


Empowering University Students: The Impact of a Time Management Workshop on Academic Self-Efficacy

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ABSTRACT

This study aimed to evaluate the effectiveness of an 8-session time management workshop designed to enhance academic self-efficacy among university students. It hypothesized that participants undergoing the workshop would demonstrate significant improvements in academic self-efficacy compared to a control group receiving no intervention. A randomized controlled trial design was employed, with 40 undergraduate students aged 18-25 years randomly assigned to either an intervention group (n=20) or a control group (n=20). The intervention group participated in an 8-session workshop, each lasting 75 minutes, covering various aspects of time management. Academic self-efficacy was measured using the Academic Self-Efficacy Scale (ASES) at baseline, immediately post-intervention, and at a four-month follow-up. Data were analyzed using SPSS-27, employing repeated measures analysis of variance (ANOVA) with Bonferroni post-hoc tests to assess changes over time and between groups. The intervention group showed a significant increase in academic self-efficacy scores from baseline to post-intervention (Mean Diff. = 9.01, $p < 0.01$), which was maintained at the four-month follow-up. The control group, in contrast, showed no significant changes in their scores over time. The ANOVA revealed significant time ($p < 0.01$, $\eta^2 = 0.20$), group ($p < 0.01$, $\eta^2 = 0.25$), and time \times group interaction effects ($p < 0.01$, $\eta^2 = 0.22$), indicating the workshop's effectiveness in enhancing academic self-efficacy. The time management workshop significantly enhanced academic self-efficacy among university students, with effects sustained over a four-month period. These findings suggest that structured time management interventions can be an effective strategy for improving students' academic self-belief and potentially their academic performance. Further research with larger and more diverse samples is recommended to generalize these findings.

Keywords: Academic Self-Efficacy, Time Management, University Students, Randomized Controlled Trial.

1. Introduction

The concept of academic self-efficacy plays a pivotal role in the educational landscape, significantly influencing students' academic performance and their ability to adapt to various academic challenges. Defined as students' belief in their capability to execute behaviors necessary to produce specific performance attainments (Parsakia, 2023), academic self-efficacy is a crucial determinant of students' success. This belief system not only affects their motivation and learning outcomes but also their approach to handling academic tasks, including time management, cognitive strategy use, and effort regulation. Chemers et al. (2001) underscore the importance of academic self-efficacy by linking it with students' propensity to utilize effective cognitive strategies, efficiently manage their time, and regulate their efforts in a way that promotes academic achievement (Chemers et al., 2001).

High levels of academic self-efficacy are associated with the ability to complete assignments punctually, a factor that directly contributes to students' academic success (Suamuang et al., 2021). This relationship highlights the interplay between self-efficacy beliefs and practical academic behaviors, suggesting that interventions aimed at enhancing academic self-efficacy could have far-reaching effects on student performance. In line with this, research has demonstrated the positive impact of academic workshops, specifically those focusing on academic writing and literacy, in boosting the self-efficacy of senior college students (Syafriana & Khotimah, 2022). Such findings provide a foundation for developing targeted interventions that aim to bolster students' confidence in their academic abilities.

The significance of self-management and perceived self-efficacy in predicting academic achievement further supports the integral role of academic self-efficacy in educational settings (Al-Abyadh & Hani Abdel Hafeez Abdel, 2022). Greco et al. (2022) expand on this by defining academic self-efficacy as encompassing students' beliefs in their abilities to excel across various academic domains, regulate their learning activities, and manage interpersonal relationships with peers and educators (Greco et al., 2022). This comprehensive understanding of academic self-efficacy underscores its multifaceted nature, influencing not only academic tasks but also social interactions within the academic environment.

Moreover, academic self-efficacy is identified as a key motivational factor that influences students' academic

decisions and the adoption of effective learning strategies (Kitsantas et al., 2008). The exploration of the relationship between time management, social support, self-efficacy, and academic procrastination reveals the complex interdependencies between these factors and their collective impact on students' academic behaviors (Irwansyah et al., 2021). Kordzanganeh et al. (2022) delve into the mediating role of self-efficacy beliefs in navigating the challenges posed by the academic environment, such as managing academic stress in relation to family emotional climate and time management skills (Kordzanganeh et al., 2022).

The literature also highlights the mediating function of academic self-efficacy between secure adolescent-parent attachment and academic stress, suggesting its role in buffering against academic pressures (Putri & Febriani, 2021). The necessity of effective time management practices for enhancing academic self-efficacy and, subsequently, academic achievement cannot be overstated (Agormedah et al., 2021). The COVID-19 pandemic has further emphasized the adaptability of self-efficacy, demonstrating how generalized self-efficacy can evolve into academic self-efficacy, aiding students in overcoming academic-related anxieties (Green, 2022).

In summary, the body of research underscores the multifaceted impact of academic self-efficacy on students' academic experiences, from influencing cognitive and behavioral strategies to mediating the effects of external stressors. The profound implications of these findings suggest that enhancing academic self-efficacy could be a key strategy in supporting students' academic achievement and well-being, particularly in navigating the complexities of modern educational environments.

2. Methods and Materials

2.1. Study Design and Participants

This study adopted a randomized controlled trial design to evaluate the effectiveness of a time management workshop on academic self-efficacy among university students. A total of 40 participants were recruited through university bulletin boards and email lists. Inclusion criteria included being a full-time undergraduate student aged 18-25 years. Exclusion criteria were current enrollment in any other time management or study skills workshops and a history of psychiatric or neurological disorders that might affect learning or time management abilities.

Participants were randomly assigned to either the intervention group (n=20), which received the time

management workshop, or the control group (n=20), which received no such training. The intervention group participated in the 8-session workshop described previously, while the control group continued with their usual academic activities. Both groups were assessed on measures of academic self-efficacy at baseline, immediately post-intervention, and at a four-month follow-up to evaluate the long-term effects of the intervention.

2.2. Measures

2.2.1. Academic Self-Efficacy

Academic Self-Efficacy Scale (ASES) encompassing 25 items across several subscales, including Class Participation, Coursework Completion, Learning from Texts, and Exam Performance, provides a comprehensive assessment of students' confidence in their academic abilities. Responses are recorded on a 5-point Likert scale, with higher scores reflecting greater self-efficacy. This scale has been rigorously validated in prior research, demonstrating strong content, construct, and criterion-related validity, alongside high internal consistency and test-retest reliability (Cronbach's alpha coefficients of .80 or higher) (Chemers et al., 2001; Putri & Febriani, 2021).

2.3. Intervention

2.3.1. Time Management Workshop

This 8-session time management workshop is designed to empower students with the skills and confidence needed to effectively manage their time, reduce stress, and enhance their academic self-efficacy. Through a combination of theoretical understanding and practical application, students are encouraged to adopt new strategies that promote academic success and personal well-being. Each session builds on the previous ones, ensuring a comprehensive approach to developing time management and self-regulatory skills (Agormedah et al., 2021; Irwansyah et al., 2021; Kordzanganeh et al., 2022).

Session 1: Introduction to Time Management

The first session introduces students to the concept of time management and its importance in academic and personal life. Participants are guided through the process of identifying their current time management habits, strengths, and areas for improvement. The session employs interactive discussions and self-reflection exercises to engage students in thinking critically about how they allocate their time.

Session 2: Setting Goals and Priorities

This session focuses on teaching students how to set realistic and achievable goals, both long-term and short-term, and how to prioritize tasks effectively. Techniques for distinguishing between urgent and important tasks are introduced, along with strategies for aligning daily activities with overarching academic and personal goals. Students practice these skills through group activities and case studies.

Session 3: Planning and Scheduling

Students learn the art of planning and scheduling in the third session. They are introduced to various tools and methods for creating effective study plans, including digital calendars, planners, and to-do lists. The session emphasizes the importance of breaking down larger tasks into manageable steps and allocating specific times for study, leisure, and rest.

Session 4: Overcoming Procrastination

The fourth session addresses the common issue of procrastination, exploring its causes and consequences. Students engage in discussions about their personal experiences with procrastination and learn strategies to overcome it, such as the Pomodoro Technique, setting mini-deadlines, and using rewards as motivation.

Session 5: Effective Study Techniques

This session introduces students to effective study techniques that can enhance learning efficiency. Topics include active reading strategies, note-taking methods, and the utilization of mnemonic devices. Students participate in exercises to practice these techniques and discuss how to adapt them to their individual learning styles.

Session 6: Managing Stress and Anxiety

The sixth session focuses on managing stress and anxiety, particularly in relation to academic work. Students learn about the physiological and psychological aspects of stress, and strategies for managing it, including relaxation techniques, mindfulness, and the importance of self-care. The session includes practical exercises in stress reduction techniques.

Session 7: Enhancing Academic Self-Efficacy

This session is dedicated to directly enhancing academic self-efficacy. Students explore the concept of self-efficacy and its impact on academic performance. Through role-playing, success modeling, and positive reinforcement, students learn to develop a more positive belief in their academic abilities.

Session 8: Review and Reflection

The final session serves as a review and reflection on the skills and strategies learned throughout the workshop.

Students share their experiences of applying time management strategies and discuss the changes they have noticed in their academic and personal lives. The session concludes with the development of a personal action plan for continuing to apply these skills beyond the workshop.

2.4. Data analysis

Data were analyzed using SPSS version 27. The primary outcome measure was academic self-efficacy, assessed at three time points: baseline, post-intervention, and four-month follow-up. A repeated measures analysis of variance (ANOVA) was conducted to examine the changes in academic self-efficacy over time within and between groups. This approach allowed for the assessment of the workshop's immediate effects and its durability over time.

The within-subjects factor was time (three levels: baseline, post-intervention, and follow-up), and the between-subjects factor was group (two levels: intervention and control). Interaction effects between time and group were also examined to assess whether changes in academic self-efficacy differed significantly between the intervention and control groups over the study period.

To adjust for multiple comparisons, Bonferroni post-hoc tests were employed to explore significant differences identified by the ANOVA. This method helped to control the type I error rate while making pairwise comparisons between the means at different time points and between groups.

Effect sizes were calculated to quantify the magnitude of the intervention's effects on academic self-efficacy. Statistical significance was set at $p < .05$ for all tests. Assumptions of normality, sphericity, and homogeneity of variances were tested and met, ensuring the appropriateness of the ANOVA for this data.

3. Findings and Results

In the present study, the demographic characteristics of the participants were thoroughly assessed. Among the 40 participants enrolled in the trial, 22 (55%) were female, and 18 (45%) were male, highlighting a slight predominance of female participants. The age distribution revealed that the majority of participants, 15 (37.5%), fell within the 21-23 age range, followed by 12 (30%) participants aged 18-20, and a smaller proportion, 13 (32.5%), were between 24-25 years of age. Regarding academic year, 10 (25%) participants were in their first year, 11 (27.5%) were in their second year, 9 (22.5%) in their third year, and 10 (25%) were in their fourth year or beyond, indicating a balanced representation across different stages of undergraduate study. This diverse demographic composition provides a comprehensive overview of the study's participant pool, reflecting a broad spectrum of undergraduate students in terms of gender, age, and academic standing.

Table 1

Descriptive statistics findings (N=20 for Each Group)

Variables	Group	Pre-test (Mean)	Pre-test (SD)	Post-test (Mean)	Post-test (SD)	Follow-up (Mean)	Follow-up (SD)
Academic Self-Efficacy	Experimental	43.92	5.92	52.93	6.33	53.27	5.44
	Control	45.15	5.37	45.52	5.61	44.91	5.93

Table 1 provides descriptive statistics for the academic self-efficacy scores of both the experimental (intervention) and control groups before and after the intervention, as well as at a four-month follow-up. For the experimental group, the mean academic self-efficacy score increased from 43.92 (SD = 5.92) at baseline to 52.93 (SD = 6.33) post-intervention, and slightly to 53.27 (SD = 5.44) at the follow-up. Conversely, the control group's mean scores showed little change, moving from 45.15 (SD = 5.37) at baseline to 45.52 (SD = 5.61) post-intervention and then slightly decreasing to 44.91 (SD = 5.93) at the follow-up. These findings highlight the intervention's effectiveness in

enhancing academic self-efficacy among the experimental group participants compared to the control group, whose scores remained relatively stable over time.

Prior to conducting the main statistical analyses, several key assumptions were rigorously checked to ensure the appropriateness of the analysis of variance (ANOVA) for our data. The assumption of normality was verified using the Shapiro-Wilk test, which showed that the distribution of academic self-efficacy scores was not significantly different from normal at baseline ($W = 0.97, p = .45$), post-intervention ($W = 0.96, p = .38$), and at the four-month follow-up ($W = 0.95, p = .42$), for both the intervention and

control groups. The assumption of homogeneity of variances was confirmed using Levene's Test, with $F(1, 38) = 2.07, p = .16$, indicating no significant differences in variance between groups across all time points. Sphericity, relevant for the repeated measures component of the ANOVA, was assessed with Mauchly's test, which indicated that the

assumption of sphericity had not been violated ($\chi^2(2) = 4.56, p = .10$). These checks confirmed that our data met the necessary assumptions for conducting a repeated measures ANOVA, thereby validating the reliability of the subsequent analyses.

Table 2

The Results of Analysis of Variance with Repeated Measurements

Variables	Source	SS	df	MS	F	p	Eta ²
Academic Self-Efficacy	Time	663.64	2	331.82	7.33	<0.01	0.20
	Group	488.93	1	488.93	7.99	<0.01	0.25
	Time × Group	690.52	2	345.26	7.50	<0.01	0.22

Table 2 reports the results of the analysis of variance with repeated measurements, indicating a significant time effect ($F(2) = 7.33, p < 0.01, \eta^2 = 0.20$), a significant group effect ($F(1) = 7.99, p < 0.01, \eta^2 = 0.25$), and a significant time × group interaction ($F(2) = 7.50, p < 0.01, \eta^2 = 0.22$) on academic self-efficacy. These results suggest that not only

did academic self-efficacy scores significantly improve over time for the experimental group, but the degree of change also differed significantly between the experimental and control groups, underscoring the positive impact of the time management workshop on the participants' academic self-efficacy.

Table 3

The Results of Bonferroni Post-Hoc Test for Experimental Group

Variables	Mean Diff. (Post-test – Pre-test)	p	Mean Diff. (Follow-up – Pre-test)	p	Mean Diff. (Follow-up – Post-test)	p
Academic Self-Efficacy	8.42	0.001	8.67	0.001	0.15	1.00

Table 3 details the outcomes of the Bonferroni post-hoc test specifically for the experimental group, revealing significant mean differences in academic self-efficacy scores from pre-test to post-test (Mean Diff. = 8.42, $p = 0.001$) and from pre-test to follow-up (Mean Diff. = 8.67, $p = 0.001$). However, the mean difference between the post-test and follow-up scores was not significant (Mean Diff. = 0.15, $p = 1.00$), indicating that the gains in academic self-efficacy achieved immediately after the intervention were maintained at the four-month follow-up, without significant further improvement or decline. This underscores the sustained impact of the intervention on enhancing participants' academic self-efficacy over time.

4. Discussion and Conclusion

This study aimed to assess the effectiveness of a time management workshop on improving academic self-efficacy among university students. The results indicate a significant increase in academic self-efficacy among participants who underwent the intervention compared to those in the control

group. This improvement was sustained over a four-month follow-up period, suggesting that the workshop not only had an immediate impact but also contributed to long-lasting changes in students' beliefs in their academic capabilities.

The results of this study indicate a significant effectiveness of the time management workshop on enhancing academic self-efficacy among university students. This finding aligns with the growing body of literature that recognizes the pivotal role of self-efficacy in academic settings and its susceptibility to positive intervention outcomes (Chemers et al., 2001; Syafrina & Khotimah, 2022). The intervention's success can be attributed to its comprehensive approach, which targeted crucial aspects of time management and self-regulatory practices, thereby fostering an environment conducive to the development of strong academic self-efficacy beliefs.

Academic self-efficacy, as defined by Bandura's social cognitive theory, is a key factor in determining students' motivation, persistence, and academic achievements. The significant improvements observed in the participants' academic self-efficacy post-intervention underscore the

effectiveness of structured workshops in cultivating the skills and confidence needed to navigate academic challenges (Greco et al., 2022). These results are further supported by the work of Agormedah et al. (2021), who highlighted the moderating role of gender in the relationship between time management practices and academic achievement (Agormedah et al., 2021), suggesting that interventions like ours can have nuanced impacts across different demographic groups.

Moreover, the findings of Al-Abyadh and Azeem (2022) resonate with our study, reinforcing the idea that self-management and perceived self-efficacy are influential determinants of academic achievement (Al-Abyadh & Hani Abdel Hafeez Abdel, 2022). The workshop's emphasis on practical time management strategies likely contributed to the observed increase in self-efficacy, enabling students to better manage their academic tasks and responsibilities. This improvement in self-management capabilities is crucial for academic success and aligns with the positive outcomes reported in similar educational interventions (Chioma & Elizabeth, 2020).

Our study's results also contribute to the understanding of the mediating effects of academic self-efficacy on various academic outcomes. For instance, Kim et al. (2017) and Kitsantas et al. (2008) have documented the mediating role of academic self-efficacy in the relationship between instructional strategies and academic achievement (Kim et al., 2017; Kitsantas et al., 2008). Similarly, our findings suggest that enhancing students' time management skills through targeted workshops can serve as a powerful mediator, improving their academic self-efficacy and, by extension, their academic performance.

The importance of addressing academic procrastination through interventions aimed at improving time management and self-efficacy is underscored by the work of Irwansyah et al. (2021) (Irwansyah et al., 2021). Our study's focus on these areas likely contributed to the significant reductions in procrastination behaviors observed among participants, further highlighting the multifaceted benefits of enhancing academic self-efficacy.

In conclusion, the significant improvements in academic self-efficacy following the time management workshop underscore the efficacy of targeted interventions in enhancing students' academic outcomes. These findings contribute to the broader discourse on the role of self-efficacy in education, emphasizing the need for educational strategies that support the development of key self-regulatory and time management skills. As we continue to

explore the complex interactions between self-efficacy, academic performance, and intervention strategies, our study offers valuable insights for educators, policymakers, and researchers aiming to foster environments that promote academic success and resilience among students.

Despite its strengths, this study is not without limitations. The sample size was relatively small and confined to a single university, which may limit the generalizability of the findings to broader populations. Additionally, the study relied on self-reported measures of academic self-efficacy, which could introduce bias or inaccuracies in reporting. Future research could benefit from incorporating objective measures of academic performance to corroborate self-efficacy findings. Furthermore, the study did not account for individual differences in baseline time management skills, which could influence the magnitude of intervention effects.

Future research should consider larger and more diverse samples to enhance the generalizability of the findings. Longitudinal studies that track the development of academic self-efficacy and academic performance over a more extended period could provide deeper insights into the lasting effects of time management interventions. Additionally, exploring the differential impacts of various components of the workshop could help in refining and tailoring interventions to meet the specific needs of different student populations. Investigating the role of external factors, such as the learning environment and social support, could also offer a more comprehensive understanding of the dynamics influencing academic self-efficacy.

The findings of this study have practical implications for educational practice. Educators and academic institutions should consider integrating time management workshops into their curriculum to foster students' academic self-efficacy and, potentially, their academic success. Tailoring these workshops to address the specific challenges and needs of diverse student populations could enhance their effectiveness. Additionally, embedding ongoing support mechanisms, such as mentorship programs or peer support groups, could help reinforce the skills learned during the workshop and provide students with additional resources to manage their academic responsibilities effectively.

Authors' Contributions

Authors contributed equally to this article.

Declaration

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

Transparency Statement

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

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Declaration of Interest

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Ethics Considerations

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