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Effectiveness of Academic Counseling Based on Cognitive-behavioral Approach on Academic Procrastination and Self-compassion among High School Students

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ABSTRACT

Objective: The present study aimed to investigate the effectiveness of academic counseling based on the cognitive–behavioral approach on academic procrastination and self-compassion among first-cycle secondary school students in Kharameh County.

Methods: The research design was quasi-experimental with an experimental group and a control group, including a pretest, posttest, and one-year follow-up. The statistical population consisted of all male first-cycle secondary school students in Kharameh city during the 2023–2024 academic year. Thirty students were selected through convenience sampling and randomly assigned to two groups of 15 (experimental and control). The research instruments included Neff's Self-Compassion Questionnaire (2003) and Savari's Academic Procrastination Questionnaire (2011). Group academic counseling based on the cognitive-behavioral approach (Asteraki et al., 2022) was implemented for the experimental group in eight 90-minute sessions. Data were analyzed using analysis of covariance (ANCOVA) with SPSS version 27.

Results: The findings showed that academic counseling based on the cognitive-behavioral approach had a significant effect on students' academic procrastination and self-compassion ($p < 0.01$). It also reduced intentional procrastination, procrastination caused by physical and mental fatigue, procrastination due to lack of planning, self-judgment, isolation, and over-identification, while increasing common humanity and mindfulness.

Conclusions: Based on the findings of this study, academic counseling based on the cognitive-behavioral approach can be used as an effective intervention to address the academic problems of first-cycle secondary school students.

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Introduction

School is an environment in which students spend a significant portion of their daily lives, and the interactions formed within this setting play an important role in strengthening students' psychological well-being, social development, academic motivation, and sense of belonging (Norouzhosseini & Ranosfadrani, 2025). Paying attention to students as the primary assets of schools is increasingly emphasized by school authorities, and the higher the educational level of students, the greater the need for attention and investment in their development (Tavassoli Dinani, 2024).

Self-compassion is defined as kindness and understanding directed toward oneself in challenging situations (Foster, 2026). It functions as a vital protective factor for mental health, and its effectiveness has been confirmed in various populations, including adolescents, individuals with psychological disorders, and patients with chronic illnesses (Bian et al., 2025). Self-compassion refers to maintaining a positive attitude toward oneself, accompanied by care and support during times of hardship and failure (Liu et al., 2025). It is considered a positive psychological trait associated with improved physical and psychological outcomes across different populations. Neff (2003) conceptualized self-compassion as responding to personal suffering and failures in an accepting and mindful manner while recognizing the shared nature of human suffering (Baxter & Sirois, 2025). Self-compassion has also been described as an adaptive way of responding to oneself in times of difficulty or distress. Neff defined it as understanding and accepting one's own suffering rather than avoiding or disconnecting from it, cultivating the desire to alleviate that suffering and to heal oneself with kindness (de Krijger et al., 2025). By reducing negative cognitive styles, decreasing entanglement with negative thoughts and emotions, and enhancing emotional regulation in stressful situations, self-compassion can help individuals reduce psychological distress (Chan et al., 2025).

Zhou (2025) found that self-compassion is associated with reduced procrastination. Academic procrastination has now become a common and serious global problem among students and adolescents in both developing and developed countries (Amoke et al., 2025). Academic procrastination refers to the intentional delay of academic tasks despite the awareness of potential negative consequences (Aran & Orun Onal, 2026). It acts as a barrier to students' academic success, leading to delays in completing assignments, preparing for examinations, and

participating in educational activities, thereby negatively affecting classroom learning performance (Berry & Kaur, 2026).

Academic procrastination is a recurring behavior in students' academic progress and is characterized by the tendency to postpone or delay completing required assignments and tasks even when deadlines are clearly defined. It involves the conscious delay of necessary academic activities and is considered a self-defeating behavior that has become increasingly prevalent in modern society, potentially leading to reduced productivity, poor performance, and increased stress (Rad et al., 2025). In essence, academic procrastination reflects students' deliberate tendency to postpone the completion of learning tasks that should be performed within specific time frames, even when they are aware of the possible negative consequences of such delays (Shinchun, 2025). Guidance and counseling services can employ specific approaches and techniques to overcome academic procrastination. One of the most effective approaches is cognitive-behavioral counseling, which targets irrational thinking patterns among procrastinating individuals and aims to improve their behavior (Suminirani et al., 2025). Academic counseling based on the cognitive-behavioral approach is a structured, short-term, and problem-focused therapeutic method that aims to modify distorted and irrational cognitions. This therapeutic approach emphasizes the role of cognition in behavioral and emotional change and helps individuals confront academic difficulties and navigate developmental challenges (Singh, James, Paul, & Bolar, 2022). Cognitive-behavioral academic counseling assists individuals in identifying, modifying, or reconstructing their dysfunctional cognitions. It also teaches them to replace maladaptive thinking patterns with adaptive ones. This intervention includes establishing shared goals, designing adaptive coping mechanisms, and promoting self-monitoring to help individuals learn new ways of coping with problems and minimizing the anxiety arising from them (Norouzi Ghiri, 2025).

The cognitive-behavioral approach, relying on inductive methods, teaches individuals to consider thoughts and beliefs as hypotheses whose validity must be tested, and it allows individuals to practice necessary skills through homework assignments (Wilkinson et al., 2013). In this regard, Hofart et al. (2015) showed that cognitive-behavioral therapy can improve self-compassion. Similarly, Milani et al. (2015) found that cognitive-behavioral therapy improved self-compassion among individuals with depression. Furthermore, the findings of Wadsworth et al. (2018) indicated

that cognitive-behavioral therapy reduces negative aspects of self-compassion while enhancing its positive aspects in depressed patients. Academic procrastination is associated with negative internal consequences such as depression, anxiety, and stress, as well as negative external outcomes such as academic failure and dissatisfaction (Boysan & Kiral, 2017). Therefore, providing psychological interventions to empower students experiencing academic procrastination is of particular importance (Zarei et al., 2022).

Barida et al. (2025) demonstrated that group counseling using self-management techniques was effective in reducing academic procrastination among students in Yogyakarta. Based on a review of previous studies, it can be concluded that the cognitive-behavioral counseling approach is capable of reducing academic procrastination. The results of Buana and Jelodwaningyas (2025) indicated that cognitive restructuring techniques delivered through group counseling were effective in reducing academic procrastination behaviors among students. This intervention resulted in measurable improvements in students' ability to manage their academic responsibilities more effectively. A body of domestic and international research evidence suggests that the cognitive-behavioral approach can serve as an effective framework for reducing academic procrastination while simultaneously enhancing positive psychological components such as self-compassion. The effectiveness of this approach in reducing academic procrastination and its dimensions has been examined by Nemat-Zadeh Souteh et al. (2023), Zarei et al. (2022), Gerayli Meshk-Abadi et al. (2021), and Wang et al. (2017). Likewise, the effectiveness of the cognitive-behavioral approach in improving self-compassion and its dimensions has been supported by studies conducted by Javadi et al. (2021), Tajeri et al. (2020), Laidlaw (2021), and Zhang (2020), indicating that interventions based on cognitive restructuring are effective not only in reducing maladaptive emotional and cognitive patterns but also in strengthening positive psychological components.

Despite these findings, gaps remain in examining the simultaneous effects of the cognitive-behavioral approach on the multiple dimensions of academic procrastination and the components of self-compassion within different educational contexts, particularly among students. Academic procrastination can lead to decreased academic performance, reduced motivation, and increased anxiety, whereas self-compassion, as a protective factor, can enhance students' psychological resilience and adaptability when facing academic challenges. Considering the

importance of addressing these two domains simultaneously, the present study aimed to evaluate the effectiveness of academic counseling based on the cognitive-behavioral approach in reducing academic procrastination and increasing self-compassion among first-cycle secondary school students. The primary innovation of this study lies in employing a comprehensive cognitive-behavioral intervention to simultaneously address these two important psychological constructs. The main challenge was to design and implement an intervention capable of producing meaningful and lasting changes in both variables. Ultimately, this research seeks to provide empirical evidence supporting the application of this counseling approach in educational settings to promote students' overall development.

Material and Methods

The present study employed a quasi-experimental design with an experimental group and a control group, including pre-test, post-test, and a one-year follow-up. The statistical population consisted of all male first-cycle secondary school students in Kharameh city during the 2023–2024 academic year. A total of 30 students were selected using convenience sampling and were randomly assigned to two groups of 15 participants (experimental and control).

Inclusion criteria were age range between 13 and 15 years, absence of physical problems or psychological disorders (based on review of students' academic records), willingness to participate in the research intervention and completion of the consent and cooperation form. Exclusion criteria included lack of cooperation by the student or their family during the research process, absence from more than two intervention sessions and receiving parallel psychological interventions during the training period

Instruments

Academic Procrastination Scale: Academic procrastination was measured using the Academic Procrastination Questionnaire developed by Savari (2011). The questionnaire consists of 12 items and three factors: Intentional procrastination (items 1–5), Procrastination due to physical and mental fatigue (items 6–9) and Procrastination due to lack of planning (items 10–12). Items are rated on a five-point Likert scale ranging from Never (0) to Always (4). The score range is 0–48 for the total scale, 0–20 for intentional procrastination, 0–16 for procrastination due to fatigue, and 0–12 for procrastination due to lack of planning.

The overall reliability of the questionnaire using Cronbach's alpha was 0.85, and its validity was assessed through correlation with Tuckman's Procrastination Scale (1991), yielding a coefficient of 0.35 (p = 0.003). In the study by Tavassoli Dinani (2024), Cronbach's alpha was 0.83, while in the present study it was 0.80.

Self-Compassion Questionnaire (Neff): Self-compassion was measured using the Self-Compassion Scale developed by Neff (2003). The questionnaire includes 26 items and six components: Self-kindness, self-judgment, common humanity, isolation, mindfulness and over-identification. Items are rated on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Total scores range from 26 to 130. Scores for the self-kindness and self-judgment subscales range from 5 to 25, while scores for common humanity, isolation, mindfulness, and over-identification range from 4 to 20. Items 1, 2, 4, 6, 8, 11, 13, 16, 18, 20, 21, 24, and 25 are reverse-scored.

In the study by Khosravi et al. (2013), the Cronbach's alpha for the total scale was 0.76, and the alpha coefficients for the subscales were 0.81 (self-kindness), 0.79 (self-judgment), 0.84 (common humanity), 0.85 (isolation), 0.80 (mindfulness), and 0.83 (over-identification). The questionnaire has also demonstrated satisfactory validity. In Neff et al. (2003), the Cronbach's alpha for the overall scale was 0.92. In the present study, the Cronbach's alpha coefficient was 0.88.

Procedure

To conduct the study, 30 students with high levels of academic procrastination and low self-compassion in Kharameh city were selected using convenience sampling. The control group only completed the questionnaires at the pre-test and post-test stages and received no intervention. In contrast, the experimental group received academic counseling based on the cognitive-behavioral approach. The intervention was conducted in eight 90-minute group counseling sessions based on the protocol proposed by Asteraki et al. (2022).

First, a pre-test was administered to both groups. After completing the eight sessions of cognitive-behavioral academic counseling, a post-test was conducted for both groups. After data collection, the data were entered into SPSS version 27, and repeated measures analysis of variance (ANOVA) was used to test the research hypotheses.

Table 1. Summary of Group Academic Counseling Sessions Based on the Cognitive-Behavioral Approach

Session	Topic	Objectives	Homework
1	Introduction and orientation	Creating a safe environment for group members to get acquainted; introducing principles of group counseling; establishing rules (especially confidentiality); defining overall group goals; agreement on completing assignments; introduction to the ABC model with examples; administration of the pre-test	Review session materials
2	ABC thoughts and negative automatic thoughts	Encouraging members to share real-life examples; continued training on the ABC model; introduction to negative automatic thoughts and common cognitive distortions	Completing a dysfunctional thought record sheet
3	Evaluating and replacing negative beliefs	Rating negative beliefs; identifying logical evidence for alternative thoughts; replacing negative beliefs with realistic and rational thoughts	Participation in belief rating and evidence identification
4	Relaxation techniques	Teaching relaxation techniques and practicing them during the session to ensure proper understanding	Practicing relaxation techniques at home
5	Goal setting and prioritization	Identifying long-term, mid-term, and short-term goals; prioritizing goals and planning steps to achieve them	Developing personal goals and initial planning
6	Problem-solving skills	Teaching problem-solving techniques through practical examples from participants' lives and practicing solutions to hypothetical problems	Practicing problem-solving techniques at home with personal issues
7	Role-playing	Teaching role-playing techniques and practicing scenarios in difficult or stressful situations	Preparing to continue role-play exercises in the next session
8	Summary and final evaluation	Continuing role-play exercises; summarizing session content; preparing participants to apply learned skills in real life; administration of the post-test	Applying learned skills in daily life

Results

Demographic Characteristics

In the experimental group, 3 participants (20%) were 12 years old, 5 (33.3%) were 13 years old, and 7 (46.7%) were 14 years old. In the control group, 5 participants (33.3%) were 12 years old, 6 (40%) were 13 years old, and 4 (26.7%) were 14 years old.

Statistical analysis of demographic data indicated that the mean age of participants in the experimental group was 13.13 years (SD = 0.92) and in the control group was 12.93 years (SD = 0.85). These findings indicate no statistically significant difference in age distribution between the two groups.

Table 2. Means and Standard Deviations of Academic Procrastination and Self-Compassion Scores and Their Components at Pre-Test, Post-Test, and One-Year Follow-Up

Variable	Group	Pre-Test (M ± SD)	Post-Test (M ± SD)	Follow-Up (M ± SD)
Academic Procrastination (Total)	Experimental	45.10 ± 3.92	39.72 ± 4.00	36.98 ± 2.70
	Control	44.24 ± 4.64	44.23 ± 4.41	44.13 ± 2.70
Intentional Procrastination	Experimental	18.64 ± 1.95	16.45 ± 1.93	16.00 ± 2.07
	Control	18.69 ± 1.95	18.42 ± 1.93	18.58 ± 2.07
Procrastination due to Fatigue	Experimental	15.45 ± 1.75	13.00 ± 1.79	12.34 ± 1.91
	Control	15.75 ± 2.90	15.02 ± 2.70	15.11 ± 1.68
Procrastination due to Lack of Planning	Experimental	12.00 ± 1.95	10.27 ± 2.33	9.64 ± 1.00
	Control	11.92 ± 2.43	11.83 ± 2.33	11.58 ± 1.00
Self-Compassion (Total)	Experimental	107.33 ± 3.83	104.34 ± 5.01	104.20 ± 6.39
	Control	107.21 ± 4.35	106.39 ± 2.52	107.22 ± 4.35
Self-Kindness	Experimental	19.91 ± 2.51	22.55 ± 2.66	23.27 ± 2.97
	Control	19.92 ± 2.02	19.83 ± 1.47	19.92 ± 2.02
Common Humanity	Experimental	16.36 ± 1.18	18.91 ± 1.64	19.01 ± 2.07
	Control	16.42 ± 1.83	15.97 ± 1.56	16.42 ± 1.83
Self-Judgment	Experimental	21.36 ± 1.21	18.82 ± 0.75	17.09 ± 1.04
	Control	21.08 ± 1.08	21.05 ± 0.67	21.08 ± 1.08
Isolation	Experimental	18.01 ± 1.48	15.00 ± 1.10	14.64 ± 1.63
	Control	18.00 ± 1.21	17.97 ± 1.16	18.00 ± 1.21
Mindfulness	Experimental	15.73 ± 0.65	17.45 ± 0.82	18.86 ± 1.03
	Control	15.75 ± 1.29	15.92 ± 1.00	15.75 ± 1.23
Over-Identification	Experimental	18.91 ± 0.54	14.64 ± 0.92	13.09 ± 0.94
	Control	18.08 ± 0.67	18.03 ± 0.39	18.08 ± 0.67

As shown in Table 2, the post-test mean of total academic procrastination in the experimental group (M = 39.72) was significantly lower than that of the control group (M = 44.23) ($p < 0.01$). Furthermore, at the one-year follow-up, the mean score in the experimental group (M = 36.98) remained significantly lower than in the control group (M = 44.13). This indicates that cognitive-behavioral academic counseling significantly reduced academic procrastination, whereas no reduction was observed in the control group.

Regarding self-compassion, the post-test mean scores for positive dimensions (e.g., self-kindness, common humanity, mindfulness) increased in the experimental group, while negative dimensions (self-judgment, isolation, over-identification) decreased. These changes were statistically significant compared to the control group ($p < 0.01$). Improvements were maintained at the one-year follow-up.

Assumption Testing

Before conducting repeated measures ANOVA, parametric assumptions were examined: Box's M test was not significant ($p = 0.165$), indicating homogeneity of covariance matrices. Levene's test was not significant ($p = 0.163$), confirming equality of error variances. Mauchly's test of sphericity

was not significant ($\chi^2 = 8.914$, $p = 0.065$), indicating that the sphericity assumption was met. Thus, repeated measures ANOVA was appropriately conducted.

Table 3. Results of Repeated Measures ANOVA for the Effects of Cognitive-Behavioral Academic Counseling on Academic Procrastination and Self-Compassion

Variable	Source	F	p	Partial Eta Squared
Academic Procrastination (Total)	Time × Group	27.90	<0.001	0.571
Intentional Procrastination	Time × Group	15.75	0.001	0.429
Procrastination due to Fatigue	Time × Group	4.38	0.007	0.172
Procrastination due to Lack of Planning	Time × Group	22.95	<0.001	0.522
Self-Compassion (Total)	Time × Group	66.67	<0.001	0.760
Self-Kindness	Time × Group	39.40	<0.001	0.652
Common Humanity	Time × Group	20.34	<0.001	0.492
Self-Judgment	Time × Group	61.61	<0.001	0.746
Isolation	Time × Group	31.59	<0.001	0.601
Mindfulness	Time × Group	7.60	<0.001	0.278
Over-Identification	Time × Group	7.24	<0.001	0.256

The repeated measures ANOVA revealed significant time × group interaction effects for total academic procrastination and all its components, indicating that changes across time differed significantly between the experimental and control groups. Similarly, significant interaction effects were observed for total self-compassion and all of its dimensions. The effect sizes (partial eta squared values ranging from 0.17 to 0.76) indicate moderate to large effects, demonstrating the strong impact of cognitive-behavioral academic counseling. Overall, the findings confirm that cognitive-behavioral academic counseling significantly reduced academic procrastination and enhanced positive dimensions of self-compassion while reducing its negative dimensions, with effects maintained at the one-year follow-up.

The results presented in Table 3 indicate that the mean scores of academic procrastination and its components in the experimental group decreased at the post-test and follow-up stages compared with the pre-test, whereas no reduction was observed in the control group. The findings also demonstrate a statistically significant difference between the two groups.

Overall, the results suggest that regardless of the measurement stages, there was a significant difference in the mean self-compassion scores between the experimental and control groups. The results of the repeated measures ANOVA for the components of self-compassion showed significant differences between the experimental and control groups at the post-test and follow-up stages for the following variables: Self-kindness ($F = 29.061$, $p = 0.001$), common humanity ($F =$

20.335, p = 0.001), mindfulness (F = 0.595, p = 0.001), self-judgment (F = 473.936, p = 0.001), isolation (F = 61.613, p = 0.001) and over-identification (F = 7.237, p = 0.001).

The results of Bonferroni multiple comparisons showed that the increase in mean scores for the experimental group from pre-intervention (137.91) to post-test (151.36) and follow-up (157.55) was statistically significant (p = 0.001). However, in the control group, the differences between pre-test (136.25), post-test (138.17), and follow-up (136.25) were not statistically significant (p > 0.05). Furthermore, the changes observed from post-test to follow-up were not statistically significant in either group, indicating that the improvements achieved after the intervention remained stable over time. Therefore, it can be concluded that self-compassion in the group receiving academic counseling based on the cognitive-behavioral approach increased significantly after the intervention and remained stable at follow-up. These findings demonstrate the effectiveness of cognitive-behavioral academic counseling in enhancing self-compassion and maintaining this effect over time.

Discussion

The findings of the present study, based on the results, indicated that academic counseling based on the cognitive–behavioral approach had a significant effect on academic procrastination and its dimensions, as well as on self-compassion and its dimensions among first-cycle secondary school students. Specifically, this intervention led to a reduction in academic procrastination and its components (including intentional procrastination, procrastination due to physical–psychological fatigue, and procrastination due to lack of planning), and also increased self-compassion (including self-kindness, common humanity, and mindfulness), along with a reduction in self-judgment, isolation, and over-identification in the experimental group.

The results of the present study showed that the application of the cognitive–behavioral approach significantly reduced academic procrastination and its components, including intentional procrastination, procrastination resulting from physical–psychological fatigue, and procrastination caused by lack of planning. These findings suggest that interventions focused on modifying dysfunctional thinking patterns, teaching self-regulation skills, time management, and cognitive restructuring can play an effective role in reducing the tendency to delay academic tasks.

The findings of the present study are consistent with previous research. Studies by Nemat-Zadeh Souteh et al. (2023), Zarei et al. (2022), Gerayli Meshk-Abadi et al. (2021), and Wang et al. (2017) also confirmed the effectiveness of the cognitive–behavioral approach in reducing academic procrastination and its various dimensions. These studies emphasize that identifying and modifying dysfunctional beliefs related to failure, maladaptive perfectionism, fear of negative evaluation, and deficiencies in planning skills can improve academic performance and reduce procrastination behaviors.

In explaining these findings, it can be argued that cognitive–behavioral training, with its rich repertoire of behavioral exercises, has the potential to enhance students' self-efficacy by strengthening and teaching positive and latent personal characteristics, which in turn can reduce academic procrastination. Moreover, a fundamental assumption of the cognitive–behavioral approach is that changes in cognition lead to changes in emotional and behavioral patterns. Since academic procrastination is a negative and neutralizing emotional state that results in fatigue, monotony, and lack of motivation toward classroom activities and academic subjects, this approach—through modifying dysfunctional cognitive components that contribute to academic disengagement—can lead to emotional and behavioral changes and consequently reduce academic procrastination (Gerayli Meshk-Abadi et al., 2021).

Given that cognitive–behavioral interventions increase students' awareness of their procrastination behaviors and reveal cognitive distortions and irrational thoughts, students become motivated to modify these patterns. In addition, the use of problem-solving and decision-making skills, time limitation strategies, and structured problem-solving methods helps students learn systematic approaches to dealing with everyday problems and encourages them to use step-by-step problem-solving methods instead of impulsive or hasty reactions (Wang et al., 2017). In other words, cognitive–behavioral training, by focusing on cognitive patterns and modifying them, helps reduce procrastination and enables students to improve their cognitive styles and, consequently, their learning behaviors and academic task performance, thereby enhancing their focus on educational activities.

This training also helps students correct cognitive errors and act according to newly developed cognitive patterns, which facilitates concentration and progress toward educational goals. Furthermore, time-management exercises conducted during the intervention sessions help students

identify factors that limit academic progress, improve efficiency under time constraints, and reduce procrastination behaviors (Nemat-Zadeh Souteh et al., 2023).

Another finding of the present study indicated that academic counseling based on the cognitive–behavioral approach had a significant effect on self-compassion and its dimensions among students. Implementation of this intervention led to an increase in the positive components of self-compassion, including self-kindness, common humanity, and mindfulness, as well as a decrease in negative components, such as self-judgment, feelings of isolation, and over-identification with negative emotions. These findings suggest that training in cognitive–behavioral skills—through modifying dysfunctional beliefs, reducing negative self-talk, and strengthening more realistic attitudes toward mistakes and failures—can significantly enhance emotional and cognitive structures associated with self-compassion.

These findings are consistent with previous studies conducted by Javadi et al. (2021), Tajeri et al. (2020), Laidlaw (2021), and Zhang (2020), which also demonstrated that interventions based on cognitive restructuring not only reduce maladaptive emotional and cognitive patterns but also strengthen positive psychological components. In other words, modifying rigid and self-critical thinking patterns reduce emotional vulnerability and fosters the development of accepting, compassionate, and mindful attitudes toward oneself, which in turn enhances self-worth, emotional balance, and psychological adjustment in academic and personal contexts.

In explaining this finding, it can be argued that cognitive–behavioral therapy reduces cognitive distortions, enabling individuals to approach life difficulties, failures, and unpleasant events with greater self-compassion. Following cognitive–behavioral interventions, individuals learn to move away from rigid certainty-based thinking toward a more flexible, probability-based perspective, which can reduce negative and critical attitudes toward personal weaknesses and consequently decrease self-judgment and self-criticism (Laidlaw, 2021). As a result, this process facilitates the development of greater self-compassion among participants who receive cognitive–behavioral interventions.

The primary goal of cognitive–behavioral therapy is to modify irrational beliefs, dysfunctional assumptions, incorrect interpretations, and cognitive distortions, while enhancing a sense of control over life, facilitating constructive self-talk, and strengthening coping skills (Zhang et al., 2020). This approach emphasizes that thinking processes are as influential as environmental

factors. Accordingly, as a therapeutic method that integrates cognitive and behavioral approaches, CBT uses structured discussions and organized behavioral assignments to help individuals modify distorted thinking patterns and maladaptive behaviors.

Cognitive–behavioral therapy has been shown to be effective in developing and strengthening various psychological capabilities, including decision-making, motivation, responsibility acceptance, positive interpersonal relationships, happiness, self-esteem, problem-solving, self-regulation, self-efficacy, and overall mental health. By regulating emotions, reducing psychological stress, improving communication, and enhancing self-control, CBT reduces harmful psychological components and, through strengthening personal values and self-efficacy, contributes to improvements in self-compassion (Tajeri et al., 2020).

Despite its positive findings, the present study had several methodological limitations, including convenience sampling, a relatively small sample size and reduced statistical power, reliance solely on self-report instruments, and lack of control over potential family-related confounding variables, all of which may affect the generalizability and internal validity of the results. Therefore, it is recommended that educational systems integrate such interventions into formal curricula and empower educators to apply structured counseling approaches. Future research should move beyond descriptive analysis toward explanatory models by employing controlled experimental designs, longitudinal studies to examine the durability of intervention effects, and investigations of moderating and mediating variables to clarify the mechanisms of influence and to compare different intervention methods.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

In this study, ethical principles were fully observed. Ethical approval was obtained with the code IR.IAU.SHIRAZ.REC.1404.008. Participants were assured that their information would remain confidential. Participation in the study was voluntary, and participants had the right to withdraw from the research at any stage.

Author contributions

Conceptualization, investigation, and data collection: Hossein Rahimi and Resources, writing (original draft), editing and finalization, methodology, validation, and analysis: Fatemeh Houshyar

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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