Journal Website

Article history:
Received 07 September 2024
Revised 20 October 2024
Accepted 17 November 2024
Published online 2 March 2024

International Journal of Education and Cognitive Sciences

Volume 6, Issue 1, pp 108-117

E-ISSN: 3041-8828

Comparison of the Effect of Mindfulness Training and Cognitive-Behavioral Games on Emotion Regulation in Elementary School Students

Sabereh Javaheripour [1], Sara Haghighat[2*], Akbar Mohammadi [3]

[1] 1 PhD Student, Department of Psychology, Garmsar Branch, Islamic Azad University, Garmsar, Iran.
[2] Assistant Professor, Department of Psychology, Garmsar Branch, Islamic Azad University, Garmsar, Iran (Corresponding Author).
[3] Assistant Professor, Department of Psychology, Garmsar Branch, Islamic Azad University, Garmsar, Iran.

*** Corresponding author email address**: sarahaghighat58@yahoo.com

A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Javaheripour S, Haghighat S, Mohammadi A. (2025). Comparison of the Effect of Mindfulness Training and Cognitive-Behavioral Games on Emotion Regulation in Elementary School Students. *International Journal of Education and Cognitive Sciences*, *6*(1), 108-117.
https://doi.org/10.61838/kman.ijecs.6.1.11

A B S T R A C T

Purpose: The present study aimed to compare the effect of mindfulness training and cognitive-behavioral games on emotion regulation in elementary school students.

Methods and Materials: The research method was quasi-experimental, and data were collected using a pretest-posttest-follow-up design (three-group design) with two experimental groups and one control group. The statistical population included all second-cycle elementary school students (grades 4 to 6) in District 7 of Tehran during the 2022–2023 academic year. From this population, 45 students were selected using convenience sampling and were randomly assigned to two experimental groups (15 students each) and one control group (15 students). The mindfulness training experimental group underwent 12 sessions of 90 minutes each, and the cognitive-behavioral games experimental group also received 12 sessions of 90 minutes each. The instrument used in this study was the Emotion Regulation Questionnaire (Gross & John, 2003).

Findings: Data analysis was conducted using SPSS v24 software in both descriptive and inferential sections, employing repeated measures analysis of variance (ANOVA). The findings indicated that both interventions significantly improved emotion regulation in elementary school students. However, the degree of change in emotion regulation was greater in the cognitive-behavioral games group compared to the mindfulness training group.

Conclusion: Given the effectiveness of these interventions, it can be concluded that both training programs, by employing their specific techniques, successfully enhanced students' emotion regulation.

Keywords: *Emotion regulation, mindfulness skills, cognitive-behavioral games*

1. Introduction

The well-being of children and adolescents is of paramount importance in any society, and attention to their mental health helps ensure their psychological and physical well-being, enabling them to fulfill their social roles more effectively {Kong, 2023 #140631}. Scholars and researchers have consistently emphasized the importance of physical, emotional, psychological, and behavioral development, highlighting that, over the past 25 years, children's behavioral, social, and emotional issues have emerged as major topics in psychiatry and psychology {Akbari, 2017 #140623}. Emotion is a general, intense, and short-lived reaction of an organism to an unexpected situation, accompanied by either a pleasant or unpleasant affective state {Tajeryan, 2023 #64624}. Due to academic and familial responsibilities, students may experience significant difficulties in emotion regulation {Valipour, 2024 #136328}. Emotion regulation influences physiological, behavioral, and experiential processes; it involves both bottom-up (perceptual) processes such as evaluation and top-down (cognitive) processes such as working memory and voluntary attention control {Farzadi, 2019 #140625}{Akrami, 2022 #62330;Ardakhani, 2022 #62327;Khatibi, 2024 #140046}{Roghani, 2022 #31219}. Emotion regulation does not entail suppressing emotions or constructing a defensive barrier against feelings and arousal but rather focuses on the appropriate expression of emotions. Optimal emotion regulation requires an effective interaction between cognition and emotion to manage adverse situations, as individuals interpret their experiences, and cognitive appraisals determine their responses {Koole, 2018 #140654}. The strategies individuals employ to control their emotions in distressing situations are referred to as emotion regulation strategies. Simply feeling good and adopting an optimistic outlook does not suffice for emotion regulation; rather, individuals need optimal cognitive functioning in these situations. Various theories on emotions highlight their adaptive and constructive role in problem-solving and information processing, facilitating decision-making {Gross, 2007 #140628}. Previous studies have indicated that the ability to regulate emotions plays a crucial role in individuals' adaptation {Moriarity, 2023 #140648}.

In recent years, the use of innovative and effective cognitive-based approaches has gained prominence, one of which is mindfulness-based training {Sarafraz, 2015 #140638}. This approach is derived from Kabat-Zinn's stress reduction model and incorporates cognitive therapy, including introductory training, body scan exercises, various mindfulness practices, and yoga, establishing a connection between internal sensations, physical feelings, and thought processes. This technique focuses on bodily and environmental contexts and is associated with reduced anxiety {Greeson, 2009 #140658}. Mindfulness has been defined in various ways, but all definitions converge on the emphasis on flexibility, curiosity, and openness. These three dimensions underscore that mindfulness is a cognitive process accompanied by curiosity and an open-minded attitude {Harris, 2009 #140629}. According to Thompson (2010), mindfulness is also significant in the domain of well-being, which includes having energy and experiencing enhanced pleasure. Mindfulness has functional importance as it influences physical health, mental well-being, work performance, and athletic performance {Brown, 2004 #140656}. Moreover, mindfulness positively affects academic performance {Sarafraz, 2015 #140638}. As Siegel (2007) stated, mindfulness has been increasingly studied in Western societies over the past decades in the context of daily life, personal experiences, and children's experiences in educational settings {Sarafraz, 2015 #140638}. Previous research has examined the effectiveness of mindfulness in educational environments, revealing its positive impact on school-related social skills {Beauchemin, 2008 #140657} and academic achievement {Anglin, 2008 #140647}, indirectly contributing to students' academic progress by reducing stress and enhancing self-efficacy {Teodorczuk, 2013 #140641}.

Play is a novel, efficient, and effective method for enhancing emotion regulation in students and is regarded as the most enjoyable and beneficial activity for children {Papilia, 2002 #140636}. Play can be defined as any purposeful physical or mental activity performed individually or in teams, ultimately leading to pleasure or fulfilling a child's needs {Roghani, 2022 #31219}. Previous studies have demonstrated that play significantly impacts children's cognitive development, as it engages their creative thinking and abilities {Chung, 2013 #140650}. Play enhances flexibility and problem-solving skills {Tekin, 2010 #140649}. Through play, individuals gather information via sensory input, acquiring knowledge directly. Additionally, play fosters creativity and imagination {Green, 2018 #140627}. Engaging in play prepares children physically and mentally, creating an environment conducive to learning and receptivity. In other words, play activates both mental and physical factors essential for achieving success. Consequently, psychologists have endeavored to design

E-ISSN: 3041-8828

various educational games to support cognitive and emotional development {Green, 2018 #140627}.

Previous studies have suggested that increased emotional competence leads to positive mental and physical outcomes {McRae, 2021 #140651}. Certain emotion regulation strategies yield positive effects, with play therapy being one such approach {Hillman, 2018 #140653}. Play therapy serves as a strategy that enables children to express their natural states and regulate their emotions through play. Play therapy has shown positive effects on hyperactivity and social skills development {Ray, 2018 #140645}. Within the educational system, play therapy holds significant importance, as it fosters supportive communication between adults and children. Through play, children can alleviate emotional distress, improving their interpersonal relationships and modifying their emotional experiences {Malchiodi, 2018 #140633}. Moreover, the effectiveness of play therapy is enhanced when combined with pharmacotherapy, as therapists often integrate both approaches {Hillman, 2018 #140653}.

Cognitive-behavioral therapies have recently become the treatment of choice for emotional disorders in children and adolescents {Knell, 2022 #140646}. Among the effective play therapy methods is the cognitive-behavioral approach. Cognitive-behavioral play therapists strive to assist children and adolescents by facilitating the acquisition of new behavioral skills and providing experiences that promote cognitive change. The treatment process begins with a thorough assessment of the factors contributing to a child's emotional and behavioral issues. Subsequently, therapeutic interventions are introduced to empower the child in selecting appropriate behaviors and modifying maladaptive cognitions. Cognitive-behavioral play therapy progresses through multiple treatment stages (initial stage, assessment stage, middle stage, and final stage). Following preparation for cognitive-behavioral play therapy, the assessment phase begins. During the middle stage, the therapist designs a treatment plan focusing on enhancing the child's self-regulation, sense of accomplishment, and development of more adaptive responses to specific situations. Techniques for generalization and relapse prevention are employed in this stage to ensure the child acquires new skills across various contexts. In the final stage, the child and their family are prepared for treatment termination {Knell, 2022 #140646}.

The significance of emotion regulation lies in its impact on academic performance and problem-solving strategies. Various approaches have been utilized to influence emotion regulation, with mindfulness being one such method. Both mindfulness and play therapy exert profound effects due to their focus on physical and cognitive dimensions. Over the past decades, mindfulness-based interventions have experienced substantial growth {Baer, 2018 #140624}. Mindfulness techniques effectively promote physical relaxation, reduce anxiety and stress, and alleviate worry {Kabat-Zinn, 2003 #140655}. The novelty and superiority of the present study compared to previous research lie in its use of group-based therapeutic training. Moreover, the simultaneous examination of problem-solving skills and emotion regulation has not been extensively studied. Therefore, this study holds relevance in both psychological and psychiatric contexts. The findings of this study can provide practical guidance for researchers and clinicians working to enhance children's problem-solving abilities. This study aims to determine whether mindfulness-based intervention and cognitive-behavioral play therapy effectively improve students' emotion regulation. Additionally, it seeks to investigate whether there is a difference in the effectiveness of mindfulness-based intervention compared to cognitive-behavioral play therapy in enhancing emotion regulation among students.

2. Methods and Materials

2.1. Study Design and Participants

The present study employed a quasi-experimental design with a non-equivalent control group, incorporating pretest, posttest, and follow-up assessments. The statistical population consisted of second-cycle elementary school students (grades 4 to 6) in District 7 of Tehran during the 2022–2023 academic year. Participants were selected using convenience sampling and were randomly assigned to three equal groups of 15 students each, ensuring homogeneity based on the inclusion criteria (age between 10 and 12 years, elementary school enrollment, and no history of psychosis or severe psychological distress as diagnosed by a psychiatrist).

2.2. Measures

2.2.1. Emotion Regulation

Gross and John Emotion Regulation Questionnaire (2003): This scale, developed by Gross and John (2003), consists of 11 items and includes two subscales: reappraisal (items 1 to 6) and suppression (items 7 to 11). Responses are rated on a seven-point Likert scale, ranging from strongly

E-ISSN: 3041-8828

disagree (1) to strongly agree (7). The Cronbach's alpha coefficient has been reported as 0.79 for reappraisal and 0.73 for suppression, with a test-retest reliability of 0.69 for the total scale over three months (Gross & John, 2003). Internal consistency coefficients for this scale, measured among state employees and Catholic university students in Milan, ranged from 0.48 to 0.68 for reappraisal and from 0.42 to 0.63 for suppression. The Persian version of the Gross and John Emotion Regulation Questionnaire was standardized for the Iranian cultural context {Mohammadpour, 2023 #140634;Moslehi Juybari, 2022 #140635}. In this study, the reliability of the scale was assessed using internal consistency methods, with Cronbach's alpha ranging from 0.60 to 0.81, and its validity was confirmed through principal component analysis (r = 0.13) and satisfactory criterion validity.

2.3. Interventions

2.3.1. Cognitive-Behavioral Games

In the first session, participants are introduced to the objectives and rules of the group, and the activities planned for each session are explained. The goal is to familiarize group members with one another and the researcher. In the second session, activities such as jumping, tearing, and grasping clay, along with expressing emotions while performing these activities, are conducted. Additionally, participants memorize alphabet poems to engage tactile senses and integrate sensory experiences while encouraging verbal expression in the group. The third and fourth sessions involve sculpting figures with clay that represent children's emotions, followed by group discussions about these emotions. Memorization of reading comprehension poems is also included. These activities integrate sensory experiences, foster group interactions, promote insight and awareness through peer engagement, and enable children to project their emotions onto their creations. In the fifth session, participants build sculptures symbolizing their emotions and create stories about them, which are shared with the group. A collective reading of poems from their textbooks is included to enhance sensory integration and encourage storytelling. The sixth and seventh sessions involve arranging the sculptures together as decided by group members, discussing their positioning, and memorizing a play script for the next session. This process fosters self-awareness and enhances understanding of others' emotions. In the eighth session, each participant selects an animal and discusses its thoughts, interests, needs, and activities. They then assign roles to the animals for an upcoming play. This imaginative play encourages participants to engage in dialogue, project emotions, thoughts, desires, and strengths onto fictional animal characters. In the ninth and tenth sessions, participants collaboratively develop a story and discuss its elements with the group and researcher, reinforcing the objectives established in the sixth session. The eleventh and twelfth sessions focus on role-playing a classroom-based play where participants select characters representing submissive (fearful) or dominant (strong) traits. Each child mimics the words or behaviors of their chosen character, followed by discussions about vocal tones and expressions, along with analyzing each character's actions and their consequences. This process helps children project their emotions, needs, and desires onto puppet characters, introduces them to opposing personality traits (submissive versus dominant), and fosters an understanding of the outcomes of different behaviors, ultimately improving problem-solving and decision-making skills. Physical engagement in role-play further strengthens their confidence and self-expression.

2.3.2. Mindfulness Training

In the first session, participants are introduced to one another and the researcher, along with an explanation of the objectives, rules, and activities planned for each session. The second session focuses on mindful breathing, where participants learn to increase awareness of their often scattered and distracted thoughts. By intentionally focusing on their breath, they practice developing greater concentration and integration. The third session addresses automatic pilot mode, where participants recognize how they often function on autopilot. Mindfulness serves as the optimal way to break free from automatic reactions by fostering present-moment awareness. Attention is directed to different parts of the body, reinforcing mindfulness as a process of non-judgmental focus on a specific object in the present moment. The fourth session focuses on overcoming obstacles, with an increased focus on bodily sensations revealing internal mental chatter and fostering greater control over reactions to daily events. This is practiced through body scan exercises. The fifth and sixth sessions emphasize staying in the present moment, as distractions frequently arise when the mind attempts to focus on one subject while avoiding others. To cultivate simultaneous presence, participants are encouraged to adopt a broader perspective on experiences. Exercises include mindful

E-ISSN: 3041-8828

attention to daily activities, such as five-minute focused observation or listening tasks, and mindful eating through the raisin exercise. The seventh session introduces the concept that thoughts are not facts, emphasizing that negative moods and thoughts restrict experience. Understanding that thoughts are merely thoughts, regardless of belief, helps participants gain cognitive flexibility. Exercises include stretching yoga, seated meditation, and mindful walking. The eighth and ninth sessions focus on acceptance and allowing experiences to unfold without judgment. Participants learn to permit experiences to exist as they are, without attempting to change or avoid them. Exercises involve mindful attention to psychological events, including thoughts, emotions, and mental imagery. The tenth session explores self-care strategies, with participants engaging in exercises that track thoughts, moods, and pleasant and unpleasant events. The eleventh and twelfth sessions emphasize applying learned skills to counteract negative moods. Regular mindfulness practice helps maintain emotional balance in daily life, reinforcing positive intentions as these exercises are closely linked to self-care. Participants engage in exercises that explore the connection between activities and mood regulation.

2.4. Data Analysis

For data analysis, SPSS version 24 was utilized, employing descriptive and inferential statistical methods, including repeated measures analysis of variance (ANOVA).

3. Findings and Results

In this section, the descriptive statistics of the study variables are presented first, followed by an examination of the potential differences between groups across various measurement stages.

Table 1

Descriptive Statistics of Emotion Regulation Scores at Three Measurement Stages by Group

Group	Variable	Pretest Mean	Pretest SD	Posttest Mean	Posttest SD	Follow-up Mean	Follow-up SD
Control	Reappraisal	20.73	3.035	21.27	3.173	21.07	4.334
	Suppression	18.67	2.820	18.79	2.772	18.40	2.558
	Emotion Regulation	39.40	4.273	40.05	3.987	39.47	4.240
Mindfulness-Based Approach	Reappraisal	21.60	2.746	25.73	3.515	25.40	4.437
	Suppression	18.80	2.597	22.40	2.586	22.07	2.993
	Emotion Regulation	40.40	4.188	48.13	4.658	47.47	5.948
Cognitive-Behavioral Game-Based Approach	Reappraisal	21.67	3.039	30.60	4.748	30.53	4.853
	Suppression	19.13	2.800	25.87	2.696	25.36	2.479
	Emotion Regulation	40.80	3.668	56.47	4.955	55.89	4.937

Table 1 presents the descriptive statistics for the mean and standard deviation of emotion regulation scores across the three groups: control, mindfulness-based approach, and cognitive-behavioral game-based approach, measured at three stages (pretest, posttest, and follow-up). As observed, the mean scores in the control group exhibit minimal change from the pretest to the posttest and follow-up stages. However, in the experimental groups, there is a notable increase in scores from the pretest to the posttest and follow-up stages.

Table 2

Multivariate Within-Subjects Effects Test for Comparing Emotion Regulation Across Mindfulness-Based and Cognitive-Behavioral Game-Based Groups

Effect	Statistic	F	df effect	df error	p-value	Effect size
Repetition	Pillai's Trace	0.907	23.235	4	112	0.001
	Wilks' Lambda	0.098	60.402	4	110	0.001
	Hotelling's Trace	9.168	123.763	4	108	0.001
	Roy's Largest Root	9.162	256.542	2	56	0.001

E-ISSN: 3041-8828

Repetition * Group	Pillai's Trace	0.507	9.501	4	112	0.001
	Wilks' Lambda	0.495	11.594	4	110	0.001
	Hotelling's Trace	1.018	13.740	4	108	0.001
	Roy's Largest Root	1.015	28.410	2	56	0.001

Table 2 presents the results of the multivariate tests comparing emotion regulation scores between the mindfulness-based approach and the cognitive-behavioral game-based approach across different treatment stages. The statistical information in this table indicates that all multivariate tests are significant, demonstrating a significant main effect of repetition (pretest, posttest, and follow-up) as well as a significant interaction effect between groups and repetition. This signifies that the groups differ significantly across the measurement stages.

Table 3

Univariate Within-Subjects Effects Test for Comparing Emotion Regulation Across Mindfulness-Based and Cognitive-Behavioral Game-Based Groups

Source	Measure	SS	df	MS	F	p-value	Effect size
Repetition	Reappraisal	Assumed Sphericity	828.356	2	414.178	95.966	0.001
		Greenhouse-Geisser	828.356	1.456	569.066	95.966	0.001
		Huynh-Feldt	828.356	1.570	527.683	95.966	0.001
		Lower Bound	828.356	1	828.356	95.966	0.001
	Suppression	Assumed Sphericity	494.306	2	247.153	191.018	0.001
		Greenhouse-Geisser	494.306	1.395	354.321	191.018	0.001
		Huynh-Feldt	494.306	1.498	329.992	191.018	0.001
		Lower Bound	494.306	1	494.306	191.018	0.001
Repetition * Group	Reappraisal	Assumed Sphericity	121.956	2	60.978	14.129	0.001
		Greenhouse-Geisser	121.956	1.456	83.781	14.129	0.001
		Huynh-Feldt	121.956	1.570	77.689	14.129	0.001
		Lower Bound	121.956	1	121.956	14.129	0.001
	Suppression	Assumed Sphericity	46.431	2	23.215	17.943	0.001
		Greenhouse-Geisser	46.431	1.395	33.282	17.943	0.001
		Huynh-Feldt	46.431	1.498	30.997	17.943	0.001
		Lower Bound	46.431	1	46.431	17.943	0.001

Table 3 presents the results of the univariate within-subjects effects test comparing emotion regulation scores between the mindfulness-based and cognitive-behavioral game-based groups. The F-values corresponding to the interaction effects between groups and repetition (i.e., differences between groups across measurement stages) were significant at the 0.01 alpha level ($p < 0.01$) for both emotion regulation components. The significance of these interaction effects indicates that the trend of emotion regulation score changes differs between the mindfulness-based and cognitive-behavioral game-based groups across the measurement stages. To further examine pairwise comparisons of mean scores across measurement stages, a Bonferroni post-hoc test was conducted, with the results presented in the following section.

Table 4

Bonferroni Post-Hoc Test

Group	Dependent Variable	Stage 1	Stage 2	Mean Difference	Standard Error	p-value
Mindfulness-Based Approach	Reappraisal	Pretest	Posttest	-4.133	0.728	0.001
		Pretest	Follow-up	-3.800	0.949	0.001
		Posttest	Follow-up	0.333	0.544	1
	Suppression	Pretest	Posttest	-3.600	0.404	0.001
		Pretest	Follow-up	-3.273	0.525	0.001
		Posttest	Follow-up	0.327	0.281	0.766
Cognitive-Behavioral Game-Based Approach	Reappraisal	Pretest	Posttest	-8.933	0.728	0.001
		Pretest	Follow-up	-8.867	0.949	0.001

E-ISSN: 3041-8828

		Posttest	Follow-up	0.067	0.544	1
	Suppression	Pretest	Posttest	-6.733	0.404	0.001
		Pretest	Follow-up	-6.227	0.525	0.001
		Posttest	Follow-up	0.507	0.281	0.247

Table 4 presents pairwise comparisons examining differences in emotion regulation scores across treatment stages for both the mindfulness-based approach and the cognitive-behavioral game-based approach groups. The results indicate that in both experimental groups, the differences in mean scores between the pretest and the posttest, as well as between the pretest and the follow-up, are statistically significant ($p < 0.01$). By comparing the mean scores across the three stages, it is evident that emotion regulation scores significantly increased in the posttest and follow-up stages compared to the pretest. However, the difference between posttest and follow-up scores was not significant ($p > 0.05$), suggesting that the effects of the intervention remained stable over time.

Table 5

Between-Subjects Effects Test for Comparing Mean Emotion Regulation Scores Across Groups

Source of Variation	Variable	Sum of Squares	df	Mean Square	F	p-value
Group	Reappraisal	253.344	1	253.344	6.525	0.016
	Suppression	125.552	1	125.552	6.529	0.016
Error	Reappraisal	1087.111	28	38.825		
	Suppression	538.475	28	19.231		

Table 5 presents the results of the between-subjects effects test, examining the mean differences in emotion regulation scores between the mindfulness-based approach and the cognitive-behavioral game-based approach groups. The F-values for both emotion regulation components are statistically significant ($p < 0.05$).

Table 6

Bonferroni Post-Hoc Test for Between-Subject Effects

Dependent Variable	Group 1	Group 2	Mean Difference	Standard Error	p-value
Reappraisal	Mindfulness-Based Approach	Cognitive-Behavioral Game-Based Approach	-3.356	1.314	0.016
Suppression	Mindfulness-Based Approach	Cognitive-Behavioral Game-Based Approach	-2.362	0.925	0.016

Table 6 presents pairwise comparisons of mean emotion regulation scores between the mindfulness-based approach and the cognitive-behavioral game-based approach groups. The results indicate that the mean emotion regulation scores in the cognitive-behavioral game-based approach group are significantly higher than those in the mindfulness-based approach group ($p < 0.05$).

4. Discussion and Conclusion

The present study aimed to compare the effect of mindfulness skills training and cognitive-behavioral games on emotion regulation in elementary school students. The results indicated that the mean scores of emotion regulation significantly increased in the posttest and follow-up stages compared to the pretest. Based on the findings, the mean emotion regulation scores in the mindfulness-based training group were significantly higher than those in the control group. This finding aligns with prior research {Khalili Yeganeh, 2022 #140630;Ma'navi Pour, 2020 #140632;Moslehi Juybari, 2022 #140635;Yaghouti, 2022 #140643}. Avoidance of current experiences may involve selective information bias, cognitive distortions, emotional instability, attentional deviation, or disengagement. Excessive engagement includes rumination, chronic worry, obsessions, strong impulses, or compulsive behaviors. Both of these emotion regulation strategies require a shift in attention from present experiences toward past memories or future predictions. Past-oriented thinking is characteristic of depressive moods (e.g., feelings of guilt, shame, and self-blame), whereas future-oriented thinking is associated with anxiety (e.g., obsessive worries, predictive failures, and catastrophic outcomes). Individuals often combine selected past thoughts, unrealistic expectations of the present, and fears and desires regarding the future to create a distorted image that does not reflect reality. Living within such mental

E-ISSN: 3041-8828

images fosters cognitive misinterpretations, leading children to experience emotional distress. A focus on the past and future diminishes access to present-moment awareness. In mindfulness-based cognitive therapy programs, children learn to live in the present moment and apply effective strategies to regulate emotions by shifting their attention from past- and future-based experiences to present experiences. Furthermore, mindfulness helps children focus on what exists without attempting to change or avoid it. Consequently, strong thoughts and emotions become less overwhelming, and individuals realize they do not need to engage with or avoid them. Therefore, mindfulness-based cognitive therapy enables children to better manage their emotions {Raugh, 2024 #140652}.

Emotion regulation can also be explained through the theory of learned helplessness. According to this perspective, early life experiences of failure lead to the development of stable, global, and internal attributions regarding the control of failure. In such cases, individuals feel compelled to control all negative events and perceive potential threats as inescapable. This intensifies emotional reactions and exacerbates anxiety. Mindfulness-based cognitive therapy, by teaching acceptance, present-moment awareness, and non-judgmental attitudes toward events, likely reduces feelings of helplessness when facing life's challenges. This, in turn, enhances children's ability to regulate emotions and generate positive outcomes.

Additionally, the findings indicated that the mean emotion regulation scores significantly increased in the posttest and follow-up stages compared to the pretest. The results also showed that the mean emotion regulation scores in the cognitive-behavioral game-based training group were significantly higher than those in the control group. This finding aligns with prior studies {Taghizadeh Hir, 2023 #140640}{Gupta, 2023 #140659}{Jafarzadeh, 2023 #140660}. Play is one of the most important alternative communication tools. Play serves as a child's language, allowing them to communicate nonverbally. Play therapy for children functions similarly to talk therapy for adults. Play therapy is based on the premise that children's emotional and behavioral responses to life events are shaped by their perceptions and memories of these events. This method assumes that children may lack well-developed cognitive beliefs, problem-solving skills, or structured thought processes, which may lead to cognitive and emotional disturbances. The hypothesis can be explained by the fact that children, due to their limited capacity for abstract thinking, may struggle to verbally express their emotions and feelings. The suppression and inability to articulate negative emotions, in particular, pose risks to children's mental health, leading to behavioral disorders and various personal and social problems. Children with such disorders place significant strain on their families, schools, and society, increasing their vulnerability to emotional and social difficulties in adolescence and adulthood. Therapists use play to teach children with weak social or emotional skills more adaptive behaviors. Cognitive-behavioral therapy programs for children with behavioral disorders focus on challenging cognitive beliefs, teaching social skills, and providing behavioral exposure. Various studies, including the present research, have demonstrated that cognitive-behavioral interventions effectively reduce emotional and behavioral disorders in children.

The results also showed that the mean emotion regulation scores in the cognitive-behavioral game-based group were significantly higher than those in the mindfulness-based approach group. This finding is consistent with the prior studies {Forouzanfar, 2018 #140626;Mohammadpour, 2023 #140634;Radbakhsh, 2017 #140637;Söylemez, 2023 #140639}. In cognitive-behavioral play therapy, as in cognitive-behavioral therapy for adults, the underlying belief is that adaptive behavior results from the interaction between thoughts, emotions, and behavior. Cognitive-behavioral play therapy incorporates various behavioral and cognitive interventions. Among these behavioral interventions are systematic desensitization, mentally evocative imagery, contingency management, positive reinforcement, shaping, extinction, and modeling. Additionally, cognitive-behavioral methods commonly used in play therapy focus on modifying behavior and changing maladaptive thought patterns. The fundamental assumption is that maladaptive cognitions contribute to fear-based and anxiety-driven behaviors; therefore, altering cognition leads to behavioral changes. The therapist assists the child in identifying, modifying, or reconstructing maladaptive thoughts. Besides helping the child recognize cognitive distortions, the therapist teaches them how to replace these maladaptive thoughts with more adaptive ones. This hypothesis can be further explained by the fact that children, due to their limited abstract thinking abilities, struggle to articulate their emotions and feelings. The suppression of emotions, particularly negative ones, threatens children's mental health and contributes to behavioral, personal, and social problems. Through cognitive-behavioral play therapy, children learn more positive emotional regulation skills via modeling and self-talk using various toys, enabling them to

E-ISSN: 3041-8828

verbally express their emotions. They also acquire a diverse range of cognitive, emotional, and social skills, allowing them to communicate effectively with others and resolve problems constructively. During therapy sessions, they practice these skills with peers, ultimately mastering them. As a result, children can generalize these skills to real-life situations, using them to address emotional and social challenges. This explains why play therapy is an effective psychotherapeutic intervention for children from diverse cultural backgrounds, helping those with a wide range of emotional, social, behavioral, learning, and stress-related issues. Various studies, including the present research, have demonstrated that cognitive-behavioral interventions effectively reduce emotional disorders in children.

Several limitations should be noted in this study. Since the participants were limited to children in Tehran, caution should be exercised when generalizing the findings to other cities. Given that this study employed convenience sampling, the generalizability of the results to the broader population should be approached with caution. Another limitation is that this research focused exclusively on girls, meaning its application to male populations should be considered with caution. Given the extensive research on mindfulness training and its positive effects on various variables, particularly in school-age populations, mindfulness training can be considered an effective primary prevention method for enhancing students' academic performance and ensuring their mental well-being. It is suggested that mindfulness training be incorporated into educational curricula at different levels, including elementary, middle, and high school. Based on the findings of this study, future research should explore the effectiveness of play therapy interventions in other groups, including individuals with special needs.

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.

Acknowledgments

We hereby thank all individuals for participating and cooperating us in this study.

Declaration of Interest

The authors report no conflict of interest.

Funding

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

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 interview and participated in the research with informed consent.

References

Afzali, S. S. A., Mousapour, N., & Ghaderi, M. (2023). Designing a multicultural literacy curriculum model for student teachers in the Islamic Azad University units of Mazandaran. *Two-monthly journal of Theory and Practice in Curriculum*, *11*(21), 187-280.

Aini, A., Yazdani, H., & Alireza, S. (2018). Content analysis of social studies textbooks of the second elementary period based on the components of multicultural education. *Research in Curriculum Planning*, *15*(2), 136-151.

Amrollah, O., & Azadi Ahmadabadi, G. (2021). Identifying and prioritizing the obstacles to the virtual implementation of the official curriculum during the global outbreak of the coronavirus disease (from the perspective of teachers and principals working in schools in Tehran). *Curriculum Studies*, *16*(61), 1-26.

Arruzza, E., & Chau, M. (2021). The effectiveness of cultural competence education in enhancing knowledge acquisition, performance, attitudes, and student satisfaction among undergraduate health science students: a scoping review. *J Educ Eval Health Prof*, *18*(3).

Bagherzadeh Vashki Zaman, S. A., & Alireza, C. (2021). Identifying the dimensions and components of the social studies curriculum of the elementary period based on a multicultural approach: Classical grounded theory. *Two-monthly journal of a new approach in educational management*, *12*(3), 37-48.

Bezi, A., Fakoori, H., Bayani, A. A., & Saemi, H. (2024). Design and Validation of an Environmental Education Curriculum Model for Higher Education Based on the "Aker" Approach [Research Article]. *Iranian Journal of Educational Sociology*, *7*(1), 79-90. https://doi.org/10.61838/kman.ijes.7.1.8

Bikbulatovaa, V., Orlovaa, I. A. U. R. R., Shishova, S., & Yulina, G. (2016). On Anticipatory Development of Dual Education Based on the Systemic Approach. *IJESE*, *11*(15), 8599-8605.

Bozorgi, E., & Goli Tavana, M. (2024). A review of the components of the multicultural curriculum and its necessities in creating cultural identity. The second international conference on management, education and training research in education,

E-ISSN: 3041-8828

De Hei, M., Tabacaru, C., & Sjoer, E. (2019). Developing Intercultural Competence Through Collaborative Learning in International Higher Education - Miranda de Hei, Corina Tabacaru, Ellen Sjoer, Ralph Rippe, Jos Walenkamp. https://doi.org/10.1177/1028315319826226

Delghandi, M., karimi, M., Nodehi, H., & Cherabin, M. (2024). Designing an Efficient Virtual Education Pattern in Farhangian University. *Sociology of Education*, *10*(1), 280-294. https://doi.org/10.22034/ijes.2024.2012176.1469

Enayati Novin-Far, A., & Farhad, S. (2020). The curriculum model of virtual universities of religious sciences, based on participatory learning: a study of the virtual university of Quran and Hadith, Jame'at al-Mustafa al-Alamiyyah and Imam Khomeini University. *Islamic Education Quarterly*, *15*(34), 31-48.

Ghanbari, S., Razghi Shirsovar, H., Ziaei, M., & Mosleh, M. (2019). Presenting an evaluation model for e-learning in the electronic unit of Islamic Azad University. *Educational Management Research*, *11*(41), 75-100.

Hamedinasab Sadegh, A. M., Rostaminejad, M., & Farhad, S. (2021). Designing a curriculum model for using informal learning based on virtual social networks in order to develop the professional skills of student teachers. *Educational Technology*, *15*(4), 723-742.

Keramati, A. (2020). The role of professors in the effectiveness of virtual curricula in the era of Corona. The seventh international conference on new research achievements in educational sciences, psychology and social sciences,

Khoshrovi, F. (2022). *Presenting a suitable model of a non-face-to-face (virtual) curriculum in high schools in Bonab city*

Lisa, T., Kathryn, H., Janine, D., & Bonnie Amelia, D. (2016). A vision of You-topia: Personalising professional development of teaching in a diverse academic workforce. *Teaching & Learning Practice*, *13*(4), 9. https://doi.org/10.53761/1.13.4.5

Mazaheri Forushani, E. (2024). Challenges of multicultural curriculum in Iranian education with an emphasis on clarifying concepts such as multicultural education, multicultural class, multicultural teaching and multicultural curriculum. The second international conference on sociology, social sciences and education with a future perspective,

Mostafaei, P., & Hosseini, S. (2021). Qualitative content analysis of corporate social responsibility reports with an emphasis on social stakeholders. *Experimental Accounting Research*, *11*(41), 79-112.

Mostafazadeh, E., Keshti Aray, N., & Azar, G. (2019). The necessities of multicultural education and the analysis of the elements and components of multicultural education. *Research in Curriculum PlanningVL - 16*(2), 20-35.

Ornstein, A., & Hunkinks, F. (2018). *Curriculum : foundations, principles, and issues*. Pearson Education Limited.

Por Jafari shir Joposht, M., Shakibaei, Z., & Zarei, H. (2024). `Provide a Model for Parents' Educational Assistance to Empower Online Education in Critical Situations. *Sociology of Education*, *10*(1), 31-44. https://doi.org/10.22034/ijes.2023.2006736.1434

Saberi, R., & Mozhgan, S. (2019). Evaluation of the implemented curriculum in virtual education of Islamic Azad University units of Mazandaran: The place of needs, content and method in virtual education. *Two-monthly journal of new strategies for teacher training*, *5*(8), 11-28.

Sabouri, S., Etemad Ahari, A. a.-D., Maki al-Agha, B. a.-Z., & Emadzadeh, A. (2020). Designing a curriculum model with a hidden and neglected curriculum approach with regard to the health system transformation and innovation packages. *Horizon of Medical Sciences Education Development*, *11*(3), 59-84.

Shahab Lavasani, M., Sabbaghian, Z., & Fatemeh, A. (2020). The lived experience of high school teachers from the process of multicultural education. *Journal of Social Sciences, Islamic Azad University, Shushtar Branch*, *14*(2), 197-228.

Shahbazi, Z. (2020). *Designing and validating the curriculum model of a PhD in Curriculum Studies in Iranian Higher Education with an intercultural approach*

Shahbazi, Z., Kalantari, M., Sadeghi, A., & Mahmoud, M. (2020a). Fractal model of the curriculum of the PhD program in curriculum studies in Iranian higher education with an intercultural approach. *Two-monthly journal of a new approach in educational management*, *11*(2), 273-294.

Shahbazi, Z., Kalantari, M., Sadeghi, A., & Mahmoud, M. (2020b). *Intercultural curriculum in higher education (fractal model)*. Mahd-e Pajouhesh.

Shamshirgaran, F., & Afkari Fereshteh, A. U. G. A. (2019). Designing a virtual curriculum for the first middle school science lesson (ninth grade). *Journal of Information and Communication Technology in Educational Sciences*, *10*(2), 155-173.

Shariati, F., Niazazari, K., & Jabbary, N. (2024). Presenting a Model for Virtual Education Considering Educational Equity with a Phenomenological Approach in Schools of Golestan Province [Research Article]. *Iranian Journal of Educational Sociology*, *7*(1), 66-78. https://doi.org/10.61838/kman.ijes.7.1.7

Shirvani, A. R., Tavalaei, H. R., & Delvi, M. R. (2021). Design and Testing Human Capital Strategies Model Based on Digital Technology Vision and Transformation: Recognition of Cognitive, Behavioral and Performance Consequences. *Research in cognitive and behavioral sciences*, *11*(1), 55-70. https://doi.org/10.22108/cbs.2021.127513.1499

Warren, B., Henson, L., Thomas, H., J, R. B., Flores, J., Tangco, E. D., Patel, S. H., Sanghvi, P., & B.Li. (2021). Establishing Partnerships and Developing Relevant Virtual Curriculum to Augment Contouring Education in Southeast Asia. *International Journal of Radiation Oncology*Biology*Physics*, *111*(3), e185. https://doi.org/10.1016/j.ijrobp.2021.07.685

E-ISSN: 3041-8828