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Comparing the Effectiveness of Assertiveness Training and Self-Regulation Intervention on Academic Self-efficacy in Female High School Students

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ABSTRACT

Objective: The objective of this investigation was to evaluate the comparative efficacy of assertiveness training and self-regulation intervention on the academic self-efficacy of female high school students situated in Kouhchenar (Iran)

Methods: The methodological approach employed was quasi-experimental, characterized by a pre-test, post-test, and follow-up test design, inclusive of a control group. The participant cohort for the study comprised 90 female volunteer students drawn from three classes within the first level secondary school in 2021. Participants were randomly assigned to self-regulatory, assertiveness, and control groups. Students in experimental groups were subjected to training sessions pertinent to their respective group designations for a total of 8 sessions, while the control group adhered to their standard class curricula. For the assessment at pre-test, post-test, and follow-up test (administered one month later), the Self-Efficacy Scale (Midgley et al., 1998) was utilized. The data were scrutinized utilizing repeated measures analysis ($\alpha = 0.05$).

Results: According to results, no statistically significant discrepancy was observed in the mean self-efficacy scores during the pre-test between the experimental and control groups; however, the post-test and follow-up test results indicated a significant difference ($p < 0.05$) in favor of the experimental groups compared to the control group. Furthermore, a comparative analysis revealed that the effectiveness of self-regulatory training surpassed that of assertiveness training regarding academic self-efficacy, with a pronounced difference ($p < 0.001$).

Conclusions: In light of the findings, it can be concluded that both assertiveness and self-regulation training yield a beneficial impact on students' self-efficacy.

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Introduction

Self-efficacy constitutes a pivotal element within the framework of social cognitive theory, which was initially articulated by Bandura. In accordance with Bandura's postulations, among the most significant determinants elucidating behaviors, activities, and the regulation of academic performance, none surpasses the impact of academic self-efficacy. Academic self-efficacy pertains to an individual's assessment of their capacity to execute a particular task, surmount challenges, and attain specified objectives within a designated context (Schank & Zimmerman, 2006). Self-efficacy denotes an individual's capability to confront challenges in pursuit of goals and success, being inherently influenced by personality attributes such as self-belief, diligence, and perseverance (Fernandez-Rio, Cecchini, Méndez-Gimenez, Mendez-Alonso & Prieto, 2017). When confronted with adversities, individuals exhibiting low self-efficacy tend to diminish their efforts and resort to lower-tier solutions (Atik & Atik, 2017). The beliefs surrounding self-efficacy significantly dictate the selection of activities, the intensity of effort exerted, and the persistence in exertion. Students possessing elevated academic self-efficacy are inclined to engage in tasks proactively rather than evade them, exert greater effort on assignments, and demonstrate prolonged perseverance when encountering challenges (Stubbs & Maynard, 2017). Self-efficacy encapsulates a person's subjective evaluation of their capability to perform within a specific milieu or attain desired results and is recognized as a critical determinant of emotional states, motivational levels, and behavioral transformation (Vanden Bos, 2015). Enhanced self-efficacy correlates with improved performance across a diverse array of behaviors (Doyle et al., 2011). Students who find themselves unable to articulate their needs may resort to withdrawal or exhibit aggression instead of voicing their discontent when they experience feelings of rejection or distress. Assertiveness serves as a potent mechanism to reconcile the dichotomy between withdrawal and aggression. The predominant efforts of educational institutions to cultivate stereotypical and constrained behaviors, alongside parental aspirations to furnish a comfortable and uncomplicated existence, effectively curtail or diminish avenues for self-expression. Self-expression facilitates the potential to transcend stereotypes, thereby fostering dynamism and innovation in life. The four fundamental components that constitute the capacity for self-expression include: 1- Disavowing the unreasonable demands of others, 2- Eliciting the affection of others, articulating and conveying one's desires, 3- Communicating both positive and negative emotions, 4- Initiating, sustaining, and

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concluding conversations in an appropriate manner. The discourse surrounding self-expression and the concept of courage rank among the most essential factors in the optimal development of the personality of children and adolescents. Harji, Saunders, and Dickinson assert that self-expression encompasses seven distinct categories of responses. Among these, three categories of negative responses are identified, which involve the articulation of unreasonable or divergent viewpoints, the imposition of demands for behavioral modifications from others, and the dismissal of their unreasonable solicitations; conversely, four categories of positive responses are delineated: the acknowledgment of one's limitations, the reciprocal exchange of compliments, the initiation and sustenance of interpersonal interactions, and the communication of positive affect (Harji, Saunders, & Dixon, 2018). The skill of self-regulation constitutes a pivotal domain that emphasizes the individual's role within the learning paradigm, wherein individuals employ various strategies to modulate their cognitive processes (Alfred, Nines, & Grampady, 2019). The construct of self-regulation encompasses the proactive engagement of learners in their personal, behavioral, motivational, and cognitive educational endeavors, aimed at accomplishing significant and worthwhile objectives in life (Garcia, Falenker, & Vivan, 2018). In elucidating self-regulation within the context of learning, a plethora of models have been proposed, with Pentrich's self-regulation model garnering considerable favor among scholars in the educational domain due to its holistic nature. According to Pentrich, this mode of learning integrates cognitive, metacognitive, motivational, and resource management competencies (Narimani, Mohammad Amini, Zahid, and Abolghasemi, 2015). The process of self-regulation yields substantial benefits in the realms of teaching and learning, as both adaptation and success in life necessitate that individuals cultivate self-regulation or analogous mechanisms to enhance their cognitive, emotional, or behavioral capacities in pursuit of their goals (Broadbent, 2017). A review of pertinent prior research will follow. Tamnaeifar and Moradi (2015/2016) undertook an investigation aimed at predicting academic adjustment through the lenses of self-efficacy, assertiveness, and social support. The participant cohort for this inquiry comprised 351 male and female students from Kashan University, selected via stratified sampling techniques. The findings revealed a significant correlation between academic adjustment and the constructs of self-efficacy, assertiveness, and social support, with self-efficacy and assertiveness emerging as more robust predictors of academic adjustment. Jabbarian, Hajhosseini, and Gholamali Lavasani (2016)

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executed a study entitled The Effectiveness of Teaching Self-Regulated Learning Strategies on Self-Efficacy and Academic Achievement of Blind Students in Physics. The methodology employed in this research was experimental, characterized by a quasi-experimental pre-test-post-test design. For this investigation, blind female students in the first year of secondary education from two specialized institutions for the blind in Tehran were selected as the study sample. The sampling methodology employed in this research was characterized as available sampling. The outcomes of this investigation reveal that the experimental cohort exhibited superior performance relative to the control cohort in terms of self-efficacy and academic achievement in the domain of physics, with the study's results further indicating that the instruction of self-regulated learning strategies exerted a substantial influence on self-efficacy and academic achievement in physics among visually impaired students. Hejazi and Naghsh (2008) executed a study aimed at examining the correlation between mathematical self-efficacy, the perceived utility of mathematics, and self-regulatory strategies in relation to mathematical achievement amongst students, with a focus on gender comparisons. The sample for this investigation encompassed four hundred third-year high school students who were randomly selected from five educational districts within Isfahan. The findings indicated that mathematical self-efficacy, self-regulatory strategies, and perceived usefulness are interrelated with mathematical achievement across both genders. However, the degree of correlation among these variables varies between the sexes. Notably, mathematical self-efficacy is found to be the most significant contributor to mathematical achievement for female students. Mami Nasseri and Veisi (2014) undertook a study to assess the efficacy of instructing self-regulatory strategies on problem-solving abilities and students' self-efficacy in the field of mathematics. The statistical population for this study comprised all first-grade female students attending the second high school in Ilam city, from which 30 participants were selected as a sample through a cluster sampling method and subsequently assigned randomly to two groups of 15: the experimental group and the control group. The findings of this research demonstrated that the experimental group exhibited a statistically significant difference when compared to the control group in their post-test scores pertaining to problem-solving and self-efficacy. Consequently, it can be inferred that the instruction of self-regulation strategies positively influences problem-solving abilities and self-efficacy among students.

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Rahbar Karbasdehi, Hossein Khanzadeh, and Abolghasemi (2018) conducted a study entitled The Effect of Teaching Self-Regulation Strategies on Academic Self-Efficacy and Reading Performance of Dyslexic Students. The study's sample consisted of 27 dyslexic students from Rasht city during the academic year 2016-2017, who were selected using a convenient sampling method and subsequently assigned randomly to experimental and control groups. The results obtained from multivariate covariance analysis indicated that the instruction of self-regulation strategies significantly contributes to the enhancement of academic self-efficacy and reading performance among dyslexic students. In a separate investigation, Rouhani and Moradi (2018) explored the effectiveness of teaching self-regulation strategies on self-efficacy, motivation, and academic achievement of male high school students in Isfahan. The statistical population for this study included male high school students from Isfahan District 5 during the academic year 2017-2018. To obtain the sample, three classes were randomly selected utilizing a multi-stage cluster sampling method followed by simple random sampling. Thirty students, identified as having a lower GPA in the first semester, were randomly assigned to either the experimental group (15 students) or the control group (15 students). The results of this study underscore the effectiveness of instructing self-regulation strategies on self-efficacy, motivation, and academic achievement among high school students. Babajani, Gorji, Hejazi, Marvati, and Yousefi Afrashte (2019) undertook an investigation entitled "The Mediating Role of Academic Self-Efficacy in the Relationship Between Self-Regulated Learning Strategies and Academic Engagement in Medical and Paramedical Students." This descriptive correlational examination involved 350 students from Zanjan University of Medical Sciences during the second semester of the 2017-2018 academic year, who were selected through a stratified random sampling methodology. The results of the investigation revealed that the model fit was adequate and all research hypotheses were substantiated. Overall, the proposed model demonstrated that, in addition to establishing a positive and significant direct relationship between self-regulated learning strategies and academic engagement, there exists a positive and significant indirect relationship with academic engagement mediated by academic self-efficacy. Furthermore, the study indicated that the application of self-regulated learning strategies enhances academic self-efficacy, which in turn leads to increased academic engagement among students; consequently, by instructing students in self-regulated learning strategies, their academic engagement may be elevated. Zangiabadi, Sadeghi, and

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Ghadampour (2019) executed a study titled "The Effectiveness of Self-Regulatory Strategies Training on Academic Self-Efficacy and Academic Adaptation of Maladaptive Students." The statistical population for this research encompassed maladaptive female students in their second year of secondary education within District 2 of Kerman city during the academic year 2016-2017. The sample pertinent to the study aims consisted of 30 maladaptive students, identified through the maladaptive high school students' adaptation test, who were subsequently randomly allocated to experimental and control groups. The findings indicated that the training of self-regulatory strategies exerted a significant influence on both the academic self-efficacy and academic adaptation of maladaptive high school students at the one-hundredth significance level. Given the intricate nature of self-efficacy and its consequential effects on educational and academic processes, these results underscore the imperative for comprehensive research initiatives aimed at elucidating the functional characteristics of self-efficacy within educational settings. Regrettably, educational systems often emphasize that educators should solely impart the requisite materials necessary for learners; however, would it not be more beneficial to educate learners about self-expression, self-regulation, and strategies for effective learning? Such instruction could empower them to assume an active role in their learning processes, adapt their environments and beliefs for enhanced learning outcomes, and assert their rights within educational contexts while simultaneously honoring the rights of others. This approach may ultimately contribute to the enhancement of their academic self-efficacy and, by extension, their academic success. Prior investigations have explored the relationships or effects of self-regulation or self-expression variables on academic self-efficacy and other psychological constructs. Nevertheless, the comparative effectiveness of these methodologies on academic self-efficacy has not yet been systematically examined. Based on empirical findings, it is anticipated that the integration of self-regulation and self-expression training alongside formal curricula within the education system will promote and fortify academic self-efficacy. The objective of this study was to compare the effectiveness of self-regulation and self-expression training concerning students' academic self-efficacy.

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Material and Methods

The current research methodology employed a quasi-experimental framework characterized by a pre-test-post-test design supplemented with a follow-up assessment alongside a control group, aimed at investigating the influence of independent variables, specifically self-regulation and self-expression, on the dependent variable, self-efficacy. The statistical population for this investigation comprised all female first-year high school students residing in Koh Chenar city (Qaemieh region) during the academic year 2018-2019, totaling 1,038 individuals. Utilizing a multi-stage cluster sampling technique, two educational institutions were randomly selected for the study. To establish the relationship between the experimental groups (self-regulation and self-expression) and the control group, one institution was randomly designated to form the experimental groups (comprising two classes), while the second institution was randomly assigned to constitute the control group (comprising one class). Concerning the objectives and methodology of the research, students received comprehensive explanations and were invited to complete voluntary consent forms should they wish to engage in this study (sample entry criterion). The criteria for exclusion from the sample included instances of absenteeism during any of the assessments and absenteeism exceeding two sessions within the training course. Ultimately, a sample size consisting of 90 individuals was established for this research endeavor. In experimental investigations, the minimum group size is typically recommended to be at least 15 individuals (Delaware, 2014). In the context of this study, the sample size for each group was comprised of 30 individuals. The pre-test was administered to participants within both the control and experimental groups.

To gather data pertinent to the dependent variable, self-efficacy, the Academic Self-Efficacy Questionnaire developed by Midjelli et al. (2000) was employed. This instrument consists of five items, each rated on a scale from 1 to 5. The questionnaire is characterized as a unidimensional measure. Seif (2017) conducted an evaluation of the validity and reliability of the Academic Self-Efficacy Questionnaire formulated by Midjelli et al. (2000). The validity of this instrument has been corroborated by experts and scholars in the relevant field. To assess the reliability of the questionnaire, Cronbach's alpha coefficient was utilized. The findings of their research indicated that the Cronbach's alpha coefficient for the questionnaire was recorded at 0.86. The scoring of the

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items was structured according to a five-point Likert scale, with response options ranging from strongly agree (5), agree (4), abstain (3), disagree (2), to strongly disagree (1).

Each of the experimental cohorts focused on self-regulation and self-expression participated in a total of eight instructional sessions. The curriculum of the self-expression training sessions (refer to Table 1) was derived from the research conducted by Nisi and Shahni Yilagh, titled "The Effect of Assertiveness Training on Assertiveness, Self-Esteem, Social Anxiety, and Mental Health of Socially Anxious Male High School Students in Ahvaz City." The content validity of the training regimen was substantiated by faculty members from the psychology department at Shahid Chamran University (Nisi and Shahni Yilagh, 2001), while the curriculum for the self-regulation training sessions (refer to Table 2) was adapted from the study by Fouladchang, Latifian, and Razavieh, entitled "A Comparative Study of the Effect of Training Self-Management Skills and Increasing Self-Sufficiency Beliefs on the Academic Performance of High School Students." The content validity of the self-regulation training framework was corroborated by three scholars from the Faculty of Educational Sciences and Psychology at Shiraz University, utilizing relevant theoretical and empirical literature (Fouladchang, Latifian, & Razavieh, 2006).

Table 1. Summary of Self-Expression Training Sessions

Session	Content
1	Introduction, definition and statement of the necessity of assertiveness and its benefits in human life, assignment regarding remembering situations in which a person has acted in an unassuming manner and his reaction in those situations.
2	Discussion on human rights, familiarizing students with their rights and assigning an assignment regarding facing new situations and reacting to those situations.
3	Discussion on assertive behaviors and alternative behaviors, assigning an assignment regarding recognizing assertive and non-assertive, aggressive and passive behavior.
4	Discussion on anger and its causes, examining the signs of hidden anger and providing an assignment regarding maintaining calm and showing anger in different situations.
5	Discussion on the benefits and harms of anger, coping with anger, guidelines for expressing anger, assignment regarding coping with one's anger.
6	Discussion on asking for and saying yes and no, why should we say yes and no, causes of inability to say no, causes of inability to say yes and providing an assignment.
7	Discussion on why we should criticize? Dealing with criticism appropriately and effectively, coping with criticism, the benefits and harms of criticizing, giving homework on coping with criticism.
8	A review of the material presented in previous sessions.

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Table 2. Summary of Self-Regulation Training Sessions

Session	Content
1	Defining motivation and its role in learning and ways to increase it, strategies such as goal setting, task analysis, positive self-study and homework presentation.
2	Teaching learning styles and study methods as well as the correct effect of studying
3	Teaching cognitive and organizational strategies, charting, summarizing and presenting homework.
4	Teaching self-review, reviewing the time and place of study, reviewing the appropriateness of the goals set and presenting homework.
5	Discussion and review of time management, its importance in learning and studying, emphasizing teaching prioritizing tasks, setting daily, weekly and monthly timetables and presenting homework.
6	Discussion and review of place management, the importance of a suitable place for studying, place management strategies (choosing a suitable place and structuring the place of study) and presenting homework.
7	Discussion and review of the evidence of the social environment, the importance of helpful relationships with friends and people around you in learning and education and how to get help from people around you.
8	Review and conclusion.

Following the implementation of the requisite training to evaluate the efficacy of the training methodologies, a post-test was administered, with an additional follow-up assessment conducted one month later. In this investigation, after providing comprehensive and comprehensible information regarding the purpose and methodology of the research to the participants, informed consent forms were duly completed on a voluntary basis by the subjects. The confidentiality of the participants was acknowledged as a fundamental right, and they were apprised of their entitlements to privacy and anonymity. To mitigate bias in the selection and allocation of individuals to both experimental and control groups, a randomization procedure was employed. Prior to the commencement of the research, all necessary approvals and permits were secured from the Education Department of Kohchinar County. For the purpose of data analysis, repeated measures analysis was utilized, and the raw data obtained from the assessments were processed using the SPSS 23 statistical software. To test the hypotheses, both descriptive statistics (mean and standard deviation) and inferential statistics (analysis of variance with repeated measures, M-box test, Machli test, Lyons test) were employed, which were evaluated at the 0.5 percent significance level.

Results

The participants in the experimental groups of self-regulation and self-expression and the control group were female students in junior high school. The average age of the students in the self-regulation group was 12.66±0.32 years, in the self-expression group 13.58±0.51 years, and in the control group 13.5±0.47 years. In terms of education, they were junior high school students, with the students in the self-regulation group in the seventh grade, the self-expression group in the

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eighth grade, and the control group in the eighth grade. The descriptive indices of the self-efficacy variable in the pre-test, post-test, and follow-up stages, separated by the control and experimental groups of self-regulation and self-expression, are presented in Table 3.

Table 3. Descriptive indices of self-efficacy in students in the control and experimental groups (self-regulation and self-expression) in the three stages of the test

Variable	Phase	Group					
		Control		Self-regulation		Assertivness	
		Mean	SD	Mean	SD	Mean	SD
Self-efficacy	Pretest	17.53	2.69	17.03	3.21	17.30	3.03
	Posttest	17.87	3.19	20	2.89	9.67	2.76
	Folow up	17.75	3.48	19.27	3.313	18.80	2.93

The mean scores of the pre-test, post-test, and follow-up tests in the control group did not differ significantly. However, in the experimental groups of self-expression and self-regulation, there was a difference between the mean scores of the pre-test, post-test, and follow-up, and there was no significant difference between the mean scores of the post-test and follow-up. In order to examine the significance of the differences, the analysis of variance with repeated measures test was used.

In order to examine the assumptions of the analysis of repeated measures, the first assumption was used to test the homogeneity of covariance matrices using the M-box test. The results showed that the assumption of equality of covariance matrices for self-efficacy (M=10.94; p=0.581) was met. The second assumption was used to test the sphericity of the data for the self-efficacy variable (M=0.95; p=0.118). The third assumption was used to test the homogeneity of error variances using the Lyons test. The results of this test also showed that the assumption of homogeneity of error variances for the research data was met.

To examine the significance of the differences in the effectiveness of self-expression and self-regulation training methods on academic self-efficacy, repeated measures analysis of variance was used. The results of the within-group and between-group effects tests in the repeated measures multivariate analysis of variance for academic self-efficacy are reported in Table 4.

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Table 4. Results of the within-group effects tests in the repeated measures multivariate analysis of variance for self-efficacy variables

Variable	Source	SS	DF	MS	F	P	Eta
Self-efficacy	Time	166.26	1.91	87.21	54	0.001	0.383
	Time * Group	64.95	3.81	17.02	10.54	0.001	0.195
	Error	268.02	165.95	1.61			

Table 5. Results of the between-group effects tests in the repeated measures multivariate analysis of variance for self-efficacy variables

Variable	Source	SS	DF	MS	**F**	**P**	Eta
Self-efficacy	Group	64.12	2	32.06	1.30	0.001	**0.29**
	Error	2148.88	87	24.70			

The results of the between-group test showed that the difference in self-efficacy, considering the interaction of time and group membership in the Greenhouse-Geisser test, was 0.195. In other words, 20 percent of the changes in the self-efficacy variable were due to being in the group. The between-group effects also showed that self-efficacy was significant with an eta coefficient of 0.29 at an error level of less than 0.05. In order to compare the changes of the groups at three time points, the Bonferroni post hoc test was used. The results of the post hoc test are given below.

Table 6. Results of the Bonferroni test, paired comparisons of the mean self-efficacy in the pre-test, post-test and follow-up stages in different groups

Group	I phase	J phase	Mean difference	SD	P
Control	Posttest	Pretest	0.33	1.67	0.283
	Posttest	Follow up	0.03	2.12	0.932
	Posttest	Follow up	-0.30	1.66	0.332
Self-regulation	Pretest	Posttest	2.97	2.06	0.001
	Pretest	Follow up	2.23	1.98	0.001
	Posttest	Follow up	-0.73	1.66	0.022
Assertivness	Pretest	Posttest	2.37	1.47	0.001
	Pretest	Follow up	0.50	1.61	0.001
	Posttest	Follow up	-0.87	1.41	0.002

Table 6 Results of the Bonferroni test, paired comparisons of the mean self-efficacy in the groups showed that in the control group there was no significant difference between the different stages of the test. However, in the experimental groups, a significant increase in the mean self-efficacy was created in the post-test and follow-up stages compared to the pre-test, and self-regulation and self-expression training were effective on self-efficacy, and this effectiveness was stable over time ($p<0.05$).

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Table 7. Results of the paired comparisons test to compare the mean self-efficacy in the research groups

Variable	Group I	Group J	Mean difference	P
Self-efficacy	Control	Self-regulation	-1.11	0.01
		Assertivness	-0.93	0.007
	Self-regulation	Control	1.11	0.01
		Assertivness	0.18	0.037

Table 7 showed that there was a significant difference in self-efficacy between the control group and the experimental groups ($p<0.05$); also, a significant difference was observed between the experimental groups ($p<0.05$). In self-efficacy, the experimental group under self-regulation has achieved a positive mean difference, which is statistically significant at an error level of less than 0.05. Comparing the means of self-efficacy in different groups during the test stages showed that time had an interaction effect with the levels of the group variable. This means that the changes in the self-efficacy variable over time were different in the control group, the experiment under self-regulation, and the experiment under assertiveness (Figure 1).

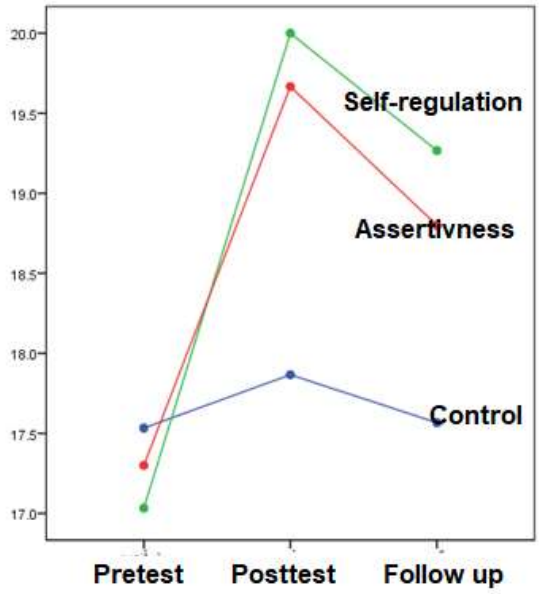

Figure 1. Comparison chart of the effects of group and time on self-efficacy

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Discussion

The objective of the current investigation was to evaluate the efficacy of self-regulation and self-expression training on the academic self-efficacy of students. The results of this research indicated that self-regulation training is significantly effective in enhancing students' academic self-efficacy. This outcome aligns with the conclusions drawn from the studies conducted by Mami et al. (2014), Rahbar Karbasdehi et al. (2018), Samadian et al. (2019), and Zangiabadi et al. (2019), all of which examined the impact of self-regulation training on self-efficacy. To elucidate this finding, it can be asserted that learners who exhibit self-regulation possess a high level of metacognitive awareness and are adept at steering their cognitive processes towards achievement and personal objectives. They actively participate in planning, self-monitoring, self-regulation, and self-evaluation throughout various phases of the learning process. In relation to motivation, this form of learning fosters the development of constructive adaptive beliefs and attitudes, leading the individual to perceive themselves as competent, self-sufficient, and autonomous (Siofert, 2018). Within his social cognitive framework, Bandura articulates the mechanisms of behavior. He underscores the significance of cognition and the cognitive capabilities of the individual by positing the influence of social interactions. According to this theoretical construct, individuals possess an intrinsic system. This system empowers them to govern their thoughts, motivations, emotions, and actions. By providing attributional, functional, perceptual, and self-regulatory mechanisms, this system facilitates individuals in appraising their behaviors. Such evaluations result from the dynamic interplay between the system and the surrounding environment. The system itself, through the self-regulatory framework, influences the cognitive and behavioral processes of individuals, thereby enabling them to adjust to their environment. Bandura contended that the most pivotal factor influencing self-efficacy is the direct experiences of the individual. When an individual encounters numerous successes, a robust sense of self-efficacy is cultivated; conversely, repeated failures may engender negative self-perceptions and diminish self-efficacy. Consequently, the integration of self-regulatory pedagogical approaches alongside conventional educational frameworks, through training in learning strategies, self-monitoring techniques, and skills for assessment and assistance-seeking, can facilitate students' pathways to academic success, which in turn can enhance self-efficacy. Self-regulatory education, facilitated through self-review methodologies, assists individuals in recognizing their inherent strengths and weaknesses,

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establishing pragmatic objectives, maintaining realistic self-expectations, and understanding the advantages of problem-focused coping strategies in contrast to emotion-focused coping strategies. Individuals exhibiting elevated levels of self-efficacy demonstrate considerable courage, sociability, and possess a robust sense of self-efficacy (Klinike, 2018). Furthermore, in elucidating these findings, it may be asserted that the application of self-regulatory strategies enables learners to exert control and oversight over their educational processes, thereby allowing them to select specific objectives and viable solutions to attain the goals they have delineated, while concurrently believing that the outcomes they realize are contingent upon their own performance. According to Zimmerman and Shank (2004), learners who exhibit self-regulation proactively initiate and guide their learning processes in relation to metacognition, motivation, and behavior. Such learners regard themselves as competent, self-efficacious, and capable individuals. Self-regulated students effectively employ cognitive strategies throughout their academic endeavors. Beliefs regarding self-efficacy are influential in determining the selection of activities, the intensity of effort, and the persistence of effort exerted. Students who possess high academic self-efficacy tend to engage in tasks rather than evade them, diligently apply themselves to activities, and sustain their efforts for prolonged periods when confronted with challenges (Stubbs and Maynard, 2017). The instruction of self-regulatory strategies may play a beneficial and impactful role in enhancing the academic self-efficacy of these students. Academic failure in assignments and problem-solving tasks results in diminished self-efficacy among students, leading to reduced confidence in their abilities and an increase in academic difficulties. Individuals with diminished self-efficacy tend to lessen their efforts and resort to less effective solutions when encountering obstacles (Atik and Atik, 2017). The employment of self-regulation strategies culminates in success and, consequently, augments self-efficacy. The findings further indicate that self-efficacy training is particularly effective in enhancing the academic self-efficacy of students. This observation aligns with the conclusions drawn from the research conducted by Enayatzadeh Ganji and Baghernejad, 2014, and Nosrati et al., 2016. Regarding this finding, it can be articulated that one of the challenges that adversely affects the efficacy of adolescents and hinders the healthy development of their identity, as well as the flourishing of their intellectual and emotional capabilities, is the difficulty in establishing and maintaining social interactions. Indeed, one of the fundamental competencies that individuals must acquire is the ability to communicate effectively with others, alongside the

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development of self-efficacy. According to Bandarova, self-efficacy is defined as the belief in one's capacity to manage diverse situations. Individuals with high self-efficacy possess a profound awareness of their strengths and weaknesses. They formulate pragmatic objectives and possess realistic expectations regarding their capabilities. They acknowledge the advantages of employing both problem-focused and emotion-focused coping strategies. Given their confidence in their coping mechanisms, they confront challenging issues and tackle life's adversities with resilience and determination. They explore various solutions until they achieve success (Klinke, 2018). The daily lived experience is replete with challenges, adversities, setbacks, failures, frustrations, and disparities. Consequently, individuals must cultivate a robust sense of efficacy to sustain the effort requisite for attaining success. The degree to which we accurately assess our behavioral standards influences our sense of efficacy (Schultz & Schultz, 2019). Alternatively, it can be articulated that within the assertiveness training program, the individual identifies his strengths, limitations, and competencies, thereby fostering improved interpersonal relationships in unfamiliar situations. He embraces his identity and experiences an elevated sense of self-efficacy. Individuals endowed with a heightened sense of efficacy are confident in their ability to navigate events and situations effectively. Anticipating success in surmounting obstacles, they exhibit perseverance in their endeavors and frequently perform at elevated levels. They possess greater confidence in their capabilities and demonstrate minimal self-doubt in contrast to individuals with diminished self-efficacy. Elevated self-efficacy mitigates the fear of failure, and by instructing students to articulate their thoughts, they acquire essential skills to confront obstacles and challenges (Schultz & Schultz, 2019). Prior investigations have not scrutinized the comparative efficacy of self-regulation and self-expression training methodologies. The results of this investigation indicate the effectiveness of both experimental approaches, with self-regulation training demonstrating a significantly greater impact. It appears that self-regulation training proved to be more efficacious than self-expression training in enhancing students' self-efficacy through the aforementioned pedagogical interventions. A limitation of this study is the reliance on a self-report instrument, as some students may have inadvertently completed the questionnaire for self-affirmation purposes. The results of this study may be utilized by educational authorities in the context of in-service training for educators, parental guidance programs, and life skills training for students. Therefore, it is recommended that education officials develop suitable educational content in this domain and

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prioritize its implementation. It is further suggested that this research be replicated across other academic disciplines and male cohorts, as well as in a hybrid format incorporating both self-expression and self-regulation educational strategies. In future inquiries, rather than relying solely on self-report instruments as the exclusive means of data collection, it is advisable to employ multifaceted tools, observational methods, and situational analysis instruments to assess self-efficacy.

Conclusion

In light of the findings of this research, educational interventions focusing on self-expression and self-regulation demonstrate significant effectiveness for students. The differential impact of these methodologies on academic self-efficacy is noteworthy. Furthermore, the efficacy of these approaches appears to exhibit stability over time.

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Data availability statement

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

Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University.

Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis. All authors contributed to the article and approved the submitted version.

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Conflict of interest

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

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