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Enhancing Self-Esteem, Self-Efficacy, and Academic Buoyancy through Positive Thinking Training in College Students

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Article Info	ABSTRACT
	Objective: This study was undertaken with the objective of examining the efficacy of positive thinking training on the self-esteem, self-efficacy, and academic buoyancy of students. **Methods**: This study employed a quasi-experimental design featuring a pre-test and post-test framework, encompassing both experimental and control groups. Among the student population enrolled at Payam Noor University, Kish branch in 2023, a sample of 30 students was selected using the accessible sampling method, divided at random into two distinct groups. For data collection, in addition to a demographic information checklist created by the researcher, the Rosenberg self-esteem questionnaire, the Sherer's General Self-Efficacy Scale, and the Academic buoyancy questionnaire developed by Hosseinchari and Dehghanizadeh were employed. The intervention program was executed in accordance with the positive thinking training package devised by Seligman et al., spanning 10 sessions, each lasting 1.5 hours on a weekly basis. Data analysis was conducted by testing the assumptions underlying parametric statistics and performing analysis of covariance utilizing SPSS-26. **Results**: The results demonstrated that there existed a statistically significant change in self-esteem (F=11.15, P=0.007, and η=0.588), academic buoyancy (F=16.84, P=0.018, and η=0.603), as well as self-efficacy belief and its associated dimensions (F=13.10, P=0.015, and η=0.612) when comparing the experimental group with the control group. **Conclusions**: Consequently, the results of this research substantiate the influence of positive thinking training on the motivational frameworks of students and propose it as a viable strategy to enhance the motivational and psychological well-being of students.

Introduction

Students represent the most dynamic segment of any society, and the well-being of this segment across psychological, emotional, and social dimensions is largely essential for the overall health of numerous members of the society (Vasei et al., 2021). The transition to university constitutes a highly critical phase in the lives of effective and proactive individuals within every nation, frequently accompanied by significant transformations in an individual's existence, particularly concerning social and interpersonal relationships (Kjær et al., 2022).

The life of a student is characterized by both excitement and challenges. In the future, students will bear the responsibility of safeguarding and enhancing the societal health levels and must cultivate greater mental well-being and self-sufficiency to attain heightened success in their academic endeavors and professional careers (Olson et al., 2023). This phase is often marked by numerous alterations in their social and interpersonal connections. Within their daily academic experiences, students encounter a myriad of challenges, obstacles, and pressures unique to this journey, including the unfamiliarity with the university environment upon arrival, new expectations and roles, separation from family, financial difficulties, extensive coursework, and intense competition, among others (Akhlaghi et al., 2021). While some students have demonstrated success in navigating these challenges, others have exhibited subpar performance in this domain, consequently diminishing their academic buoyancy (Shiybak & Salimi, 2022).

Academic buoyancy, which denotes the capacity to respond adaptively to minor academic adversities, is positively correlated with achievement-related beliefs, emotions, and behaviors, thereby moderating academic success (Putwain et al., 2020). The concept of academic buoyancy has secured a prominent position across various domains, including positive psychology, educational psychology, developmental psychology, and mental health (Middleton et al., 2023), and has enabled students to adapt to the threats and pressures inherent in the educational environment. Researchers identify it as one of the fundamental components of well-being and a meaningful indicator of mental health (Sajadinezhad & Assadi, 2022).

Academic buoyancy engenders a profound sense of passion and spirit within an individual, and it holds significant relevance to three categories of factors associated with the learning environment, familial and peer influences, as well as psychological determinants (Tamannaeifar & Arbabi ghohroudi, 2023). Among the psychological determinants pertinent to this domain, self-efficacy

emerges as a noteworthy factor, delineated as an individual's conviction regarding their capacity to exert control over their performance levels and life circumstances (Etminan et al., 2020; Weißenfels et al., 2023). Self-efficacy assumes a pivotal role in managing stressors, life threats, and their detrimental repercussions; individuals possessing elevated levels of self-efficacy perceive obstacles and life situations as less burdensome (Homayon et al., 2023; Wray et al., 2022). In this context, Chu (2023) articulated those students exhibiting heightened self-efficacy, through the regulation of their emotions, demonstrate reduced maladaptive behaviors and achieve superior outcomes in their academic endeavors.

Conversely, within the realms of behavioral pathology and individual performance across psychological, familial, academic, and emotional dimensions, personality traits invariably exert influence, with self-esteem recognized as a fundamental personality characteristic and a critical determinant of behavior. This assertion holds true across various life stages (Fekih-Romdhane et al., 2023). Self-esteem, intrinsically linked to an individual's overarching perception of their worth, validity, and competence (Krause et al., 2021), is regarded as a vital and indispensable component in social adaptation and advancement, with individuals possessing high self-esteem tending to focus more on their strengths and embracing favorable self-assessments (Metwally El-ony et al., 2023). A comprehensive review of pertinent studies indicates that self-esteem plays a crucial and fundamental role in optimal psychological functioning (Kwok & Tam, 2023), successful academic achievement (Gebresilase & Zhao, 2023), and an enhanced quality of life (Hashemian et al., 2022). Krifa et al. (2022), in a study examining the efficacy of online positive psychology interventions on mental health and levels of engagement among students during the coronavirus pandemic, posited that such interventions have proven effective in ameliorating mental health and augmenting the participation rates of individuals within the experimental cohort. Ng and Ong (2022), in a systematic review investigating the impacts of positive psychology-based interventions on psychological well-being and favorable mental states across diverse clinical and non-clinical samples, revealed that the positive psychology intervention program significantly enhanced psychological well-being, life satisfaction, life expectancy, cultivated positive psychological states such as happiness, and mitigated maladaptive and negative behaviors among participants engaged in positive psychology intervention sessions. In the nation of AliDadashi et al. (2022) conducted a study entitled "Evaluation of the Effectiveness of Teaching Positive

Thinking Skills on Life Expectancy and Self-Efficacy of Second-Year High School Students in Tabriz City." Utilizing a cluster random sampling method, 40 students were selected and subsequently assigned at random into two groups of 20 individuals each, comprising an experimental group and a control group. The outcomes of the statistical analysis indicated that the training in positive thinking significantly enhanced both the self-efficacy and life expectancy of the students within the experimental group. Furthermore, Mashhadi et al. (2022) carried out a study titled "The Effectiveness of Positive Thinking Training on Academic Involvement and Social Buoyancy in Depressed Students," wherein, based on the nature of the study, 30 students were purposefully selected, resulting in groups comprising 15 participants each for experimental and control conditions. The results indicated that participation in the positive thinking training sessions led to an increase in academic engagement and enhanced social buoyancy among the subjects in the experimental group. Akbarpour Niko and Najarpour Ostadi (2021) conducted research entitled "The Effectiveness of Teaching Positive Thinking Skills on Academic Buoyancy and Emotion Regulation in Female First Secondary School Students," in which 30 students were selected through purposive sampling and randomly assigned into groups of 15 individuals each for testing and control. The results demonstrated that the instruction of positive thinking skills significantly positively impacted the academic buoyancy and emotional regulation of the first-grade female students in the first secondary school of Tabriz City.

Consequently, given the significance of academic performance and the influence of psychological factors throughout the educational process, it becomes imperative to establish arrangements that enable students to receive comprehensive training aimed at enhancing both academic and psychological performance. In this regard, positive thinking training may be regarded as a crucial element in fostering and reinforcing positive mental states conducive to academic success. The foundation of this approach lies in identifying methodologies that empower individuals to confront challenges and formulate effective strategies rooted in the affirmative feeling of self-efficacy (Hamann et al., 2020). This intervention methodology emphasizes the positive aspects rather than concentrating on negative and pathological dimensions, thereby yielding substantial empirical support across various educational contexts (Chui & Chan, 2020), familial dynamics (Waters et al., 2022), mitigation of behavioral harms (Fan et al., 2023), and the enhancement of psychological well-being (AliDadashi et al., 2022).

Students, as prospective managers and architects of the future, occupy a unique and significant position in the pursuit of the objectives of the educational system; therefore, it is imperative to accord due attention to this demographic in relation to their education and training, as well as the sustainability and advancement of the educational system within society to the fullest extent possible. Nevertheless, among the cohort of students, a limited number possess the capacity to cultivate their talents and attain success in this domain, thereby exhibiting commendable academic performance. Should the pertinent and detrimental factors be neglected during the educational process, it may result in adverse consequences such as indiscipline, frequent absenteeism, academic underachievement, and engagement in risky behaviors (Dhankhar et al., 2021).

Conversely, in light of the necessity for the present research, it can be articulated that the execution of interventional studies within the practical realm lays the groundwork for the application of concepts pertinent to psychological issues in mitigating academic challenges and difficulties. Consequently, at a specific and pragmatic level, the imperative for conducting this research is evident in its potential to furnish information and identify factors associated with psychological issues and their impacts on educational processes for the benefit of psychiatrists, psychologists, counselors, and all professionals in the field of mental health who engage with students and the educated populace. Furthermore, educational institutions, schools, universities, families with children in academic pursuits, and researchers represent additional beneficiaries of this study, as they may utilize the findings to fulfill their individual and organizational aspirations. Therefore, the undertaking of this research is of paramount importance and necessity and possesses practical ramifications, as it will facilitate studies within the realms of educational structures and the psychological challenges faced by students; in doing so, it aims to not only identify variables linked to favorable academic performance and mental well-being but also to establish and implement intervention programs that will pave the way for societal advancement.

In summary, through an examination of the existing research landscape and the endorsement of this intervention methodology, such programs may be effectively utilized for the student demographic encountering an array of psychological, personal, social, and academic challenges. Given the foundational basis and framework of this type of intervention, one may reasonably anticipate positive outcomes within both educational and psychological contexts. Acknowledging the significance of the student demographic within society, and recognizing that the instruction of

positive thinking skills, grounded in research evidence, has demonstrated effectiveness, one must also consider that there has been an absence of research, both nationally and internationally, addressing the constructs encompassed within the present study concurrently. The primary objective of this study is to address the inquiry: Does the instruction of positive thinking yield beneficial effects on the self-esteem, self-efficacy, and academic buoyancy of students at Payam Noor University?

Material and Methods

The current research is classified as a quasi-experimental inquiry, utilizing a pre-test-post-test framework in conjunction with a control cohort. Subsequent to the identification of participants and their random assignment to the experimental and control groups, the positive thinking training initiative was executed over a span of 10 consecutive group sessions. One session was conducted weekly for the experimental group, and at the end of the sessions, a post-test was administered to participants from both cohorts.

The statistical population for this investigation included all enrolled students at Payam Noor University, Kish branch, totaling 1200 individuals in 2023. Employing a non-probability sampling approach and taking into account the specific nature of the study, 30 students expressing interest in participating were selected and subsequently randomized into two equal groups of 15 participants each (experimental group = 15 individuals, control group = 15 individuals).

The measurement tools utilized in this study comprised Rosenberg's self-esteem inventory (Martín-Albo et al., 2007), the self-efficacy beliefs inventory (Scherer, 2013), and the academic buoyancy inventory (Dehghanizadeh & HosseinChari, 2011).

Rosenberg's self-esteem inventory is acknowledged as one of the most prevalently employed instruments within this sphere, consisting of 10 items that evaluate two dimensions of self-esteem; positive self-esteem is gauged through items 1, 2, 3, 4, and 5, whereas negative self-esteem is appraised via items 6, 7, 8, 9, and 10. The scoring methodology for this inventory utilizes a 4-point Likert scale, assigning 4 points for total agreement, 3 points for agreement, 2 points for disagreement, and 1 point for total disagreement. The reliability of the inventory in the present investigation was verified utilizing Cronbach's alpha coefficient, which yielded a value of 0.84.

The self-efficacy beliefs inventory, compiled by Scherer et al. in 1982, encompasses 17 items and comprises three subscales that reflect the subjects' self-efficacy expectations across three dimensions: the readiness to initiate behavior through items 1, 4, 7, 10, 13, and 16; the willingness to persist in completing the behavior with items 2, 5, 8, 11, and 14; and the resilience to face challenges, as measured by items 3, 6, 9, 12, 15, and 17. The scoring framework for this inventory is based on a 5-point Likert scale, where 5 points are allocated for total agreement, 4 points for agreement, 3 points for neutrality, 2 points for disagreement, and 1 point for total disagreement. The reliability of the inventory in the current study was assessed using Cronbach's alpha coefficient, yielding a value of 0.76.

The academic buoyancy inventory was formulated in 2013 by Dehghanizadeh and HosseinChari (2011), drawing from the original academic buoyancy inventory devised by Martin and Marsh (2008), with the distinction that the latter's scale consisted of 4 items while the scale developed by Dehghanizadeh and HosseinChari (2011) encompasses 9 items. The scoring for this scale adheres to a 5-point Likert scale, with response options ranging from completely disagree = 1 point, disagree = 2 points, no opinion = 3 points, agree = 4 points, to completely agree = 5 points. The reliability of the questionnaire utilized in this research was confirmed through the employment of Cronbach's alpha coefficient, which produced a value of 0.70. This research was conducted in full compliance with ethical considerations and principles of human research. Participation in the study was entirely voluntary and based on informed consent, and students had the right to withdraw from the study at any stage. Personal information and data related to the research were kept confidential and used only for the purposes of the present study. Furthermore, the tools and methods of the research were designed to ensure that no psychological, emotional, or physical harm was inflicted on the participants. The overview of the training protocol is delineated in Table 1.

Table 1. Positive Thinking Training Protocol

Session	Aim	Content
1	Introduction, familiarity with the framework of the positive thinking program	Introducing the members to each other, explaining the meetings, introducing the nature of the program
2	How to re-encounter an event	How to re-think about the event, how to deal with it, identifying signs of positivity
3	Acquaintance and training of the skills of catching thoughts	Getting to know and teaching the skill of catching thoughts and expressing positive beliefs and self-talk and fighting negative thoughts for students
4	Teaching the skill of changing mental images and positive internal imagery	Teaching the skill of changing mental images and positive internal imagery and providing relevant training tables and images and teaching the use of language
5	Evaluation of beliefs	Teaching to evaluate attitudes and teaching positively to look at fear and drive it away and to face the beliefs that surround that fear.
6	Personalization training	Acquainting students with the dimension of personalization, which is one of the styles of thinking and expressed by Seligman
7	Teaching how to deal with controversy and dealing with catastrophic thoughts and attitudes	Controversy and confrontation with catastrophic attitudes
8	Teaching inclusive thinking style	Acquainting subjects with inclusive thinking style proposed by Seligman
9	Teaching optimism and optimistic thinking	Providing the skill of creating optimism through optimistic thinking and acting on it
10	Investigating the effectiveness of positivity training and closing the meeting	Examining the effectiveness of the presented positivity skills, explaining how to apply the learned skills in daily life for students, concluding the meeting.

Drawing upon the information obtained from the questionnaires filled out by a cohort of 139 students, and taking into account the predefined inclusion and exclusion criteria, a final selection of 30 individuals was executed. Following the establishment of communication with these 30 individuals, Positive Thinking training sessions were conducted on a weekly basis every Tuesday at 9:00 a.m., organized into two groups of 15 participants each, specifically the experimental group and the control group, with the consent and collaboration of the members of the experimental group.

Upon the completion of the sessions, participants from both groups were once again solicited to complete the previously distributed link to the questionnaires in order to facilitate the post-test phase. Subsequently, the results from both the pre-test and post-test phases were meticulously examined utilizing the SPSS statistical software. Initially, the statistical prerequisites, including the Kolmogorov-Smirnov test, Levene's test, the linearity assumption, and the homogeneity of regression slopes, were rigorously scrutinized. In the realm of inferential statistics, given that the present research design is quasi-experimental, covariance analysis was identified as the most appropriate statistical method for data assessment. The rationale for employing covariance analysis

resides in its ability to control for the impact of the covariate variable (pre-test). It is pertinent to note that the statistical software employed for the analysis of data was SPSS version 26.

Results

Table 2 shows the demographic information of the experimental and control groups according to age (in terms of years), marital status, educational level, and employment status separately. Also, in Table 3, the mean and standard deviation of the research variables in the control and experimental groups are presented in the pre-test and post-test.

Table 2. Frequency and percentage of students' demographic information (n=30)

Variable		Excremental group		Control group	
		N	%	N	%
Marital status	Single	9	60	11	74
	Married	6	40	4	26
Educational level	Bachelor	11	74	12	80
	Master	4	26	3	20
Job status	Student/jobless	9	60	10	66
	Employee	6	40	5	34
Age (years)	23-27	3	20	2	13
	28-32	9	60	11	74
	Above 33	3	20	2	13

Table 3. Mean and standard deviation of research variables of two groups in pre-test and post-test

Dependent variable	Group	N	Pretest	Posttest
			Mean ± SD	Mean ± SD
Self-esteem	Experimental	15	11.87 ±2.10	15 ±3.19
	Control	15	10.33 ± 3.12	10.12 ± 3.76
Desire to initiate behavior	Experimental	15	14.26 ± 3.12	17.13 ± 2.33
	Control	15	18.60 ± 2.47	18.53 ± 2.33
Attempt to complete the behavior	Experimental	15	16.73 ± 1.02	21.06 ± 2.18
	Control	15	15.06 ± 2.50	14.79 ± 2.14
Resistance to obstacles	Experimental	15	17.80 ± 3.14	20.23 ± 5.19
	Control	15	15.32 ± 1.10	15.13 ± 2.55
Self-efficacy belief	Experimental	15	52.79 ± 7.28	58.42 ± 9.70
	Control	15	48.98 ± 6.07	48.45 ± 8.02
academic buoyancy	Experimental	15	27.55 ± 3.46	34.25 ± 3.62
	Control	15	28.45 ±4.55	27.20 ± 3.84

In this study, covariance analysis was used to analyze the data. In this section, the assumptions needed for the statistical test are carefully examined. These assumptions include: assumption of

normality, assumption of homogeneity of variance-covariance matrices and assumption of homogeneity of variances.

Table 4. The results of the Shapiro-Wilks test to measure the normality

Dependent variable	F value	DF	P
Self-esteem	0.992	15	0.223
Academic buoyancy	0.876	15	0.417
Desire to initiate behavior	0.637	15	0.166
Attempt to complete the behavior	0.912	15	0.318
Resistance to obstacles	0.851	15	0.292
Self-efficacy belief	0.879	15	0.365

In this research, Shapiro-Wilks test was used before performing the analysis of variance in order to check the normality of the distribution of scores in the society, the results of which are presented in table (4). These results show that in all dependent variables, the significance level is greater than 0.05 ($P > 0.05$), so the distribution of scores is normal. Therefore, the use of covariance analysis in research data is unimpeded.

Table 5. M-Box test results based on homogeneity of variance-covariance matrices

M-Box	F value	P
7.519	2.309	0.408

The M-Box test was also employed to assess the homogeneity of the variance-covariance matrix. According to the data presented in table number 5, the outcomes of this test indicate that, due to the significance level achieved being greater than 0.05, the research data did not challenge the premise of equality of variance-covariance matrices. Given that the variance-covariance matrices exhibit homogeneity, covariance analysis is deemed applicable in this research.

Table 6. The results of Levine's test on the assumption of homogeneity of variances error

Variable	F value	DF1	DF2	P
Self-esteem	1.503	1	28	0.216
Academic buoyancy	1.433	1	28	0.187
Desire to initiate behavior	0.693	1	28	0.333
Attempt to complete the behavior	1.278	1	28	0.516
Resistance to obstacles	0.812	1	28	0.198
Self-efficacy belief	2.468	1	28	0.435

In this research, before performing covariance analysis, Levine's test was used to check the assumption of equality of variances, the results of which are presented in Table 6. As can be seen in Table 6, homogeneity of variances assumption is confirmed in all the dependent variables of the research, and due to the random assignment of two groups and the appropriate sample size, covariance analysis can be used to analyze the hypotheses.

Table 7. Results of multivariate covariance analysis (MANCOVA)

Test	Value	F statistic	P	Effect size	Power
Pillai's Trace	0.753	38.010	0.001	0.733	1
Wilks' Lambda	0.247	38.010	0.001	0.733	1
Hotelling's Trace	3.041	38.010	0.001	0.733	1
Roy's Largest Root	3.041	38.010	0.001	0.733	1

The results of table 7, indicate that the effect of Wilkes' lambda (Value=0.247 and P=0.001) is significant. The results show that there is a significant difference between the subjects of the experimental and control groups in terms of the post-test of the dependent variables (self-esteem score, academic buoyancy and self-efficacy belief) with the pre-test control. Therefore, it can be said that there is a significant difference in at least one of the aforementioned dependent variables, and the effect size shows that 73.3 percent of the difference between the two groups is related to the experimental program. After this, it should be investigated whether the dependent and studied variables (self-esteem, academic buoyancy and self-efficacy belief) are affected separately from the independent variable (positive thinking training) or not? For this purpose, the c analysis of covariance (ANCOVA) test was used, the results of which can be seen in Table 8.

Table 8. Between-subject effects of univariate covariance analysis in the post-test of the dependent variables

Variable	SS	DF	F value	P	Effect size	Power
Self-esteem	578.80	1	11.15	0.004	0.588	1
Academic buoyancy	443.22	1	16.84	0.018	0.603	0.899
Self-efficacy belief	327.019	1	13.10	0.015	0.612	1

The results of the buoyancy covariance analysis in table 8 show that positive thinking training (by controlling the effect of the pre-test) on improving self-esteem score (F=11.15, P=0.007 and η=0.588), academic buoyancy (F=16.84, P=0.018 and η=0.603) and Self-efficacy belief (F=13.10, P=0.015 and η=0.612) had a significant effect.

Discussion

This research was conducted with the aim of investigating the effectiveness of positive thinking training on students' self-esteem, self-efficacy, and academic buoyancy; the definitive results of the current study revealed that positive thinking training is efficacious in augmenting students' self-esteem, self-efficacy, and academic buoyancy. This conclusion is congruent with the results of previous studies (Akbarpour Niko & Najarpour Ostadi, 2021; Akhlaghi et al., 2021; Chui & Chan, 2020; Hashemian et al., 2022; Krifa et al., 2022; Ng & Ong, 2022).

In relation to the elucidation of the results obtained, it may be articulated that, as posited by Seligman et al. (2005), positive thinking does not entail the neglect of challenges or an unwarranted optimism; the optimal strategy is to recognize the issues and subsequently, rather than becoming ensnared in the debilitating cycles of negative emotions, to undertake proactive measures to address the challenges. Consequently, instead of excessively fixating on human limitations and frailties, positive thinking accentuates one's competencies, such as experiencing joy and problem-solving, which can bolster life satisfaction and cultivate beliefs that enhance self-efficacy.

Conversely, it is plausible that training in the art of positive thinking engenders encouraging and persuasive effects, thereby augmenting both action and cognition within the educational and learning processes, ultimately facilitating the avoidance of disappointment and the enhancement of buoyancy.

The presence of vibrancy and liveliness within the educational milieu nurtures the development of talents, and an individual characterized by cheerfulness, dynamism, and activity ardently pursues their academic aspirations; consequently, such an individual is likely to be distanced from the prevalence of negative moods and symptoms of anxiety in educational environments. Furthermore, to elevate beliefs in self-efficacy and self-esteem throughout the intervention process, the acknowledgment and analysis of these issues, concerns, values, and individuals' self-perceptions were conducted; this methodology proves advantageous for group members who harbor ineffective beliefs regarding their own abilities and personal values, as it assists in the reformation of their existing values through the promotion of creativity, the modification of attitudes and worldviews, and the establishment of new values that resonate with their circumstances while maintaining dignity and self-respect. In this context, the most prominent feature of this approach resides in its emphasis on the worldview and the manner in which individuals regard their abilities, values, and

sense of self-worth. A positive approach facilitates individuals' comprehension of their abilities, competencies, and favorable attributes across various aspects of life, including personal, social, and academic domains, by reframing their perceptions of existing realities, which contributes to their feelings of happiness and academic buoyancy.

Additionally, with regard to the affirmative influence of this skill on self-efficacy, it may be articulated that the manner in which individuals navigate adverse and stressful life events significantly shapes their perceptions of capability as well as their beliefs concerning self-esteem and self-efficacy. Individuals who have faced challenging life circumstances yet have focused on the positive aspects of existence report experiencing a more meaningful life. This assertion remains valid despite the consistent association between a sense of purpose in life and a sense of buoyancy and self-worth. Therefore, it is recommended: In light of the established efficacy of the positive thinking training program in enhancing self-esteem and self-efficacy beliefs among students, it is prudent to implement this methodology within treatment and counseling centers that serve adolescents and young adults. As the variable of self-efficacy beliefs, according to the relevant literature, plays a crucial role in the mental and academic well-being of individuals, the compilation of self-help literature by mental health professionals and psychologists within the educational sector, incorporating metaphors and exercises rooted in a positive framework, may yield beneficial outcomes. In educational and training institutions, administrators might consider integrating positive approach exercises into their curricula, thus contributing to the enhancement of the positive psychological states of individuals under their purview.

It is also suggested that in future studies; by instituting a follow-up period (spanning from 3 to 6 months), it would be feasible to examine and quantify the enduring effects of the positive thinking intervention on the aforementioned dependent variables. This intervention methodology aimed at bolstering students' self-esteem and self-efficacy beliefs has been recognized within student counseling centers, while concurrently, the outcomes of this methodology are compared with alternative intervention strategies, such as education based on acceptance and commitment as well as education founded on emotional regulation. It is of paramount importance to ascertain the differences in effectiveness and efficacy between these methodologies.

In subsequent studies, to enhance the generalizability of the findings, as well as to facilitate the derivation of more precise conclusions, it is advisable to incorporate additional data collection

techniques, such as interviews and random sampling, alongside the questionnaire. Given the innovative nature of the research within the Iranian context, it is crucial for the study to be replicated across diverse samples and subjected to further experimental validation, thereby necessitating the pursuit of additional research in this domain. A research design that employs a genuine experimental framework can yield more reliable and broadly applicable results concerning the impact of positive thinking training on the constructs under investigation.

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 Payame Noor 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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