The Effect of Cognitive Behavioral Group Therapy Program On Character Strength and Self-Esteem Among School Adolescents

Mina Hasani[1] , Fateme Dehghan Banadaki[2] , Morteza Rezvani Novin[3], Maryam Nadi Mobarakeh [4], Rezvan Darabi [5]*

1. Department of Psychology, Islamic Azad University, Roudehen Branch, Tehran, Iran.
2. Department of Psychology, Yazd Branch, Islamic Azad University, Yazd, Iran.
3. Department of Psychology, Allameh Tabataba'i University, Tehran, Iran.
4. Department of Family Counseling, Isfahan Branch, Mojtahedeh Amin Institute of Higher Education, Isfahan, Iran.
5. Department of Psychology, Borujerd Branch, Islamic Azad University, Borujerd, Iran (Corresponding author).

* Corresponding author email address: rezvan.darabi6808@gmail.com

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A B S T R A C T

Purpose: Self-esteem and Character Strength are the primary building blocks of psychological and social development in adolescents. These are crucial for academic achievement, overcoming challenges, and fostering healthy relationships later in life. This research explores the impact of a cognitive behavioral group therapy program on the self-esteem and Character Strength of School Adolescents.

Methodology: The current study was a semi-experimental design that included pre-test, post-test, and follow-up stages lasting three months. It involved control and experimental groups. The statistical population consisted of young people in Tehran, including 12 boys and 14 girls enrolled in educational programs between July and November 2023. The sample size was 32 individuals, with 16 in each of the experimental and control groups, selected through random sampling. The educational interventions were based on a cognitive behavioral group therapy program and lasted six sessions of 60 minutes each, held twice a week in separate sessions for boys and girls at a school office. The assessment tools used were the Coopersmith Self-esteem Inventory (CSEI) and the Values in Action-Inventory of Strengths (VIA-IS). Data analysis was conducted using SPSS version 27 software, involving descriptive statistics (mean and standard deviation) and covariance analysis with repeated measurements and Bonferroni post hoc testing at a significance level of 0.05.

Findings: Based on the research results, the P-value for Between-Subjects Effects showed a notable distinction between the experimental and control groups, as well as between male and female student groups concerning the Self-esteem variable (p<0.001). Furthermore, it was discovered that the significant interaction effects between group and gender were present with a p-value of 0.032. Similarly, the Within Subjects Effects for the Self-esteem variable showed significance in the interaction effects between time and group (p=0.019). However, there was no significant variation in Character Strength between groups and stages.

Conclusion: Based on the findings of this study, it was determined that cognitive behavioral group therapy is successful in boosting self-esteem among adolescents, particularly girls. It can be implemented in schools and counseling centers through the development of educational and cultural initiatives aimed at enhancing self-esteem in adolescents.

Keywords: *Cognitive Behavioral Group Therapy, Character Strengths, Self-Esteem, Adolescents*

1. Introduction

Adolescence is a crucial period in the psychological and social development process, during which adolescents aim to explore and define their identity. However, they encounter various challenges such as social, academic, and family pressures, and having Character Strength can be instrumental in coping with these challenges and progressing in their growth journey (Ahrnberg et al., 2021). Enhancing Character Strengths in adolescents is essential for enhancing their overall wellness and ability to adapt, enabling them to reach their full potential and prevent issues related to coping with the demands of daily life (Monteiro & Benevides Soares, 2024). These Character Strengths appear as psychological components that define virtues, with wisdom, courage, humanity, justice, moderation, and excellence being the core virtues known as the "Great Six (Casali et al., 2021)." Character Strengths such as hope, self-control, self-discipline, and creativity are crucial in boosting self-awareness, self-confidence, and social interactions among adolescents, forming the basis for academic and social success that directly contributes to psychological well-being (Villacís et al., 2023). Research findings have highlighted a positive correlation between Character Strengths and various dimensions of achievement and success (Wagner et al., 2020). Additionally, studies have demonstrated that Character Strengths serve as protective factors against behavioral problems in early adolescents, effectively preventing negative psychological outcomes (Qin et al., 2020).

During the sensitive stage of adolescence, feeling valued is crucial for adolescents' growth and development. High self-esteem plays a significant role in shaping adolescents' behaviors (Imran et al., 2024) with low self-esteem often having a negative self-perception to protect themselves, unlike those with high self-esteem who are motivated to maintain and boost their self-worth (Kurniawan et al., 2023). Self-esteem is a key component in adolescents' psychological well-being, influencing their attitudes and experiences towards themselves (Jankowiak et al., 2021).

Numerous studies have emphasized the importance of high self-esteem in helping adolescents navigate life challenges. Research has shown that high self-esteem and resilience contribute positively to adolescents' life satisfaction and psychological well-being (Trong Dam et al., 2023) Additionally, high self-esteem is a protective factor against risky behaviors in adolescents (Martínez-Casanova et al., 2024). A study by Uba et al. (2020) also highlighted self-esteem as a significant predictor of depression and a mediator in the correlation between loneliness and depression among adolescents (Uba et al., 2020).

Enhancing self-esteem and boosting Character Strength during adolescence can enhance the academic and social performance of adolescents, as well as prevent potential psychological issues in the future. It is crucial to explore the impact of therapeutic approaches on enhancing mental health aspects like self-esteem and Character Strengths, as many personal challenges in later life can be traced back to this period (Villacís et al., 2023). Cognitive behavioral therapy (CBT) is a type of therapy that focuses on modifying thoughts and behaviors to address problems. While individual CBT involves continuous communication of thoughts, feelings, physical state, and actions, cognitive-behavioral group therapy (CBGT) is a more affordable option that allows individuals to express themselves better in a group setting, fostering dialogue, collaboration, and interpersonal involvement (Moloud et al., 2022). A study evaluating the effectiveness of CBT on self-esteem and depression revealed that this approach can alleviate negative symptoms and enhance functioning (Sønmez et al., 2020). Research has indicated that CBT can be beneficial for a range of psychological conditions (such as anxiety disorders, attention deficit hyperactivity disorder, bulimia nervosa, depression, and hypochondriasis) and physical ailments (like chronic fatigue syndrome, fibromyalgia, and irritable bowel syndrome) (Nakao et al., 2021).

Since individuals between the ages of 10 and 24 represent 24% of the global population, investing in their well-being can yield long-term benefits in terms of adolescence, adulthood, and the next generation. Studies have shown that
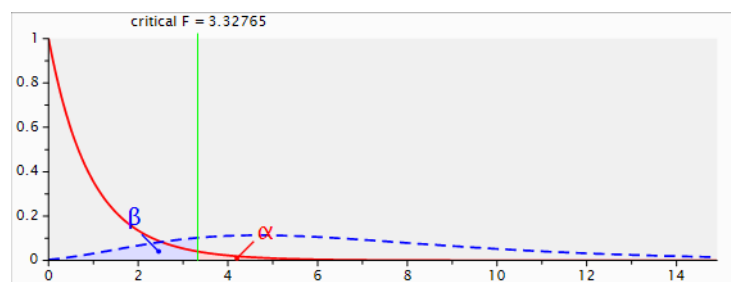
adolescents with higher self-esteem and Character Strength traits are less likely to experience mental health issues, underscoring the importance of focusing on these aspects to enhance the mental well-being of future generations. Despite the significance of this topic in previous research, there is a lack of studies investigating the impact of CBGT on the self-esteem and Character Strength of school-aged adolescents. Therefore, addressing this research gap is crucial in developing more effective treatment programs for adolescents and ultimately improving the overall mental health of society. This research is one of the initial ones to investigate how CBGT programs can improve the Character Strength and self-esteem of adolescents.

2. Methods and Materials

2.1. Study Design and Participants

Figure 1

*Sample size calculation with G*Power software*

The current study was classified as applied and semi-experimental, incorporating a pre-test, post-test, and follow-up phase three months later with both a control and experimental group. CBGT was utilized as the intervention method, focusing on Character Strength and self-esteem in adolescents as dependent variables. The population for this study consisted of boys (12 individuals) and girls (14 individuals) in Tehran between July and November 2023. The initial sample size included 32 adolescents studying education, randomly selected and split into two groups - experimental and control - using a coin toss. Sample size adequacy was determined using G-Power software with an alpha of 0.05, effect size of 0.35, and a power test of 0.80 (Kang, 2021), resulting in a sample size of 32 individuals according to the formula provided.

To be eligible for the study, individuals must be at least 15 years old, in good physical and mental health to attend educational sessions, enrolled in a school within the study area, have parental consent, and not currently enrolled in similar programs. The requirements for ending participation involved any situation that would hinder regular attendance, participating in other programs concurrently, exceeding two missed sessions, or choosing to withdraw voluntarily. Researchers received approval from the university and then contacted two non-profit schools (one for boys and one for girls) to recruit participants. Parents were notified through social media, and those who provided consent had their children selected randomly based on eligibility criteria. From the pool of consenting individuals, 45 students were chosen to account for potential dropouts. During the initial in-person interview at one of the school offices, researchers explained the study's goals and ethical considerations to students and parents, addressing any concerns they may have had.

At this stage, individuals underwent a screening process in which 13 students were excluded from the research due to not meeting the requirements, such as lack of time or ability to attend training sessions. In addition, some students opted out of continuing with the study. Eventually, the researchers selected a total of 32 participants. The students then completed a pre-test using research tools. After the pre-test, the students were assigned to groups randomly and got ready for the training session. The experimental group received six

60-minute sessions of a behavioral group therapy program based on a gender-segregated approach (Rajabi et al., 2013; Sheykhangafshe et al., 2023), while the control group did not receive any program. After the training sessions, both groups underwent a post-test evaluation. Three months later, the researcher conducted follow-up assessments to compare the results of the pre-test, post-test, and follow-up between the two groups. To adhere to ethical standards, the control group also received a single training session after the study concluded. Three participants from each group dropped out during the study. Ethical considerations included obtaining informed consent from participants and ensuring the confidentiality of information. Furthermore, Figure 2 shows a flow chart of the CONSORT guidelines.

Figure 2

The flow diagram of the study
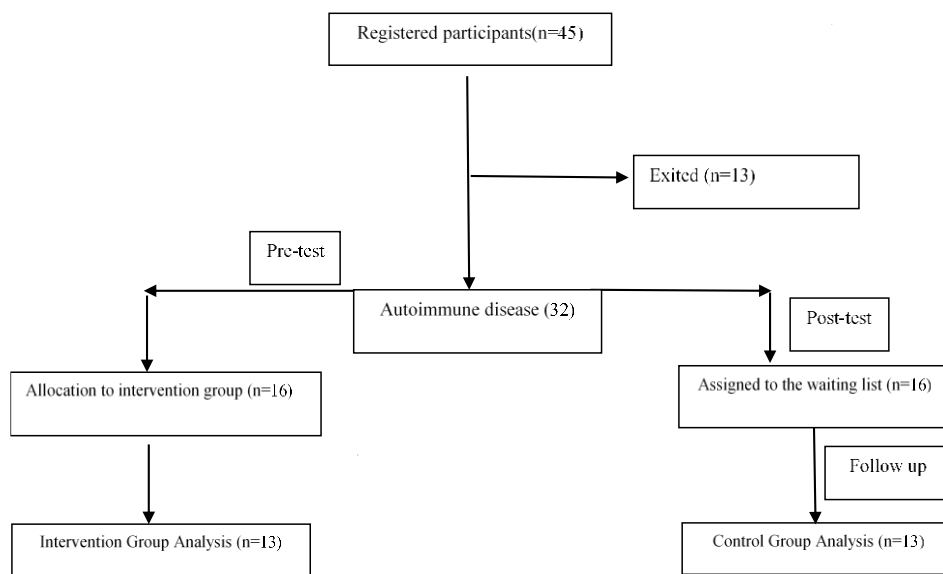
2.2. Measures

2.2. ۱. Coopersmith Self-esteem Inventory (CSEI)

In 1965, Coopersmith developed a questionnaire for students to evaluate self-esteem in social and academic situations (Coopersmith, 1965). The questionnaire consists of 58 items, with eight questions serving as lie detectors where respondents answer either yes or no. It measures four components: general self, social self-peers, home parents, and school academics. People's scores on this questionnaire are totaled to determine their level of self-esteem, with higher scores indicating higher levels of self-esteem. Scores range from 0 to 50, with 26 or less indicating weakness, 27-43 indicating moderate, and 44 or more indicating severe self-esteems. Coopersmith reported the scale's reliability using the retest method, with a coefficient of 0.88 for a sample of 50 children at a five-week interval and 0.70 for a sample of 56 12-year-old children at a three-year interval. In Iran, this scale had a Cronbach's alpha coefficient of 0.88 (Hassani & Haghighat, 2023). The researcher discovered that the Cronbach's alpha coefficient for this scale was 0.712 in the study.

2.2.2. Values in Action- Inventory of Strengths (VIA-IS)

Ruch and Seligman developed a questionnaire in 2010 to assess individuals' personality traits (Ruch et al., 2010), aiming to measure six universal virtues like wisdom, humanity, courage, justice, temperance, and transcendence present in various religions. The questionnaire consists of 240 statements, with ten statements for each virtue, and respondents are required to indicate their level of agreement

or disagreement using a 5-point Likert scale. A brief version of 24 items was developed to tackle the problem of length. Previous research indicated that the scale had a Cronbach's

alpha of 0.80 (Khodabakhash et al., 2015), whereas the current study discovered it to be 0.87.

Table 1

Protocol of CBGT sessions

Session	
First	- Introducing CBGT sessions
	- Explaining the fundamental principles of this therapy
	- Covering basic concepts like automatic thoughts and cognitive distortions
	- Setting up session schedule
	- Reviewing session guidelines
	- Make interaction between therapist and adolescents
	- Setting meeting agenda
Second	- Creating a framework for self-esteem and Character Strength.
	- Conceptualization of adolescent issues.
	- Introduction the thoughts, feelings, and behaviors correlation
Third	- Setting meeting agenda
	- Focusing on a specific goal
	- Using the self-esteem technique
	- Evaluate adolescent's skills
	- Setting up meeting agenda
Fourth	- Recognizing and analyzing anxiety triggers
	- Practicing thought recording
	- Employing inner thought techniques
	- Setting up meeting agenda
Fifth	- Changing negative thoughts that lead to anxiety and low self-esteem
	- Instructing a group on how to replace irrational thoughts with logical ones.
	- Setting up meeting agenda
	- Identifying cognitive mistakes
Sixth	- Reviewing the facts and making coping cards
	- Training cognitive adaptability activities
	- Recap and implement post-test

2.٣. *Data Analysis*

This study analyzed descriptive statistics like mean and standard deviation, as well as research hypotheses through Kruskal-Wallis H and analysis of covariance with repeated measures at a p-value of 0.05 using SPSS version 27. The Kolmogorov-Smirnov test assessed normal distribution and Levene's test evaluated homogeneity of variances. Additionally, Bonferroni's post hoc test was employed to compare means.

3. Findings and Results

The study gathered information on the participants at three different stages: pre-test, post-test, and follow-up, for both the experimental and control groups, totaling 26 individuals. Initially, the researcher analyzed and defined the research variables.

Table 2

Description of research variables

		Groups	Pre-test			Post-test			Follow up		
			M	SD	N	M	SD	N	M	SD	N
Self-esteem	Boy	CBGT Program	29.50	1.378	6	33.83	1.169	6	34.66	2.160	6
		Control	31.16	1.471	6	30.83	1.602	6	30.66	2.250	6
		Total	30.33	1.614	12	32.33	2.059	12	32.66	2.964	12
	Girl	CBGT Program	30.71	2.058	7	36.00	0,577	7	39.28	1.112	7
		Control	29.71	1.380	7	31.14	1.951	7	31.00	1.914	7
		Total	30.21	1.761	14	33.57	2.874	14	35.14	4.554	14
Character Strength	Boy	CBGT Program	69.50	1.048	6	73.00	1.549	6	72.50	1.643	6
		Control	71.50	1.870	6	72.66	1.211	6	72.16	1.471	6
		Total	70.50	1.783	12	72.83	1.337	12	72.33	1.497	12
	Girl	CBGT Program	70.71	2.288	7	73.00	1.414	7	73.57	1.618	7
		Control	71.00	2.160	7	72.14	1.345	7	71.85	1.772	7
		Total	70.85	2.143	14	72.57	1.398	14	72.71	1.857	14

As per Table 2, there was no notable variance in the mean of the Self-esteem factor in the initial test among the experimental and control groups, but there was a discrepancy in the mean between the subsequent test and follow-up period between the control and experimental groups. On the whole, the mean scores in the two phases of Post-test and Follow-up in the experimental group rose in contrast to the control group. Nonetheless, there was no significant variation between the groups and phases in the Character Strength factor. In Table 3, the analyst evaluated the outcomes of the analysis of the covariance test with recurrent measurements.

Table 3

Covariance analysis test

Variable		Source	SS	MS	F	P-value	Eta Squared
Self-esteem	Within Subjects Effects	TIME	0.731	0.731	0.285	0.599	0.013
		TIME ✷ Pre-test	1.049	1.049	0.408	0.530	0.019
		TIME ✷ Gender	5.128	5.128	1.997	0.172	0.087
		TIME ✷ Group	16.559	16.559	6.448	0.019	0.235
		TIME ✷ Gender ✷ Group	2.474	2.474	0.963	0.338	0.044
	Between Subjects Effects	Pre-test	8.324	8.324	2.947	0.101	0.123
		Gender	46.053	46.053	16.304	< .001	0.437
		Group	335.308	335.308	118.706	< .001	0.850
		Gender ✷ Group	14.883	14.883	5.269	0.032	0.201
Character Strength		TIME	1.825	1.825	0.828	0.373	0.038
		TIME ✷ Pre-test	1.783	1.783	0.809	0.379	0.037

Within Subjects Effects	TIME ✳ Gender	1.034	1.034	0.469	0.501	0.022
	TIME ✳ Group	1.301	1.301	0.590	0.451	0.027
	TIME ✳ Gender ✳ Group	0.191	0.191	0.087	0.771	0.004
Between Subjects Effects	Pre-test	1.003	1.003	0.405	0.532	0.019
	Gender	0.098	0.098	0.039	0.844	0.002
	Group	6.084	6.084	2.456	0.132	0.105
	Gender ✳ Group	3.603	3.603	1.455	0.241	0.065

According to the findings from the covariance analysis presented in Table 3, there was a significant P-value in the Between-Subjects Effects for the experimental and control groups, as well as for male and female student groups in the Self-esteem variable (p<0.001). This indicates that a noticeable difference was detected in the research groups while controlling for the effects of the pre-test stage. Additionally, the interaction effects between group and gender were found to be significant (P=0.032). Moreover, it

was found that the impact of self-esteem on the participants varied significantly based on the relationship between time and group (p=0.019). However, there was no substantial variance in Character Strength between groups and stages. Table 4 displays the researcher's analysis of the pairwise interaction effects between stages and groups for the Self-esteem component.
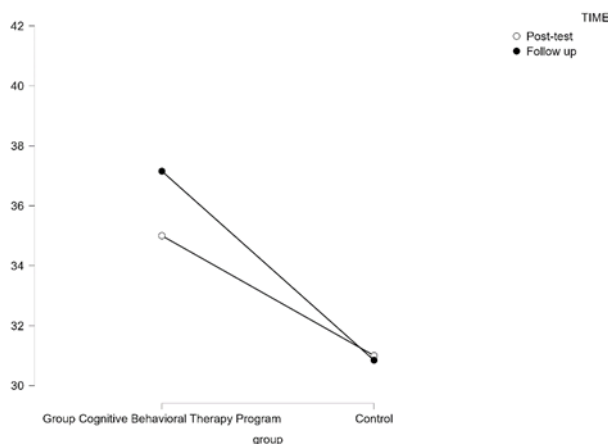
Table 4

Post Hoc Comparisons - Group ✳ TIME

	Variable		MD	SE	t	pbonf
Self-esteem	CBGT Program-Post-test	Control- Post-test	3.987	0.650	6.133	< .001
		CBGT Program-Follow up	-2.091	0.632	-3.306	0.007
		Control, Follow up	4.174	0.648	6.441	< .001
	Control- Post-test	CBGT Program-Follow up	-6.077	0.648	-9.377	< .001
		Control- Follow up	0.188	0.633	0.297	0.770
	CBGT Program-Follow up	Control- Follow up	6.265	0.650	9.638	< .001

Figure 3

Pairwise analysis of the interaction effects between TIME and groups for the Self-esteem variable

According to Table 4 and Figure 3, the CBGT Program showed a significant difference in the Self-esteem variable compared to the control group at all stages (p<0.001). The increase in mean scores for this variable confirms the effectiveness of the intervention approach of the CBGT

Program in improving Self-esteem. Furthermore, there was a significant difference between the Post-test and Follow-up stages of the CBGT Program (p=0.007), indicating that the effects were maintained over time.
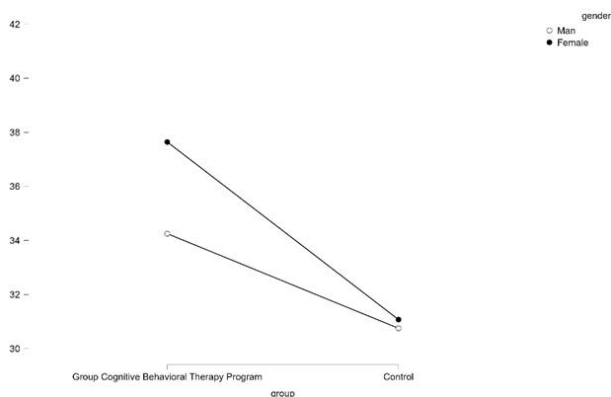
Table 5

Post Hoc Comparisons - Gender ✻ Group

	Variable		MD	SE	t	pbonf
Self-esteem	Boy- CBGT Program	Girl- CBGT Program	-3.065	0.688	-4.454	< .001
		Boy- Control	3.950	0.734	5.378	< .001
		Girl- Control	3.236	0.662	4.889	< .001
	CBGT Program	Boy- Control	7.015	0.665	10.549	< .001
		Girl- Control	6.302	0.654	9.630	< .001
	Boy- Control	Girl- Control	-0.713	0.699	-1.020	0.319

Figure 4

Pairwise analysis of the interaction effects between gender ✻ group for the Self-esteem variable

Based on the information presented in Table 5 and Figure 4, it was determined that there was a significant difference in the variable Self-esteem between boys and girls in the experimental group (p<0.001). The mean difference showed that the girls' self-esteem levels increased more in comparison. Additionally, the self-esteem levels of both boys and girls in the experimental group differed from those in the control group, with an increase observed in both groups.

4. Discussion and Conclusion

The main objective of this study was to examine how CBGT impacts the self-esteem and Character Strength of adolescents in school. The findings from this research revealed that although there were no noteworthy differences in Character Strength between the groups, the CBGT program boosted self-esteem in adolescents, especially girls. Based on the findings of the present study, it was revealed that CBGT can enhance self-esteem in adolescents, particularly girls. Despite the lack of prior studies directly addressing this issue due to the novelty of this study, the results are consistent with previous research highlighting the positive impact of CBGT (Sønmez et al., 2020; Nakao et al., 2021). A study assessing the impact of CBT on self-esteem and depression indicated that this treatment can improve negative symptoms and overall functioning (Sønmez et al., 2020). Additionally, research has demonstrated the effectiveness of CBT in treating a range of psychological issues (such as anxiety disorders, ADHD, bulimia nervosa, depression, and hypochondriasis) and physical conditions (like chronic fatigue syndrome, fibromyalgia, and irritable bowel syndrome) (Nakao et al., 2021).

This method assists individuals in recognizing their negative thoughts and behaviors and by changing them, it helps to improve their self-esteem and sense of self-worth. CBGT offers a supportive environment for discussion and sharing of experiences, allowing adolescents to benefit from observing and interacting with others. Cognitive behavioral therapy is based on the idea that thoughts, feelings, and behaviors are interconnected (Moloud et al., 2022). During adolescence, individuals are more susceptible to negative self-perceptions due to physical, psychological, and social changes. Many adolescents may compare themselves to peers and feel inadequate in various aspects, but cognitive behavioral therapy aids in identifying and replacing these irrational thoughts with constructive ones, boosting self-esteem (Sang Pahni et al., 2023) CBGT allows adolescents to address their concerns in a safe space, connecting with others who may have similar experiences, thereby enhancing self-confidence and self-worth. Engaging in group therapy also helps adolescents develop skills like problem-solving, stress management, and emotional regulation, enabling them to navigate challenges more effectively and feel more in control of their situations. As a result, their self-esteem increases as they gain confidence in managing their problems (Nasiri Takami et al., 2020) Furthermore, the effectiveness of this treatment on girls can be attributed to the social and cultural pressures they face compared to boys in areas such as physical appearance, social relationships, and academic or professional success. Cognitive behavioral therapy supports girls in coping with and distancing themselves from these pressures, ultimately boosting their self-esteem (Pakizeh et al., 2024).

Every research study has its specific constraints that should be acknowledged when analyzing the findings. The current study faces limitations such as a lack of direct sources on the research topic, suggesting the need for more extensive studies and the publication of results to establish a solid foundation in this area. Furthermore, the study was conducted specifically among Iranian school-aged adolescents, meaning that cultural and social factors may lead to different outcomes in other regions, cautioning against generalizing the findings to other societies. "It is advisable to analyze similar research in different geographical and cultural settings to improve the relevance of the findings, and examining outcomes among diverse populations can offer important perspectives." Variations in people's acceptance and motivation to participate in group sessions may also impact treatment outcomes, suggesting

the need for future research to explore techniques for enhancing participant motivation, such as offering familiarization sessions and detailing the benefits of treatment. Additionally, the use of psychometric techniques can be beneficial in evaluating levels of motivation.

One of the limitations of the current study is that the data was collected through self-reports from adolescents, potentially introducing bias. In the future, researchers could overcome this issue by incorporating objective assessments from educators, instructors, or mental health professionals, along with observation techniques. Another limitation is the lack of control over variables like teacher presence, student communication during tests, social and cultural family factors, and psychological variables. Future research should aim to control these factors and create environments free from interference. Additionally, exploring the combination of CBT with other treatment methods like art therapy or music therapy to enhance self-esteem in adolescents, especially girls, is recommended for future studies.

According to the results of this research, CBGT has been proven to improve the self-confidence of adolescents, particularly girls. This indicates that it could be beneficial in creating educational and cultural initiatives focused on improving self-esteem in schools and counseling centers. It is recommended to customize intervention programs for girls to address their unique psychological needs and characteristics to achieve the best outcomes, considering the significant impact of CBGT on girls. Conducting educational workshops and seminars for therapists and researchers to impart effective research methodologies can also prove beneficial. "Parents are urged to participate in educational or counseling sessions to learn the basics of CBT, empowering them to have a greater impact on enhancing their children's self-confidence, especially daughters." Offering CBT sessions in informal settings like recreational, sports, or cultural centers may attract more adolescents and bolster the effectiveness of this therapeutic approach.

Authors' Contributions

The first author were responsible for conducting the interview and collecting data, and the other authors were responsible for analyzing the data and writing the article.

Declaration

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

Transparency Statement

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

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Declaration of Interest

The authors report no conflict of interest.

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Ethics 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.

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