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Comparative Analysis of Psychological Capital Programs and Positive Thinking Strategies on Academic Adjustment and Academic Burnout in Male Students with Academic Procrastination

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ABSTRACT

Objective: The current investigation was undertaken to evaluate the comparative impacts of instructional programs addressing psychological capital and Positive Thinking Strategies on the academic adjustment and academic burnout of male students exhibiting academic procrastination.

Methods: The research design employed was quasi-experimental in nature, comprising two experimental cohorts and one control group. The target demographic consisted of male students from a single high school, which was selected randomly from a total of four high schools located in Khormoj (Iran) in the year 2023. Of the 207 students enrolled in the institution, 94 were identified as experiencing academic procrastination, from which 60 were randomly chosen and subsequently divided into three groups of 20 participants each. The two experimental cohorts underwent eight instructional sessions, while the control cohort did not receive any instructional intervention. All three groups completed the academic adjustment assessment developed by Sinha and Sing, as well as the academic burnout evaluation created by Brusso, as both pre-tests and post-tests. To analyze the collected data, both multivariate and univariate analysis of covariance, along with the Bonferroni paired comparison test, were employed.

Results: The findings indicated that both intervention strategies exerted a statistically significant influence on academic adjustment and academic burnout, with the Bonferroni test revealing that the psychological capital program exhibited greater efficacy than the positive thinking approach.

Conclusions: Based on the research outcomes, it is suggested that the aforementioned interventions may serve as effective methodologies for counselors and psychologists aiming to mitigate academic burnout and enhance academic adjustment among students prone to academic procrastination.

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Introduction

The advancement of any nation is predicated upon a concerted focus on the younger demographic and the prioritization of their academic achievements. The educational framework within each nation places paramount importance on the accomplishments and scholarly development of its students (Deveci & Ersen, 2022); however, one of the significant factors identified as a formidable barrier to attaining success, scholarly advancement, and favorable academic outcomes is academic procrastination (Goroshit, 2018), which is characterized by the intentional deferral of academic responsibilities despite an awareness of the adverse repercussions. This phenomenon is delineated (Mohammadi Bytamar et al., 2020). Academic procrastination stands as one of the most prevalent behaviors among students, affecting at least half and in some instances up to 90% of learners, who typically defer their academic obligations such as preparing for examinations, completing weekly assignments, and authoring related articles (Svartdal et al., 2020); they often engage in academic work solely when there are no benefits to mitigate the time lost (Litvinova et al., 2019). Furthermore, empirical research has indicated that academic procrastination transcends cultural boundaries, is evident at various educational tiers, and occurs across both genders, albeit it is more frequently observed among males (Balkis & Duru, 2017). Additionally, it appears that the prevalence of this phenomenon is escalating in conjunction with technological advancements ((R. Li et al., 2023).

Procrastination represents a multifaceted behavior that encompasses cognitive and emotional components alongside evaluations of personal capability, resulting in external ramifications for students such as subpar performance, diminished test scores, and an elevated likelihood of academic attrition (Visser et al., 2018). Moreover, internal repercussions (such as heightened stress (Svartdal et al., 2020), test anxiety (Krispenz et al., 2019), depression (Yang et al., 2022), and diminished self-esteem (Benli & Bulut, 2022) are also associated.

Furthermore, a pertinent issue related to academic procrastination is academic adjustment, which pertains to the extent of students' adaptation to their academic demands and encompasses attitudes toward the curriculum, engagement with educational materials, and academic diligence (Wang et al., 2021). Investigations reveal a direct and negative correlation between academic adjustment and procrastination (Montgomery et al., 2019; Nikookar et al., 2021). The phenomenon of academic procrastination can profoundly influence academic adjustment. As students delay the

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fulfillment of their academic responsibilities and the deadlines draw near, they encounter challenges that precipitate increased stress and anxiety (Kuftyak, 2022), thereby impeding their capacity to effectively acclimate to academic tasks. Furthermore, procrastination may adversely affect students' proficiency in time management and task prioritization. Inadequate time management, coupled with a lack of motivation and interest in undertaking academic duties, can significantly hinder their adjustment to the expectations inherent in the academic curriculum (Zhu, 2023).

Among various phenomena associated with academic procrastination is the concept of academic burnout, which denotes the circumstances under which certain students experience heightened stress during their compulsory education, resulting in a diminished interest and commitment to their academic endeavors. This situation often culminates in lost educational opportunities and a pervasive uncertainty regarding their capacity to meet academic expectations. Academic burnout encompasses three critical dimensions: academic fatigue, academic apathy, and academic ineffectiveness. The phenomenon of academic burnout is correlated with diminished levels of academic engagement and self-efficacy, suboptimal academic performance, reduced psychological well-being, and a lack of academic satisfaction, all of which may precipitate academic failure or decline (Usán Supervía & Salavera Bordás, 2020). Furthermore, alongside its deleterious effects on academic performance, academic burnout adversely impacts mental health (Wang et al., 2021). Empirical findings indicate a positive and significant correlation between academic procrastination and academic burnout (Çakır et al., 2014; Çam & Öğülmüş, 2021). Procrastination is linked to heightened stress and adverse emotional states, which can culminate in burnout over an extended period; this is primarily attributed to individuals prioritizing short-term objectives (such as the avoidance of unpleasant tasks) over long-term aspirations (academic success), resulting in a cyclical pattern of procrastination, stress, and burnout (Sirois & Pychyl, 2013). Conversely, academic procrastination instigated by high-pressure environments can lead to the production of inferior quality work; this occurs because the individual fails to allocate sufficient time to thoroughly engage with course materials or does not approach homework with the requisite diligence, ultimately fostering feelings of inadequacy and frustration, thereby exacerbating stress and intensifying academic burnout (Balkıs, 2013).

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Given the ramifications of academic procrastination in relation to both academic adjustment and academic burnout, it is imperative to implement educational interventions aimed at addressing procrastination and its associated consequences. Considering that academic procrastination is a prevalent issue with extensive negative repercussions for learners, families, educational institutions, and society at large, it is noteworthy that approximately 90% of students who procrastinate express a desire for solutions to alleviate this behavior (Hashemizadeh Nehi et al., 2020). Consequently, researchers have endeavored to mitigate or potentially eradicate academic procrastination through the application of educational and therapeutic strategies. Recognizing that academic procrastination is a multifaceted challenge influenced by a variety of psychological, clinical, motivational, environmental, and situational factors has led to the development of diverse treatment methodologies (Mohammadi Bytamar et al., 2020). Among these approaches, one may note cognitive-behavioral therapies (Rozental et al., 2015), time management techniques (Gustavson & Miyake, 2017), enhancement of self-efficacy (Krispenz et al., 2019), and the cultivation of hope (Zare et al., 2014).

One of the therapeutic strategies aimed at diminishing academic procrastination involves the application of a positive psychological framework. Seligman (2008), a seminal figure in the development of this framework, asserts that such an approach emphasizes the elements that render existence meaningful through a scientific and deliberate lens, concentrating on facets of the human experience that foster individual fulfillment and flourishing (Neuhaus et al., 2022). A notable positive psychological intervention applicable for mitigating academic procrastination is psychological capital training, initially introduced by Avey et al. (2010), which encompasses a repertoire of affirmative attributes that enhance both individual and organizational capacities, including the components of (a) self-efficacy, (b) optimism, (c) hope, and (d) resilience. The integration of these components constitutes a sophisticated construct known as psychological capital (Carter & Youssef-Morgan, 2022). Empirical investigations indicate that psychological capital exerts a significant influence on performance (S. Li et al., 2023) and well-being (Avey et al., 2010) while also alleviating academic burnout (Wang et al., 2021). Initially regarded as a pivotal resource for organizational behavior and efficacy, psychological capital's four principal components were derived from the domains of education and psychology, prompting researchers to examine its effectiveness and correlation within educational and training contexts, ultimately

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positing that psychological capital is amenable to cultivation through educational means (Kang et al., 2021). Research findings suggest that elevated psychological capital can bolster learning processes, enable learners to surmount challenges, and facilitate the attainment of future aspirations (Wang et al., 2021). Furthermore, the impact and efficacy of this methodology significantly contribute to the enhancement of various educational and psychological dimensions (Farajzadeh et al., 2020). Additionally, academic procrastination exhibits a negative and statistically significant relationship with the four components of psychological capital (Moshtaghi & Moayedfar, 2017).

Another methodology within the positive psychological framework that may contribute to the enhancement of academic performance and the reduction of academic procrastination is the instruction of positive thinking skills. Positive thinking is characterized as a cognitive and emotional disposition that equips individuals with the requisite motivation to confront new life challenges through the adoption of an affirmative perspective (Amin et al., 2021; Samavi, 2022). Empirical studies have demonstrated that positive thinking serves as a crucial cognitive resource for the prevention and mitigation of mental health disorders (Chui & Chan, 2020). Moreover, research conducted by Triana et al. (2021) and Kooshalshah et al. (2015) indicates that positive thinking bolsters individuals' resilience in the face of life's challenges and adversities. Internal studies reveal that interventions focused on positive thinking effectively reduce procrastination (Shafiee et al., 2019), enhance student adaptability (Dehghannezhad et al., 2017; Pourrazavi & Hafezian, 2017) and augment motivation for progress (Azimi Khoee & Navabinejad, 2017).

In general, extant scholarly investigations have demonstrated that academic procrastination yields detrimental repercussions for learners, and in light of the elevated incidence of this phenomenon among male students, it is imperative to implement therapeutic-educational strategies that emphasize positive psychology. Prior research has not compared the impact of two interventions (psychological capital and positive thinking) on academic adaptation and academic burnout among male students exhibiting academic procrastination, both within and external to the existing literature. This presents a discernible gap; thus, the principal inquiry of the present study is to ascertain whether the instructional programs for psychological capital and positive thinking are efficacious in enhancing the academic adjustment and mitigating the academic burnout of male

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students who procrastinate academically, and to identify which of these educational interventions demonstrates superior effectiveness.

Material and Methods

The research methodology employed, aligned with practical objectives and data acquisition requirements, was characterized as a semi-experimental field design incorporating a multi-group pre-test-post-test framework alongside a control group and the random allocation of participants. The statistical population encompassed 723 male students enrolled in the second year of high school within the Khormouj city (Iran), who were attending four theoretical institutions during the academic year 2023. Within these educational establishments, one institution (comprising 207 students) was selected through random sampling; subsequently, from the cohort of this institution that had completed the procrastination assessment devised by Solomon and Rothblum (1984), 94 individuals exhibiting academic procrastination (as determined by the aforementioned questionnaire and subsequent interviews) were identified, out of which 60 were randomly selected and distributed into three groups of 20 participants each. Eligibility criteria for participation in the study included the presence of academic procrastination (as indicated by questionnaire results, adherence to the cut-off threshold, and interviews) as well as the voluntary consent provided by both the student and their parents for their child's involvement in the research endeavor. Exclusion criteria from the study encompassed an absence exceeding two sessions in therapeutic intervention meetings and a lack of willingness to persist in collaborative participation in the project. Consistent with the ethical standards governing the research, ethical considerations entailed the acquisition of an ethics code from Shahid Chamran University of Ahvaz (IR SCU.REC.1402.070), voluntary consent from the student and their guardian for participation in the study, the option to withdraw from the group should they choose not to continue, and the assurance of confidentiality. At the conclusion of the training period, the educational content delivered to the control group was made available to the experimental groups of their choosing. The following instruments were utilized for the purpose of data collection.

Instruments

Academic procrastination scale: This scale was initially developed by Solomon and Rothblum (1984) to assess the prevalence of cognitive-behavioral precursors associated with academic

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procrastination, utilizing a five-point Likert scale, which encompasses preparation for examinations (6 items), completion of homework assignments (9 items), and conducting class research (6 items). A score of 50 or higher is deemed indicative of academic procrastination (Razeghi et al., 2020). The scale's validity and reliability have been thoroughly evaluated and substantiated by numerous scholars. The reliability, assessed via Cronbach's alpha methodology, was reported as 0.64 by Solomon and Rothblum (1984), and as 0.83 by Hashemi Gorji et al. (2021), both reflecting a level of reliability deemed acceptable. Furthermore, the instrument's validity has been corroborated by a multitude of researchers. Solomon and Rothblum (1984) reported an internal validity coefficient of 0.84 for this instrument. Additionally, Hashemi Razini et al. (2014) also documented an internal consistency coefficient of 0.84. The researcher attained reliability coefficients of 0.74, 0.81, and 0.82 for the respective subscales, and 0.88 for the entirety of the instrument, utilizing the Cronbach's alpha method for reliability assessment. Confirmatory factor analysis was employed to evaluate the validity of this instrument, and the resultant indices indicated a commendable fit.

Academic Adjustment Scale: This instrument was developed by Sinha and Singh (1968) and comprises 60 items designed to evaluate the emotional, social, and academic adjustments of students aged 14 to 18 years. It includes 20 questions aimed at identifying each individual component, with responses formatted as yes or no. Responses indicative of compatibility are assigned a score of zero, while alternative responses receive a score of one (Mohammadi Baghmolaei & Farid, 2019). The validity and reliability of this questionnaire have been assessed and affirmed by various researchers. Sinha and Singh (1968) reported the validity of the questionnaire at 51.00, while its reliability for both the subscales and the overall test ranged from 0.90 to 0.96 (Basharpoor & Eyni, 2021). Additionally, within the Iranian context, the reliability of this tool was reported using Cronbach's alpha method for academic adjustment, yielding coefficients of 0.82 by Basharpoor and Eyni (2021) and 0.74 by Mohammadi Baghmolaei and Farid (2019). Moreover, the validity of the questionnaire has been scrutinized using confirmatory factor analysis, with the resulting indicators indicating a satisfactory fit (Mohammadi Baghmolaei & Farid, 2019). The Cronbach's alpha was recorded at 0.89, and confirmatory factor analysis was employed to assess the validity of this instrument, yielding indices that suggested a robust fit.

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Academic Burnout Questionnaire (ABQ): This evaluative instrument was developed by Breso comprising 15 items that assess the three dimensions of academic fatigue, academic apathy, and academic inefficiency utilizing a five-point Likert scale. The reliability of the instrument, as indicated by Bresso et al., was established through the application of the Cronbach's alpha method, yielding coefficients of 0.70, 0.82, and 0.75 for the respective subtests, while its validity was corroborated through the factor structure as determined by the developers of the instrument (Talebi & Sardari, 2020). In the context of Iran, Dehghani et al. (2018), in their validation of the questionnaire employing confirmatory factor analysis, reported the Cronbach's alpha coefficients for the reliability of the instrument across the subscales as 0.68, 0.71, and 0.74, respectively. The researcher ascertained the coefficients for the subscales as 0.82, 0.78, 0.83, and 0.84, with an overall reliability of 0.84 for the entire instrument, and the validity of this instrument was verified through confirmatory factor analysis, with the resulting indices demonstrating a commendable fit.

Method of conducting research and summary of intervention sessions

To facilitate the gathering of research data, the initiation of this study was predicated on obtaining the requisite permissions from Shahid Chamran University of Ahvaz and the General Directorate of Education of Bushehr Province. A cohort of 60 students identified as academic procrastinators was randomly designated into three groups; subsequently, the first experimental group focused on psychological capital and the second experimental group centered on positive thinking were randomly assigned, with each group participating in 90-minute sessions over a span of 8 weeks at Allameh Tabatabaei High School of Khormouj, while the control group was placed on a waiting list until the conclusion of the research. At the outset of the intervention, a pre-test was administered to all groups, followed by a post-test at the conclusion of the intervention program for each of the three groups. The training program on psychological capital in conjunction with the positive thinking training program encompassed instructional methodologies such as lectures, discussions, group participation, intellectual challenges, role-playing, and assignments, with a comprehensive summary of the educational intervention sessions elucidated in tables 1 and 2.

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Table 1. Psychological capital training sessions

Session	Content
1	Getting to know the concepts of hope and despair, real and unrealistic optimism and pessimism and the distinction between them, getting to know the concept of self-efficacy and getting to know the concepts of endurance and resilience and discussing the characteristics of resilient people. Homework: Practice self-soothing.
2	Examining the level of hope in students, creating motivation, getting familiar with the concept of learned helplessness and its role in optimism and pessimism, stubbornness and resistance and its components (challenge commitment and control). Task: Check your abilities and practice remembering three good things.
3	The importance and necessity of setting goals in creating hope and increasing motivation, getting to know the concepts of documents, investigating the relationship between motivation and will and self-confidence with self-efficacy using the feedback technique, assignment: tasting positive pleasures.
4	Getting to know how to achieve clear goals, getting to know positive emotions, discussing how to increase self-confidence and self-efficacy, using the positive feedback technique Task: practicing positive feedback, practicing struggling with negative and pessimistic thoughts and beliefs.
5	Encouraging students to choose appropriate goals by turning big goals into smaller goals in order to increase hope, talking about difficult or upsetting events for students and the role of documents in the optimism of the assignment: practicing open doors and closed doors, practicing mental imagery in order to create positive experiences.
6	Getting to know how to plan daily and the importance of implementing it in order to achieve small goals in line with big goals and how to do it, teaching how to create and expand internal positive documents. Task: practice analyzing unpleasant events and turning them into more pleasant events.
7	A hopeful mental image to reach the goal and create new paths to achieve the goals, paying attention to one's positive actions and positive self-talk to increase the level of resilience. Task: practicing verbal persuasion, practicing positive self-talk to increase the level of resilience.
8	Summarizing the topics of the previous sessions, reviewing practical exercises in order to increase the level of hope, optimism, self-efficacy and task resilience: practicing the assignments presented in the intervention sessions.

Table 2. Positive thinking training sessions

Session	Content
1	Establishing initial communication, introducing and familiarizing with the concept of positive thinking, explaining how to do work, how to hold meetings - assignment: identify your strengths and record them.
2	Getting to know how thinking and attitude are formed, how to think about an event and how to deal with that event. Homework: Introducing three important people in life and stating what positive and negative thoughts they have conveyed to them, and daily thought journal.
3	Familiarity with negative thoughts and ways to adjust them, familiarity with cognitive distortion and its types and how distortion of thought is the cause of negative thoughts, ways to challenge and fight against negative thoughts. replacing it with balanced thoughts
4	Teaching to be positive, teaching how to stop thinking, calming down, changing negative attitudes through changing mental images and revising beliefs using Ellis's A-B-C model. Assignment: Write 3 irrational thoughts and replace them with 3 logical thoughts.
5	Teaching to be positive, love yourself, respect yourself, boost self-esteem Task: Plan a positive day and record your sweet experiences during the week
6	Realizing one's potential capabilities, prioritizing one's strengths and capabilities, teaching the skill of identifying emotions and influencing and changing them Task: Specifying the situations that need to be expressed and expressing how to express it.
7	Teaching the skill of creating optimism, thinking optimistically and acting on it, dealing with pessimism, creating euphoria Task: listing life goals and determining how to achieve those goals.
8	Living positively through creating a positive environment, creating good habits to maintain health and its effect on positivity, establishing good relationships with others. Homework: Completing the self-assessment questionnaire Now, how positive have you become?

Results

In the current investigation, a sample of 60 male students from high schools exhibiting procrastination behaviors were selected; the mean age of the positive thinking cohort was (16.4),

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the psychological capital cohort (16.47), and the control cohort (16.5). To elucidate the data, mean values and standard deviation metrics were employed, with the resultant findings presented in Table 3.

Table 3. Descriptive metrics of academic adjustment and academic burnout across the positive thinking, psychological capital, and control cohorts

Variable	Phase	Positive thinking		Psychological capital		Control	
		Mean	SD	Mean	SD	Mean	SD
Academic adjustment	Pretest	12.80	1.88	13.20	2.35	13.50	1.60
	Post test	10	1.52	8.50	1.50	13.40	1.50
Academic burnout	Pretest	52.85	2.47	53.20	4.17	56.15	6.13
	Post test	34.55	3.96	30.25	2.31	52.05	3.84

As illustrated in Table 3, the scores across the groups for the variables pertaining to academic adjustment and academic burnout did not exhibit statistically significant differences in the pre-test phase; however, in the post-test phase, the psychological capital cohort demonstrated changes in relation to positivity and validation. To examine the effects of contrasting positive thinking interventions and psychological capital training on the dependent variables, multivariate analysis of covariance and Bonferroni Post Hoc Test were implemented. Initially, the assumptions requisite for covariance analysis were scrutinized; to ascertain the equivalence of the variance-covariance matrix, the M-box test was administered ($F=1.625$, Box's $M=10.272$), yielding results that indicated no significant difference in covariances. Another critical assumption of covariance analysis is the normality of the data distribution, which was assessed via the Kolmogorov-Smirnov test, revealing that the distribution of scores for the independent variables in both the pre-test and post-test was normal ($p>0.05$). Furthermore, the assumption of homogeneity of variances was evaluated utilizing Levene's test, with results indicating that the groups under study possessed homogenous variances ($p>0.05$). Additionally, based on the correlation coefficients between the pre-test and post-test variables, the assumption of linear relationships among the covariate or auxiliary variables (pre-test scores) was satisfied; however, the most critical assumption pertains to the homogeneity of the regression slope. In other words, if the homogeneity of the regression slope is confirmed, the analysis of covariance can be executed. Table 4 delineates the interaction between the group variable and the pre-tests.

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Table 4. Homogeneity of the regression slope for the variables of academic adjustment and academic burnout

Interaction effect	SS	DF	MS	F	P
Group * Academic adjustment pretest	8.70	2	4.35	2.86	0.066
Group * Academic burnout pretest	19.27	2	9.63	0.849	0.433

As evidenced in Table 4, the regression slopes of the experimental and control groups do not interact in relation to the research variables, thereby confirming the assumption of homogeneity of the regression slope. Collectively, the primary assumptions requisite for covariance analysis have been satisfied. Given that the prerequisite conditions were established, both multivariate and univariate analysis of covariance methodologies were utilized to address the research inquiry. The outcomes of the multivariate analysis of covariance are presented in Table 5.

Table 5. The outcomes of multivariate analysis of covariance examining the indicators pre- and post-intervention

Indices	Value	F	Hypothesis DF	Error DF	P	Effect size	Power
Wilks' lambda	0.094	60.90	4	108	0.001	0.69	1

The value of Wilks's lambda (F=60.902 and P=0.001) signifies a discernible difference in the post-test and the efficacy of the intervention programs. Univariate analysis of covariance was employed to assess the difference patterns, and the outcomes are documented in Table 6.

Table 6. Results of univariate covariance analysis (academic adjustment and academic burnout)

Source	Variable	SS	DF	MS	F	P	Effect size
Group	Academic adjustment	188.63	2	94.33	57.35	0.001	0.70
	Academic burnout	4080.69	2	2040.34	210.84	0.001	0.90

As illustrated in Table 6, the F ratios derived from the univariate covariance analysis are statistically significant concerning academic adjustment and academic burnout. To ascertain the precise group exhibiting a significant difference in the dependent variables, Bonferroni's post hoc test was employed to evaluate the adjusted means, with the findings delineated in Table 7.

Table 7. Results of Bonferroni's post hoc test

Variable	Comparison groups	Mean difference	SD	P
Academic adjustment	Group 1-Group 2	-1.57	0.442	0.001
	Group 1-Group 3	-4.60	0.434	0.001
	Group 2-Group 3	-3.02	0.456	0.001
Academic burnout	Group 1-Group 2	-4.71	1.07	0.001
	Group 1-Group 3	120.89	1.05	0.001
	Group 2-Group 3	-16.17	1.10	0.001

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As demonstrated in Table 7, there exists a statistically significant difference ($p < 0.001$) in the variables of academic adjustment and academic burnout between the control group and the experimental groups. These results indicate that psychological capital exerts a considerably greater influence on the academic adjustment and academic burnout of students who engage in academic procrastination when contrasted with both positive thinking and control groups.

Discussion

The objective of this study was to evaluate the comparative impact of positive thinking interventions and psychological capital on the academic adjustment and academic burnout of high school male students who exhibit tendencies of academic procrastination. The findings indicated that both intervention programs exert a significant influence on academic adjustment and burnout; however, the role of psychological capital was found to be comparatively more substantial. The initial conclusion drawn is that psychological capital exerts a statistically significant effect on academic adjustment, corroborating the findings presented in the studies conducted by Hazan-Liran and Miller (2023) and Yasmeen et al. (2023). The research conducted by Hazan-Liran and Miller (2023) established that enhanced psychological capital is associated with a decrease in academic procrastination and an increase in academic adjustment. Training in psychological capital equips students with the tools necessary for generating solutions through self-efficacy and optimism while fostering resilience to manage challenges, thereby facilitating educational adaptation, personal growth, and the mitigation of procrastination, ultimately leading to academic success (Wang et al., 2021). Furthermore, psychological capital training assists students in mitigating academic stress and the sensation of inefficacy when confronted with academic challenges, which, in turn, contributes to enhanced academic adaptation (Yasmeen et al., 2023). Moreover, an additional finding revealed that positive thinking significantly influences academic adjustment, aligning with the conclusions reached by Pourrazavi and Hafezian (2017) and Chui and Chan (2020). Individuals who embody positive thinking are inclined to cultivate an optimistic outlook on life, possess positive feelings and comprehension of life events, and demonstrate generalized positive expectations regarding favorable future outcomes. Therefore, positive thinking constitutes a vital psychological resource for coping that can facilitate improved adaptation among students within the academic environment. Chui and Chan (2020) posit that an

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elevated level of positive thinking correlates with enhanced acceptance of stressful situations and improved coping mechanisms in the face of challenges. Consequently, the instruction of positive thinking encourages students to recognize beneficial experiences and proactively choose their interpretations of events, whether positive or negative, to disregard potential threats, and to persist in their efforts to navigate obstacles in the educational domain, ultimately leading to superior learning outcomes and performance.

Additionally, a further discovery of this investigation reveals that training in psychological capital significantly mitigates academic burnout. This assertion aligns with the findings of Wang et al. (2021) and R. Li et al. (2023). Academic burnout is diminished due to the protective function that psychological capital serves in managing academic stress and burnout; moreover, elevated psychological capital can enhance an individual's learning capacity while aiding in the navigation of obstacles and the facilitation of goal attainment. Consequently, psychological capital, regarded as a specific mental state, influences the manner in which students confront challenges. Students exhibiting higher levels of optimism and hope are predisposed to adopt a more constructive approach to their studies, allowing them to concentrate on their enjoyment rather than their fatigue. They are also equipped to traverse pathways towards goal achievement, rather than succumbing to difficulties and relinquishing their efforts; with a firm belief in their capabilities, they persist in their endeavors and surmount challenges by sustaining the requisite motivation and energy through necessary perseverance. The amalgamation of these elements (hope, optimism, self-efficacy, and resilience) is instrumental in the prevention of academic burnout (Barratt & Duran, 2021).

Another significant outcome of this research is the efficacy of positive thinking training in alleviating academic burnout, correlating with the studies conducted by Abbasi et al. (2018). Given that individuals' concerns serve as a critical predictor of academic burnout among students, and negative cognition is identified as a principal contributor to worry, it follows that positive thinking, through its ability to supplant negative thought patterns and foster optimism, can lead to a reduction in academic burnout. A constructive outlook regarding the future engenders a coping strategy aimed at mitigating potential stressors, whereas a fearful perspective towards future events contributes to the development of burnout. Thus, empowering individuals to adopt positive attitudes towards forthcoming challenges shields them from burnout and even diminishes its prevalence.

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Moreover, an additional finding of this study pertains to the efficacy of psychological capital training concerning positive thinking; although there exists a paucity of research in this area, it can be posited that a focused approach on self-efficacy and resilience within the educational curriculum constitutes psychological capital, which may yield more substantial outcomes than superficial positive thinking alone. This is because self-efficacy, as a fundamental component of psychological capital, has the potential to enhance a student's self-confidence and their capacity to navigate high-pressure scenarios (Walburg, 2014). Furthermore, individuals exhibiting elevated resilience are inclined to adopt deep approaches and problem-focused learning strategies, which not only enhance academic performance but also alleviate academic stress and burnout, thereby fostering greater academic adaptation.

Based on the empirical findings derived from the current investigation, it can be posited that both cognitive reframing and psychological capital enhancement programs demonstrably contribute to the augmentation of academic adaptation and the alleviation of academic burnout among students exhibiting tendencies of academic procrastination; however, it is evident that the psychological capital training program yields a more pronounced effect. Consequently, both programs present themselves as viable educational frameworks for the prophylaxis and potential remediation of academic challenges, encompassing academic adjustment and academic burnout, and may be effectively utilized by psychologists and educational counselors.

The present study is subject to several limitations, notably the focus on high school male students, which precluded the opportunity for comparative analyses between genders and across diverse fields of study; as a result, the findings may not be extrapolated to the broader population. It is, therefore, advisable that future investigations encompass both genders and extend to include technical and vocational disciplines, while also employing larger and more heterogeneous participant samples to enhance the generalizability of the results. While questionnaires and interviews were implemented to identify students grappling with academic procrastination, the evaluation of the constructs of academic adaptation and academic burnout was predominantly reliant on questionnaires due to temporal constraints; thus, it is recommended that future studies incorporate interviews alongside questionnaires for a more nuanced understanding.

Furthermore, although an endeavor was made to mitigate confounding variables through the use of a control group and random assignment of subjects, it is acknowledged that additional factors,

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such as individual personality traits and institutional conditions, may influence academic procrastination and its associated constructs, necessitating further exploration of related variables to attain a more comprehensive insight into academic procrastination. Moreover, the amalgamation of these two methodological approaches could serve as a valuable asset for forthcoming research focused on academic challenges such as adaptation and academic burnout; indeed, it is proposed that students experiencing academic procrastination who encounter difficulties in adjustment and academic burnout should receive training in positive thinking and psychological capital from an early age.

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 Shahid Chamran University of Ahvaz with code: IR SCU.REC.1402.070.

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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