

Effectiveness of a Counseling Package Based on Preventing Academic Procrastination on Learning Behaviors and Its Components

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ABSTRACT

Objective: Academic procrastination is a common problem that negatively impacts students' academic performance and overall life. This study aimed to evaluate the effectiveness of a counseling package based on students' lived experiences in preventing academic procrastination and its effect on improving learning behaviors and their components among female middle school students.

Methods and Materials: This quasi-experimental study employed a pre-test, post-test, and follow-up design with a control group. The sample consisted of 60 female middle school students from Tehran, equally divided into experimental and control groups. The intervention included 12 counseling sessions lasting 60-90 minutes, focusing on various aspects of behavior, cognition, communication, motivation, and emotion. Data were collected using a standardized scale for learning behaviors and analyzed using SPSS version 26 with descriptive statistics and repeated measures ANOVA.

Findings: ANOVA results showed significant improvement in the experimental group compared to the control group ($p < 0.01$). The Bonferroni post-hoc test indicated an increase in learning behaviors and their components in the post-test ($p < 0.01$), with effects persisting in the follow-up ($p < 0.05$).

Conclusion: The counseling package based on students' lived experiences effectively improves learning behaviors and their components. This approach can be integrated into educational programs to support students in overcoming procrastination and achieving better academic performance and improved mental health.

Keywords: Academic Procrastination, Learning Behaviors, Students.

1. Introduction

Students, as the future builders of society, are a valuable segment within the community. The academic period is one of the most critical phases in a student's life. Therefore, attention to their psychological, academic status, interests, and needs, and providing the necessary grounds for their constructive growth and flourishing is of great importance (Tadese et al., 2022). In this context, the academic progress of students and the factors influencing it have increasingly attracted the attention of educational experts. Examination of students' academic status across different regions shows a significant gap between expected outcomes and their actual learning and academic progress. Numerous research findings indicate that students' academic performance can explain a considerable percentage of their future progress (Gajda et al., 2017).

One of the factors affecting students' academic performance is academic procrastination (Hen & Goroshit, 2020), a common behavior in educational settings that can be considered a threat to their academic success (Steel & Klingsieck, 2016; Steel et al., 2018). Academic procrastination occurs at all educational levels (Valenzuela et al., 2020). Li et al. (2020) argue that academic procrastination is one of the most common problems in the educational field, which is increasing in the era of technology and can have inappropriate and irreversible consequences by hindering progress and preventing goal attainment (Li et al., 2020). Academic procrastination is defined as an irrational tendency to delay academic tasks, often accompanied by anxiety, with a typical example being the postponement of studying until the night before an exam, resulting in rush and anxiety, which is observed in most students (Chen & Chang, 2016). The delays observed in academic procrastination may result from starting assignments late and impulsive deviations during task execution (Svardal et al., 2020). Research findings in this area indicate that such delays and deviations are associated with personality traits like impulsivity, preference for short-term satisfaction, low self-regulation, fatigue, and decreased energy (Steel & Klingsieck, 2016; Steel et al., 2018). Many researchers believe that approximately 50 to 95 percent of students are prone to academic procrastination (O'Brien, 2000; Schouwenburg, 1992; Solomon & Rothblum, 1984).

The presence of academic procrastination in students is associated with negative outcomes such as low school grades, academic stress, test anxiety, social anxiety, reduced productivity and creativity, time wastage, feelings of guilt,

and lack of social approval. These not only hinder academic progress but also negatively affect their quality of life (Hen & Goroshit, 2020). Academic procrastination is one of the academic experiences of students with several cited reasons. Research findings indicate that procrastination can be a factor for poor academic performance (Steel & Klingsieck, 2016), rumination (Gort et al., 2021), aversion to task completion, and fear of failure (Maulidia & Usman, 2019), anxiety and dependency (Ferrari, 1991), and depression. Procrastinative behavior in students prevents them from employing their true capabilities in the learning process, resulting in failure (Nateghian et al., 2022).

Another issue to be considered in students' academic life is learning behaviors, which comprise four components: competence motivation (self-efficacy behaviors), attitude towards learning (general attitude towards the learning environment), strategy/flexibility (the ability to use different learning strategies), and attention/persistence (attentional and persistence behaviors in completing academic tasks) (McDermott et al., 2016). As indicated by the content of these components, these behaviors are essential elements for learning in school (Hadipour et al., 2015). Learning behaviors also include behaviors such as attention to academic tasks, competitiveness, problem-solving skills, willingness to receive feedback from teachers, and resilience in facing academic challenges and problems (Abedi & Hadi Pour, 2013). It is crucial to note that learning behaviors differ from intelligence and include observable behavior patterns when students encounter learning tasks in school (Hen & Goroshit, 2020). Gu et al. (2022) believe that learning occurs within a social context, and learning behaviors are observed through how students interact and respond to the learning environment (Gu et al., 2022). Many researchers argue that learning behaviors play a crucial role in motivation and academic success, warranting attention (Noor et al., 2022).

Upon reviewing the research background, the researcher found numerous studies on developing a structural model of academic procrastination based on emotional schemas with the mediating role of test anxiety (Hashemipour et al., 2021), developing a predictive model of academic procrastination based on social self-efficacy and perfectionism: the mediating role of achievement emotions (Nateghian et al., 2022), modeling academic procrastination based on maladaptive schemas and personality traits with the mediating role of emotion regulation and self-determination (Mohtashami et al., 2020), structural model of academic procrastination based on goal orientation and attribution styles: the mediating role of academic motivation (Ghanadi

et al., 2018), and developing a causal model of academic procrastination based on academic goal orientation with the mediating role of academic engagement and self-efficacy (Seif, 2016). However, considering the lack of sufficient studies, the present study aimed to evaluate the effectiveness of a counseling package based on preventing academic procrastination on learning behaviors and their components.

2. Methods and Materials

2.1. Study Design and Participants

The present study is applied in terms of its goal and quasi-experimental in terms of its method, utilizing a pre-test and post-test design with an experimental group, a control group, and a follow-up period. The statistical population included all female middle school students studying in the 2023-2024 academic year in district 5 of Tehran. The accessible sampling method was used, and 60 students were randomly selected from 188 students and divided into experimental (30 students) and control (30 students) groups. All students provided written consent to participate in the study and actively attended all sessions.

2.2. Measures

2.2.1. Learning Behaviors

To measure learning behaviors, the Learning Behaviors Scale was used. This questionnaire was developed by McDermott et al. in 2000 for students aged 5 to 17 and includes 25 items scored on a three-point Likert scale (always = 2, sometimes = 1, and never = 0). It has four subscales: competence motivation (items 1 to 8), attention/persistence (items 9 to 15), attitude towards learning (items 16 to 20), and strategy/flexibility (items 21 to 25). Items 1, 6, 11, 12, 16, 19, 20, 21, and 24 are reverse scored. The highest score is 50, and the lowest is zero. This scale is completed by the teacher or parents (Abedi et al., 2013). This scale has been used in various countries and samples and has demonstrated validity and reliability. For example, McDermott et al. (1999) normed this scale on 1,500 American students. They reported Cronbach's alpha coefficients for internal consistency as 0.85 for competence motivation, 0.87 for attitude towards learning, 0.85 for attention/persistence, and 0.79 for strategy/flexibility. The test-retest reliability coefficients were 0.92 for competence motivation, 0.91 for attitude towards learning, 0.92 for attention/persistence, and 0.93 for strategy/flexibility. The construct validity was confirmed through factor analysis,

supporting the measurement of learning behaviors by these four factors. In Abedi et al.'s (2013) study, the construct validity was confirmed through factor analysis, and test-retest reliability coefficients ranged from 0.93 to 0.90. Cronbach's alpha for internal consistency ranged from 0.88 to 0.72 (Abedi & Hadi Pour, 2013).

2.3. Intervention

2.3.1. Counseling Package for Preventing Academic Procrastination

This study used a protocol developed and validated by the researcher, consisting of 12 sessions lasting 60 to 90 minutes each.

Session 1: Introduction and General Overview (60 minutes)

The goal of this session is to introduce the course and its objectives and to discuss the concept of academic procrastination. Participants will be assigned to write a personal note about their recent procrastination experiences and its impact on their academic performance.

Session 2: Behavioral Aspect – Sleep Patterns and Leisure Activities (75 minutes)

This session focuses on reviewing feedback and assignments from the previous session and examining the role of threats and opportunities in each member's life. Participants will be tasked with creating a scheduled plan for sleep and leisure activities.

Session 3: Behavioral Aspect – Enhancing Learning Behaviors and Technology Use (75 minutes)

The session includes providing feedback on the previous session's assignment and discussing the negative impacts of remote work. Participants will record and analyze their daily technology and social media usage and suggest ways to use these tools more effectively.

Session 4: Cognitive Aspect – Understanding Academic Concepts (75 minutes)

In this session, feedback on the previous assignment will be given, and the positive impacts of remote work will be discussed. Participants will engage in self-assessment exercises to evaluate their understanding of key concepts in various subjects.

Session 5: Cognitive Aspect – Focus and Attitudes (60 minutes)

The session involves providing feedback on the previous assignment and offering general strategies for improvement. Participants will be assigned to implement a short daily meditation routine and document their personal attitudes

towards studying, including reflective writing exercises to identify thought patterns.

Session 6: Communication Aspect – Effective Communication with Peers and Teachers (60 minutes)

This session will provide feedback on the previous assignment, discuss the agency of opportunities and threats, and apply the agency of opportunities to mitigate threats. Participants will practice effective communication with a classmate or teacher on an academic topic, using writing activities for self-awareness and experience analysis.

Session 7: Communication Aspect – Enhancing Academic Interactions (60 minutes)

In this session, feedback on the previous assignment will be provided, and the agency of opportunities and threats will be discussed. Participants will create a practical plan to improve family communication regarding academic matters and actively participate in school-related activities.

Session 8: Motivational Aspect – Setting Goals and Self-Efficacy Beliefs (60 minutes)

The goals of this session are to set academic goals and plan for them, strengthen self-efficacy beliefs, and engage in practical activities to develop intrinsic motivation. Participants will write a list of short-term and long-term academic goals and plan how to achieve them, with writing exercises for self-awareness and personal planning.

Session 9: Motivational Aspect – Norms and Success Experiences (60 minutes)

This session examines the influence of personal and family norms and values, and participants learn from past success and failure experiences. They will write about their past academic successes and failures and the lessons learned from those experiences.

Session 10: Emotional Aspect – Managing Stress and Emotions (90 minutes)

The focus of this session is on techniques for managing academic stress and anxiety, reviewing experiences of disappointment and failure, and group activities to enhance motivation. Participants will keep a daily journal about their emotions and stress-coping methods.

Session 11: Practical Workshop

Participants will apply the learned exercises and techniques, evaluate individual and group progress, and receive feedback to adjust their personal plans. They will complete a small group or individual project based on the skills learned during the course.

Session 12: Summary and Conclusion (75 minutes)

The final session reviews key course topics, sets practical plans for the future, and conducts a final evaluation and feedback session. Participants will create a personal booklet documenting their progress and achievements during the course and plan for continued skill development.

2.4. Data analysis

To analyze the quantitative data, SPSS version 26 was used. The statistical methods included descriptive statistics such as central tendency and dispersion indices (mean and standard deviation) and inferential statistical methods, including repeated measures ANOVA.

3. Findings and Results

This section presents the data on the means and standard deviations of the participants' scores in learning behaviors and their components in the experimental and control groups.

Table 1

Descriptive Analysis of Variables

Variable	Group	Pre-Test M (SD)	Post-Test M (SD)	One-Month Follow-Up M (SD)
Competence Motivation	Experimental	15.31 (3.61)	19.94 (3.69)	20.05 (3.73)
	Control	14.94 (3.55)	14.81 (3.50)	14.90 (3.59)
Attention/Persistence	Experimental	12.22 (2.19)	15.93 (2.24)	15.89 (2.20)
	Control	12.77 (2.27)	12.70 (2.30)	12.79 (2.55)
Attitude Towards Learning	Experimental	8.24 (2.14)	11.34 (2.28)	11.31 (2.36)
	Control	8.61 (2.17)	8.70 (2.01)	8.75 (2.09)
Strategy/Flexibility	Experimental	7.92 (2.36)	10.40 (2.55)	10.51 (2.40)
	Control	8.16 (3.03)	8.03 (3.17)	8.14 (3.20)
Total Learning Behaviors Score	Experimental	43.69 (10.71)	57.61 (10.89)	57.76 (10.90)
	Control	44.18 (11.92)	44.14 (11.44)	44.58 (11.50)

As observed, participants in the pre-test, before the implementation of the educational program, had low scores in learning behaviors and their components. According to the Table 1, the mean scores of learning behaviors and their components increased. This finding indicates that the implementation of the educational program sessions intuitively led to changes in the dependent variables' scores. Additionally, as noted, there is no significant change in the follow-up phase compared to the post-test scores in the experimental group, which suggests the stability of the intervention effects.

Before conducting the ANOVA, the assumptions of this test were examined. According to the Shapiro-Wilk test significance levels ($p > 0.05$), the normality assumption is met. Therefore, given the high probability of normal distribution (more than 95 percent), parametric tests can be used. For testing the assumption of equal variances between

the two groups in the population, Levene's test was used, showing no significant differences in variances between the experimental and control groups ($p > 0.05$). Lastly, given the non-significant interaction effect between group and pre-test in the variables of learning behaviors, self-regulation learning strategies, and academic resilience ($p > 0.05$), the assumption of homogeneity of interactive effects is met, allowing the use of repeated measures ANOVA to test the study hypotheses.

To compare the effect of the educational program on learning behaviors and their components in the sample, repeated measures ANOVA was used. In this analysis, post-test scores were entered as dependent variables, the group variable (with three levels) as an independent variable, and pre-test scores as fixed variables. Notably, since the Mauchly's test was significant ($p < 0.05$), no correction for degrees of freedom was applied.

Table 2

Mixed ANOVA with Repeated Measures in Three Stages: Pre-Test, Post-Test, and Follow-Up

Variable	Source	Sum of Squares	df	Mean Square	F	Sig	Eta Squared	Power
Competence Motivation	Time	24025.866	29	828.468	181.523	0.000	0.880	1.000
	Group	592.395	2	296.197	12.592	0.003	0.415	1.000
	Error	1052.344	58	18.143				
Attention/Persistence	Time	25943.901	29	894.617	190.633	0.000	0.892	1.000
	Group	655.403	2	327.701	13.952	0.002	0.423	1.000
	Error	1210.400	58	20.868				
Attitude Towards Learning	Time	25357.889	29	874.409	188.723	0.000	0.890	1.000
	Group	630.555	2	315.277	14.320	0.000	0.440	1.000
	Error	1156.330	58	19.93				
Strategy/Flexibility	Time	24333.700	29	839.093	184.600	0.000	0.886	1.000
	Group	606.933	2	303.466	14.024	0.001	0.432	1.000
	Error	1193.600	58	20.579				
Total Learning Behaviors	Time	85344.338	29	2942.908	199.302	0.000	0.901	1.000
	Group	2006.392	2	1001.696	16.692	0.001	0.473	1.000
	Error	4920.385	58	84.834				

According to Table 2, since the calculated F values for both between-group effects (group membership) and within-group effects (time) are significant at the 99% confidence level ($p < 0.01$), it can be concluded that there is a significant difference between the experimental and control groups after

the intervention. The intervention had a significant impact on learning behaviors and their components, and the mean scores of the subjects changed significantly over time.

To further examine these effects, Bonferroni post hoc tests were used.

Table 3

Results of Mean Comparisons Based on Bonferroni Post Hoc Test

Variable	Group	Stage	Mean Difference	SE
Cognitive Strategies	Experimental	Pre-Test	5.49*	5.61
Competence Motivation	Experimental	Pre-Test	4.32*	4.71*
		Post-Test	-	0.39
	Control	Pre-Test	0.37	0.40

Attention/Persistence	Experimental	Post-Test	-	0.26
		Pre-Test	3.61*	3.80*
	Control	Post-Test	-	0.19
		Pre-Test	0.33	0.42
Attitude Towards Learning	Experimental	Post-Test	-	0.11
		Pre-Test	3.30*	3.23*
	Control	Post-Test	-	0.07
		Pre-Test	0.10	0.15
Strategy/Flexibility	Experimental	Post-Test	-	0.05
		Pre-Test	2.85*	2.96*
	Control	Post-Test	-	0.11
		Pre-Test	0.13	0.18
Total Learning Behaviors	Experimental	Post-Test	-	0.05
		Pre-Test	14.30*	14.51*
	Control	Post-Test	-	0.21
		Pre-Test	0.07	0.47
		Post-Test	-	0.40

*p<0.01

The results in [Table 3](#) indicate that the scores of learning behaviors and their components in the experimental group were significantly lower in the post-test phase than in the control group. In other words, the developed package had a significant impact on learning behaviors and their components ($p < 0.01$). Additionally, these results show that the scores of all dimensions of learning behaviors and their components in the follow-up phase did not significantly differ from the post-test phase in the experimental group ($p > 0.05$). Therefore, it can be concluded that the intervention's impact on learning behaviors and their components is well-maintained.

4. Discussion and Conclusion

The aim of this study was to examine the effectiveness of a counseling package based on preventing academic procrastination on learning behaviors, academic self-regulation, and academic resilience. The statistical analysis of the quantitative data in this study indicated that the counseling package based on students' lived experiences significantly affected learning behaviors among first-year female middle school students. This finding aligns with previous research findings ([Aldalham, 2022](#); [Fadkhuosi & Ramadhan, 2023](#); [Farid et al., 2018](#); [Fentaw et al., 2022](#); [Gharaaghaji et al., 2018](#); [Hen & Goroshit, 2020](#); [Lowinger et al., 2016](#); [Mohtashami et al., 2020](#)).

In explaining these findings, it can be noted that learning behaviors include a set of habits and strategies that students employ in the learning process. These behaviors can encompass study methods, memory techniques, time management, and engagement with academic content ([McDermott et al., 2016](#)). Research has shown that effective

learning behaviors can enhance academic performance and achievement of academic goals ([Hadipour et al., 2015](#)). Learning behaviors also include paying attention to academic tasks, competitiveness, problem-solving skills, a willingness to receive feedback from teachers, and resilience in facing academic challenges ([Abedi & Hadi Pour, 2013](#)). The developed educational package, based on students' lived experiences of academic procrastination, has positively impacted the improvement of learning behaviors. This package, by focusing on study skills, concentration techniques, and time management strategies, has helped students enhance their learning behaviors and study more effectively ([Fentaw et al., 2022](#)).

Moreover, one of the key aspects of the educational package was the enhancement of concentration and time management skills. Numerous studies have also shown that learning behaviors play a crucial role in students' academic success. For example, the research by [Schaffer and McDermott \(1999\)](#) indicates that learning behaviors can significantly predict children's progress and success. On the other hand, available research evidence suggests that teachers consider learning behaviors more important than educational and academic skills in children's success and failure ([McDermott et al., 2016](#)). This view is supported by studies where children's learning problems and failures are often attributed to weaknesses in learning behaviors ([Hahn et al., 2009](#)). Using this package, students have been able to improve their focus during study sessions and manage their time more effectively, leading to increased academic productivity.

The educational package has also helped students improve their study techniques. Learning behaviors are defined as paying attention to assignments, active listening,

having a positive attitude towards learning, competence motivation, persistence, problem-solving skills, flexibility in processing information, a willingness to receive feedback from teachers, commitment to completing academic tasks, and perseverance in facing academic challenges, as well as employing cognitive and metacognitive strategies (Schaffer, 2004). By teaching effective study methods and using active learning strategies, students have been able to better understand and retain information. This has contributed to improved comprehension and academic outcomes. Additionally, the educational package has helped students enhance their engagement with academic content. Through group activities and project-based interactions, students have been able to strengthen their analytical and critical skills, leading to a deeper understanding of academic subjects.

In conclusion, the counseling package based on students' lived experiences of academic procrastination has had a positive impact on their learning behaviors. By providing practical solutions and emphasizing the development of personal skills, this package has helped students advance in their learning approaches, contributing not only to improved academic performance but also to increased self-confidence and academic capabilities (Aldalham, 2022).

5. Limitations & Suggestions

This study has several limitations. The sample was limited to first-year female middle school students from a specific region in Tehran, which may affect the generalizability of the findings to other populations. Additionally, the study relied on self-reported data, which can be subject to bias and inaccuracies. The short duration of the intervention and follow-up period may not capture the long-term effects of the counseling package. Finally, the study did not account for potential confounding variables, such as socio-economic status, parental involvement, and individual differences in learning styles, which could have influenced the results.

Future research should consider expanding the sample to include students from different regions, age groups, and educational levels to enhance the generalizability of the findings. Longitudinal studies with extended follow-up periods would be beneficial to assess the long-term impact of the counseling package on learning behaviors and academic performance. Additionally, incorporating objective measures, such as academic records and teacher assessments, could provide more accurate data. Investigating the role of potential moderating and mediating

variables, such as socio-economic status, parental involvement, and individual learning styles, would provide a deeper understanding of the factors influencing the effectiveness of the intervention.

Educational practitioners and policymakers should consider integrating the counseling package based on preventing academic procrastination into the school curriculum to support students' learning behaviors and academic performance. Training programs for teachers could be developed to equip them with the necessary skills to implement the intervention effectively. Schools could also offer workshops for parents to increase their awareness and involvement in supporting their children's learning behaviors. By adopting a holistic approach that includes students, teachers, and parents, educational institutions can create a supportive environment that fosters academic success and personal development.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

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

Transparency of Data

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

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Authors' Contributions

All authors equally contributed to this article.

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