and female students in the city of Dorud using the Beck Depression Inventory (score higher than 18), 34 students were selected using the convenience sampling method based on the inclusion criteria and were randomly assigned into two groups of 17. After both the experimental and control groups completed the Emotional Dysregulation Questionnaire in the pre-test, the experimental group received Acceptance and Commitment Therapy (ACT) over 8 sessions, each lasting 60 minutes (weekly). The control group did not receive any intervention. After the completion of the therapy sessions, a post-test was administered to both groups in the last session. Ultimately, due to the lack of cooperation from three students in the experimental group and three from the control

group who did not complete the questionnaires, two groups of 15 students were considered for data analysis. As part of ethical considerations, condensed content was provided to the control group in two sessions.

Results:

In this study, data acquired from the Emotional Dysregulation Questionnaire were analyzed through the use of SPSS software version 26, encompassing both descriptive and inferential sections. Descriptive statistics, which assess the frequency of data and elucidate variables such as count, percentage, mean, and standard deviation, were employed for the preliminary analysis. For the analysis of data, the Shapiro-Wilk test, Kolmogorov-Smirnov test, Levene's test, as well as both univariate and multivariate analysis of covariance (ANCOVA) were applied.

Table 1: Frequency distribution of gender variable

| percent | Frequency | Group | Gender |
|---------|-----------|--------------------|--------|
| 64/7 | 11 | control group | girl |
| 41/2 | 7 | experimental group | |
| 35/3 | 6 | control group | Boy |
| 58/8 | 10 | experimental group | |
| 100 | 17 | control group | Total |
| 100 | 17 | experimental group | |

Statistical Description of Variables:

In this section, the Emotional Dysregulation Scale and its components were described using central tendency and dispersion measures.

Table 2: Mean and Standard Deviation of Emotional Dysregulation in Pre-test and Post-test

| Post-test | | Pre-test | | Test stages variable | Group |
|-----------|--------|----------|--------|------------------------------|-----------------------|
| Standard | Mean | Standard | Mean | | |
| 4/89 | 20/05 | 5/42 | 19/29 | Non-acceptance of | control group |
| 3/65 | 18 | 3/48 | 17/82 | Difficulties engaging in | |
| 4/58 | 15/17 | 4/80 | 14/88 | Impulse control difficulties | |
| 3/55 | 21/58 | 3/34 | 21/23 | Lack of emotional | |
| 5/99 | 25/29 | 6/05 | 24/52 | Limited access to emotional | |
| 2/89 | 14/11 | 2/72 | 13/17 | Lack of emotional clarity | |
| 14/21 | 114/23 | 13/58 | 110/94 | Total Score of Emotional | |
| 3/31 | 13/47 | 4/96 | 18/17 | Non-acceptance of | experimental group |
| 2/67 | 12/47 | 3/54 | 16/70 | Difficulties engaging in | |
| 2/59 | 10/64 | 3/39 | 14/05 | Impulse control difficulties | |
| 3/38 | 14/76 | 3/15 | 20/76 | Lack of emotional | |
| 6/82 | 19/11 | 6/97 | 23/64 | Limited access to emotion | |
| 2/04 | 10/23 | 3/78 | 14/29 | Lack of emotional clarity | |
| 10/09 | 80/70 | 13/72 | 107/64 | Total Score of Emotional | |

According to Table 2, descriptively, the mean of the post-test for the experimental group has changed and improved compared to the pre-test. The descriptive data in Table 2 showed that the mean of the experimental group in the emotional dysregulation scale in the post-test decreased compared to the pre-test. This means that in all components of emotional dysregulation, the mean of the post-test in comparison to the pre-test decreased in the experimental group, indicating the positive impact of Acceptance and Commitment Therapy (ACT) on emotional dysregulation in depressed students. Additionally, comparing the standard deviation values of the pre-test and post-test in both the control and experimental groups showed a

reduction in this parameter in the post-test compared to the pre-test.

Statistical Inference of the Data:

In the statistical inference section, first, the normality of the emotional dysregulation variable in the control and experimental groups was examined. Then, the necessary assumptions for conducting the covariance analysis of the research hypothesis were addressed. The normality of the distribution of the research variable scores was tested using the Shapiro-Wilk test.

Table 3: Shapiro-Wilk Test for the Assumption of Normal Distribution of Scores in the Groups and the Two Phases of the Study.

| Post-test | | Pre-test | | Group | |
|--------------|-----------|--------------|-----------|------------|---------------|
| Significance | Statistic | Significance | Statistic | | |
| 0/061 | 0/897 | 0/258 | 0/934 | Control | Emotional |
| 0/647 | 0/961 | 0/124 | 0/915 | Experiment | Dysregulation |

Based on the results in Table 3, the Shapiro-Wilk statistic was not significant at the 0.05 level ($p \geq 0.05$). Therefore, the distribution of scores for the research variables in both the experimental and control groups at both phases has been confirmed (the significance levels were greater than 0.05).

The purpose of examining the assumption of equality of variances is to check whether the variances of the groups are equal. For this, Levene's test was used, and its results are presented in Table 4.

Table 4: Levene's Test for Assessing the Assumption of Equal Variances of the Research Variable Scores

| Significance | Degrees of freedom 2 | Degrees of freedom 1 | F | Variables |
|--------------|----------------------|----------------------|-------|-------------------------|
| 0/789 | 32 | 1 | 0/073 | Emotional Dysregulation |

As shown in Table 4, the Levene's test assumption of equality of variances is confirmed for the variable (emotional dysregulation) in the groups.

Table 5: Box's test to examine the equality of covariance scores for the variable in the two groups.

| Significance | Degrees of freedom 2 | Degrees of freedom 1 | F-Statistic | Box's M Test |
|--------------|----------------------|----------------------|-------------|--------------|
| 0/467 | 184320/000 | 3 | 0/848 | 2/729 |

As shown in Table 5, the assumption of equality of covariance is confirmed. The significance level is 0.467, which is greater than 0.05. This means that the assumption of equality of covariance is confirmed.

The findings of the multivariate analysis of covariance (MANCOVA) conducted to investigate the impact of Acceptance and

Commitment Therapy (ACT) on emotional dysregulation among students experiencing depression are displayed in Table 6.

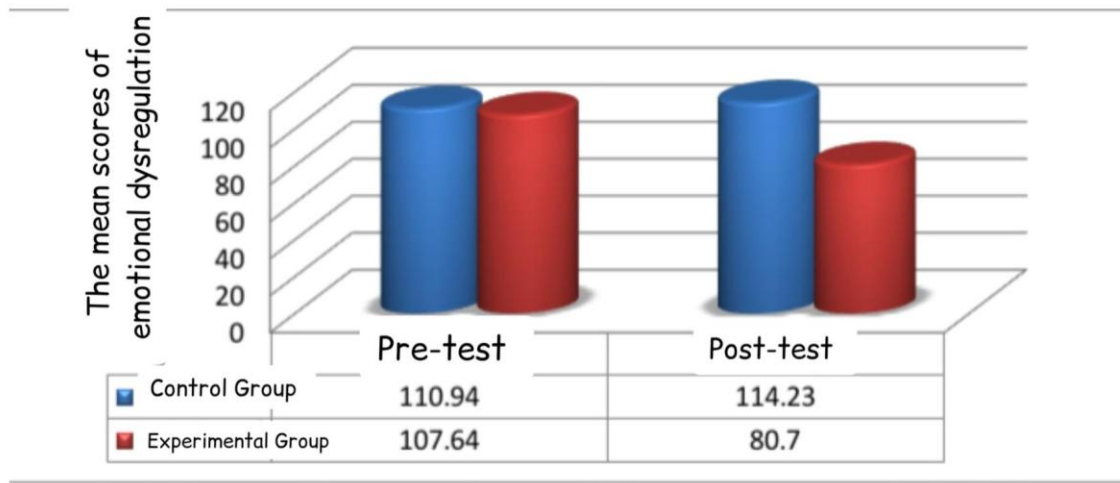
Table 6: Results of the analysis of covariance for the research hypothesis regarding the significance of differences in emotional dysregulation scores.

| Statistical power | Effect size | Significance level | F | Mean squares | Degrees of freedom | Sum of squares | Sources |
|-------------------|-------------|--------------------|---------|--------------|--------------------|----------------|-------------------------|
| 1/000 | 0/910 | 0/000 | 303/745 | 7937/461 | 1 | 7937/461 | Emotional Dysregulation |

Based on the results obtained in Table 6, the mean scores of emotional dysregulation for the experimental and control groups in the post-test stage ($p = 0.000$) are statistically significant. In other words, it can be said that the effect of Acceptance and Commitment Therapy (ACT) on emotional dysregulation in depressed students has improved in the experimental group in the post-test stage. The 100% statistical power

indicates that the precision of this test is excellent. Moreover, the sample size is sufficient for testing this hypothesis.

A bar chart comparing the mean scores of emotional dysregulation in the pre-test and post-test stages for both groups is presented in Figure 1.



The figure (1) is a bar chart comparing the mean scores of emotional dysregulation in the pre-test and post-test stages in two groups.

The objective of evaluating the assumption of equal variances is to determine whether the variances of the groups are equivalent. To this

end, Levene's test was employed. The findings are illustrated in Table 7.

Table 7: Levene's Test for assessing the assumption of equality of variances of emotional dysregulation dimensions scores.

| Significance | Degrees of freedom 2 | Degrees of freedom 1 | F | Variables |
|--------------|----------------------|----------------------|-------|---|
| 0/135 | 32 | 1 | 2/356 | Non-acceptance of emotional responses |
| 0/075 | 32 | 1 | 2/090 | Difficulties engaging in goal-directed behavior |
| 0/367 | 32 | 1 | 0/836 | Impulse control difficulties |
| 0/797 | 32 | 1 | 0/067 | Lack of emotional awareness |
| 0/189 | 32 | 1 | 1/805 | Limited access to emotion regulation strategies |
| 0/793 | 32 | 1 | 0/070 | Lack of emotional clarity |

As shown in Table 7, Levene's assumption of equality of variances across groups for the

variables (dimensions of emotional dysregulation) is confirmed.

Table 8: Box's test for examining the equality of covariance matrices of emotional dysregulation dimension scores in the two groups

| Significance | Degrees of freedom 2 | Degrees of freedom 1 | F statistic | Box's M test |
|--------------|----------------------|----------------------|-------------|--------------|
| 0/415 | 3766/270 | 21 | 1/036 | 27/332 |

As shown in Table 8, the assumption of covariance equality has been confirmed. The significance level is 0.415, which is greater than 0.05, indicating that the assumption of equality among covariance is met.

Table 9: Results of the covariance analysis for the research hypothesis regarding the significance of differences in emotional dysregulation dimensions

The results of the multivariate analysis of covariance (MANCOVA) to examine the effect of acceptance and commitment-based therapy on emotional dysregulation in depressed students are presented in Table 9.

| Statistical power | Effect size | Significance level | F | Mean squares | Degrees of freedom | Mean squares | |
|-------------------|-------------|--------------------|---------|--------------|--------------------|--------------|---|
| 1/000 | 0/871 | 0/000 | 175/818 | 248/825 | 1 | 248/825 | Non-acceptance of emotional responses |
| 1/000 | 0/705 | 0/000 | 61/992 | 172/620 | 1 | 172/620 | Difficulties engaging in goal-directed behavior |
| 1/000 | 0/758 | 0/000 | 81/321 | 114/379 | | 114/379 | Impulse control difficulties |
| 1/000 | 0/857 | 0/000 | 155/331 | 331/183 | | 331/183 | Lack of emotional awareness |
| 0/999 | 0/519 | 0/000 | 28/091 | 257/675 | | 257/675 | Limited access to emotion regulation strategies |
| 1/000 | 0/840 | 0/000 | 136/826 | 176/192 | | 176/192 | Lack of emotional clarity |

Based on the findings presented in Table 9, the average scores of non-acceptance of emotional responses in the experimental and control groups during the post-test phase are statistically significant ($p = 0.000$). Thus, it can be asserted that Acceptance and Commitment Therapy (ACT) has enhanced the non-acceptance of emotional responses among depressed students in the experimental group during the post-test phase. The statistical power of 100% reflects outstanding statistical precision in this analysis. Furthermore, the sample size was adequate to evaluate this hypothesis.

Based on the results obtained in Table 9, the mean scores of difficulties engaging in goal-directed behavior in the experimental and control groups in the post-test phase are significant ($p = 0.000$).

In other words, it can be said that Acceptance and Commitment Therapy (ACT) has improved the difficulties engaging in goal-directed behavior in depressed students in the experimental group in the post-test phase. The 100% statistical power indicates excellent statistical accuracy in this test. Moreover, the sample size was sufficient to test this hypothesis.

Based on the results obtained in Table 9, the mean scores of difficulty in impulse control in the experimental and control groups in the post-test phase are significant ($p = 0.000$). In other words, it can be said that Acceptance and Commitment Therapy (ACT) has improved the difficulty in impulse control in depressed students in the experimental group in the post-test phase. The 100% statistical power indicates excellent

statistical accuracy in this test. Moreover, the sample size was sufficient to test this hypothesis. Based on the findings presented in Table 9, the average scores reflecting a deficiency in emotional awareness within the experimental and control groups during the post-test phase are statistically significant ($p = 0.000$). Thus, it can be asserted that acceptance and commitment-based therapy has effectively enhanced the deficiency in emotional awareness among depressed students in the experimental group at the post-test phase. The statistical power of 100% signifies outstanding statistical precision in this assessment. Moreover, the sample size was adequate to evaluate this hypothesis. Based on the findings presented in Table 9, the average scores reflecting limited access to emotion regulation strategies in both the experimental and control groups during the post-test stage are statistically significant ($p = 0.000$). In other words, it can be concluded that acceptance and commitment-based therapy has enhanced limited access to emotion regulation

strategies among depressed students in the experimental group at the post-test stage. The statistical power of 100% signifies outstanding statistical precision in this assessment. Moreover, the sample size was adequate to evaluate this hypothesis.

Based on the findings presented in Table 9, the mean scores regarding the deficiency of emotional clarity in both the experimental and control groups during the post-test phase are statistically significant ($p = 0.000$). In other words, it can be concluded that acceptance and commitment-based therapy has enhanced the deficiency of emotional clarity among depressed students in the experimental group during the post-test phase. The 100% statistical power signifies exceptional statistical precision in this analysis. Additionally, the sample size was adequate to evaluate this hypothesis.

The bar charts illustrating the average scores of emotional dysregulation dimensions during the pre-test and post-test phases across the two groups are displayed in Figures (2) to (7).

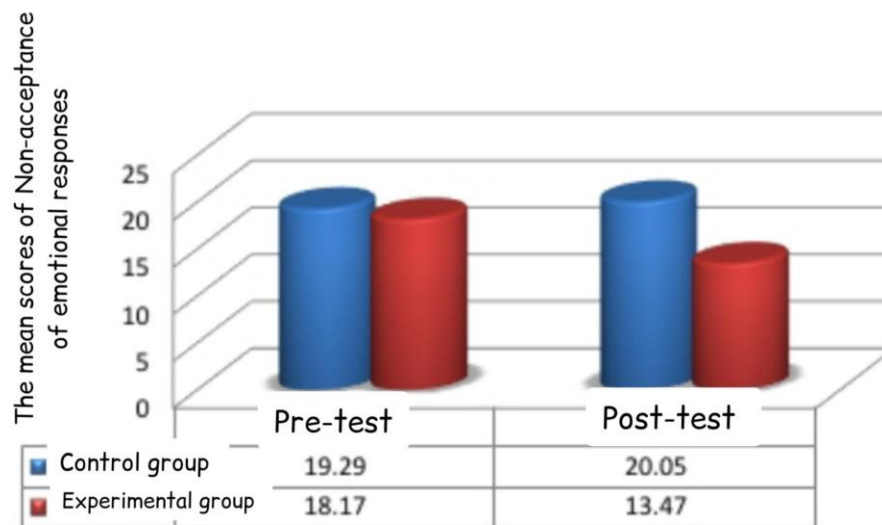


Figure (2) Bar chart comparing the mean scores of Non-acceptance of emotional response in the pre-test and post-test stages in both groups

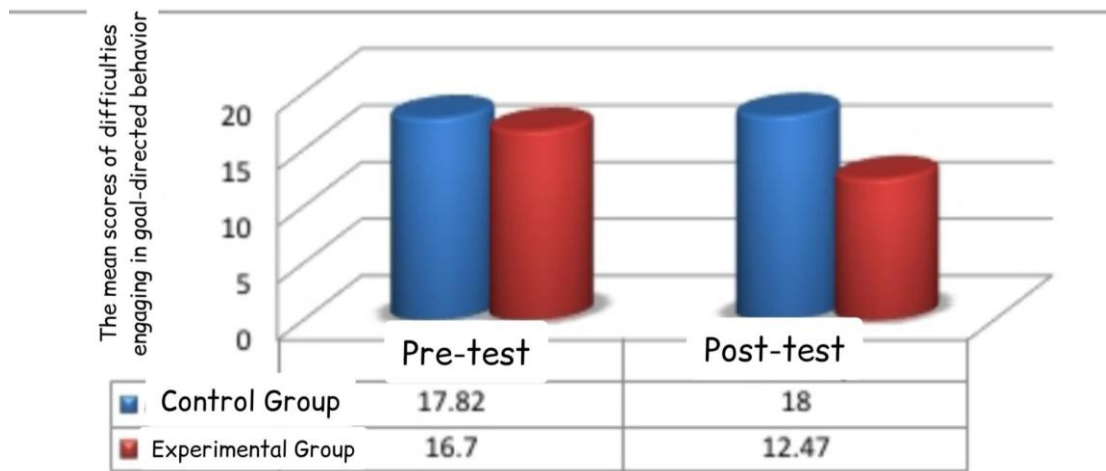


Figure (3) Bar chart comparing the mean scores of Difficulties engaging In goal-directed behavior in the pre-test and post-test stages in both group

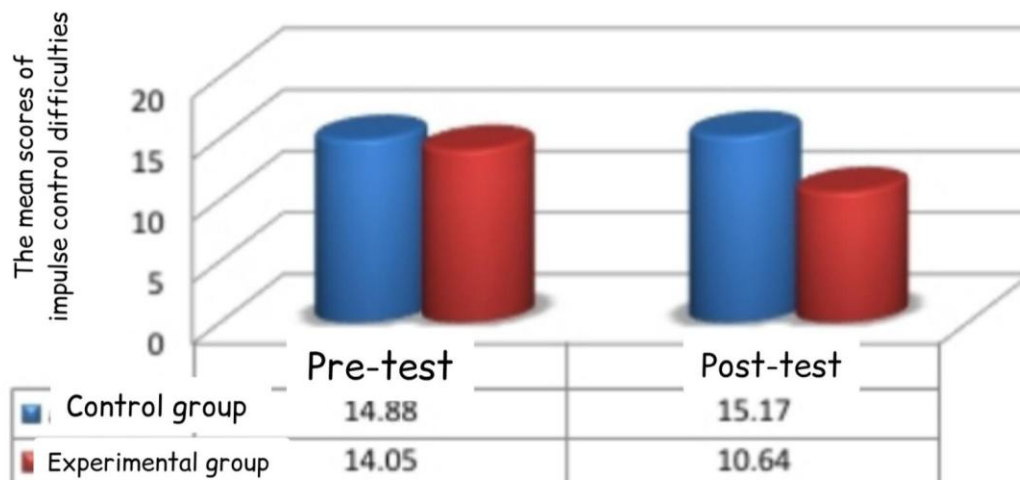


Figure (4) Bar chart comparing the mean scores of difficulty in impulse control in the pre-test and post-test stages in both groups

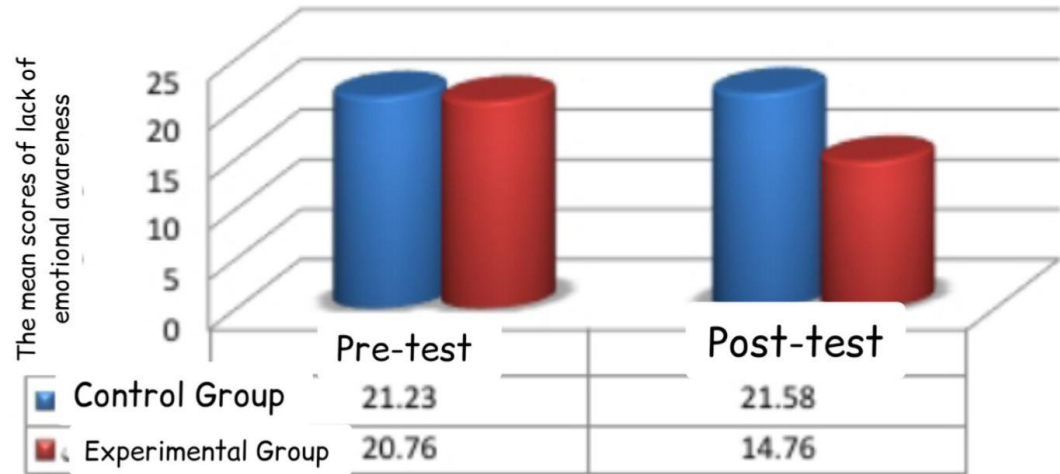


Figure (5) Bar chart comparing the mean scores of lack of emotional awareness in the pre-test and post-test stages in both groups

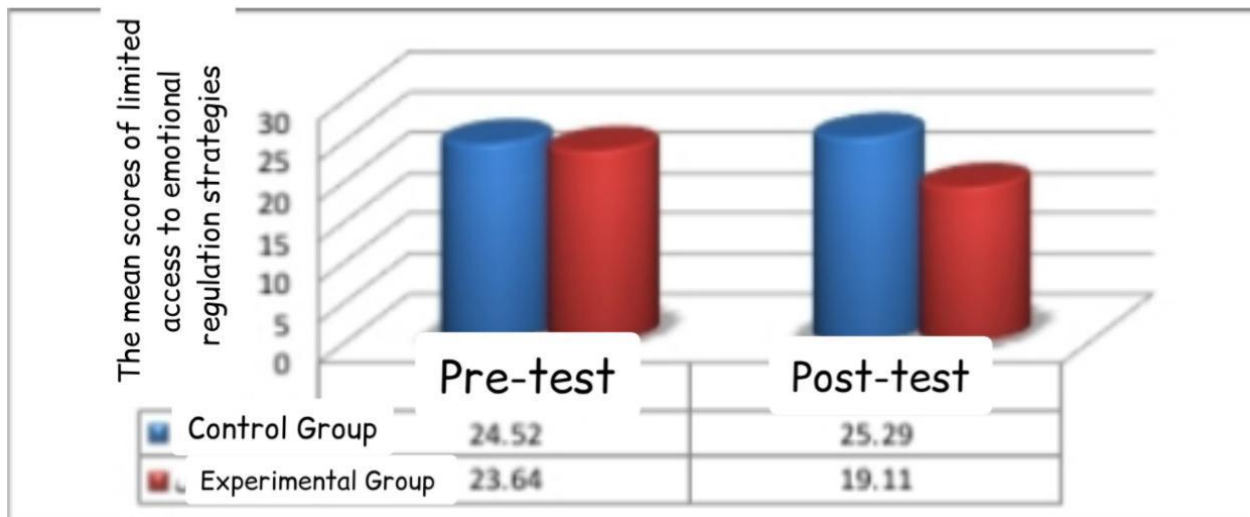


Figure 6. A bar chart comparing the mean scores of limited access to emotion regulation strategies in the pre-test and post-test stages in the two groups

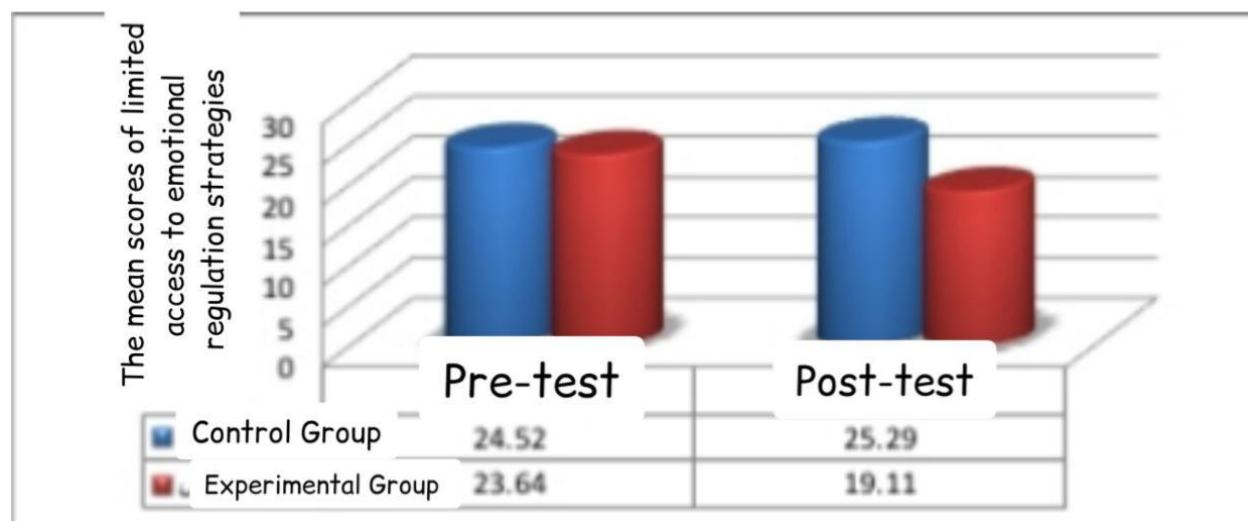


Figure (7) Bar chart comparing the mean scores of emotional clarity impairment in the pre-test and post-test stages in both groups

Discussion:

The current study sought to investigate the efficacy of Acceptance and Commitment Therapy (ACT) in addressing emotional dysregulation in students experiencing depression. To evaluate the primary hypothesis, Multivariate Analysis of Covariance (MANCOVA) was employed, revealing that ACT was effective in enhancing emotional dysregulation among students with depression. The findings of the covariance analysis indicated that the difference observed in the mean scores of emotional dysregulation between the experimental and control groups during the post-test phase was statistically significant ($p = 0.0001$). This indicates that a significant difference existed between the experimental and control groups. Consequently, ACT had a significant impact on the scores of these variables in the post-test stage of the study ($p = 0.0001$). The findings of this study are consistent with the research conducted by Parsa et al. (50), Feizollahi et al. (51), Derakhshan et al. (37), and Hayes & Zettle (52). To elucidate this outcome, it can be articulated that ACT, through the instruction of creative hopelessness, aided depressed students in recognizing their emotions and cognitions while relinquishing their former maladaptive strategies to attain more favorable and adaptive objectives. As a result, this therapeutic approach successfully liberated depressed students from the cycle of self-destructive struggles in which they were ensnared, potentially leading them to self-harm, inflict harm upon others, or engage in ineffective emotion-focused coping strategies such as

risky behaviors, including suicidal actions. Ultimately, this intervention facilitated improved psychological adjustment, augmented mental and social well-being, and diminished depression in these students (22). This therapy, through mechanisms such as acceptance, heightened awareness of the present moment, non-judgmental observation, engaged action grounded in values, and the avoidance of experiential avoidance, can provide clients with beliefs, behaviors, and values that assist them in recognizing their emotions as they emerge, managing them more efficiently, and regulating them in a constructive manner (22). Additionally, Acceptance and Commitment Therapy (ACT) can function as an approach for emotional regulation, allowing individuals to competently navigate stressful situations and enhancing their capacity to respond proactively to high-pressure scenarios. In fact, students who engage in ACT sessions experience less negative impact from stressful conditions as a result of the establishment of values and meaning in their lives. They also cultivate greater abilities in regulating and managing their emotions. ACT induces alterations in emotional, behavioral, cognitive, affective, and experiential domains by confronting ineffective responses and substituting them with more adaptive thoughts and suitable reactions. This methodology has demonstrated efficacy in assisting students in enhancing crucial psychological facets, including the reduction of negative automatic thoughts, anxiety, depression, and distinct personality disorders. As a result, they are capable of attaining improved

emotional regulation and mental health by managing negative automatic thoughts and diminishing depression (23). In this study, Acceptance and Commitment Therapy (ACT), due to its practical training grounded in values coupled with a willingness to engage in actions toward personally significant goals rather than the eradication of undesirable experiences, empowered depressed students to appreciate themselves when confronted with challenges through the expression of their thoughts and emotions. By upholding self-respect, they experienced a decline in worry, irritability, fearfulness, a perception of danger, restlessness, and agitation linked to managing problems. Primarily, these factors played a significant role in conserving their energy, improving their well-being, and enhancing their capacity to cope effectively with high-risk challenges. The principal aim of this therapy is to highlight the readiness of depressed students to connect with their internal experiences, assisting them in understanding distressing thoughts simply as thoughts rather than definitive truths. This method allows them to recognize the ineffectiveness of their existing coping mechanisms and, instead of responding to negative thoughts, concentrate on actions that correspond with their values and what is genuinely significant in their lives. Acceptance and Commitment Therapy (ACT) is a behavioral intervention that employs mindfulness skills, acceptance, and cognitive defusion techniques to alleviate depression. It improves the capacity of depressed students to engage with their current experiences and take actions based on what is genuinely attainable in the present moment. Through behavioral commitment exercises, techniques of defusion and acceptance, and extensive discussions regarding personal values and objectives, ACT notably diminishes the intensity of depression among students. The focus on experiencing internal events is intended to assist individuals in viewing distressing thoughts merely as transient mental occurrences rather than truths that govern their actions (53). Students acquired the skills to actively and voluntarily engage with their emotions, memories, bodily sensations, and thoughts. In other words, instead of evading issues, they cultivated psychological flexibility, enabling them to adjust to any circumstance. Given that the primary aim of this therapy is to improve psychological freedom, individuals liberate themselves from distressing past experiences. The heightened attention and awareness directed toward their thoughts, emotions, and behavioral tendencies—fundamental strengths of ACT—assist them in attaining enhanced emotional well-being and resilience. It should also be emphasized that numerous students experiencing depression do not respond

favorably to exposure and response prevention therapy, which is among the prevalent treatment approaches. One of the principal reasons substantiating the findings of this study—affirming the efficacy of Acceptance and Commitment Therapy (ACT) in enhancing emotional dysregulation among depressed students (encompassing symptoms such as sadness, pessimism, feelings of failure, dissatisfaction, guilt, self-hatred, suicidal thoughts, withdrawal, indecisiveness, worthlessness, fatigue, difficulty working, and loss of appetite)—is that ACT does not concentrate on eradicating undesirable experiences. Rather, its methodologies, including value clarification and committed action, promote depressed students to discern their core values, establish goals, identify obstacles, and ultimately commit to pursuing their aims despite challenges. By undertaking this action, ACT assists individuals in attaining their objectives, experiencing the joy connected to their achievements, and enhancing their overall life satisfaction. This methodology safeguards them from becoming ensnared in patterns of negative thoughts and emotions, including sadness, pessimism, feelings of failure, dissatisfaction, guilt, self-reproach, suicidal inclinations, withdrawal, indecision, worthlessness, fatigue, challenges in work performance, and loss of appetite, all of which exacerbate emotional dysregulation. Avoidance and limited tolerance for anxiety frequently accompany conventional therapeutic methods, prompting numerous individuals to discontinue therapy sessions. Nevertheless, the fundamental objectives of ACT in this study were intended to instruct individuals to relinquish unproductive thought-control techniques. Rather than grappling with intrusive and anxiety-provoking thoughts, students were taught to detach from them and adeptly manage and regulate their emotions (35). Additionally, the application of defusion and acceptance techniques within the framework of Acceptance and Commitment Therapy (ACT) facilitates students in recognizing their negative emotions while experiencing a reduced level of distress from them. By employing these techniques, distressing emotions such as sadness, pessimism, feelings of failure, dissatisfaction, guilt, self-loathing, suicidal ideation, withdrawal, indecisiveness, a sense of worthlessness, fatigue, challenges in performing tasks, and diminished appetite gradually subside. Consequently, depressed students cultivate an enhanced capacity for emotional regulation (25). ACT also integrates cognitive strategies such as assessing and comprehending concepts such as worry and hopelessness to enhance feelings of guilt, self-loathing, pessimism, and sadness. Consequently, depressed students who participated in ACT became fully cognizant of their worries, hopelessness,

withdrawal propensities, indecision, and senses of worthlessness. Following the attainment of this awareness, they undertook measures to confront these issues. This approach progressively diminished their maladaptive cognitive evaluations of emotional dysregulation while amplifying their capacity to regulate emotions efficiently (27). Currently, Cognitive Behavioral Therapies (CBT), particularly the Acceptance and Commitment Therapy (ACT) approach, are extensively employed as effective techniques for treating and alleviating psychological symptoms associated with emotional dysregulation. ACT employs cognitive strategies such as heightened awareness of mental experiences to enhance cognitive distortions, rumination, and beliefs pertaining to dissatisfaction, failure, feelings of worthlessness, and loss of appetite, in addition to managing these cognitions. Additionally, the therapy includes methods to tackle self-hatred, internal experiences, and behaviors, and introduces the principles of cognitive defusion to diminish apathy towards oneself and one's emotional and cognitive needs. In addressing mental experiences and acquiring cognitive defusion techniques, individuals are instructed to confront certain aspects of their lives, particularly challenges at work, fatigue, and feelings of guilt, which they had previously disregarded and which were significant contributors to their depression. Gradually, they learn to appreciate themselves more, alleviate their tension, discomfort, and depression, and, over time, experience an enhanced sense of self-worth, satisfaction, and vitality (29). Therefore, Acceptance and Commitment Therapy (ACT), via its cognitive strategies, enhanced emotional regulation and diminished depression among students. However, one limitation of the study was the implementation of a convenience sampling method, which limits the generalizability of the findings. Numerous variables that could influence emotional dysregulation in depressed students were not taken into account with this approach. Another limitation of the study was the absence of an investigation into the personality traits of students experiencing depression, the social and economic circumstances of the participants, and other influencing factors such as family background, medications, etc. It is advised that future studies employ random sampling methods to improve the generalizability of their findings. Furthermore, it is proposed that future research should explore the personality traits of students with depression and take into account the work, social, and economic conditions of the families of students participating in ACT sessions. This would assist in controlling and eliminating numerous confounding variables.

Conclusion

Based on the findings of this study, which indicated that Acceptance and Commitment Therapy (ACT) exerts a considerable influence on emotional dysregulation among depressed students (encompassing symptoms such as sadness, pessimism, feelings of failure, dissatisfaction, guilt, self-hatred, thoughts of suicide, withdrawal, indecisiveness, feelings of worthlessness, fatigue, challenges with work, and loss of appetite), it is advisable that ACT be integrated into educational programs designed to empower and improve both the mental and physical health of depressed students. Such programs ought to be provided in counseling centers to effectively address emotional dysregulation in students.

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