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## **Research Paper**

Providing Mindfulness-Based Educational Package for Evaluating Academic



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Academic procrastination, Mindfulness, Self-efficacy, Test anxiety, Self-esteem, Perfectionism

# ABSTRACT

Objectives Academic procrastination is an unreasonable delay in the submission of academic assignments, which is very common. This research was designed to develop and study the effect of a mindfulness-based educational package on reducing academic procrastination.

Methods The educational package based on mindfulness for reducing academic procrastination was designed by using mindfulness-based techniques and the relevant literature of academic procrastination considering the effective constructs, including self-efficacy, test anxiety, self-esteem, and perfectionism. In a quasi-experimental study, 36 subjects were selected. In order to study the effect of the educational package on students, the experimental and control groups were put into pre-test, post-test, and followup categories.

Results Mixed ANOVA revealed the effectiveness of the provided educational package on improving mindfulness (F=20.87; P<0.001) and reducing academic procrastination (F=44.67; P<0.001) whose effect was significant.

**Conclusion** Based on the results, self-efficacy, test anxiety, self-esteem, and perfectionism of the participants in the post-test and follow-up were significantly different from the pre-test. The findings of this study are consistent with the findings of previous studies. These results are applicable to clinical and educational practitioners.

# **Extended Abstract**

## **1. Introduction**

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any students believe that their low scores (from the expected level) are due to their inability to complete academic assignments within a given time frame. Procrastination leads to increased stress, disorder, and failure. The procrastination behavior is obvious among students, which can be observed significantly among those students who seek advisers.

Among new approaches, acceptance and commitment therapy and mindfulness-based therapy have drawn much attention. Based on the metacognitive awareness theory, difficult assignments can activate biases and defensive thoughts which encourage disappointment, self-criticism, and impul-

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sive decisions that end in avoiding the assignment. Instead, the mindfulness facilitates the confirmation and acceptance of these challenging thoughts and prevents mind confusion. Since procrastinators seek to achieve instant calm after experiencing a stressful assignment, low mindfulness may be regarded as another contributing factor to avoidance, which is usually related to procrastination. However, a large body of research indicates that procrastinators are highly resistant to change and may only respond positively to interventions based on the readiness for change. It seems that among the third wave interventions, the mindfulness can be effective in reducing the procrastination.

As procrastinators are resistant to change, the present study aimed to develop an educational package by investigating the structures affecting the academic procrastination, such as test anxiety, self-esteem, self-efficacy, perfectionism, and using mindfulness-based techniques. To the best of our knowledge, no mindfulness-based interventional plan has been ever performed to reduce academic procrastination. Thus, it seems that the present study is the first project in this field.

### 2. Method

#### Study subjects

In the present study, 36 students were willing to participate in the research. They were randomly selected and assigned to the experimental and control group (n=16 for each) after meeting the related inclusion and exclusion criteria. The inclusion criteria were being between 18 and 35 years old and studying in undergraduate or masters' degrees. The exclusion criterion was missing the training program even for one session. The subjects in both groups responded to the questionnaires before the start of the program, immediately after the end of the program, and one month after the end of the program. The training package was implemented during 8 sessions in a one-month course on the subjects of the experimental group, and the instructor committed to conducting this course for the control group in the next few months.

#### Table 1. Mixed Anova results for procrastination scores

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Effect
Time	201.19	1.65	121.45	54.15	<0.001	0.615
Time×Group	166.01	1.65	100.21	44.67	<0.001	0.659
Error	104.04	46.38	2.24			

PSYCHIATRY AND CLINICAL PSYCHOLOGY

The mindfulness-educational package was studied and selected to reduce academic procrastination and extract common elements and principles of educational and therapeutic methods of mindfulness, research backgrounds, and researcher's findings in the study of predictor factors of academic procrastination and existing mindfulness-based guidelines which were designed by experts in Iran and outside of Iran. Then, the objectives, content of the sessions and assignments, and their exercises were evaluated.

By combining and matching exercises and assignments with the factors related to academic procrastination, a guide was formulated entitled "Mindfulness Training Guide", aiming at increasing mindfulness and reducing the academic procrastination. After designing the package, its copies were provided to five clinical psychologists with a PhD. degree and asked them to answer two questions related to the purpose and timing of the sessions. Then they provided their comments and suggestions concerning the purpose and duration of each session based on a Likert-type scale. Finally, the modifications intended by evaluators were conducted.

### 3. Results

In this section, first, the effect of the devised package on mindfulness was studied. Then, the effect of the package on the self-efficacy, self-esteem, perfectionism and test anxiety variables was assessed. Finally, the effect of the package was measured on the academic procrastination.

#### Mindfulness

In the present study, the Independent t-test method was used to determine the significance of the total mindfulness score in the pre-test. The difference in mindfulness score with an average of 108 in the experimental group and 109.8 in the control group was not significant in the pretest (P=0.59, t=-0.54). The effectiveness of the educational package on the mindfulness score was studied by mixed Analysis of Variance (ANOVA). The results of the Greenhouse-Geysers test indicated that the main effect of the group, the condition of the test (pre-test, post-test, followup) and the group and condition interaction were significant with the effect size of 0.427 (F=20.87, P<0.001).

#### Self-efficacy, Self-esteem, Test anxiety, and perfectionism

The effectiveness of the educational package on each of the self-efficacy, self-esteem, test anxiety, and perfectionism variables were analyzed separately by using multivariate ANOVA. In order to evaluate the effectiveness of the experimental test, the difference between the post-test and the follow-up from the pre-test was calculated. The difference between the experimental and control groups was significant regarding the variables of test anxiety, self-efficacy, perfectionism, and self-esteem (P<0.001), i.e. the average test anxiety and perfectionism in the experimental group reduced by 2.75 and 2.4 points after the implementation of the educational package, while the self-efficacy and selfesteem increased by 1.87 points.

#### Academic procrastination

In order to analyze the significance of academic procrastination in the pre-test, the Independent t-test method was used. The effectiveness of the educational package on general procrastination was investigated by mixed ANO-VA. The results of the Greenhouse-Geysers test indicated that the main effect of the group, the condition of the test (pre-test, post-test, follow-up) and the group and condition interaction were significant with the effect size of 0.659 (F=44.67, P<0.001) (Table 1).

### 4. Discussion

Based on the results, the mindfulness-based educational package was significantly effective in increasing self-esteem, self-efficacy, and reducing test anxiety, perfectionism and, consequently, decreasing academic procrastination. These findings support previous research results. Since exercises based on mindfulness techniques continue after the end of the period and the individual was supposed to perform these exercises outside the group, as expected, it was observed that after one-month follow-up, changes were significantly consistent, indicating the consistency of the therapeutic effect.

Generally, the theoretical and research fundamentals related to the effectiveness of mindfulness-based techniques on reducing academic procrastination and the results of applying educational package provided in this study have verified the effect of this package. It is suggested that future research compare the mindfulness-based educational package with traditional cognitive-behavioral methods in reducing academic procrastination.

### **Ethical Considerations**

## Compliance with ethical guidelines

All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages; they were also assured about the confidentiality of their information; Moreover, They were allowed to leave the study whenever they wish, and if desired, the results of the research would be available to them.

## Funding

This research was extracted from the PhD. thesis of the first author, in Department of Psychology, Faculty of Educational Science and Psychology, Shahid Beheshti University, Tehran, Iran.

#### **Authors contributions**

Conceptualization: All authors; Methodology: Mahmood Heidari, Hoora Motie; Analysis: All authors; Research: All authors; Sources: Hoora Motie; Writing draft: Hoora Motie; Editing and finalizing: Hoora Motie; and Project management: All authors.

#### **Conflict of interest**

The authors declare no conflict of interest.