




The Effectiveness of Acceptance and Commitment Therapy on Difficulties in Emotion Regulation and Distress Tolerance in Students with High Academic Stress

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Article Info

Article type:

Original Research

Section:

Educational Counseling

How to cite this article:

Mahmoud Soltani, R., Foroozeshfar, N., & Samirigi, F. (2026). The Effectiveness of Acceptance and Commitment Therapy on Difficulties in Emotion Regulation and Distress Tolerance in Students with High Academic Stress. *KMAN Counseling and Psychology Nexus*, 4, 1-11.

<http://doi.org/10.61838/kman.ec.psyxenus.5368>



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ABSTRACT

The present study was conducted to determine the effectiveness of Acceptance and Commitment Therapy (ACT) on difficulties in emotion regulation and distress tolerance among students with high academic stress. This was a quasi-experimental study with a pretest–posttest design and a two-month follow-up with a control group. The statistical population consisted of students at Islamic Azad University, Tonekabon Branch during the 2024–2025 academic year. After administering the Gadzella Student-Life Stress Inventory, students who obtained scores of 188 and above were identified as individuals with high academic stress. Subsequently, 30 eligible students were selected through purposive sampling and randomly assigned to two groups: an experimental group and a control group, with 15 participants in each group. The experimental group received Acceptance and Commitment Therapy during 10 sessions of 90 minutes each, whereas the control group received no intervention during this period. Data were collected using the Difficulties in Emotion Regulation Scale and the Distress Tolerance Scale. Data analysis was performed using the independent samples t-test, Fisher's exact test, and two-way repeated measures analysis of variance in IBM SPSS Statistics version 26. The results indicated that the experimental and control groups did not differ significantly in terms of demographic characteristics. Furthermore, the results of the two-way repeated measures analysis of variance demonstrated that the interaction effect of group and time on difficulties in emotion regulation and distress tolerance was significant. Based on mean comparisons, scores for difficulties in emotion regulation decreased from pretest to posttest in the experimental group, while distress tolerance scores increased. These changes remained largely stable at the two-month follow-up stage, whereas no substantial changes were observed in the control group. Based on the findings of the study, Acceptance and Commitment Therapy can reduce difficulties in emotion regulation and increase distress tolerance in students with high academic stress. Therefore, the use of this approach in university counseling centers may be beneficial in helping students manage negative emotions and enhance their ability to tolerate stressful academic situations.

Keywords: *difficulties in emotion regulation, distress tolerance, Acceptance and Commitment Therapy, academic stress*

1. Introduction

University students are exposed to a broad range of academic, interpersonal, financial, and developmental pressures that may significantly affect their psychological well-being and academic functioning. The university period is often accompanied by major transitions in social roles, increased academic expectations, concerns regarding future career opportunities, and adaptation to new educational environments. These conditions may lead to elevated levels of academic stress, particularly among students who lack effective coping strategies and emotional regulation skills. Recent studies have shown that academic stress is one of the most prevalent psychological challenges among university students and is associated with reduced psychological well-being, emotional maladjustment, impaired academic performance, and increased vulnerability to mental health problems (da-Silva-Domingues et al., 2024; Deng et al., 2022). Academic stress refers to the psychological strain and emotional tension experienced in response to academic demands that exceed an individual's perceived coping resources. Persistent exposure to academic stress may negatively influence cognitive functioning, emotional stability, and adaptive behavior, thereby increasing the likelihood of psychological distress and maladaptive coping responses (Liang & Mao, 2025; Stromájer et al., 2023). In contemporary educational settings, students are frequently confronted with examination pressure, competitive academic environments, fear of failure, workload overload, and uncertainty regarding future occupational prospects. These stressors may intensify emotional dysregulation and reduce students' capacity to tolerate distressing emotional experiences, ultimately impairing their academic motivation and psychological adjustment (Deng et al., 2022; Katajavuori et al., 2023).

One of the major psychological variables associated with academic stress is difficulty in emotion regulation. Emotion regulation refers to the processes through which individuals monitor, evaluate, and modify emotional reactions in order to achieve adaptive goals and maintain psychological balance. Effective emotion regulation enables individuals to manage negative emotional experiences, respond flexibly to stressful situations, and maintain goal-directed behaviors despite emotional discomfort. Conversely, difficulties in emotion regulation involve maladaptive responses to emotional experiences, including emotional avoidance, impulsive reactions, lack of emotional awareness, inability to control negative emotions, and limited access to effective

coping strategies (Kozubal et al., 2023). Research has demonstrated that students who experience higher levels of academic stress are more likely to exhibit emotional dysregulation, which may subsequently contribute to anxiety, depression, academic procrastination, and impaired academic functioning (Liang & Mao, 2025; Mohammadi Bytamar et al., 2020). Emotion regulation difficulties may prevent students from effectively processing stressful experiences and increase the tendency to engage in avoidance-based coping behaviors. Such maladaptive strategies often exacerbate emotional distress and reduce psychological flexibility over time (Kozubal et al., 2023).

Another important psychological construct closely related to academic stress and emotional functioning is distress tolerance. Distress tolerance refers to an individual's perceived or actual ability to withstand negative emotional states and persist in goal-directed activities despite experiencing psychological discomfort. Individuals with high distress tolerance are generally more capable of enduring unpleasant emotions without resorting to maladaptive coping strategies, whereas individuals with low distress tolerance may perceive distress as unbearable and engage in avoidance, impulsive behaviors, or emotional suppression to escape uncomfortable experiences (Leyro et al., 2010). Distress tolerance has been identified as a central factor in emotional resilience and adaptive coping across a wide range of psychological conditions. Low levels of distress tolerance are associated with increased emotional vulnerability, heightened anxiety and depressive symptoms, poor stress management, and diminished psychological adjustment (Leyro et al., 2010; Lyu et al., 2025). In university settings, students with low distress tolerance may struggle to cope with academic demands, interpersonal conflicts, examination stress, and performance-related pressures, which can intensify emotional distress and negatively affect academic engagement.

Recent evidence indicates that academic stress, emotion regulation difficulties, and distress tolerance are interconnected psychological processes that collectively influence students' mental health and academic functioning. Students who perceive academic situations as threatening or overwhelming may experience heightened emotional reactivity and reduced capacity to regulate distressing emotions effectively. Consequently, they may engage in experiential avoidance strategies, such as procrastination, withdrawal, emotional suppression, or cognitive disengagement, which may temporarily reduce distress but ultimately maintain or intensify psychological problems

(Liang & Mao, 2025; Mohammadi Bytamar et al., 2020). Furthermore, chronic academic stress may impair students' ability to tolerate uncertainty and emotional discomfort, thereby increasing susceptibility to maladaptive emotional responses and academic difficulties (Deng et al., 2022). Therefore, interventions targeting emotion regulation and distress tolerance may play a critical role in improving psychological functioning among students with high academic stress.

Among the contemporary psychological interventions designed to enhance emotional functioning and psychological flexibility, Acceptance and Commitment Therapy (ACT) has gained substantial empirical support. ACT is considered a third-wave behavioral therapy that emphasizes acceptance of internal experiences, mindfulness, cognitive defusion, clarification of personal values, and engagement in committed action. Rather than attempting to eliminate unpleasant thoughts and emotions, ACT encourages individuals to develop a more flexible and accepting relationship with their internal experiences while pursuing meaningful life goals (Amirian et al., 2018; Gkofa et al., 2026). The central assumption of ACT is that psychological suffering is largely maintained by experiential avoidance and cognitive fusion, processes through which individuals attempt to control or avoid unwanted thoughts and emotions. These attempts often intensify emotional distress and reduce adaptive functioning over time. ACT seeks to increase psychological flexibility, defined as the ability to remain in contact with the present moment and engage in value-consistent behavior despite the presence of unpleasant internal experiences (Gkofa et al., 2026; Katajauori et al., 2023).

The therapeutic mechanisms of ACT appear particularly relevant for students experiencing high academic stress. Academic stress often triggers anxiety, self-criticism, fear of failure, and emotional avoidance, all of which may contribute to impaired emotion regulation and reduced distress tolerance. By teaching mindfulness, acceptance, and cognitive defusion skills, ACT may help students observe stressful thoughts and emotions without becoming overwhelmed by them. In addition, ACT encourages individuals to clarify their academic and personal values and engage in adaptive behavior even in the presence of distressing emotional states (Katajauori et al., 2023). Through these processes, ACT may reduce emotional avoidance, increase tolerance for academic-related distress, and improve students' capacity to regulate emotions effectively.

Empirical studies have provided growing evidence regarding the effectiveness of ACT in improving emotional functioning and reducing psychological distress across diverse populations. For example, research has demonstrated that ACT can significantly enhance psychological well-being, reduce anxiety and depressive symptoms, and improve emotional regulation capacities among students and clinical populations (Amirian et al., 2018; Gkofa et al., 2026). Katajauori et al. reported that an ACT-based intervention improved university students' well-being and study-related functioning by increasing psychological flexibility and adaptive coping strategies (Katajauori et al., 2023). Similarly, Roohi et al. found that ACT significantly increased distress tolerance, self-compassion, and emotion regulation among students with social anxiety disorder (Roohi et al., 2019). Khoyshavand et al. also demonstrated that ACT improved distress tolerance and psychological strengths among older adults, indicating the broad applicability of this therapeutic approach across different age groups and psychological conditions (Khoyshavand et al., 2024).

In addition, recent studies have emphasized the importance of distress tolerance as a protective factor in university students' mental health. Lyu et al. reported that psychological resilience and self-disclosure mediated the relationship between artistic engagement and increased distress tolerance among university students, highlighting the importance of adaptive coping processes in academic settings (Lyu et al., 2025). Similarly, Leyro et al. identified distress tolerance as a transdiagnostic factor associated with emotional disorders and maladaptive coping behaviors, suggesting that interventions designed to enhance distress tolerance may contribute to improved psychological functioning (Leyro et al., 2010). Research has also indicated that deficits in emotion regulation may contribute to academic procrastination and reduced academic achievement, further underscoring the necessity of interventions targeting emotional processes among students (Mohammadi Bytamar et al., 2020).

Despite the growing body of evidence supporting the effectiveness of ACT, relatively limited research has specifically examined its effectiveness in reducing difficulties in emotion regulation and increasing distress tolerance among students with high academic stress. Most previous studies have focused on general anxiety, depression, or behavioral problems, while fewer investigations have addressed the combined role of emotional dysregulation and distress tolerance in

academically stressed student populations. Moreover, considering the increasing prevalence of academic stress in higher education environments and its negative impact on students' psychological well-being, identifying effective psychological interventions for this population is of substantial practical importance (da-Silva-Domingues et al., 2024; Liang & Mao, 2025). Since students with high academic stress may experience persistent emotional distress and maladaptive coping patterns, interventions that specifically target psychological flexibility and emotional acceptance may be particularly beneficial.

Furthermore, the contextual and cultural characteristics of university students may influence the effectiveness of psychological interventions. Therefore, examining the efficacy of ACT within different educational and cultural contexts may contribute to a more comprehensive understanding of its therapeutic potential. Given the theoretical foundations of ACT and its emphasis on acceptance, mindfulness, cognitive defusion, and committed action, this intervention appears capable of improving emotional regulation capacities and enhancing distress tolerance among students facing academic pressures (Gkofa et al., 2026; Katajavuori et al., 2023). Enhancing these psychological capacities may not only reduce emotional distress but also improve academic adjustment, resilience, and adaptive functioning in stressful educational environments.

Accordingly, the present study was conducted to investigate the effectiveness of Acceptance and Commitment Therapy on difficulties in emotion regulation and distress tolerance among students with high academic stress.

2. Methods and Materials

2.1. Study Design and Participants

The present study was an applied research project conducted using a quasi-experimental method with a pretest–posttest design and a two-month follow-up alongside a control group. The statistical population consisted of all students enrolled at Islamic Azad University, Tonekabon Branch during the 2024–2025 academic year. After obtaining the necessary permissions and coordinating with university authorities, a public invitation for participation in the study was distributed among students. Volunteers who expressed willingness to participate received a brief explanation regarding the objectives, procedures, and conditions of the study and subsequently

completed the Gadzella Student-Life Stress Inventory (1994). In the present study, a score of 188 or above was considered the cutoff point for high academic stress; therefore, students who obtained scores equal to or higher than 188 were identified as students with high academic stress.

Following the initial screening process, 30 students who met the inclusion criteria and demonstrated high levels of academic stress were selected using purposive sampling. Participants were then randomly assigned through a simple lottery procedure into an experimental group and a control group, with 15 participants in each group. The sample size was determined based on the quasi-experimental nature of the study, a 95% confidence level, a moderate effect size, and a statistical power of 0.83. According to these assumptions, the minimum required sample size was estimated to be 12 participants per group; however, considering the possibility of attrition during the intervention process, 15 participants were assigned to each group, resulting in a total sample of 30 students.

The inclusion criteria consisted of being enrolled at Islamic Azad University, Tonekabon Branch during the 2024–2025 academic year, obtaining a score of 188 or above on the Gadzella Student-Life Stress Inventory, providing informed consent to participate in the study, the ability to attend treatment sessions regularly, not receiving simultaneous psychological interventions similar to the present treatment, and not having severe physical illnesses or psychological disorders that could interfere with the research process. The exclusion criteria included absence from more than two therapy sessions, withdrawal from the study, participation in other psychological interventions during the study period, incomplete completion of questionnaires, and the emergence of acute psychological or physical conditions during the implementation of the research.

2.2. Measures

The Difficulties in Emotion Regulation Scale (DERS), developed by Kim L. Gratz and Lizabeth Roemer in 2004, was used to assess participants' difficulties in emotion regulation. This instrument consists of 36 items rated on a five-point Likert scale ranging from 1 (almost never) to 5 (almost always). The scale evaluates six dimensions of emotion regulation difficulties, including nonacceptance of negative emotions, difficulties engaging in goal-directed behaviors during distress, impulse control difficulties during

distress, limited access to effective emotion regulation strategies, lack of emotional awareness, and lack of emotional clarity. The total score is obtained by summing the scores of all six subscales, with higher scores indicating greater difficulties in emotion regulation. Previous international studies have confirmed the psychometric properties of the scale, including internal consistency, test-retest reliability, construct validity, and predictive validity in both clinical and non-clinical populations. The Persian version of the scale has also demonstrated satisfactory psychometric properties in Iranian clinical and non-clinical samples.

Distress tolerance was measured using the Distress Tolerance Scale (DTS) developed by Michael P. Simons and Christopher J. Gaher in 2005. The scale is a self-report measure consisting of 15 items and four subscales, including tolerance of emotional distress, absorption by negative emotions, subjective appraisal of distress, and regulation efforts aimed at alleviating distress. Responses are scored on a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree), with Item 6 scored in reverse. Higher scores indicate greater distress tolerance. Simons and Gaher (2005) reported Cronbach's alpha coefficients ranging from 0.70 to 0.82 for the subscales and 0.82 for the total scale, indicating acceptable internal consistency. They also reported satisfactory criterion-related and convergent validity for the instrument. In Iran, Alavi (2009) administered the Persian version of the scale to students from Ferdowsi University and Mashhad University of Medical Sciences and reported high internal consistency for the total scale ($\alpha = 0.71$) and moderate reliability coefficients for the subscales.

2.3. Intervention

After selecting the participants and randomly assigning them to the experimental and control groups, the pretest phase was conducted for both groups, during which participants completed the Difficulties in Emotion Regulation Scale and the Distress Tolerance Scale. The experimental group subsequently received Acceptance and Commitment Therapy (ACT) in 10 weekly sessions lasting 90 minutes each, while the control group did not receive any psychological intervention during this period and participated only in the assessment stages. The intervention protocol was developed based on the treatment manual proposed by Wells and Sorrell (2007) and translated by Masgrian (2011). The sessions focused on introducing the

principles of ACT, identifying experiential avoidance, promoting acceptance of unpleasant emotions, cognitive defusion from stress-related thoughts, mindfulness and present-moment awareness, self-as-context, clarification of personal and academic values, committed action, enhancement of distress tolerance in academic situations, and relapse prevention. After completion of the intervention, the posttest phase was administered for both groups, and a follow-up assessment was conducted two months later to evaluate the stability of treatment effects. Ethical considerations were fully observed throughout the study. Participants were informed about the aims and procedures of the research before enrollment, written informed consent was obtained, confidentiality of information was guaranteed, and participants were informed of their right to withdraw from the study at any stage. After completion of the study, the control group was provided access to educational materials or related psychological services to ensure ethical fairness.

2.4. Data analysis

Data analysis was conducted using IBM SPSS Statistics version 26. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarize the data. Independent samples t-tests and Fisher's exact tests were used to examine the homogeneity of the experimental and control groups in terms of demographic variables. Prior to conducting the main analyses, statistical assumptions were evaluated, including normality of data distribution using the Kolmogorov-Smirnov test, homogeneity of variances using Levene's test, and the assumption of sphericity using Mauchly's test. Finally, two-way repeated measures analysis of variance (ANOVA) was employed to examine the effectiveness of Acceptance and Commitment Therapy on difficulties in emotion regulation and distress tolerance across the pretest, posttest, and follow-up stages. The significance level for all statistical analyses was set at 0.05.

3. Findings and Results

The mean and standard deviation of age in the experimental and control groups were 21.40 ± 2.18 and 21.73 ± 2.31 years, respectively. The results of the independent samples t-test indicated that there was no significant difference between the two groups in terms of age ($P > 0.05$). In addition, the results of Fisher's exact test for gender, educational level, and marital status demonstrated

that there were no statistically significant differences between the experimental and control groups regarding demographic characteristics ($P > 0.05$). Therefore, the two

groups were homogeneous in terms of demographic variables.

Table 1

Demographic Characteristics of the Participants

Variables	Components	Experimental (n = 15) Frequency (%)	Control (n = 15) Frequency (%)	P Value
Gender	Male	6 (40.00)	7 (46.66)	0.713
	Female	9 (60.00)	8 (53.34)	
Educational Level	Bachelor's degree	11 (74.33)	12 (80.00)	0.651
	Master's degree	4 (26.67)	3 (20.00)	
Marital Status	Single	12 (80.00)	13 (86.67)	0.624
	Married	3 (20.00)	2 (14.33)	

According to Table 2, the descriptive indices of the study variables in the experimental and control groups across the pretest, posttest, and follow-up stages are presented. As observed, the mean scores of difficulties in emotion regulation in the experimental group decreased from the pretest to the posttest stage, and this reduction was largely maintained during the follow-up stage. Furthermore, the mean scores of distress tolerance in the experimental group

increased from the pretest to the posttest stage, and this increase remained stable during follow-up. In contrast, the mean scores of the control group showed no substantial changes in either variable. Therefore, the descriptive pattern of changes indicates that Acceptance and Commitment Therapy reduced difficulties in emotion regulation and increased distress tolerance in students with high academic stress.

Table 2

Descriptive Indices of Difficulties in Emotion Regulation and Distress Tolerance in the Experimental and Control Groups

Variables	Group	Pretest Mean ± SD	Posttest Mean ± SD	Follow-up Mean ± SD	Minimum	Maximum
Difficulties in Emotion Regulation	Experimental	108.46 ± 8.37	86.73 ± 7.95	88.20 ± 8.12	74	123
	Control	107.80 ± 8.11	105.93 ± 8.46	106.40 ± 8.28	91	124
Distress Tolerance	Experimental	36.53 ± 4.82	49.20 ± 5.14	48.13 ± 5.06	29	57
	Control	37.06 ± 4.67	38.13 ± 4.92	37.80 ± 4.71	30	47

To examine the effectiveness of Acceptance and Commitment Therapy on difficulties in emotion regulation and distress tolerance, a two-way repeated measures analysis of variance was conducted. Prior to performing the main analysis, statistical assumptions were evaluated. The results of the Kolmogorov–Smirnov test demonstrated that the distribution of the research variables at the pretest, posttest, and follow-up stages did not significantly deviate from normality ($P > 0.05$). In addition, Levene's test indicated that the assumption of homogeneity of variances was met for the study variables ($P > 0.05$). The results of Mauchly's test also showed that the assumption of sphericity was established for both difficulties in emotion regulation and distress tolerance; therefore, the within-subject effects were interpreted based on the sphericity-assumed row.

The results of the two-way repeated measures analysis of variance presented in Table 3 revealed that the main effect of group on difficulties in emotion regulation was

significant, indicating that the mean scores of difficulties in emotion regulation differed significantly between the experimental and control groups. The main effect of time was also significant, suggesting that the mean scores of difficulties in emotion regulation changed significantly across the pretest, posttest, and follow-up stages. Furthermore, the interaction effect of group and time was significant. Therefore, the pattern of changes in difficulties in emotion regulation differed between the two groups, and the reduction observed in the experimental group compared with the control group was attributable to the implementation of Acceptance and Commitment Therapy.

The findings also demonstrated that the main effect of group on distress tolerance was significant. In other words, there was a significant difference between the experimental and control groups in terms of mean distress tolerance scores. The main effect of time was also significant, indicating that distress tolerance scores changed over the

measurement stages. Moreover, the interaction effect of group and time was significant. Accordingly, Acceptance and Commitment Therapy significantly increased distress

tolerance in the experimental group, and this change was largely maintained during the follow-up stage.

Table 3

Results of Two-Way Repeated Measures Analysis of Variance Examining the Effects of Acceptance and Commitment Therapy on Difficulties in Emotion Regulation and Distress Tolerance

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	P Value	Effect Size
Difficulties in Emotion Regulation	Group	1845.62	1	1845.62	18.74	< 0.001	0.401
	Time	3216.84	2	1608.42	42.36	< 0.001	0.602
	Group × Time	2754.18	2	1377.09	36.91	< 0.001	0.569
Distress Tolerance	Group	765.44	1	765.44	16.28	< 0.001	0.368
	Time	942.31	2	471.15	31.67	< 0.001	0.531
	Group × Time	811.26	2	405.63	27.42	< 0.001	0.495

According to Table 3, the interaction effect of group and time for difficulties in emotion regulation was significant ($F = 36.91, P < 0.001$). This finding indicates that the changes in difficulties in emotion regulation scores across the three measurement stages differed significantly between the experimental and control groups. Considering the mean scores presented in Table 2, it can be concluded that Acceptance and Commitment Therapy reduced difficulties in emotion regulation in the experimental group. The effect size for the interaction between group and time on difficulties in emotion regulation was 0.569, indicating a substantial effect of the intervention on this variable.

Similarly, the interaction effect of group and time for distress tolerance was significant ($F = 27.42, P < 0.001$). This result suggests that the pattern of change in distress tolerance differed between the experimental and control groups. Given the increase in mean distress tolerance scores in the experimental group from the pretest to the posttest stage and the relative maintenance of this improvement at follow-up, it can be concluded that Acceptance and Commitment Therapy increased distress tolerance in students with high academic stress. The effect size for the interaction between group and time on distress tolerance was 0.495, reflecting a considerable effect of the intervention on this variable.

Overall, the findings of the study demonstrated that Acceptance and Commitment Therapy, compared with the control group, significantly reduced difficulties in emotion regulation and significantly increased distress tolerance among students with high academic stress. Furthermore, the relative stability of the scores at the follow-up stage indicates that the effects of the intervention were largely maintained after the completion of the treatment sessions. Therefore, the research hypothesis regarding the effectiveness of

Acceptance and Commitment Therapy on difficulties in emotion regulation and distress tolerance was confirmed.

4. Discussion

The present study aimed to investigate the effectiveness of Acceptance and Commitment Therapy (ACT) on difficulties in emotion regulation and distress tolerance among students with high academic stress. The findings demonstrated that ACT significantly reduced difficulties in emotion regulation and significantly increased distress tolerance in the experimental group compared with the control group. Furthermore, the results indicated that the positive effects of the intervention were largely maintained during the two-month follow-up period, suggesting the relative stability and persistence of treatment outcomes over time. These findings support the primary hypothesis of the study and indicate that ACT can be considered an effective psychological intervention for improving emotional functioning among university students experiencing elevated levels of academic stress.

One of the central findings of the present study was the significant reduction in difficulties in emotion regulation following the implementation of ACT. This finding is consistent with previous studies emphasizing the effectiveness of ACT in enhancing adaptive emotional processes and reducing maladaptive emotional responses (Amirian et al., 2018; Roohi et al., 2019). Emotion regulation difficulties are often intensified in individuals exposed to persistent stressors because chronic stress may overwhelm coping capacities and increase emotional reactivity. Students with high academic stress frequently experience negative emotions such as anxiety, fear of failure, frustration, hopelessness, and self-criticism, all of which

may impair their ability to regulate emotional experiences effectively. ACT appears to influence these processes by promoting acceptance of internal experiences rather than emotional suppression or avoidance. Through mindfulness exercises, cognitive defusion techniques, and present-moment awareness, participants learn to observe unpleasant emotions without reacting impulsively or attempting to eliminate them. Consequently, they become more capable of managing emotional experiences in flexible and adaptive ways.

The reduction in emotion regulation difficulties observed in the present study may also be explained through the concept of psychological flexibility, which represents one of the core therapeutic mechanisms of ACT. Psychological flexibility enables individuals to remain in contact with distressing emotions while continuing to engage in meaningful and value-oriented behaviors. Students with high academic stress often become cognitively fused with negative thoughts regarding academic failure, incompetence, or future uncertainty. These cognitive patterns may intensify emotional dysregulation and increase experiential avoidance. ACT interventions help individuals recognize thoughts as transient psychological events rather than objective realities, thereby reducing emotional reactivity and promoting adaptive emotional processing (Gkofa et al., 2026; Katajavuori et al., 2023). As students become less avoidant of negative emotions and more accepting of internal experiences, they may gradually develop more effective emotion regulation capacities.

The findings of the present study are also aligned with research indicating that maladaptive emotion regulation strategies are closely associated with academic stress and impaired academic functioning (Liang & Mao, 2025; Mohammadi Bytamar et al., 2020). Mohammadi Bytamar et al. demonstrated that difficulties in emotion regulation contribute to maladaptive academic behaviors such as procrastination and ineffective coping responses (Mohammadi Bytamar et al., 2020). Similarly, Liang and Mao reported that emotion regulation is one of the strongest predictors of academic motivation and adaptation under stressful educational conditions (Liang & Mao, 2025). Based on these findings, it can be argued that the improvement in emotion regulation observed in the present study may not only reduce emotional distress but also contribute to better academic functioning and psychological adaptation among students.

Another important finding of the study was the significant increase in distress tolerance among participants who

received ACT. This finding is consistent with previous empirical evidence suggesting that ACT enhances individuals' ability to tolerate distressing emotional states without engaging in maladaptive coping strategies (Khoyshavand et al., 2024; Roohi et al., 2019). Distress tolerance reflects the capacity to endure unpleasant emotional experiences while maintaining goal-directed behavior. Students with low distress tolerance often perceive academic stressors as unbearable and may resort to avoidance behaviors, emotional suppression, procrastination, or withdrawal to escape psychological discomfort. ACT directly targets these maladaptive processes by encouraging individuals to remain engaged with difficult emotional experiences while continuing to pursue meaningful goals and values.

From a theoretical perspective, ACT may increase distress tolerance by reducing experiential avoidance and promoting acceptance-based coping strategies. Experiential avoidance refers to attempts to suppress, escape, or control unwanted internal experiences such as anxiety, stress, sadness, or negative thoughts. Although avoidance strategies may provide temporary relief, they often reinforce psychological distress in the long term and reduce emotional resilience. ACT encourages participants to experience unpleasant emotions without judgment and without excessive attempts to alter or suppress them. This process may gradually increase tolerance for emotional discomfort and reduce fear of distressing experiences (Khoyshavand et al., 2024; Leyro et al., 2010). As students learn to remain psychologically present during stressful academic situations, they become more capable of coping effectively with examinations, academic evaluations, and interpersonal pressures within the university environment.

The increase in distress tolerance observed in the present study is also compatible with the findings reported by Lyu et al., who emphasized the role of adaptive psychological processes in strengthening students' capacity to tolerate distress (Lyu et al., 2025). Similarly, Leyro et al. identified low distress tolerance as a transdiagnostic factor associated with various emotional disorders and maladaptive coping patterns (Leyro et al., 2010). These findings suggest that improving distress tolerance may have broad psychological benefits, including reduced emotional vulnerability, improved resilience, and enhanced psychological adjustment. Since university students are frequently exposed to persistent academic and interpersonal stressors, increasing distress tolerance may help them maintain emotional

stability and continue functioning effectively despite psychological discomfort.

The stability of treatment outcomes during the follow-up phase represents another meaningful finding of the present study. The persistence of reduced emotion regulation difficulties and increased distress tolerance suggests that the skills acquired during ACT sessions may continue to influence students' psychological functioning beyond the termination of treatment. This stability may be attributed to the experiential and skill-based nature of ACT interventions. Unlike interventions that focus solely on symptom reduction, ACT teaches practical mindfulness and acceptance skills that participants can apply in daily life situations. Through repeated practice, these skills may gradually become integrated into participants' habitual coping patterns and emotional responses. The maintenance of treatment gains during follow-up is consistent with findings reported in previous ACT studies involving student populations and emotionally distressed individuals (Gkofa et al., 2026; Katajavuori et al., 2023).

Another explanation for the effectiveness of ACT in the present study may relate to the social and developmental context of university students. University students often experience identity-related concerns, academic competition, uncertainty regarding future employment, and interpersonal challenges, all of which may intensify emotional distress (da-Silva-Domingues et al., 2024). Students with high academic stress may become excessively focused on controlling negative emotions and avoiding failure-related experiences. ACT shifts this focus from emotional control to psychological acceptance and value-based action. By helping students clarify their personal and academic values, the intervention may increase motivation, meaning, and adaptive engagement in educational activities despite ongoing stressors. This process may reduce emotional rigidity and enhance emotional resilience in academic settings.

The findings of the present study also support the growing body of literature emphasizing the importance of contextual and acceptance-based interventions in higher education environments. Recent research has shown that psychological well-being among university students is influenced not only by academic factors but also by emotional coping capacities, family dynamics, social support, and resilience processes (da-Silva-Domingues et al., 2024). Therefore, interventions that improve emotional acceptance and distress management may contribute substantially to students' overall psychological adjustment. The present findings indicate that

ACT may serve as a valuable intervention within university counseling centers for students experiencing severe academic stress and emotional difficulties.

In addition, the present findings may have implications for preventive mental health programs in educational settings. Emotional dysregulation and low distress tolerance are associated with increased risk for anxiety disorders, depressive symptoms, maladaptive coping strategies, and academic disengagement (Leyro et al., 2010; Stromájer et al., 2023). Therefore, implementing ACT-based interventions at earlier stages of academic stress may help prevent the development of more severe psychological problems among students. By strengthening emotional flexibility and distress tolerance, students may become more resilient when facing academic and interpersonal challenges.

5. Conclusion

Overall, the findings of the present study suggest that Acceptance and Commitment Therapy is an effective intervention for reducing difficulties in emotion regulation and increasing distress tolerance among students with high academic stress. The intervention appears to improve students' emotional functioning by promoting psychological flexibility, reducing experiential avoidance, encouraging mindfulness and acceptance, and strengthening value-oriented coping behaviors. Given the increasing prevalence of academic stress and emotional problems among university students, ACT may provide a practical and evidence-based approach for improving psychological well-being in higher education settings.

One of the limitations of the present study was the relatively small sample size and the restriction of participants to students from a single university, which may limit the generalizability of the findings to broader student populations. In addition, the study relied exclusively on self-report questionnaires, which may be influenced by social desirability bias or subjective interpretation of emotional experiences. Another limitation was the relatively short follow-up period of two months, which restricts conclusions regarding the long-term stability of treatment effects. Furthermore, the study did not control for certain contextual variables such as socioeconomic status, personality characteristics, academic achievement level, or prior psychological experiences that may have influenced participants' emotional functioning and response to treatment.

Future research is recommended to examine the effectiveness of Acceptance and Commitment Therapy in larger and more diverse student populations across different universities and cultural contexts. Comparative studies investigating the relative effectiveness of ACT and other third-wave psychological interventions may also contribute to a more comprehensive understanding of effective approaches for academic stress management. Future studies may additionally explore the mediating role of psychological flexibility, mindfulness, resilience, and self-compassion in the relationship between ACT and emotional outcomes. Conducting longitudinal studies with longer follow-up periods would also help clarify the durability and long-term effectiveness of ACT interventions among students experiencing academic stress.

The findings of the present study suggest several practical implications for university counseling centers and mental health professionals. ACT-based programs may be integrated into student counseling services to help students manage academic stress more effectively and improve emotional coping capacities. Educational workshops focusing on mindfulness, emotional acceptance, and distress management may also be implemented as preventive mental health programs within universities. In addition, university administrators and counselors may benefit from identifying students with high academic stress at earlier stages and providing timely psychological interventions aimed at strengthening emotional resilience and adaptive coping skills. Such interventions may contribute not only to improved mental health but also to enhanced academic engagement, motivation, and overall student well-being.

Authors' Contributions

Authors equally contributed to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

Declaration of Interest

The authors report no conflict of interest.

Funding

According to the authors, this article has no financial support.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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