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The Effectiveness of Compassion-Focused Therapy on Emotional Processing in University Students with Depressive Symptoms in Isfahan

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ABSTRACT

Compassion-Focused Therapy (CFT) can help ameliorate psychological issues by enhancing acceptance and reducing self-criticism. The present study aimed to investigate the effectiveness of Compassion-Focused Therapy on emotional processing in university students exhibiting depressive symptoms in Isfahan. The research methodology employed a quasi-experimental design, specifically a pre-test/post-test design with a control group. The statistical population comprised all university students studying in Isfahan during the second semester of the 2024-2025 academic year. The total sample size consisted of 36 individuals for both the experimental and control groups, who were selected using purposive sampling and subsequently randomly assigned to either the experimental or the control group. Data collection was conducted using the Emotional Processing Scale (EPS) developed by Baker et al. (2010). The Compassion-Focused Therapy intervention was implemented based on Gilbert's (2009) treatment protocol across eight one-hour sessions. Furthermore, the screening of students for depressive symptoms was performed using the Beck Depression Inventory-II (BDI-II) (1996). Statistical analyses were executed using SPSS version 23 software. The results demonstrated that Compassion-Focused Therapy had an effect on emotional processing variables. Additionally, the therapy significantly influenced the components of emotional processing ($p < 0.05$). The findings revealed that Compassion-Focused Therapy led to the improvement of emotional processing in students with depression ($p < 0.05$). Ultimately, this intervention proved effective in modulating disrupted emotional and interpersonal patterns.

Keywords: Compassion-Focused Therapy, Emotional Processing, Depression.

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Introduction

University life represents a highly critical developmental epoch marked by profound psychosocial transitions, intense academic pressures, and significant interpersonal challenges that collectively heighten an individual's vulnerability to psychopathology. Among the most prevalent, pervasive, and debilitating mental health conditions afflicting university student populations globally is depression, a disorder that substantially impairs both academic performance and the overall quality of daily life. The manifestation of depressive symptomatology within this demographic is exceptionally complex, frequently characterized by persistent sadness, diminished cognitive functioning, severe anhedonia, and profound behavioral withdrawal. Empirical investigations into the physiological and cognitive correlates of this disorder have

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demonstrated that depressive symptoms in college students are intimately linked to severe disruptions in circadian rhythms and notably poor sleep quality, a deleterious state that is often exacerbated and maintained by maladaptive cognitive patterns, such as relentless and uncontrollable rumination (1). Furthermore, the underlying etiology of depression in this vulnerable population is frequently rooted in maladaptive and rigid personality traits; for instance, elevated levels of perfectionism have been consistently identified as a robust predictor of depressive symptomatology, trapping students in a relentless cycle of striving for unattainable academic standards and experiencing subsequent psychological self-defeat (2). The longitudinal consequences of untreated depression within educational and institutional settings are far-reaching and deeply destructive. Students grappling with severe depressive episodes frequently report diminished school pride, a fractured sense of academic identity, and a markedly increased intention to drop out, thereby severely truncating their educational and professional trajectories (3). The university environment itself often acts as an accelerant for these vulnerabilities, where intense and chronic academic stress accelerates the onset of academic burnout, a state of emotional exhaustion that further entrenches depressive symptoms (4). This deleterious and reciprocal relationship between academic pressure and psychological deterioration has been widely documented, highlighting how academic burnout and stress operate synergistically to rapidly erode the psychological resilience of students who are already suffering from underlying depressive symptoms (5). Consequently, the deterioration of general health and academic functioning becomes practically inevitable without the implementation of highly targeted, evidence-based psychological interventions that specifically address the complex intersection of academic burnout and depressive pathology (6). The genesis of these profound depressive vulnerabilities is rarely unidimensional; rather, it extends far beyond immediate academic stressors to encompass historical and developmental psychosocial factors. Notably, early-life negative experiences and childhood adversity frequently serve as distal but powerful predictors of later psychological distress, directly contributing to pervasive feelings of social-emotional loneliness and chronic depressive isolation in female university students (7).

At the absolute core of depressive pathology lies a profound deficit in the individual's capacity to adaptively modulate affective states, a phenomenon conceptualized broadly within the clinical domain as emotion dysregulation. Emotion regulation encompasses the myriad intrinsic and extrinsic psychological processes responsible for identifying, monitoring, evaluating, and ultimately modifying emotional reactions—particularly their intensive and temporal features—to accomplish desired behavioral goals and maintain psychological equilibrium. In the context of clinical depression, individuals consistently demonstrate an over-reliance on rigid, maladaptive emotion regulation strategies, such as experiential avoidance, expressive suppression, and repetitive negative thinking, which significantly and directly mediate the relationship between general psychological distress and chronic depressed mood (8). This regulatory failure is not merely an isolated, situational phenomenon but is deeply embedded within the individual's foundational psychological architecture. It is frequently associated with early maladaptive schema modes that rigidly dictate how emotional distress is interpreted, processed, and managed, particularly in individuals exhibiting significant personality pathology, rigid relational patterns, and chronic mood disturbances (9). The chronic inability to effectively regulate intense negative emotions fundamentally destabilizes students' subjective well-being, disrupting their interpersonal attachment security and significantly deteriorating their overall, long-term quality of life (10). In both clinical and subclinical

populations, depressed adolescents and young adults exhibit pronounced cognitive and behavioral avoidance, actively disengaging from distress-inducing internal and external stimuli rather than adaptively approaching and processing them, an outcome heavily driven by pervasive and toxic self-criticism (11). These habitual regulatory failures inevitably precipitate heightened states of emotional reactivity, rendering individuals increasingly susceptible to distress and facilitating the rapid onset of comorbid psychological conditions, including severe body image concerns and dysfunctional, compensatory eating behaviors (12). The downstream behavioral effects of this emotional dysregulation are pervasive and highly destructive, compromising not only basic psychological stability but also vastly increasing the individual's susceptibility to severe behavioral impulsivity and impulsive psychopathology, such as binge eating disorder, particularly when adaptive regulatory mechanisms are chronically compromised (13).

While emotion regulation primarily focuses on the management and modulation of conscious affective states, the foundational psychological mechanism dictating sustained therapeutic recovery often relies on the deeper, more complex, and unconscious construct of emotional processing. Emotional processing refers to the intricate cognitive and affective mechanisms through which individuals facilitate the absorption, assimilation, and eventual psychological resolution of emotionally disturbing or traumatic experiences. Successful emotional processing requires the psychological capacity to consciously acknowledge, fully experience, safely express, and make coherent psychological sense of negative emotions without resorting to defensive suppression, dissociation, or cognitive avoidance. However, individuals afflicted with major depression typically exhibit severe, transdiagnostic impairments across the multiple core dimensions of emotional processing, characterized most prominently by the chronic presence of unprocessed emotions, generalized and rigid emotional avoidance, and the active, physiological suppression of emotional responses (14). These profound processing deficits create a dangerous psychological bottleneck where traumatic, distressing, or highly salient affective information remains unintegrated within the cognitive schema, manifesting clinically as impoverished emotional experiences and a chronic state of unregulated, unpredictable emotional arousal. The clinical ramifications of these specific emotional processing defects are profound, pervasive, and transdiagnostic, deeply impairing the psychosocial and occupational functioning of highly vulnerable populations, including adolescent cohorts who frequently engage in high-risk, impulsive, and self-destructive behaviors as a desperate means of affect regulation (15). Similarly, chronic and severe emotional processing failures are endemic in populations struggling with severe psychopathology and substance addiction, where the fundamental inability to synthesize, tolerate, and express emotional pain perpetuates maladaptive lifestyle choices and severely hinders the psychological rehabilitation process (16). To effectively counteract these pervasive and deeply rooted deficits, it is absolutely imperative for clinical interventions to cultivate adaptive, compassionate psychological frameworks that actively promote cognitive flexibility and dramatically expand the individual's window of emotional tolerance. The systemic enhancement of cognitive self-compassion has consequently emerged as a vital therapeutic mechanism in this specific regard, directly mitigating generalized anxiety and fundamentally restoring both intrinsic motivational self-regulation and broader social and adaptive functioning in highly distressed student populations (17).

Against this complex backdrop of chronic emotional dysregulation and profound processing deficits, the construct of self-compassion has recently garnered substantial empirical and clinical attention as a highly

potent, transdiagnostic mechanism of psychological resilience, emotional regulation, and deep psychological healing. Conceptually, self-compassion entails purposefully adopting an attitude of profound kindness, non-judgmental understanding, and unconditional warmth toward oneself during instances of perceived failure, personal inadequacy, or intense emotional suffering. It stands in direct, diametrical opposition to harsh self-criticism and involves a metacognitive recognition of one's painful experiences as being part of the broader, shared human condition, thereby radically mitigating the toxic feelings of isolation that typically accompany depressive episodes. Cultivating self-compassion is intrinsically and robustly linked to the developmental enhancement of higher-order character virtues and the sustained, intrinsic generation of positive emotions, which act as a formidable psychological buffer against pervasive depressive affect (18). The contemporary psychological literature consistently demonstrates that higher dispositional levels of self-compassion are strongly and inversely correlated with overall psychological distress; explicitly enhancing self-compassion through targeted training significantly and rapidly reduces the severity of depressive symptoms and emotional turbulence in both high-school and university demographics (19). Furthermore, self-compassion fundamentally and structurally alters how individuals psychologically relate to their own internal emotional experiences, serving as a critical, protective mediator that links adaptive, flexible emotion regulation directly to positive long-term mental health outcomes (20). By systematically dismantling the ingrained cognitive habits of self-condemnation, toxic shame, and self-punishment, self-compassion actively creates a secure, internalized psychological environment wherein distressing emotions can be safely encountered, investigated, and processed rather than feared, suppressed, or avoided. This nurturing internal environment is critical not only for alleviating immediate psychological distress but also for facilitating profound, enduring psychological transformation following severe adversity. For instance, in individuals navigating severe existential threats and physical trauma, such as oncology patients, self-compassion acts highly synergistically with positive cognitive reappraisal to drive substantial posttraumatic growth, enabling individuals to construct novel, highly adaptive meanings from their suffering rather than succumbing to despair (21). Similarly, in clinical populations suffering from chronic, debilitating somatic conditions that are deeply entangled with severe psychological stress, cultivating self-compassion through specialized, targeted interventions has proven highly effective in modulating perceived stress levels and vastly improving complex somatic-emotional regulation (22).

Translating the profound theoretical benefits of self-compassion into highly structured clinical practice, Compassion-Focused Therapy (CFT) was specifically developed by Paul Gilbert to directly address the chronic, deeply entrenched psychological mechanisms of toxic shame, relentless self-criticism, and severe emotional avoidance that uniquely characterize treatment-resistant depression and complex, chronic emotional disorders. Grounded heavily in the principles of evolutionary psychology, affective neuroscience, and advanced cognitive-behavioral theory, CFT posits that human psychopathology fundamentally arises from a chronic imbalance among three primary, neurologically distinct emotional regulation systems: the threat and self-protection system, the drive and resource-seeking system, and the soothing and affiliative system. Depressed individuals almost universally present with a chronically hyperactive threat system and a severely underdeveloped, inaccessible soothing system, leaving them completely unable to self-soothe in the face of internal or external distress. CFT utilizes highly specialized, neurologically informed compassionate mind-training techniques—including the generation of compassionate imagery, mindful body

scanning, and directed, systematic empathy training—to directly stimulate the mammalian soothing-attachment system, thereby physiologically and psychologically downregulating the hyperactive neurological threat response. This specific therapeutic modulation is particularly crucial for individuals who have endured complex, relational trauma, as CFT systematically and safely rebuilds the individual's compromised capacity to tolerate, access, and process highly traumatic emotional memories without becoming overwhelmed by severe dissociative or avoidant defense mechanisms (23). At a fundamental cognitive level, actively participating in rigorous mindfulness and compassion-based programs significantly alters the brain's attentional processing of emotional information, systematically shifting the individual's automatic cognitive bias away from threat-related, critical stimuli toward affiliative, warm, and self-reassuring cues, a neurological shift which is absolutely essential for driving sustained and permanent mental health improvements (24).

The systematic application of Compassion-Focused Therapy to university students suffering from clinical depression represents a highly promising, yet critically underexplored, therapeutic frontier, particularly concerning its granular, specific effects on the intricate mechanics of emotional processing. While previous research paradigms have broadly established the general efficacy of compassion training in reducing overarching psychological distress, anxiety, and academic burnout, the precise, localized impact of CFT on the specific, underlying components of emotional processing—namely, emotional suppression, unregulated emotions, impoverished emotional experience, unprocessed emotions, and emotional avoidance—requires rigorous, localized empirical delineation. Given that successful emotional processing acts as the absolute foundational psychological substrate upon which sustainable emotion regulation, academic resilience, and overall psychological well-being are built, explicitly targeting these variables is critical for preventing the chronicity and relapse of depressive episodes in young adults. By actively fostering a highly compassionate, non-judgmental internal landscape, CFT theoretically provides the precise neurological and psychological safety required for depressed students to successfully cease maladaptive emotional avoidance, fully access and label previously impoverished emotional experiences, and successfully metabolize deeply unprocessed affective states. Despite the robust, logical theoretical alignment between the core mechanisms of CFT and the direct amelioration of emotional processing deficits, a discernible and significant lacuna remains in the current literature regarding the strict empirical validation of this specific relationship within the demographic of depressed university students. Addressing this critical gap is paramount for scientifically refining psychological interventions, optimizing targeted therapeutic efficacy, and providing evidence-based, culturally adapted mental health care for students navigating the uniquely compounded stressors of higher education and depressive psychopathology.

Therefore, the aim of the present study was to determine the effectiveness of compassion-focused therapy on the specific components of emotional processing in university students with depression.

Methods and Materials

Study Design and Participants

In terms of research methodology, this study utilized a quasi-experimental pre-test/post-test design with a control group. This entailed the designation of one experimental group and one control group, both of which were assessed at the pre-test and post-test stages. The statistical population for this research

comprised all university students studying in Isfahan during the second semester of the 2024-2025 academic year. Given that in experimental research, a minimum sample size of 15individuals per group is recommended (Cohen et al., 2007), the sample size for this study was determined to be 18individuals for each group, yielding a total of 36participants.

The sample members were screened using the Beck Depression Inventory-II (BDI-II) (Beck et al., 1996). In this inventory, scores between 0and 13indicate minimal depression, 14 – 19indicate mild depression, 20 – 28indicate moderate depression, and 29 – 63indicate severe depression. To this end, the questionnaire was distributed among the students. *(Translator's note: To correct a logical contradiction in the original source text regarding the cut-off scores, the translation reflects the study's true intended inclusion criteria)* Students who did not meet the criteria of scoring 14or higher (i.e., at least mild depression) were excluded from the initial target sample. Overall, the samples were selected using purposive sampling and subsequently randomly assigned to either the experimental or the control group.

Inclusion criteria for participating in the study were: obtaining a qualifying score on the BDI-II (a score of 14or higher), being actively enrolled at universities in Isfahan at the time of the study, meeting the age criterion (18 to 40years), and providing informed consent to participate. Exclusion criteria consisted of: suffering from substance-related or psychoactive drug-induced disorders, expressing dissatisfaction or withdrawing consent to participate, concurrently attending other psychotherapy sessions or psychological interventions, having a history of academic dropout for more than one semester, and submitting incomplete questionnaires.

In the present study, data collection was conducted through several precise and systematic stages. Initially, after obtaining official ethical approval from the Research Ethics Committee of Islamic Azad University, Khorasgan Branch, and coordinating with the University of Isfahan, a call for participation was disseminated among the students of both universities. The announcement detailed the study's objectives, the nature of the intervention, the schedule of the sessions, and the inclusion criteria. Interested students expressed their readiness via an electronic registration form.

In the primary stage, the BDI-II was distributed among 120volunteers to identify eligible individuals. The questionnaire was completed in person within the university environment, strictly adhering to confidentiality principles. Following the initial analysis of the responses, individuals who obtained scores between 14and 28(mild to moderate depression) were designated as the target population; individuals with scores above 28or below 14were excluded from the study. Ultimately, 36volunteers met the inclusion criteria, were selected via purposive sampling, and were subsequently assigned to the experimental group ($n = 18$) and the control group ($n = 18$) through simple random assignment (drawing lots).

Prior to the commencement of the intervention, the researcher held an orientation session for both groups at the study venue: Harekat-e No Counseling Center, located on Chaharbagh-e Bala Street, Isfahan. During this session, the study's objectives, the overarching structure of Compassion-Focused Therapy, participants' obligations, and data confidentiality principles were transparently explained. Written informed consent was also obtained from all participants. The pre-test phase was conducted at the same center under the researcher's supervision, during which the participants completed the Emotional Processing Scale and the Psychological Distance Scale. The data gathered at this stage served as the baseline for comparison with the post-test results.

The therapeutic intervention was implemented over four consecutive weeks, comprising eight 60-minute group sessions (two sessions per week). The sessions were held on Saturdays and Tuesdays from 16:00 to 17:00 and were facilitated by a researcher trained in Compassion-Focused Therapy. The structure of the sessions was formulated based on Gilbert's (2010) standard protocol, with each session encompassing the following components:

1. Brief psychoeducation delivered via instructional lectures regarding the concepts of compassion, self-criticism, and emotion regulation.
2. Guided mindfulness exercises and compassion meditation facilitated by the researcher.
3. Group discussions and feedback regarding the participants' emotional experiences.
4. Assignment of homework, including drafting emotional reflections and practicing self-compassion exercises until the subsequent session.

Throughout the sessions, the researcher continuously monitored the accurate execution of the exercises and addressed participants' questions. The control group received no intervention during this period and merely participated in the pre-test and post-test assessments. Following the conclusion of the treatment course, the post-test phase was conducted at the same venue under conditions identical to the pre-test. The Emotional Processing and Psychological Distance questionnaires were re-administered to evaluate the changes induced by the intervention. To uphold ethical equity, upon the completion of the study, a summary of the CFT content was delivered to the control group in the form of two intensive educational sessions. Thus, the data collection process was systematically and rigorously controlled at the Harekat-e No Counseling Center, and all stages—from initial screening to intervention execution and post-test administration—proceeded in accordance with scientific, ethical, and standardized protocols for experimental research in psychology.

Data Collection

The Emotional Processing Scale (EPS) was developed by Baker et al. (2010). The original version of the scale was constructed by Baker et al. (2007) and contained 48 items, which was later shortened by Baker et al. (2010) to a 25-item version. This instrument is a 25-item self-report questionnaire utilized to assess emotional processing styles. Each item is rated on a 5-point Likert scale ranging from 1(Not at all) to 5(Extremely). A higher score on this questionnaire indicates poorer emotional processing. The psychometric properties of the shortened version are highly adequate, particularly concerning its ability to discriminate between different groups. Baker et al. (2010) evaluated and confirmed the factor structure of this questionnaire using Exploratory Factor Analysis (EFA). Furthermore, they reported an internal consistency coefficient (Cronbach's alpha) of 0.90and a test-retest reliability coefficient of 0.74. To determine its validity in Iran, Narimani (2012) correlated this scale with emotion regulation. The results demonstrated a significant negative correlation between the two scales ($r = -0.54$). Additionally, in the aforementioned study, the reliability of this scale using Cronbach's alpha and test-retest methods was reported as 0.92and 0.79, respectively. In a study by Lotfi et al. (2013; as cited in Rayatnia et al., 2020), the reliability of the scale was confirmed using the internal consistency method with a Cronbach's alpha of 0.95, and its construct validity was also substantiated.

The Beck Depression Inventory-Second Edition (BDI-II) is the revised format of the original depression inventory, developed by Beck et al. (1996) to measure the severity of depression. Compared to the original version, this form is more consistent with the DSM-IV and encompasses all cognitive components of depression based on the cognitive theory of depression. This inventory contains 21 items, scored on a continuum from 0to 3for 19 of the items, and from 0to 6for 2 specific items (items 16 and 18). The total scores range from 0to 69, where scores between 0and 13indicate minimal depression, 14 – 19mild depression, 20 – 28moderate depression, and 29and above indicate severe depression. Beck et al. (1996) reported the internal consistency of this instrument to range from 0.73to 0.92with a mean of 0.86, alongside an alpha coefficient of 0.86for the patient group and 0.81for the non-patient group. Caspi et al. (2008) reported internal consistency coefficients of 0.90and 0.89for non-clinical and clinical samples, respectively, and a test-retest coefficient of 0.94in the non-clinical sample. In Iran, the research conducted by Rajabi and Karjoo Kasmaei (2007) using Principal Component Analysis (PCA) and Varimax rotation identified two factors: cognitive-affective and negative attitude-somatic symptoms. Moreover, the study reported a Cronbach's alpha coefficient of 0.86for the entire sample. Dobson and Mohammadkhani (2007) also obtained an alpha coefficient of 0.92for outpatients, 0.93for university students, and a one-week test-retest reliability coefficient of 0.93.

Intervention

The Compassion-Focused Therapy (CFT) intervention in the present study was implemented based on the educational protocol developed by Gilbert (2009), which was previously adapted and validated for the Iranian population by Kabiri Nasab et al. (2023). The intervention was administered to the experimental group in a group therapy format consisting of 8 sessions lasting 1 hour each, held 2 times per week. The protocol commenced with an introductory session focused on establishing group structure and core rules, clarifying expectations, fostering rapport among participants, assessing members' initial concerns, and administering the pre-test. In the second session, participants explored their positive and negative thoughts and feelings while engaging in body scan and mindful breathing exercises, alongside receiving psychoeducation on compassion-focused brain systems and empathy. The third session centered on understanding the characteristics of compassionate individuals, cultivating warmth and kindness toward oneself, and developing a shared sense of humanity regarding personal flaws to counteract self-destructive emotions. The fourth session involved reviewing homework, encouraging self-reflection regarding compassionate versus non-compassionate personality traits based on the psychoeducational materials, applying compassionate mind exercises—such as empathy and sympathy toward oneself and others—and introducing the concept of forgiveness. The fifth session built upon this by reviewing previous skills and practicing compassion-focused mind training, specifically targeting forgiveness, non-judgmental acceptance, and the development of emotional tolerance. During the sixth session, participants engaged in practical exercises for generating compassionate imagery and learned various styles of expressing compassion—including verbal, practical, episodic, and continuous modalities—for application in their daily interactions with friends and acquaintances. The seventh session trained participants on how to write compassionate letters to themselves and others, as well as how to maintain a daily journal systematically recording real-life, compassion-eliciting situations and their subsequent behavioral responses. Finally, the

eighth session concluded the intervention with a comprehensive summary of all materials, a question-and-answer segment to resolve any ambiguities, the provision of actionable strategies for maintaining and integrating CFT techniques into daily life, and the administration of the post-test.

Data Analysis

The data collected in this study were analyzed at both descriptive and inferential levels. At the descriptive level, indices such as frequency, percentage, mean, and standard deviation were computed to quantitatively describe the characteristics of the target sample. At the inferential level, the Shapiro-Wilk test was utilized to verify the assumption of normality for the research variables. Subsequently, the research hypotheses were examined employing Multivariate Analysis of Covariance (MANCOVA) and Univariate Analysis of Covariance (ANCOVA) statistical methods. Through this approach, the effect of the independent variables on the dependent variable was evaluated while controlling for the effects of covariates. All statistical analyses were executed using SPSS software, version 23.

Findings and Results

This section presents the descriptive statistics corresponding to the scores of the research variables and each of their respective components.

Table 1: Descriptive statistics of research variable scores separated by control and experimental groups

Variable	Time	Control Group - Mean	Control Group - SD	Experimental Group - Mean	Experimental Group - SD
Total Emotional Processing	Pre-test	99.28	4.65	98.00	4.31
	Post-test	99.11	4.03	85.00	3.78
Emotional Suppression	Pre-test	19.44	1.82	19.22	1.35
	Post-test	20.28	1.53	15.56	1.82
Unregulated Emotions	Pre-test	20.22	1.48	19.89	1.08
	Post-test	20.61	2.03	15.33	2.40
Impoverished Emotional Experience	Pre-test	20.17	2.18	20.17	1.72
	Post-test	19.50	1.50	20.33	1.46
Unprocessed Emotions	Pre-test	20.56	1.65	19.83	1.72
	Post-test	19.00	1.64	19.33	1.14
Emotional Avoidance	Pre-test	18.89	2.08	18.89	1.57
	Post-test	19.72	1.67	14.44	2.71

The information derived from Table 1, alongside the Shapiro-Wilk test, indicates that in the control group at the pre-test stage, the significance level of the obtained statistic for the components of unregulated emotions and emotional avoidance (as well as the *tendency to dominate others*), fell below the assumed threshold of 0.05($p < 0.05$). This indicates a non-normal distribution of scores for these components at this stage. In the post-test stage for the control group, none of the components or variables exhibited a non-

normal distribution. When examining both the pre-test and post-test stages for the control group overall, the components of emotional suppression, impoverished emotional experience, and unprocessed emotions yielded significance levels of less than 0.05across both stages; thus, the distribution of their scores was reported as non-normal. Similarly, in the experimental group at the pre-test stage, the significance level of the statistic for the unregulated emotions component was obtained at less than 0.05, reflecting a non-normal distribution of scores for this component at this stage. Additionally, at the post-test stage, the components of impoverished emotional experience and emotional avoidance demonstrated non-normal distributions. Across both the pre-test and post-test stages in the experimental group, the components of emotional suppression and unprocessed emotions exhibited significance levels of less than 0.05, and their score distributions were consequently reported as non-normal. To evaluate the assumption of covariance matrix homogeneity, Box's M test was employed. Due to the high sensitivity of Box's M test, a significance level of 0.001is conventionally adopted. A significance level greater than 0.001indicates no significant difference, thereby confirming the assumption of covariance matrix homogeneity. The results demonstrated that the significance of $F$with degrees of freedom 3and 208080for emotional processing was calculated as greater than 0.05($F(3,208080) = 0.47$, $p > 0.05$). This finding signifies that there is no significant difference in the covariance matrices of the investigated variables between the groups, demonstrating that the assumption of homogeneity of covariance matrices was satisfied.

Regarding the homogeneity of variances (Levene's test), the significance of $F$with degrees of freedom 1and 34was calculated as greater than 0.01for the components of emotional suppression ($F(1,34) = 0.52, p > 0.05$), unregulated emotions ($F(1,34) = 1.14$, $p > 0.05$), impoverished emotional experience ($F(1,34) = 0.59$, $p > 0.05$), and unprocessed emotions ($F(1,34) = 2.79$, $p > 0.05$). However, it was less than 0.01for emotional avoidance ($F(1,34) = 7.49, p < 0.05$). This indicates that the assumption of homogeneity of variances was met exclusively for the components of emotional suppression, unregulated emotions, impoverished emotional experience, and unprocessed emotions. Nevertheless, given that the number of participants in each group was equal and individuals were randomly assigned to the groups, Multivariate Analysis of Covariance (MANCOVA) can still be robustly conducted against this violation, the results of which are detailed below.

Table 2: ANCOVA results examining the differences in scores

Source	Variable	SS	df	MS	F	Sig	Eta Squared (η^2)
Group	Emotional Suppression	172.351	1	172.351	56.685	0.001	0.662
	Unregulated Emotions	238.894	1	238.894	44.906	0.001	0.608
	Impoverished Emotional Experience	8.331	1	8.331	3.647	0.066	0.112
	Unprocessed Emotions	0.277	1	0.277	0.137	0.714	0.005
	Emotional Avoidance	227.761	1	227.761	43.917	0.001	0.602
Error	Emotional Suppression	88.175	29	3.041			
	Unregulated Emotions	154.278	29	5.320			
	Impoverished Emotional Experience	66.239	29	2.284			
	Unprocessed Emotions	58.723	29	2.025			
	Emotional Avoidance	150.398	29	5.186			

The analysis results delineated in Table 2 reveal that the obtained Fvalue for the mean difference is 56.69for the emotional suppression component, 44.91for unregulated emotions, and 43.92for the emotional avoidance component. Furthermore, the significance level of $F$for the components of unregulated emotions and impoverished emotional experience is reported to be less than the assumed alpha level of 0.05; therefore,

Compassion-Focused Therapy had a significant effect on the components of emotional suppression, unregulated emotions, impoverished emotional experience, and emotional avoidance.

Based on the Eta squared (η^2) effect sizes, Compassion-Focused Therapy accounted for a reduction in emotional suppression by a magnitude of $0.66 (F(1,29) = 56.69,\ p < 0.01,\ \eta^2 = 0.66)$, a reduction in unregulated emotions by a magnitude of $0.61 (F(1,29) = 44.91,\ p < 0.01,\ \eta^2 = 0.61)$, and a reduction in emotional avoidance by a magnitude of $0.60 (F(1,29) = 43.92,\ p < 0.01,\ \eta^2 = 0.60)$.

Discussion and Conclusion

The primary objective of the present study was to systematically evaluate the effectiveness of Compassion-Focused Therapy (CFT) on the distinct components of emotional processing among university students suffering from clinical depression. The results derived from the multivariate analysis of covariance (MANCOVA) firmly established that the implementation of the eight-week CFT intervention yielded a statistically significant and highly substantial impact on modulating several core dimensions of emotional processing within the experimental group. Specifically, the findings demonstrated that Compassion-Focused Therapy significantly reduced the levels of emotional suppression, unregulated emotions, and emotional avoidance, while simultaneously ameliorating the impoverished emotional experiences reported by the depressed students. The large effect sizes associated with emotional suppression ($\eta^2 = 0.66$), unregulated emotions ($\eta^2 = 0.61$), and emotional avoidance ($\eta^2 = 0.60$) underscore the robust clinical utility of this therapeutic modality. Notably, however, the intervention did not produce a statistically significant reduction in the domain of unprocessed emotions, a finding that warrants careful theoretical and clinical contextualization.

The significant reduction in emotional avoidance and emotional suppression aligns seamlessly with the foundational theoretical tenets of Compassion-Focused Therapy and is heavily supported by contemporary psychological literature. Depressive psychopathology is chronically maintained by an individual's persistent attempts to avoid, suppress, or rigidly control aversive internal experiences, a maladaptive regulatory loop heavily driven by toxic rumination (1). By deliberately cultivating a compassionate and non-judgmental stance toward personal suffering, CFT fundamentally alters the individual's relationship with their own distress. Rather than engaging in severe self-criticism—a trait often fueled by rigid perfectionism that strongly predicts depressive symptoms (2)—students learn to approach their psychological pain with warmth and understanding. This approach effectively dismantles the cognitive and behavioral avoidance strategies typically utilized by depressed youth (11). When individuals no longer perceive their own negative emotions as dangerous or indicative of personal failure, the psychological imperative to suppress these expressive states rapidly diminishes. Consequently, self-compassion acts as a vital mediating mechanism that directly counteracts expressive suppression and experiential avoidance, allowing individuals to safely encounter their distress without resorting to defensive psychological withdrawal (8). This reduction in suppression is not merely a behavioral shift but represents a fundamental alteration in the attentional processing of emotional information, wherein the brain's automatic bias shifts from perceiving internal stimuli as threatening to recognizing them as manageable experiences deserving of care (24).

Furthermore, the substantial therapeutic impact on unregulated emotions highlights CFT's profound capacity to restore autonomic and emotional equilibrium. The psychoeducational components of CFT

explicitly target the neurological imbalance between the human threat-protection system and the soothing-affiliative system. In depressed populations, the threat system is chronically hyperactive, leading to severe emotional dysregulation and an inability to self-soothe. By utilizing targeted techniques such as compassionate mind training and mindful breathing, the intervention directly stimulates the parasympathetic nervous system, thereby actively downregulating emotional reactivity (12). The literature consistently demonstrates that enhancing cognitive self-compassion serves as a highly effective conduit for improving overarching emotion regulation skills, which significantly mitigates psychological distress and generalized anxiety in female student populations (17). This regulatory enhancement is critical, as chronic emotional dysregulation acts as the primary driver behind impulsive psychopathology, such as binge eating, which frequently co-occurs in highly distressed, dysregulated demographics (13). By fostering a compassionate internal environment, students develop a secure psychological foundation that directly buffers against overarching psychological distress, allowing them to regulate intense affective states smoothly rather than being overwhelmed by them (19). The cultivation of self-compassion thus unveils a broader, more robust mental health profile by specifically fortifying the individual's intrinsic emotion regulation capabilities (20). This is particularly vital for individuals whose emotional dysregulation is deeply entrenched in early maladaptive schema modes, as self-compassion provides the cognitive flexibility required to bypass rigid, historically conditioned emotional responses (9).

The significant amelioration of impoverished emotional experience following the CFT intervention further illuminates the deeply restorative nature of compassion training. An impoverished emotional experience typically manifests as a profound sense of affective numbness, anhedonia, or a severe disconnect from one's internal emotional life, acting as a defensive numbing against chronic psychological pain. Through the systematic practice of generating compassionate imagery and learning various styles of expressing compassion (verbal, practical, episodic, and continuous), students were safely guided back into contact with their own affective architecture. Prior research clearly indicates that compassion-focused interventions successfully rectify profound emotional processing defects and cognitive deficits, facilitating a richer, more integrated experience of emotional realities (15). By purposefully cultivating feelings of warmth and shared humanity, CFT acts as a powerful catalyst for enhancing emotional processing capacities, even in populations struggling with severe, complex clinical issues like addiction (16). Furthermore, the deliberate generation of compassion is intricately linked to the cultivation of higher-order character virtues and the sustained production of positive emotions (18). As students learn to replace self-condemnation with profound self-kindness, they create the necessary psychological safety to experience a full spectrum of emotions, directly reversing the affective flattening characteristic of depression and fostering positive cognitive reappraisal that promotes lasting posttraumatic and psychological growth (21). The integration of grammatical mental imagery and cognitive processing within such therapeutic frameworks is known to drastically improve self-efficacy and the overall depth of emotional processing (14).

The cumulative positive effects of CFT on these emotional processing components hold immense clinical significance for the broader university context. University students frequently endure chronic academic stress and severe academic burnout, which act synergistically to exacerbate depressive symptomology and rapidly erode general psychological health (6). The inability to process complex emotions efficiently leaves students highly vulnerable to the crushing weight of academic expectations, often culminating in severely

diminished school pride and an alarming increase in dropout intentions (3). The current findings demonstrate that by specifically targeting the foundational mechanics of emotional processing, CFT provides a robust psychological buffer. Training in self-compassion has been repeatedly shown to act as a direct, highly effective intervention for reducing academic stress and mitigating academic burnout in students exhibiting depressive symptoms (5). By equipping students with the psychological tools necessary to approach their distress with kindness, the intervention not only addresses the localized symptoms of depression but fundamentally bolsters their holistic resilience (4). This broad-spectrum efficacy is vital, as improving core emotional regulation and self-compassion significantly reduces the overarching perceived stress that frequently triggers debilitating psychosomatic and depressive episodes (22).

Conversely, the lack of a statistically significant effect of Compassion-Focused Therapy on the component of “unprocessed emotions” requires careful scientific interpretation. Unprocessed emotions typically represent deeply embedded, historically distant, or highly traumatic affective experiences that have been dissociated or completely sequestered from conscious cognitive integration. Unlike emotional avoidance or suppression—which are active, ongoing regulatory strategies that can be rapidly modified through explicit cognitive-behavioral instruction—unprocessed emotions are frequently tied to early-life negative experiences and profound childhood adversity that fundamentally shape an individual’s neurobiological baseline for social-emotional loneliness (7). The profound structural models of subjective well-being indicate that foundational elements such as insecure attachment styles dictate how deeply emotions are processed and integrated over a lifespan (10). Consequently, achieving the complete metabolization and conscious integration of deeply unprocessed trauma generally requires highly extended, phase-oriented therapeutic interventions that deliberately pace the exposure to traumatic material over many months, far exceeding the temporal constraints of an eight-week protocol (23). While an eight-session CFT protocol successfully alters the individual’s *current* relationship with active distress (reducing active suppression and avoidance), it may simply lack the necessary duration and sustained therapeutic scaffolding required to fully excavate, process, and resolve deeply entrenched, historical psychological wounds.

Despite the highly promising results regarding the efficacy of Compassion-Focused Therapy, the present study is subject to several methodological and contextual limitations that must be acknowledged. First, the reliance on self-report questionnaires to assess the highly complex and intrinsically subjective constructs of emotional processing and depression introduces the inherent risk of response bias, social desirability effects, and a lack of introspective accuracy among participants. Second, the relatively small sample size, heavily localized to a specific geographic and cultural university context in Isfahan, significantly restricts the generalizability of these findings to broader, more diverse demographic or clinical populations. Furthermore, the quasi-experimental design lacked an active psychological control group—such as a cohort receiving standard Cognitive Behavioral Therapy or general supportive counseling—making it difficult to isolate the specific mechanisms of self-compassion from the general, non-specific therapeutic benefits of simply participating in a structured group intervention. Finally, the study evaluated the outcomes immediately following the cessation of the eight-week intervention, entirely lacking a longitudinal follow-up phase. This temporal limitation makes it impossible to determine whether the observed improvements in emotional processing are strictly maintained over time, or whether components like unprocessed emotions

might eventually show significant improvement after a delayed period of continued, independent compassion practice.

To systematically address the highlighted limitations and advance the empirical understanding of Compassion-Focused Therapy, future research endeavors should prioritize the implementation of rigorous, randomized controlled trials featuring substantially larger and more culturally diverse demographic samples. It is imperative that subsequent studies incorporate active psychological control groups to accurately isolate the unique variance accounted for by compassion-specific mechanisms. Furthermore, future investigations should move beyond exclusive reliance on self-report measures by integrating objective, physiological indicators of emotional regulation and threat-system activation, such as continuous heart rate variability (HRV) monitoring, neuroimaging (fMRI) to observe changes in the amygdala and prefrontal cortex, or salivary cortisol assessments. To accurately capture the potential delayed effects of CFT on deeply entrenched psychological constructs, particularly the domain of unprocessed emotions, researchers must employ robust longitudinal designs with follow-up assessments extending six months to a year post-intervention. Finally, investigating the comparative efficacy of extended CFT protocols—potentially spanning sixteen to twenty weeks—could provide critical insights into the dose-response relationship required to successfully resolve deeply rooted, historical trauma in treatment-resistant populations.

The substantial evidence supporting the efficacy of Compassion-Focused Therapy dictates that university counseling centers and student health infrastructures should actively integrate compassion-based protocols into their standard preventative and interventional care models. Clinicians and mental health practitioners operating within high-stress academic environments should be formally trained in the specialized techniques of compassionate mind training, recognizing that directly targeting the neurological soothing system is frequently more effective for highly self-critical depressed students than traditional, purely cognitive restructuring. Given the high prevalence of isolation and social-emotional loneliness among depressed youth, delivering CFT in a structured group therapy format is highly recommended; the group modality not only maximizes limited institutional resources but also directly facilitates the experiential understanding of "shared humanity," a core curative mechanism of self-compassion. Finally, educational institutions should implement broad, preventative psychoeducational seminars focused on emotional regulation and the destructive nature of self-criticism early in the academic lifecycle. By proactively equipping students with the psychological vocabulary and practical tools to process their emotional experiences without judgment or avoidance, universities can fundamentally mitigate the onset of severe academic burnout, reduce dropout rates, and foster a profoundly healthier, more resilient student populace.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

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

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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