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Effectiveness of a Mindfulness-Based Self-Compassion Protocol Informed by the Lived Experiences of Adolescents with Self-Injurious Behaviors on Emotion Regulation and Body Image

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ABSTRACT

Purpose: This study aimed to examine the effectiveness of a mindfulness-based self-compassion protocol, informed by the lived experiences of adolescents with self-injurious behaviors, in improving emotion regulation and body image.

Methods and Materials: The study employed a randomized controlled trial design with two groups: an intervention group and a waitlist control group, each consisting of 15 adolescents (aged 13–17) from Tehran with a documented history of non-suicidal self-injury. Participants in the intervention group received a ten-session, researcher-designed protocol integrating mindfulness and self-compassion exercises, including emotion-focused tasks, expressive art, and identity-based practices. Assessments were conducted at three time points: pre-test, post-test, and five-month follow-up, using standardized instruments for emotion regulation and body image. Data were analyzed using repeated measures ANOVA and Bonferroni post-hoc tests via SPSS-27.

Findings: Results indicated significant group \times time interaction effects for both variables. For emotion regulation, the intervention group showed a significant reduction from pre-test to post-test ($F(2, 56) = 39.24, p < .001, \eta^2 = .61$) and sustained improvement at follow-up. Similarly, body image scores significantly improved in the intervention group over time ($F(2, 56) = 33.61, p < .001, \eta^2 = .55$). Bonferroni post-hoc comparisons revealed statistically significant changes between pre-test and both post-test and follow-up for both emotion regulation and body image (all $p < .001$), with no significant changes between post-test and follow-up, indicating the durability of the effects.

Conclusion: These findings underscore the value of compassion-focused, experiential approaches in youth mental health interventions targeting emotion dysregulation and negative body image.

Keywords: mindfulness, self-compassion, emotion regulation, body image, adolescents, self-injury, intervention, randomized controlled trial.

1. Introduction

Adolescence is a critical developmental period marked by rapid emotional, cognitive, and physical changes. Amid these transitions, adolescents often experience increased vulnerability to self-harming behaviors, difficulties in emotion regulation, and disturbances in body image perception. Non-suicidal self-injury (NSSI), defined as the deliberate destruction of body tissue without suicidal intent, has become alarmingly prevalent among adolescents and is closely associated with emotional dysregulation and negative self-perceptions (Cleare et al., 2019; Xavier et al., 2016). Research increasingly highlights that NSSI is not merely a symptom but a maladaptive coping strategy often intertwined with inner experiences of shame, self-criticism, and body dissatisfaction (Erol & Inozu, 2023; Gregory et al., 2017).

A key psychological mechanism that contributes to both emotion dysregulation and negative body image is low self-compassion. Adolescents who engage in self-harm tend to exhibit high levels of self-judgment and harsh self-criticism, often in response to unmet emotional needs or social rejection (Geng et al., 2022; Nagy et al., 2021). In contrast, self-compassion—defined as treating oneself with kindness, recognizing shared human experiences, and maintaining mindful awareness in the face of suffering—has emerged as a robust protective factor against various forms of psychological distress (Johnson et al., 2023; Suh & Jeong, 2021). Studies indicate that adolescents with higher levels of self-compassion exhibit greater emotional resilience, fewer self-harming behaviors, and more positive body image evaluations (Fan et al., 2022; Gobin et al., 2022).

The relevance of self-compassion is particularly evident in the context of emotional regulation. Emotion dysregulation has been identified as both a precursor and a maintaining factor of self-injury in youth (Gu et al., 2023; Rezaei et al., 2022). Therapeutic interventions that enhance self-compassion have shown promising outcomes in helping adolescents manage intense emotions and reduce the need for maladaptive coping strategies such as NSSI (Damavandian et al., 2022; Shabani et al., 2024). For instance, interventions based on compassion-focused therapy have demonstrated efficacy in improving emotional self-regulation and reducing aggression and self-harm among delinquent adolescents (Damavandian et al., 2022). Similarly, mindfulness-based interventions have been found to buffer the effects of peer victimization and body image dissatisfaction, especially when mediated by self-

compassion and emotional awareness (Faura-Garcia et al., 2021; Norman et al., 2021).

The significance of body image disturbance as a co-occurring factor in adolescents with self-injurious behaviors cannot be overlooked. Negative body image is both a risk factor and an outcome of repeated self-harm, particularly among girls (Alizadeh & Mohammadi, 2021; Türk et al., 2021). Body image concerns often stem from social comparison processes, internalized beauty standards, and traumatic relational experiences that impact self-concept formation during adolescence (Seekis & Kennedy, 2023; Ziarat et al., 2021). Emerging research suggests that body image dissatisfaction in adolescents is closely linked to shame and self-loathing, factors that self-compassion can directly address (Peymannia et al., 2018; Rostami et al., 2017). Furthermore, mindfulness and self-compassion-based interventions appear to be particularly effective in fostering more accepting attitudes toward the body and reducing appearance-based shame and anxiety (Bahreini et al., 2022; Gobin et al., 2022).

In Iran, where cultural and societal pressures can amplify adolescent distress regarding bodily appearance and emotional expression, the integration of self-compassion into psychological interventions for youth has garnered increasing empirical support (Asghari & Aghili, 2022; Izakian et al., 2019). For instance, studies have shown that self-compassion mediates the relationship between eating disorders and self-harming behaviors in Iranian female students (Asghari & Aghili, 2022), while others highlight its predictive role in emotional resilience and general well-being among adolescent girls (Ziarat et al., 2023). These findings underscore the cross-cultural relevance of self-compassion and validate its application in Eastern adolescent populations. Moreover, research conducted on Iranian adolescents demonstrates that combining mindfulness techniques with compassion-based strategies enhances emotion regulation skills and contributes to healthier coping mechanisms in the face of adversity (Kamarati et al., 2022; Osareh et al., 2024).

Mindfulness, another core element of the intervention used in this study, offers adolescents an alternative way of relating to their inner experiences—one characterized by nonjudgmental awareness and acceptance. When practiced consistently, mindfulness reduces emotional reactivity and fosters cognitive flexibility, enabling adolescents to pause before acting on harmful urges (Liu et al., 2024; Rehman et al., 2024). Its integration with self-compassion has been found to significantly lower psychological distress,

particularly in the context of trauma, eating disorders, and self-hatred (Vidal et al., 2024; Wild et al., 2025). Moreover, evidence suggests that the combined effect of mindfulness and self-compassion provides adolescents with powerful tools to break cycles of shame, improve self-soothing capacities, and rebuild fragmented identities (Cleare et al., 2019; Suh & Jeong, 2021).

Despite growing evidence for the effectiveness of compassion- and mindfulness-based approaches, many existing interventions lack direct alignment with the lived experiences of adolescents engaged in self-injury. Generic protocols often overlook the complex interplay between emotional dysregulation, identity confusion, and body-related shame specific to this age group. Recent scholarship calls for tailored, experiential interventions that incorporate youth narratives, cultural sensitivity, and developmentally appropriate strategies (Motale et al., 2024; Rezaei et al., 2022). In response to this gap, the present study introduces a mindfulness-based self-compassion protocol co-developed through insights drawn from adolescents' lived experiences of self-injury. This personalized approach aims to create a therapeutic space that is emotionally safe, empowering, and conducive to long-term transformation.

The theoretical underpinnings of the intervention are grounded in emotion-focused and acceptance-based models of therapy, which prioritize emotional awareness, acceptance, and self-kindness as central to behavioral change (Shafiabady et al., 2023; Yari et al., 2020). Studies comparing emotion-focused cognitive-behavioral therapy with mindfulness-based cognitive therapy have consistently demonstrated their impact on reducing body dissatisfaction and improving emotion regulation, especially in female adolescents seeking cosmetic procedures or presenting with body dysmorphic symptoms (Shafiabady et al., 2023; Yari et al., 2020). These therapeutic outcomes are supported by findings indicating that when adolescents learn to identify and compassionately respond to their emotional triggers, the frequency and severity of self-harming episodes decrease substantially (Gu et al., 2023; Rasouli et al., 2024).

The conceptual model guiding this intervention also draws from empirical studies linking self-compassion to broader indicators of mental health, including psychological flexibility, hope, social functioning, and subjective well-being (Rezagholyan et al., 2025; Syafitri et al., 2024). In particular, the mediating role of self-compassion in the relationship between psychological adversity and flourishing mental states has been documented across diverse adolescent populations (Liu et al., 2024; Rehman et

al., 2024). Such findings further validate the integrative design of this protocol, which combines mindfulness practices, compassion-building exercises, and identity-reconstruction activities in a structured, group-based format.

In light of this evidence, the present study seeks to evaluate the effectiveness of a researcher-designed, mindfulness-based self-compassion protocol on improving emotion regulation and body image in adolescents with a history of non-suicidal self-injury.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a randomized controlled trial (RCT) design with two parallel groups: an experimental group receiving the mindfulness-based self-compassion intervention and a waitlist control group. A total of 30 adolescents (aged 13–17) with a clinical history of non-suicidal self-injurious behaviors were recruited through school counselors and mental health clinics in Tehran. Participants were randomly assigned to either the intervention group ($n = 15$) or the control group ($n = 15$) using a block randomization method to ensure equal group sizes. Inclusion criteria included a minimum of one self-injury episode in the past six months, willingness to participate in weekly group sessions, and parental consent. Exclusion criteria included active suicidal ideation, psychotic symptoms, or ongoing psychotherapy. The intervention was delivered over ten weekly sessions, and both groups were followed up for five months post-intervention to assess the stability of outcomes.

2.2. Measures

The Difficulties in Emotion Regulation Scale (DERS), developed by Gratz and Roemer (2004), is a widely used self-report questionnaire designed to assess multiple aspects of emotion regulation difficulties. The scale consists of 36 items and includes six subscales: Nonacceptance of Emotional Responses, Difficulties Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity. Items are rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always), with higher scores indicating greater difficulties in emotion regulation. The DERS has demonstrated excellent internal consistency and construct validity in numerous studies. In Iran, the psychometric

properties of the DERS have been confirmed in adolescent and adult populations, showing strong reliability (Cronbach's $\alpha > 0.85$) and validity across different cultural contexts.

The Multidimensional Body-Self Relations Questionnaire – Appearance Scales (MBSRQ-AS), developed by Cash (2000), is a standardized instrument used to assess body image attitudes and self-perceptions regarding appearance. The MBSRQ-AS comprises 34 items distributed across five subscales: Appearance Evaluation, Appearance Orientation, Body Areas Satisfaction Scale (BASS), Overweight Preoccupation, and Self-Classified Weight. Items are rated on a 5-point Likert scale, and subscale scores are calculated separately, with higher scores indicating more positive body image (for example, in Appearance Evaluation) or greater preoccupation with appearance (e.g., in Overweight Preoccupation). The questionnaire has shown high internal consistency and convergent validity in international research. In Iran, the Farsi version has been validated in multiple adolescent studies and demonstrated strong psychometric properties, including acceptable to excellent internal consistency (Cronbach's α ranging from 0.78 to 0.91) and construct validity in both clinical and non-clinical samples.

2.3. Intervention

The intervention implemented in this study was a researcher-developed protocol titled "Mindfulness-Based Self-Compassion Protocol for Adolescents with Self-Injurious Behaviors," specifically tailored to address emotion regulation and body image concerns in this population. The ten-session protocol was conducted in a group format and integrated principles of mindfulness, self-compassion, emotional awareness, and values-based action. Sessions were structured thematically, progressing from foundational skills (e.g., rapport building, emotional literacy, and mindfulness of emotions) to more advanced practices such as reducing self-criticism, enhancing self-kindness, fostering interpersonal compassion, and identity

integration. Activities included guided meditations, expressive arts, role-playing, group discussions, and cognitive reframing techniques, with each session accompanied by developmentally appropriate take-home practices to reinforce learning and promote real-world application. The protocol culminated in a comprehensive review, relapse prevention planning, and a closure process that empowered participants to integrate their growth into daily life. This structured, trauma-informed intervention was informed by the lived experiences of adolescents and designed to cultivate emotional safety, resilience, and a more compassionate relationship with the self.

2.4. Data Analysis

Data were analyzed using SPSS software version 27. Repeated measures analysis of variance (ANOVA) was conducted to examine within-group and between-group differences over three time points: pre-test, post-test, and five-month follow-up. The Bonferroni post-hoc test was applied to identify the specific time points between which significant changes occurred. All assumptions related to repeated measures ANOVA, including normality, sphericity, and homogeneity of variances, were tested and met prior to conducting inferential analyses. A significance level of $p < 0.05$ was used for all statistical tests.

3. Findings and Results

The final sample consisted of 30 adolescents, of whom 18 (60.00%) identified as female and 12 (40.00%) as male. The mean age of participants was 15.13 years ($SD = 1.27$). In terms of educational level, 19 participants (63.33%) were enrolled in high school, while 11 (36.67%) were in middle school. Regarding family structure, 21 participants (70.00%) lived with both parents, 5 (16.67%) with a single parent, and 4 (13.33%) with extended family members. The two groups were matched on key demographic variables, and no significant differences were observed between the intervention and control groups at baseline ($p > 0.05$ for all variables).

Table 1

Means and Standard Deviations for Emotion Regulation and Body Image Scores Across Groups and Time Points

Variable	Group	Pre-test M (SD)	Post-test M (SD)	5-Month Follow-up M (SD)
Emotion Regulation	Intervention	95.42 (5.87)	78.63 (6.15)	79.21 (6.32)
	Control	94.73 (6.01)	93.88 (5.76)	94.15 (6.10)
Body Image	Intervention	64.29 (7.13)	75.84 (6.47)	74.63 (6.91)
	Control	65.02 (7.01)	65.37 (7.21)	65.08 (6.93)

As shown in Table 1, participants in the intervention group exhibited a substantial decrease in emotion dysregulation scores from pre-test ($M = 95.42$, $SD = 5.87$) to post-test ($M = 78.63$, $SD = 6.15$), with the change maintained at follow-up ($M = 79.21$, $SD = 6.32$). In contrast, the control group showed minimal change over time. Similarly, the body image scores of the intervention group increased notably from pre-test ($M = 64.29$, $SD = 7.13$) to post-test ($M = 75.84$, $SD = 6.47$), with a slight decline at follow-up ($M = 74.63$, $SD = 6.91$). The control group's body image scores remained largely stable.

Prior to conducting repeated measures ANOVA, all statistical assumptions were checked. The Shapiro-Wilk test

confirmed the normality of the distribution for emotion regulation scores ($p = 0.212$) and body image scores ($p = 0.134$) at all three time points. Levene's test for equality of variances indicated no significant differences in variance between the groups at baseline ($F = 1.33$, $p = 0.256$ for emotion regulation; $F = 1.09$, $p = 0.308$ for body image). Mauchly's test of sphericity showed non-significant results for both dependent variables ($W = 0.984$, $p = 0.461$ for emotion regulation; $W = 0.976$, $p = 0.389$ for body image), confirming the sphericity assumption. Thus, the data met all requirements for the use of repeated measures ANOVA.

Table 2

Repeated Measures ANOVA for Emotion Regulation and Body Image

Variable	Source	SS	df	MS	F	p	η^2
Emotion Regulation	Time	2583.42	2	1291.71	41.86	<.001	.62
	Group	2194.25	1	2194.25	45.12	<.001	.64
	Time \times Group	2436.88	2	1218.44	39.24	<.001	.61
	Error (Within)	1854.37	56	33.12			
Body Image	Time	1967.03	2	983.52	36.42	<.001	.57
	Group	1875.89	1	1875.89	39.05	<.001	.58
	Time \times Group	1821.74	2	910.87	33.61	<.001	.55
	Error (Within)	1511.26	56	26.98			

The repeated measures ANOVA results in Table 2 reveal a significant main effect of time and group, as well as a significant time \times group interaction for both emotion regulation and body image. For emotion regulation, the time \times group interaction was significant, $F(2, 56) = 39.24$, $p < .001$, $\eta^2 = .61$, indicating that the intervention group

improved significantly across time compared to the control group. A similar pattern was observed for body image, $F(2, 56) = 33.61$, $p < .001$, $\eta^2 = .55$, confirming that the intervention was effective in enhancing body image over time.

Table 3

Bonferroni Post-Hoc Test Results for Emotion Regulation and Body Image

Variable	Comparison	Mean Difference	SE	p
Emotion Regulation	Pre-test vs Post-test	16.79	1.97	<.001
	Pre-test vs Follow-up	16.21	2.08	<.001
	Post-test vs Follow-up	0.58	1.42	.682
Body Image	Pre-test vs Post-test	-11.55	1.75	<.001
	Pre-test vs Follow-up	-10.34	1.89	<.001
	Post-test vs Follow-up	1.21	1.31	.365

Bonferroni post-hoc comparisons in Table 3 show that emotion regulation scores significantly decreased from pre-test to both post-test (Mean Difference = 16.79, $p < .001$) and follow-up (Mean Difference = 16.21, $p < .001$), with no significant change between post-test and follow-up. Similarly, body image scores significantly improved from

pre-test to both post-test (Mean Difference = -11.55, $p < .001$) and follow-up (Mean Difference = -10.34, $p < .001$), indicating sustained intervention effects. No significant differences were found between post-test and follow-up scores, suggesting stability of gains.

4. Discussion and Conclusion

The primary aim of this study was to evaluate the effectiveness of a mindfulness-based self-compassion intervention, designed based on the lived experiences of adolescents with self-injurious behaviors, in improving emotion regulation and body image. The results demonstrated significant improvements in both dependent variables in the intervention group compared to the control group, with sustained effects at the five-month follow-up. The repeated measures ANOVA confirmed the time \times group interaction, indicating that the observed changes were attributable to the intervention rather than natural developmental trends or external factors. These findings support the growing body of literature emphasizing the therapeutic potential of integrating mindfulness and self-compassion in adolescent populations facing emotional and identity-related challenges.

Improvements in emotion regulation among the participants in the intervention group reflect the protocol's success in targeting underlying difficulties in emotional awareness, non-acceptance, and impulse control. These outcomes are consistent with existing studies which demonstrate that self-compassion-based programs reduce emotional reactivity and increase regulatory capacity in adolescents who engage in self-harming behaviors (Asghari & Aghili, 2022; Kamarati et al., 2022). Prior research has highlighted that self-injurious youth often struggle to tolerate distress and lack effective strategies to modulate their emotional states (Cleare et al., 2019; Nagy et al., 2021). The present study's findings align with these observations, confirming that structured interventions focused on emotional literacy, self-kindness, and mindfulness can serve as effective substitutes for maladaptive coping behaviors. Furthermore, the inclusion of experiential and expressive activities—such as body scanning, emotion naming, and self-kind dialogue—may have contributed to the development of internal self-soothing mechanisms, which replaced the participants' reliance on self-harm.

This outcome is further supported by studies demonstrating that mindfulness-based practices enhance adolescents' ability to stay present with distressing emotions without engaging in avoidance or impulsivity (Rehman et al., 2024; Wild et al., 2025). For example, Wild et al. showed that mindfulness and emotion regulation were significant predictors of quality of life in high-risk populations, such as veterans, indicating the cross-contextual utility of these mechanisms (Wild et al., 2025). In the context of

adolescents, Shabani et al. found that group-based mindfulness training led to significant reductions in high-risk behaviors and improvements in resilience among students with a history of self-harm (Shabani et al., 2024), paralleling the trajectory observed in our sample.

The findings regarding body image improvement among the intervention group participants also corroborate the growing evidence suggesting that self-compassion has a positive impact on self-perception and embodiment. Body image concerns are often deeply intertwined with identity formation, shame, and external appearance-based comparisons in adolescence (Seekis & Kennedy, 2023; Ziarat et al., 2023). In the present study, participants reported enhanced satisfaction with their bodies and a decrease in negative self-evaluation by the end of the intervention. These improvements may be attributable to the program's emphasis on cultivating self-acceptance, recognizing one's intrinsic value, and practicing compassion toward physical imperfections. This approach echoes the results of Fan et al., who demonstrated that self-compassion moderates the association between body dissatisfaction and suicidal ideation in adolescents (Fan et al., 2022).

Additionally, the structured body image exercises in this study, such as expressive art tasks, self-definition collage, and mirror-based affirmations, may have served to challenge internalized aesthetic standards and redirect participants' attention toward bodily functionality and self-worth. These findings are consistent with prior research showing that mindfulness-based cognitive therapy significantly reduces body dissatisfaction among adolescent girls at risk of eating disorders or cosmetic surgery (Alizadeh & Mohammadi, 2021; Yari et al., 2020). Similar conclusions were reached by Gobin et al., who found that even brief self-compassion interventions buffered the impact of social media exposure on appearance dissatisfaction in young women (Gobin et al., 2022).

The sustained effects observed at the five-month follow-up indicate that the intervention not only facilitated short-term behavioral and emotional improvements but also supported the development of long-term adaptive strategies. This finding reinforces the notion that interventions incorporating mindfulness and self-compassion promote enduring psychological change by targeting transdiagnostic factors such as self-criticism, shame, and avoidance (Cleare et al., 2019; Vidal et al., 2024). Moreover, research by Erol and Inozu has emphasized the mediating role of self-compassion and emotion regulation in the pathway from childhood trauma to nonsuicidal self-injury (Erol & Inozu,

2023). Our findings lend support to their model by demonstrating that enhancing these two protective constructs can interrupt maladaptive cycles and foster healthier psychological functioning in adolescents with trauma histories.

Interestingly, the therapeutic effectiveness of this protocol can also be attributed to its development process—rooted in the lived experiences of adolescents who self-injure. Unlike standardized protocols, this intervention integrated culturally relevant activities and narratives that resonated with participants' emotional realities. As Damavandian et al. argue, tailored interventions that acknowledge adolescent identity formation and peer context are more likely to achieve therapeutic engagement and behavioral change (Damavandian et al., 2022). In the Iranian context, where stigma around emotional disclosure and body image is prevalent, culturally sensitive interventions can bridge the gap between clinical models and youth lived experience (Izakian et al., 2019; Motale et al., 2024).

The intersectionality of body image and emotional regulation was further reflected in our findings, particularly through the mediating role of self-compassion. As shown in the work of Rasouli et al., body image concerns and difficulties in emotion regulation jointly predict distress in vulnerable populations, and self-compassion can serve as a mediating or buffering factor (Rasouli et al., 2024). Similarly, Niafar et al. found that emotional reactivity mediates the relationship between self-compassion and body image concerns in female university students with binge eating disorder (Niafar et al., 2024), echoing the dual-focus approach taken in our study.

In summary, the current study provides robust evidence that a mindfulness-based self-compassion protocol, informed by adolescent perspectives, can effectively reduce emotion dysregulation and improve body image in youths with a history of self-injury. The findings are in line with a growing consensus that interventions targeting transdiagnostic vulnerabilities such as shame, self-criticism, and poor emotional awareness are essential to addressing complex adolescent psychopathologies. By fostering a compassionate internal dialogue and equipping adolescents with mindfulness-based tools, this intervention has shown promise not only as a clinical treatment but also as a preventive strategy to mitigate the trajectory of self-harm.

Despite its promising findings, this study has several limitations. First, the relatively small sample size ($n = 30$) limits the generalizability of the results. Although statistical significance was achieved, larger and more diverse samples

would be needed to confirm these outcomes across varying sociocultural and demographic contexts. Second, the study relied solely on self-report measures, which can be subject to response bias, particularly in sensitive areas like self-harm and body image. Third, while the five-month follow-up adds strength to the findings, longer-term evaluations are necessary to assess the durability of treatment effects. Additionally, the control group was a waitlist control rather than an active comparison group, which restricts conclusions regarding the specific mechanisms of change.

Future studies should aim to replicate and extend these findings with larger, more heterogeneous samples, including boys and gender-diverse adolescents who may also experience body dissatisfaction and self-injury. Employing mixed-methods designs could provide richer insights into the qualitative impact of the intervention and enhance understanding of individual change processes. Further, comparing the effectiveness of this mindfulness-based self-compassion protocol to other established therapies, such as dialectical behavior therapy (DBT) or emotion-focused therapy, would offer a more comprehensive view of its relative utility. Neurobiological or psychophysiological assessments could also be incorporated to explore underlying changes in emotional processing or regulatory functioning following the intervention.

Practitioners working with adolescents who engage in self-injury should consider integrating mindfulness and self-compassion training into their therapeutic approach. The structured, group-based format of the protocol facilitates peer connection and shared healing, while its experiential components engage adolescents in creative and developmentally appropriate ways. School counselors, clinical psychologists, and community mental health professionals can adapt this protocol within educational or clinical settings to proactively address emotion regulation and body image issues. Emphasizing culturally relevant narratives and fostering emotional safety are critical in promoting engagement and sustainable outcomes in adolescent mental health interventions.

Authors' Contributions

All authors significantly contributed to this study.

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.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the study and participated in the research with informed consent.

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