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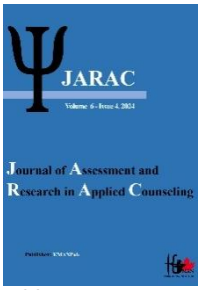

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The Effectiveness of Academic Buoyancy Training on Academic Burnout, Self-Destructive Behavior, and Thought Control Strategies in High School Students

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A B S T R A C T

Objective: This study aimed to evaluate the effectiveness of academic buoyancy training in reducing academic burnout, self-destructive behaviors, and enhancing thought control strategies among high school students.

Methods and Materials: A quasi-experimental design with a pre-test, post-test, and follow-up was employed, involving 60 female high school students from District 2 of Karaj city during the 2022-2023 academic year. Participants were randomly assigned to either the academic buoyancy training group (n= 15) or the control group (n= 15). The intervention consisted of 12 sessions of academic buoyancy training. Data were collected using the Academic Burnout Questionnaire, Cunningham's Self-Destructive Behavior Scale, and the Wells and Davies Thought Control Questionnaire. Data analysis included ANCOVA to assess the effectiveness of the intervention, with assumptions of normality, homogeneity of variances, and linearity confirmed.

Findings: The results demonstrated significant reductions in academic burnout, self-destructive behaviors, and improvements in thought control strategies in the training group compared to the control group. Specifically, academic burnout scores decreased from M= 53.6 (SD= 8.2) in the pre-test to M= 39.4 (SD= 6.3) in the post-test ($p < .001$, $\eta^2 = .724$). Self-destructive behavior scores reduced from M= 102.7 (SD= 14.4) to M= 87.2 (SD= 11.9) ($p < .001$, $\eta^2 = .627$), and thought control strategies improved from M= 68.4 (SD= 10.3) to M= 50.3 (SD= 7.9) ($p < .001$, $\eta^2 = .614$).

Conclusion: Academic buoyancy training significantly reduces academic burnout and self-destructive behaviors while enhancing thought control strategies among high school students. These findings suggest that academic buoyancy training is an effective intervention to promote psychological resilience and academic success in adolescents.

Keywords: *Academic Buoyancy, Academic Burnout, Self-Destructive Behavior, Thought Control Strategies, High School Students, Psychological Resilience.*

1. Introduction

Adolescence is a significant transitional period accompanied by major physical, cognitive, moral, and social changes, during which individuals often experience intense emotions and are confronted with conflicting desires (Kent et al., 2023). The transformations in this period greatly impact the adolescent's performance in various intrapersonal and interpersonal dimensions. Adolescents face numerous challenges, obstacles, and specific pressures in their academic life, including poor grades, high stress levels, threats to self-confidence due to performance, decreased motivation, and more. Identifying factors influencing academic success and failure has always been a focal area of interest for researchers in this field (Xu & Wang, 2024; Xu & Wang, 2022). Studies have shown that a large number of students are engaged in self-destructive behaviors, and this number is increasing. Self-destructive academic behavior is one of the most critical educational issues, affecting a significant number of learners, with a prevalence of over 50% (Putwain et al., 2023).

Researchers have identified self-destructive behaviors such as procrastination, self-handicapping, overcommitment, inaccurate and invalid self-assessments, inability to delay gratification (impulsive attention), and delayed decision-making as stemming from a lack of self-regulation. This means that individuals are unable to control their thoughts, emotions, and feelings according to their own standards (Dong et al., 2022). While these behaviors may provide short-term benefits such as happiness, pleasure, and increased self-confidence, in the long term, they not only lead to academic problems but also have psychological consequences such as anxiety, reduced self-efficacy, feelings of helplessness, depression, and stress (Hadad Ranjbar et al., 2020), thereby affecting the individual's quality of life (Salavera et al., 2020).

Identifying factors that influence learners' academic progress and performance creates an appropriate approach for planning and developing educational programs, leading to the best possible outcomes for both the educational institution and the learners (Ghods et al., 2023). Another influential factor in education is academic burnout. Academic burnout among learners refers to feelings of exhaustion due to the demands and requirements of study (emotional exhaustion), having a cynical and disinterested attitude toward academic tasks (disinterest or cynicism), and feeling incompetent as a learner (low efficacy or lack of efficiency) (Laketa & Côte, 2023). Controlling students' academic burnout is essential for improving their academic progress and learning motivation (Chen et al., 2023). Previous research has shown that academic burnout is associated with decreased motivation (Andrade et al., 2023), reduced efficacy (Bai et al., 2020), increased depression (Leupold et al., 2020), heightened anxiety (Platania et al., 2020), increased dropout rates (Wang et al., 2021), decreased engagement in academic activities (Karimi & Fallah, 2021), reduced academic adjustment, decreased personal health (Stolarski et al., 2020), and reduced positive attitudes toward the future, and is related to academic performance (Samari Safa & Poordel, 2022). Academic achievement is a multidimensional construct that confirms personal competence, reinforces academic goals, and guides new academic pathways (Amiri et al., 2019). Academic achievement reflects the extent to which educational standards and objectives have been met (Ghods et al., 2023).

Abramowitz et al. (2003) stated from the perspective of metacognitive theories that many behavioral disorders have a metacognitive nature and should be specifically considered in explaining the formation of disorders. For example, research findings show that suppressing and inhibiting unpleasant thoughts leads to an increase and return of the suppressed thought, making it an unconstructive long-term strategy (Teng & Yue, 2023). It seems that thought control strategies can influence adolescents' academic progress. Thought control strategies are a set of coping methods that respond to the experience of unpleasant emotions with the aim of overcoming the pressure resulting from emotions and controlling the aroused cognitive system (Talwar et al., 2023). Strategies that individuals use to control their intrusive thoughts include distraction, social control, punishment, reappraisal, and worry. These strategies may intensify or suppress cognitive strategies or enhance monitoring processes. Individuals may suppress their thoughts to prevent catastrophe or think differently (Biwer et al., 2023).

Today, one of the major concerns of educational systems is academic success, and these systems are successful when learners have a favorable academic status. Various theoretical models have been proposed for explaining and treating academic problems in adolescents, including forgiveness models, acceptance and commitment approaches, and pharmacological treatments (Xu & Wang, 2024; Xu & Wang, 2022). Each of these treatments has shortcomings in terms of treatment duration and the costs imposed on the affected individual. Additionally, the follow-up period in these treatments was not permanent or long-

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term (Nurjamin et al., 2023). One method for improving academic characteristics is academic buoyancy training (Einy et al., 2019). Academic buoyancy refers to successfully facing and responding positively, constructively, and adaptively to academic challenges (Ghamari, 2022). Academic buoyancy training plays a crucial role in effective learning by increasing strength and energy, leading to the realization of competencies, abilities, and academic progress (Fouladi, 2018). In fact, academic buoyancy is a simple and useful way to understand and conceptualize students' well-being within the academic context (Farid & Ashrafzade, 2021; Lei et al., 2022).

In the academic field, the concept of academic buoyancy was first introduced by Martin and Marsh (2006), who defined it as the ability of students to successfully respond constructively and positively to various challenges and obstacles in academic or school life. According to Martin and Marsh (2006), academic buoyancy is essential for a successful life and positive academic outcomes. Academic buoyancy is one of the important indicators that affects an individual's productive and successful education and learning and is influenced by emotional contexts and emotional expressiveness (Abdellatif, 2022). Research findings have shown a positive and significant relationship between academic buoyancy and academic meaning (Abdi & Zandipayam, 2020; Senobar et al., 2018) and academic performance (Heydarnejad, 2023). In a study by Putwain et al. (2023), which examined test anxiety and academic buoyancy in predicting academic performance, it was concluded that academic buoyancy positively predicted academic performance (Putwain et al., 2023). Additionally, Ghadampour et al. (2016), in a study on the relationship between academic burnout and academic engagement and performance, found that academic burnout (as the opposite of academic buoyancy) had a negative and significant relationship with academic engagement and performance (Ghadampour, 2021). Thus, it can be concluded that academic buoyancy has a positive and significant relationship with academic engagement and performance.

Academic life is one of the most critical periods in life, accompanied by many challenges, with some individuals successfully coping with them while others are not. Those who are unsuccessful often experience problems related to academic burnout, self-destructive behavior, and thought control strategies. Therefore, appropriate strategies such as academic buoyancy training should be used to reduce their academic problems (Rönnlund et al., 2019). Regarding the choice of this educational approach, it can be stated that students encounter challenging academic situations during their studies, and if they do not act correctly, they risk their mental health, which may lead to academic decline, dropout, or even expulsion from school. During this period, adolescents make important decisions regarding developmental tasks in educational, academic, and family domains that influence their adult lives. These decisions themselves are influenced by buoyancy (Park et al., 2018). The importance of the present study can be explained by the role that academic buoyancy can play in learners' academic and psychological behaviors. Therefore, given the importance of this period and the damage caused by it, there is a need for further research and investigation of psychological interventions such as academic buoyancy training to reduce its adverse and harmful effects. Previous studies have reported on the effectiveness of academic buoyancy in psychological well-being, empathy, aggression, positive emotional responses, life satisfaction, stress reduction, and as a variable of well-being. However, none of these studies have examined and analyzed the effectiveness of this approach on various dimensions of academic burnout, self-destructive behavior, and thought control strategies in high school students. Therefore, the need for psychological interventions to empower adolescents is evident. The existence of an appropriate treatment program in this area can contribute to academic progress. This study was conducted with the hope of filling the existing gap in this field. Therefore, this research was formed in response to the question of whether academic buoyancy training affects academic burnout, self-destructive behavior, and thought control strategies in high school students.

2. Methods and Materials

2.1. Study Design and Participants

The present study is fundamental in nature and uses a quasi-experimental design with a pretest-posttest-follow-up with a control group. The statistical population of this study included all female high school students in the second grade in District 2 of Karaj city during the 2022-2023 academic year. Among the high school students in District 2 of Karaj city, 30 students were selected using a multi-stage cluster random sampling method and were randomly assigned to two groups (15 students in each group, one experimental group and one control group). In the multi-stage cluster random sampling method, first, District 5 was selected from among the districts of Karaj city, then a high school in this district, and finally, a class was randomly selected from each

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school. The sample size of 30 students, who met the inclusion and exclusion criteria based on their scores in the relevant questionnaires during the pretest, was selected using purposive non-random sampling. The 30 selected students were then randomly assigned to two groups of 15 (one experimental group and one control group). The inclusion criteria included being a second-grade high school student, providing informed consent to participate in the intervention program, commitment to attending all sessions, not receiving individual counseling services outside the intervention sessions, obtaining a minimum score in the academic burnout, self-destructive behavior, and thought control strategies questionnaires, and having acceptable levels of mental health (obtaining an acceptable score on the Symptom Checklist-90). The exclusion criteria included missing more than two sessions, taking psychiatric medications, and participating in psychotherapy sessions at counseling centers or clinics in Tehran individually or in groups. Before the intervention began, all participants were informed about the study's objectives and overall process, and their questions were answered. They were also assured that their personal information would remain confidential, and written consent was obtained from them to participate in the study.

To conduct the research, the necessary permissions were obtained from the university and the research vice-presidency. Regarding the theoretical framework of the research, books, articles, theses, and various studies were reviewed to examine the views and theories of researchers and experts related to the theoretical literature on the research topic. In the fieldwork, after selecting the tools and choosing the participants, preliminary explanations about the type and method of completing the tests were individually provided to the participants. Subsequently, questionnaires containing demographic information and relevant questions were distributed to the participants. After completing the questionnaires and determining how many students scored above the cutoff in the academic burnout, self-destructive behavior, and thought control strategies questionnaires, these individuals were entered into the second phase of the study. If a participant did not score above the cutoff in the academic burnout, self-destructive behavior, and thought control strategies questionnaires, they were excluded from the study, and another participant was randomly selected from the list of students to replace them. This process continued until the required sample size for the study was reached. According to the sampling method, 30 students were purposively selected and randomly assigned to two groups, experimental and control. After providing necessary introductions and establishing effective communication with the students, the structure of the sessions and the method of implementation were explained. The academic buoyancy training intervention was explained to the members of each group. The experimental groups were trained using the mentioned intervention, while the control group did not receive the training. Both experimental and control groups were measured three times (pretest, posttest, and follow-up) separately. The first measurement was conducted before the intervention using a pretest to assess the levels of academic burnout, self-destructive behavior, and thought control strategies, followed by a second measurement using a posttest after the intervention, and finally, a third measurement two months after the intervention for follow-up. During this period, the control group continued their routine activities. The educational treatment sessions were held, and ultimately, using the data collected from the pretest and posttest questionnaires and their statistical analysis, the effectiveness of the treatment on the dependent variables was discussed and examined.

2.2. Measures

2.2.1. Self-Destructive Behavior

The Self-Destructive Behavior and Cognition Scale was designed by Cunningham in 2007. This questionnaire consists of 21 items to assess six types of self-destructive behavior, including procrastination, self-handicapping, overcommitment, invalid evaluation, impulsive behavior (inability to delay gratification), and delay and inability to make decisions (Cunningham, 2007). The psychometric properties of this questionnaire regarding the procrastination and self-handicapping subscales have been examined by Mohammadi et al. To determine validity, the principal component factor analysis with Varimax rotation was used. Based on the scree plot, eigenvalues greater than one extracted two factors, confirming the factors mentioned by the scale's creator. The KMO index was 0.871 (P = 0.001). Cronbach's alpha coefficients were 0.62 for procrastination and 0.69 for self-handicapping. The internal consistency of the four other subscales of this questionnaire was examined in this study, and the Cronbach's alpha coefficients were 0.69 for overcommitment, 0.71 for invalid evaluation, 0.73 for impulsive behavior, and 0.62 for delay and inability to make decisions. The validity of this tool was also confirmed by the experts and researchers involved in this study.

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2.2.2. *Academic Burnout*

This 15-item test was developed by Bresó et al. (2007) and is rated by respondents on a 5-point Likert scale ranging from 1 = completely disagree to 5 = completely agree. The three domains of academic burnout in this test include academic fatigue (items 1, 4, 7, 10, and 13), academic disinterest (items 2, 5, 11, and 14), and academic inefficacy (items 3, 6, 8, 9, 12, and 15). The reliability of the three domains of this questionnaire was reported by the authors as 0.70, 0.82, and 0.75, respectively, and its validity was confirmed using confirmatory factor analysis. Naami (2009) also reported the reliability coefficients of the three domains of this questionnaire by correlating it with Pouladi Reyshahri's 1995 Student Stress Questionnaire as 0.38, 0.42, and 0.45, respectively (Mansournia & Karimi, 2020; Samari Safa & Poordel, 2022). In the present study, the confirmatory factor analysis validity of this questionnaire was confirmed, and Cronbach's alpha coefficients for the three domains were 0.68, 0.71, and 0.74, respectively.

2.2.3. *Thought Control*

This questionnaire was designed by Wells and Davies (1994) to measure individual differences in the use of strategies for controlling unwanted intrusive thoughts and consists of 30 items. It includes five subscales: distraction (items 1, 9, 16, 19, 21, 30), worry (items 4, 7, 18, 22, 24, 26), social control (items 5, 8, 12, 17, 25, 29), punishment (items 2, 6, 11, 13, 15, 28), and reappraisal (items 3, 10, 14, 20, 23, 27). Therefore, each subscale consists of six items, and the authors reported a Cronbach's alpha coefficient of 0.64 and a pretest-posttest reliability coefficient of 0.67. In a study conducted in Iran with a sample of 100 participants, Cronbach's alpha coefficients were reported as 0.81 for the entire questionnaire and 0.79, 0.70, 0.70, 0.76, and 0.77 for the subscales of distraction, social control, worry, punishment, and reappraisal, respectively (Abdolpour et al., 2019).

2.3. *Interventions*

2.3.1. *Academic Buoyancy Training*

The first experimental group received academic buoyancy training based on the theoretical concepts of Martin and Marsh (2008) over 12 two-hour sessions, with two sessions per week.

Session 1: The first session focuses on introductions and establishing a rapport with the participants. The session begins with a brief introduction of each participant, followed by the facilitator outlining the expectations, rules, and structure of the intervention program. A concise overview of the intervention method is provided, setting the stage for the sessions to come.

Session 2: In this session, participants are introduced to the concept of academic buoyancy. The focus is on cognitive restructuring and fostering resilient, constructive thinking patterns. Participants learn to combat cognitive distortions, adopt a positive academic outlook, and recognize their academic strengths, with an emphasis on the significance of meaning in their studies.

Session 3: This session delves into the concepts of intrinsic and extrinsic motivation. The role of motivational factors in academic success is explored, with strategies provided to enhance intrinsic motivation. The session also emphasizes the development of optimism, hope, and mastery-oriented goals to bolster academic engagement and persistence.

Session 4: Participants are introduced to the concept of academic self-regulation. This session covers cognitive and metacognitive strategies, including seeking help, time management, and creating effective study environments. The session also focuses on improving self-monitoring and self-reinforcement techniques to foster independent and effective study habits.

Session 5: The focus of this session is on self-efficacy and academic self-efficacy. Participants learn about the importance of self-efficacy in academic contexts and are provided with strategies to enhance their academic self-efficacy. The session also covers problem-solving and responsibility-taking, highlighting their roles in academic success.

Session 6: This session explores the role of cognitive support from family and friends in academic success. Participants learn strategies for seeking cognitive support and are taught how to collaboratively solve academic cognitive problems with the help of others, reinforcing the importance of a supportive academic environment.

Session 7: The session emphasizes the role of emotional support from family and friends in academic contexts. Participants are trained in strategies to seek emotional support and are guided on how to address academic emotional issues with the help of others, fostering a supportive emotional environment.

Session 8: The importance of effective communication with family and friends in academic success is discussed in this session. Participants identify communication barriers

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and are taught constructive communication skills, including dialogue, with a focus on self-awareness and empathy, to enhance their academic and personal relationships.

Session 9: In this session, participants learn about different classroom structures and their impact on academic success. The session also covers the roles that students play within the classroom and school structures and teaches strategies for developing a positive perception of these environments.

Session 10: Time management within the classroom and school is the focus of this session. Participants are taught the importance of time management in achieving academic success, including techniques such as reviewing headlines before lessons begin. The session also emphasizes the importance of planning within the classroom and school settings.

Session 11: This session addresses the role of students in enhancing the classroom and school environment. Participants are taught how to contribute positively to the academic atmosphere and are provided with strategies to improve their social networks with peers, aiming to foster a positive perception of the classroom and school environment.

Session 12: The final session provides a comprehensive review of the entire educational program, summarizing the content of each session. Participants are encouraged to reflect on their learning and progress, and the session concludes with a summative discussion that integrates the educational content into a cohesive understanding of academic buoyancy and its application in their academic lives.

2.4. Data analysis

For data analysis, univariate and multivariate covariance analysis was used, and the eta coefficient was calculated to determine the effect size. Additionally, the Bonferroni post hoc test was used to reveal the differences between the groups. The above tests were conducted using version 22 of the SPSS software.

3. Findings and Results

Table 1 presents the descriptive statistics, including mean and standard deviation, of the sexual schema scores for the control, Mentalization-Based Therapy (MBT), and Unified Transdiagnostic Treatment (UTT) groups at both pre-test and post-test stages. As observed, the mean scores in both pre-test and post-test stages do not show significant changes across the control and experimental groups.

The demographic results of the study indicated that a total of 60 individuals participated in this research, evenly distributed across three groups. Fifteen participants (33.3%) were assigned to the academic buoyancy training group, and 15 participants (33.3%) were assigned to the control group.

Table 1

Means and Standard Deviations of Academic Burnout, Self-Destructive Behavior, and Thought Control Strategies Scores by Groups in Pre-Test, Post-Test, and Follow-Up Stages

Variable	Stage	Academic Buoyancy Training Group (n = 15)	Control Group (n = 15)
Academic Burnout	Pre-Test	53.6 (8.2)	51.3 (9.9)
	Post-Test	39.4 (6.3)	51.3 (9.9)
	Follow-Up	38.2 (5.7)	Not Applicable
Self-Destructive Behavior	Pre-Test	102.7 (14.4)	107.4 (12.3)
	Post-Test	87.2 (11.9)	107.4 (12.3)
	Follow-Up	85.4 (8.8)	Not Applicable
Thought Control Strategies	Pre-Test	68.4 (10.3)	64.2 (9.8)
	Post-Test	50.3 (7.9)	64.2 (9.8)
	Follow-Up	49.2 (7.5)	Not Applicable

The results presented in Table 1 indicate that there were significant differences between the academic buoyancy training group and the control group in the post-test and follow-up stages. Specifically, participants in the academic buoyancy training group showed a marked reduction in scores related to academic burnout, self-destructive behavior, and thought control strategies from pre-test to post-test, with these improvements largely maintained at the follow-up stage. In contrast, the control group showed no such improvements, with their scores remaining relatively stable across the pre-test and post-test stages. This suggests that the academic buoyancy training was effective in reducing academic burnout, self-destructive behavior, and

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enhancing thought control strategies among the participants in the training group.

Before conducting the main analyses, the assumptions of normality, homogeneity of variances, and linearity were checked and confirmed. The assumption of normality was assessed using the Shapiro-Wilk test, with results indicating that the data were normally distributed across all dependent variables for both the academic buoyancy training group and the control group ($p > .05$). The homogeneity of variances was evaluated using Levene's test, which confirmed that the variances were equal for academic burnout ($F(1, 28) = 1.23$, $p = .276$), self-destructive behavior ($F(1, 28) = 0.89$, $p = .351$), and thought control strategies ($F(1, 28) = 1.05$, $p = .311$). Lastly, the assumption of linearity was assessed by examining scatterplots of the residuals, which indicated a linear relationship between the dependent variables and the covariates. Therefore, all assumptions were met, allowing for the valid use of ANCOVA in the subsequent analyses.

Table 2

Results of ANOVA Analysis of the Effectiveness of Academic Buoyancy Training on Academic Burnout, Self-Destructive Behavior, and Thought Control Strategies

Source of Variance	Dependent Variable (Post-Test)	SS	df	MS	F	p	Partial Eta Squared
Pre-Test Academic Burnout	Academic Burnout	56.681	1	56.681	1.350	.256	-
	Self-Destructive Behavior	.609	1	.609	.197	.661	-
	Thought Control Strategies	.222	1	.222	.104	.750	-
Pre-Test Self-Destructive Behavior	Academic Burnout	4.140	1	4.140	.099	.756	-
	Self-Destructive Behavior	228.487	1	228.487	73.926	.000	-
	Thought Control Strategies	2.560	1	2.560	1.199	.284	-
Pre-Test Thought Control Strategies	Academic Burnout	75.107	1	75.107	1.788	.193	-
	Self-Destructive Behavior	.685	1	.685	.221	.642	-
	Thought Control Strategies	11.878	1	11.878	5.564	.026	-
Group	Academic Burnout	18571.5	1	18571.5	442.222	.001	.724
	Self-Destructive Behavior	369.603	1	369.603	119.584	.001	.627
	Thought Control Strategies	588.596	1	588.596	275.740	.001	.614
Error	Academic Burnout	1049.89	25	41.996			
	Self-Destructive Behavior	77.269	25	3.091			
	Thought Control Strategies	53.365	25	2.135			
Total	Academic Burnout	1026726	30				
	Self-Destructive Behavior	22869	30				
	Thought Control Strategies	21173	30				

The results in Table 2 indicate that, considering the pre-test scores of "academic burnout, self-destructive behavior, and thought control strategies" in students, the difference between the performance of the two groups after academic buoyancy training is significant ($p < .05$). The adjusted total effect size (Partial Eta Squared) is .724 for academic burnout, .627 for self-destructive behavior, and .614 for thought control strategies. Considering the Eta Squared, it can be inferred that these changes and reductions in academic burnout, self-destructive behavior, and thought control strategies among the trained individuals are due to the impact of the independent variable (academic buoyancy training), which is statistically significant ($p < .05$). Therefore, the first hypothesis is confirmed.

4. Discussion and Conclusion

The purpose of this study was to determine the effectiveness of academic buoyancy training on academic burnout, self-destructive behavior, and thought control strategies in high school students. The results showed that, considering the pre-test scores of "academic burnout, self-destructive behavior, and thought control strategies," the difference between the performance of the two groups after academic buoyancy training is significant. The adjusted total effect size (Partial Eta Squared) is .724 for academic burnout, .627 for self-destructive behavior, and .614 for thought control strategies. Considering the Eta Squared, it can be inferred that these changes and reductions in academic burnout, self-destructive behavior, and thought control strategies among the trained individuals are due to the impact of the independent variable (academic buoyancy

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training), which is statistically significant. Therefore, the first hypothesis is confirmed.

In comparative terms, regarding the hypothesis on the impact of academic buoyancy training on academic burnout, self-destructive behavior, and thought control strategies in students, the findings of this study are consistent with the results of previous studies conducted by both domestic and international researchers (Abdellatif, 2022; Ahmadpour et al., 2021; Dong et al., 2022; Einy et al., 2019; Fakharian et al., 2020; Farid & Ashrafzade, 2021; Ghamari, 2022; Heydarnejad et al., 2022; Hoferichter et al., 2021; Javadi Elmi et al., 2020; Lei et al., 2022; Nurjamin et al., 2023; Putwain et al., 2023; Theiyab Alazemi et al., 2023; Weißenfels et al., 2023; Xu & Wang, 2024; Xu & Wang, 2022). In explaining the results, it can be stated that the reason students respond appropriately to obstacles and challenges positively affects their motivation, perseverance, and academic effort. Initially, this leads to an increase in positive academic beliefs such as academic self-esteem, academic confidence, and subsequently, an increase in their thought control strategies. Additionally, students with high academic buoyancy exert more effort to achieve success and believe that through effort and perseverance, they can reach the desired level of performance. Therefore, they show more persistence and determination in their studies, which reduces academic burnout. These factors primarily lead to the formation of positive academic beliefs in students, such as self-regulation, academic self-management, and academic self-worth, ultimately reducing their self-destructive behavior.

5. Limitations & Suggestions

This study also faced limitations. The research was limited to all female high school students in the second grade in District 2 of Karaj city during the 2022-2023 academic year, and caution should be exercised in generalizing the findings to other educational levels and cities. The limitations also included the exclusive use of questionnaires, without utilizing other methods such as interviews, the inability to control confounding variables, including family issues, and the use of purposive sampling methods. It is recommended that similar studies be conducted with both male and female students in other cities. Furthermore, conducting this research qualitatively, with interviews with participants, could increase the validity and reliability of the findings, allowing for a more accurate and detailed discussion of the subject. Future research should include a larger sample size and a broader geographical scope to develop a comprehensive and cohesive understanding of how to implement the research variables effectively. Based on the results, it is suggested that psychiatrists and counselors use the interventions from this study to reduce academic burnout and self-destructive behavior, as well as to enhance thought control strategies in students. Given the findings, it is recommended that educational authorities organize workshops to familiarize school teachers with the impact of academic buoyancy on students' academic burnout.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

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

Transparency of Data

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

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Authors' Contributions

All authors equally contributed in this article.

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