

Mindfulness-Based Cognitive Therapy for Procrastination (MBCT-P) to Reduce Muslim University Students' Academic Procrastination: Mixed Methods Research

Suhadianto¹, Fattah Hanurawan², Nur Eva³, Hetti Rahmawati⁴

^{1,2,3,4} Universitas Negeri Malang, Indonesia

¹ Universitas 17 Agustus 1945 Surabaya, Indonesia

Corresponding E-mail: fattah.hanurawan.fpsi@um.ac.id

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ABSTRACT

This study aimed to test the effectiveness of Mindfulness-Based Cognitive Therapy for Procrastination (MBCT-P) in reducing academic procrastination, as well as explain how MBCT-P can reduce academic procrastination. The research participants were 43 Muslim university students with academic procrastination scores in the medium and high categories who were randomly divided into the experimental group (n=21) and control group (n=22). A mixed methods research approach with an embedded research design was used in this study. An experiment with a Randomized Pre-Test and Post-Test Control Group with a Follow-Up design was used, while qualitative data collection was carried out during the intervention. The research instruments were the Tuckman Procrastination Scale (CR=0.89) and the Five Facet Mindfulness Questionnaire (CR=0.92). The results showed that MBCT-P had a long-term effect in reducing academic procrastination in the experimental group. Experimental group participants were reported to be more focused, calm, and motivated and found it easier to accept academic tasks, leading to reduced procrastination. The modification of MBCT-for depression for academic procrastination with a shorter duration has never been previously explored. Hence, this research provides a new alternative intervention that effectively reduces academic procrastination among university students.

INTRODUCTION

When entering higher education, generally, university students are at the age of 18 years. Psychologically, it means that university students will be in the early adult phase after two years in higher education (Blimling, 2003). University students who are in the early adult phase are developmentally required to focus more on competency development and various other academic activities that are in line with future career development (Goulet & Baltes, 2013). Unfortunately, many university students neglect these developmental tasks and prefer to do more enjoyable activities instead of immediately doing academic tasks. Many students prefer to spend time on social media, watching YouTube, playing games, and so on (Aznar-Diaz et al., 2020). This phenomenon is known as academic procrastination.

There are many notions of academic procrastination conveyed by experts, but generally, they agree to interpret academic procrastination as a procrastinating behavior in terms of starting and or completing academic tasks. This behavior is done for irrational reasons even though the perpetrator is aware of the negative effects (Klingsieck, 2013; Steel & Klingsieck, 2016a; Zacks & Hen, 2018). Academic procrastination seems to have been a cross-cultural problem, from the first time the discourse on academic procrastination was published by Solomon and Rothblum (1991) in America,

until now the prevalence of academic procrastination remains high. A cross-cultural study in 19 countries reported the number of university students doing academic procrastination ranged from 50% to 95% (Steel & Klingsieck, 2016).

Various studies in Indonesia also reported high levels of academic procrastination among university students. A study reported that 75% to 86% of Indonesian university students engage in academic procrastination (Khoirunnisa et al., 2021). This data is supported by recent research which reports that 82.51% of university students engage in academic procrastination (Suhadianto & Ananta, 2022). The high prevalence of academic procrastination does not only appear to occur among university students in general universities but also occurs in many Islamic universities. The phenomenon of academic procrastination among Muslim university students is demonstrated by the large number of studies on this topic conducted at Islamic Education Institutions, for example, research by Damayanti et al. (2023) and Sriwijaya et al. (2023) at one of the State Islamic Universities, research by Risni et al. (2023) on strategies for reducing academic procrastination in the Islamic Religious Education program.

This academic procrastination which also occurs among Muslim university students certainly needs to be a matter of concern, and immediate handling strategies must be sought. Apart from psychological impacts, academic procrastination can lead to high anxiety, low happiness, low academic grades, plagiarism, expulsion from education, and other serious impacts (Beutel et al., 2016; Kim & Seo, 2015; Nábělková & Ratkovská, 2015). In addition, procrastination in academics also conflicts with the teachings of Islam. There are many messages in the Al-Qur'an, the Hadith of the Prophet Muhammad, and also advice from Ulama regarding the prohibition of delaying positive activities.

Allah SWT says in Surah Luqman, Verse 34 which means *"And no one can know (with certainty) what he will try tomorrow. And no one can know where on earth he will die. Indeed, Allah is all-knowing and all-knowing."* (Kementeriaan Agama, 2016). Many hadiths of the Prophet Muhammad give advice not to delay, such as in a Hadith from the companions of Umar Prophet Muhammad saying *"If you are in the afternoon do not wait for the morning to come and if you are in the morning do not wait for the evening to come, use your health before illness and your life before death"* (HR. Bukhari). In another hadith, from Ibn 'Abbas the Prophet Muhammad said *"Use five things before the other five things come; use your youth before your old age, your life before your death, your leisure before your busy time, your healthy time before your sickness, and rich time before your poor time"* (HR. Hakim). In another hadith from Ibn Abbas, the Prophet Muhammad (peace be upon him) said *"Two pleasures, most people are deceived into both, namely health and leisure"* (HR. Bukhari) (Baqi & Fuad, 2016).

Various intervention approaches to reduce academic procrastination in university students have been used previously. The intervention approaches used also vary greatly, such as the behavioristic approach which focuses on behavior modification (Asri et al., 2017; Nikolayeva et al., 2020; Starks & Bower, 2021), the cognitive approach which focuses on changing irrational thoughts about assignments (Ugwuanyi et al., 2020; Uzun Ozer et al., 2013), and an affective approach that focuses on changing the emotional response of academic procrastinators to the assignments received (Eckert et al., 2016). The use of these three approaches is reported to be effective in reducing academic procrastination, but still has weaknesses. The behavioristic approach is seen as ignoring cognitive and emotional factors as one of the causes of academic procrastination, while the cognitive approach is seen as only focusing on cognitive distortions and ignoring emotional and personality factors (Wang et al., 2017). In the end, a single approach was considered less than optimal in reducing academic procrastination, so a combination of approaches was needed, such as combining cognitive and mindfulness approaches which were considered more promising (Hayes et al., 2011).

The use of a cognitive approach which focuses on eliminating irrational thoughts about tasks and the use of mindfulness which focuses on accepting academic tasks is certainly very reasonable because the main characteristics of academic procrastinators are: (1) lack of ability to maintain concentration to always focus on the task (Wu et al., 2016); (2) irrational thoughts about the task,

such as assessing the task as very difficult and impossible to complete (McCloskey & Scielzo, 2015; Rebetez et al., 2018); (3) assessing the task as so unpleasant that it is better to avoid it (Ocansey et al., 2022; Schutte & Ed Bolger, 2020). The characteristics of perpetrators of academic procrastination show cognitive distortions and low levels of mindfulness. This is the reason why mindfulness is very important compared to other variables that influence academic procrastination, such as emotional regulation, self-efficacy, and impulsive personality (Wu et al., 2016). Mindfulness can be defined as increasing awareness and focusing attention on the here and now, which is done consciously, without making judgments (Kabat-Zinn, 2023). Individuals with a high level of mindfulness are able to focus attention on the current situation and are able to accept their experiences, both internal and external experiences, without passing judgment (Kabat-Zinn, 1982, 2023).

Grounded theory research conducted by Schraw, et al. (2007) provides a comprehensive picture of the process of academic procrastination (Figure 1). Academic procrastination behavior involves antecedents, phenomena, strategic coping, and consequences. Antecedents of academic procrastination can originate from the self, teachers, and assignments. The person, teacher and task characteristics will be the cause of adaptive or non-adaptive actions when individuals are faced with conditions that can encourage academic procrastination (such as unclear assignment instructions, deadlines, and the absence of feedback or appreciation from the teacher). When individuals can be adaptive, then individuals can use appropriate cognitive and affective coping strategies so that they have an impact on quality of life and quality of work. On the other hand, if an individual cannot be adaptive then the individual cannot use appropriate coping strategies and this can have an impact on academic procrastination. One variable that greatly influences an individual's ability to adapt to various tasks is mindfulness. Various previous studies have found a strong correlation between mindfulness and academic procrastination, thereby strengthening the use of mindfulness-based interventions (Cheung & Ng, 2019; Ghasemi Jobaneh et al., 2016; Schutte & del Pozo de Bolger, 2020).

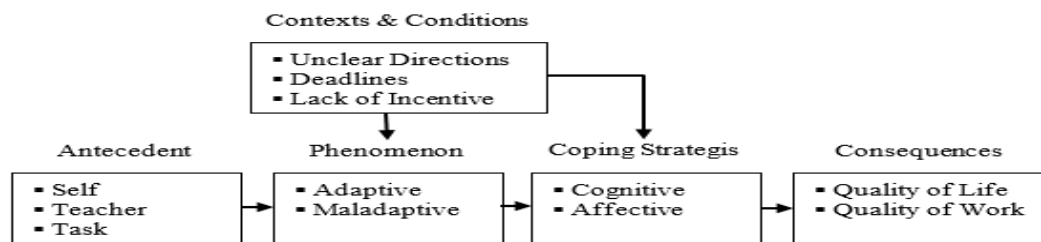


Figure 1. Academic Procrastination Model

One of the incorporations of cognitive and mindfulness interventions that are widely used in recent times is Acceptance and Commitment Therapy-ACT (Glick & Orsillo, 2015). This approach is reported to be effective in reducing academic procrastination, but this intervention is considered less structured and still leaves gaps. A combination intervention that is considered more structured is Mindfulness Based-Cognitive Therapy for Depression (MBCT-For Depression). This intervention is reported to be very effective in reducing cases of depression because people with depression have the greatest problems with cognitive distortions and low acceptance of events that occur in life (Segal et al., 2018). Looking at the same characteristics between individuals with cases of depression and perpetrators of academic procrastination (Nazari, et al., 2021; Cjuno, et al., 2023), this study used Mindfulness Based-Cognitive Therapy for Procrastination (MBCT-P) modified from Mindfulness Based-Cognitive Therapy for Depression (McCartney et al., 2021; Musa et al., 2020).

MBCT for Depression is a combination of cognitive therapy with the Mindfulness-Based Stress Reduction program which was previously developed by Kabat (2003) and colleagues. MBCT consists of several cognitive and mindfulness exercises that can train individuals to build attention to what is currently experienced, focus on various negative thoughts and various accompanying feelings and body sensations, build awareness of themselves and their environment, and accept various experiences without passing judgment (Kabat-Zinn, 2013; Flores, 2015; Segal, et al., 2000).

MBCT-P in this study uses 8 (eight) sessions in MBCT-for Depression, but in practice, MBCT-P only takes 4 (four) weeks, faster than MBCT-for Depression which is carried out for 8 (eight) Sundays. In order to ensure the equivalence of MBCT-P with MBCT-for Depression, MBCT-P conceptually uses cognitive therapy and mindfulness techniques used in MBCT-for Depression, but in terms of program material content, it is adapted to the context of academic procrastination. Apart from that, there were also several modifications made by researchers by adding several techniques that were not in MBCT-for Depression and reducing several techniques that were in MBCT-for Depression. Additions and reductions were made to increase the effectiveness and efficiency of MBCT-P.

Several new techniques added by researchers to MBCT-for Depression include: (1) SOBER meditation (Stop, Observe, Breathe, Expand, and Respond); (2) Meditation allowing and letting go; and (3) Metaphor. The use of SOBER meditation replaces the 3-minute breathing meditation and STOP meditation used in MBCT-for Depression. Using SOBER meditation requires less time but can provide equally promising results. The use of metaphors as well as allowing and releasing meditations are used in MBCT-P to replace detection meditations and bodily sensations. Detection and body sensation meditation require a longer time to implement. The results of testing the MBCT-P module also show that participants find it easier to use metaphors and allow and release meditation than use detection and body sensation meditation. Based on the arguments above, researchers believe that MBCT-P with a shorter duration will be equivalent to MBCT-for Depression.

Before MBCT-P was used, researchers tested 7 (seven) university students who had academic procrastination scores in the moderate to high category. Trial participants received the entire MBCT-P intervention. However, the duration of the intervention was only carried out for two weeks with meetings twice a week. Test results using the Wilcoxon Rank Test showed that MBCT-P has high effectiveness in reducing university student academic procrastination ($p=0.016$; effect size 0.399). The use of MBCT for academic procrastination cases is the first time, especially in the context of Indonesia. The choice of MBCT intervention in this research was not only based on the results of a literature review but also on preliminary research which showed that the strongest factor causing academic procrastination was the presence of irrational thoughts about assignments such as assessing assignments as too difficult (Suhadianto & Pratitis, 2019). The results of the researcher's interviews also showed that academic procrastinator had automatic negative thoughts about assignments, such as assessing assignments given by lecturers as very difficult to complete and feeling that they would not be able to complete these assignments. Apart from that, academic procrastinators are reported to feel anxious, and afraid and assess assignments as very boring. This study uses a mixed research approach (experimental and qualitative) so that it can report the effectiveness of using MBCT-P quantitatively and can provide a more in-depth explanation of how psychological mindfulness can reduce academic procrastination.

Referring to the literature study as described in the previous section, the formulation of the problem in this study is: (1) Is mindfulness-based Cognitive Therapy for Procrastination (MBCT-P) effective in reducing university students' academic procrastination in direct measurements after intervention and after follow-up?; (2) Is Mindfulness-Based Cognitive Therapy for Procrastination (MBCT-P) effective in reducing university students' academic procrastination in direct measurements after the intervention?; (3) Is Mindfulness-Based Cognitive Therapy for Procrastination (MBCT-P) effective in reducing university students' academic procrastination in post-follow-up measurements? (4) How can Mindfulness Based-Cognitive Therapy for Procrastination (MBCT-P) decrease academic procrastination in Muslim university students?

METHODS

Research Design

This study used a mixed research approach that aimed to examine the effectiveness of the use of MBCT-P intervention on academic procrastination quantitatively and explain qualitatively how

MBCT-P can reduce academic procrastination. The mixed research design used is embedded research design. This design is usually used in research where primary data is obtained through experiments and secondary data is obtained through interviews, observations, and documents collected during experimental activities (Creswell, 2014). The design visualization is presented in Figure 2.

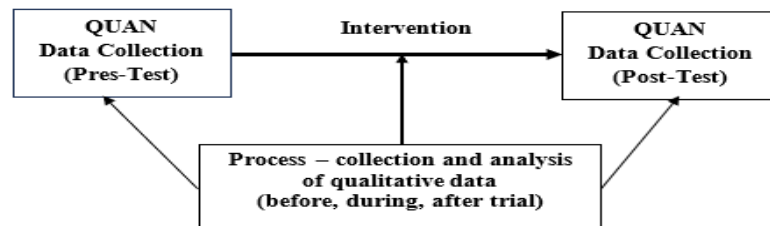


Figure 2. Embedded research design (Creswell, 2014)

Proving the effectiveness of MBCT-P in reducing academic procrastination in Muslim University Students was conducted through experiments. The experimental design used a Randomized Pre-Test and Post-Test Control Group with Follow-Up (Figure 3). This design belongs to the category of pure experiments because in its implementation the division of the control group and the experiment is carried out randomly, there are measurements before and after the intervention is given (Creswell, 2014; Neuman, 2011).

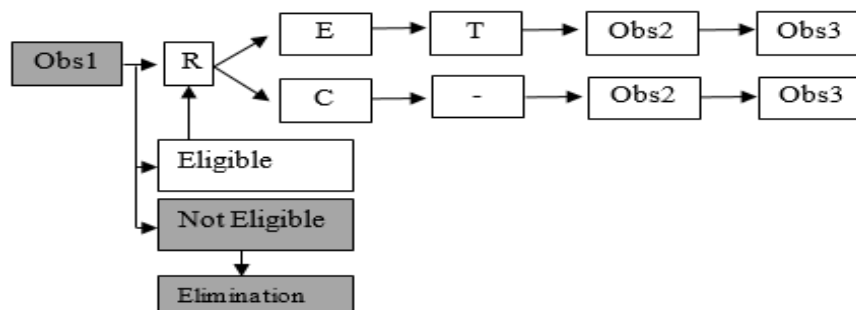


Figure 3. Randomized Pre-test and Post-Test Control Group with Follow-Up (Creswell, 2014; Neuman, 2011)

Tabel 1. Information:

Obs1	: Measurements before intervention (Pre-Test)
Eligible	: Participants who meet the criteria (pre-test scores are in the medium and high categories)
Not Eligible	: Participants who do not meet the criteria (pre-test scores are in the low category)
R	: Random distribution of participants who meet the criteria into experimental and control groups
E	: Experimental group
C	: Control group / Waiting list
T	: Treatment is MBCT-P
-	: No treatment
Obs2	: Measurements after the intervention is completed (Post-Test)
Obs3	: Measurements after follow-up

Research Participants

Participants in this study were 43 Muslim university students recruited purposively from 392 university students. The procedure for determining participants was carried out through several stages: (1) measuring academic procrastination from 392 university students; (2) conducting selection based on scores (from 392 university students, 157 university students were obtained who met the criteria with academic procrastination scores in the medium and high categories); (3) asking for willingness (out of 157 university student, 21 university student could not be contacted, 88 university students refused to participate, 48 university students were willing to participate); (4) conducting religious selection (out of 48 willing university students as many as 43 university students are

Muslim); (5) 43 university students who met the criteria were then divided into experimental groups (n=21) and control groups (n=22) randomly.

Research Instruments

Quantitative data in this study were collected through Tuckman Procrastination Scale (TPS) and Five Facet Mindfulness Questionnaire (FFMQ). This scale has undergone psychometric testing and is stated to have high validity and reliability. The scale of TPS was adapted by researchers from Tuckman (1991). The Indonesian version of TPS has 11 items that have passed testing by five experts with scores of I-CVI = 1.00 and S-CVI = 1.00 (Polit & Beck, 2006). Confirmatory Factor Analysis (CFA) testing shows that 11 TPS items in the Indonesian version have an Average Variance Extracted (AVE) score of 0.501, meaning that they have met the recommended AVE magnitude requirements, which is ≥ 0.50 (Fornell & Larcker, 1981; Hair et al., 2019), and have a Construct Reliability (CR) score of 0.915 so that they are in accordance with the required CR score of ≥ 0.60 (Hair et al., 2019; Sekaran & Bougie, 2016).

The FFMQ scale was adapted by researchers from Baer, et al. (2006). FFMQ has been adapted into Indonesian by Meindy and colleagues and has been proven to have good content validity (Meindy & Triwahyuni, 2022). The FFMQ used in this study was only 16 items that had passed testing using Confirmatory Factor Analysis (CFA). FFMQ score Average Variance Extracted (AVE) score of 0.634, meaning that it has met the recommended AVE magnitude requirements, which is ≥ 0.50 (Fornell & Larcker, 1981; Hair et al., 2019), and has a Construct reliability (CR) score of 0.841 so that it is in accordance with the required CR score of ≥ 0.60 (Hair et al., 2019; Sekaran & Bougie, 2016). Qualitative data in this research was collected through observation, interviews, and participant worksheets. The researcher, assisted by a psychologist and four research assistants, carried out observations of the experimental group while undergoing the MBCT-P intervention. Structured interviews to explore participants' experiences were conducted before and after participants received MBCT-P training. Apart from that, researchers also require participants to record all activities and experiences during the intervention in a participant worksheet.

Research Procedure

This research activity was carried out through the following stages: (1) measuring the academic procrastination of prospective participants using 11 TPS items, participant answers were then scored (strongly agree=4, agree=3, disagree=2, strongly disagree=1). Participants who had academic procrastination scores in the moderate to high category were then contacted and asked to be willing to become research participants; (2) dividing selected participants into an experimental group and a control group; (3) put the control group on the waiting list; (4) giving the MBCT-P intervention to the experimental group, the intervention was given for four weeks (two meetings a week, each meeting 90 minutes); (5) assigning MBCT-P exercises to the experimental group, performed independently during breaks between sessions; (6) conducting interviews and observations during the implementation of the intervention; (7) take measurements using the FFMQ after the intervention is declared complete. Participants' answers were then scored (strongly agree=4, agree=3, disagree=2, strongly disagree=1) and categorized.

Intervention Procedures

The intervention is carried out using good procedures to maintain internal and external validity: (1) prepare a room that has good lighting and cool air, and avoids noise; (2) prepare an intervention room that is separated from student academic activities to minimize interaction between intervention participants and other students; (3) prepare a room equipped with an LCD projector and sound system; (4) prepare the room with the letter U setting; (5) ask participants to be present a maximum of 15 minutes before the intervention begins; (6) on the first day research participants received a complete explanation of all the activities that would be carried out during the MBCT-P intervention; (7) participants received a participant worksheet containing complete information about the MBCT-P program; (8) participants received MBCT-P training for 4 weeks with details, there were

two meetings a week, each meeting lasting for 90 minutes; (9) the MBCT-P intervention was provided by a clinical psychologist and assisted by four research assistants (psychology undergraduate university students) who had previously received training as MBCT-P trainers; (10) the intervention was implemented with greater emphasis on practice (20% explanation; 80% practice); (11) Observations and interviews were conducted with participants during intervention activities; (12) research participants received MBCT-P practice assignments which had to be carried out independently and recorded on participant worksheets; (13) the second measurement of academic procrastination was carried out after the entire MBCT-P intervention was given; (14) research participants were asked to carry out MBCT-P follow-up independently for two weeks. During this process, participants could ask the researcher if they experienced problems; (15) after the study participants completed the follow-up, a third measurement of academic procrastination was conducted.

Data Analysis

Quantitative data in this study were analyzed using Multivariate Analysis of Covariance (MANCOVA) to determine the effectiveness of MBCT-P in reducing academic procrastination in Muslim students. The use of this technique can provide better results because the pre-test scores are statistically controlled (Jennings et al., 2019; Mara et al., 2012). Meanwhile, qualitative data were analyzed using theme analysis which aims to find out what themes often emerge to explain how MBCT-P can reduce academic procrastination in Muslim university students (Creswell, 2014).

RESULTS AND DISCUSSION

Participant Demographic Data

Participants in the study initially numbered 43 university students, but three university students did not complete the entire intervention so only 40 university students survived to the end, with 20 university students in the experimental group and 20 university students in the control group. Demographic data are presented in Table 2.

Table 2. Participant Demographic Data

Category	Experiment Group	Control Group
	F	F
Male	8	4
Female	12	16
Age 18 year	1	0
Age 19 year	5	1
Age 20 year	5	8
Age 21 year	4	9
Age 22 year	2	2
Age >22 year	3	2
Semester II	6	0
Semester IV	6	6
Semester VI	1	11
Semester VIII	7	3
Semester >VIII	-	2
Medium Procrastination	17	20
High Procrastination	3	0

Baseline Measurement

Before conducting data analysis using MANCOVA, variance homogeneity testing was first carried out to prove that there was equality between the experimental group and the control group. Levene Test showed that the experimental group and the control group in this study were homogeneous ($F = 2.988$; $p = 0.092$). A test using Analysis of Variance (ANOVA) also showed no

significant difference between the scores of the experimental group and the control group ($F=2.370$; $p=0.132$). Both tests proved that both groups had equality before the intervention was given.

Quantitative Data

Hypothesis 1

As presented in Table 3, hypothesis testing using MANCOVA on Wilk's Lambda obtained $F=26.039$, $p<0.01$, which means there is a very significant difference in academic procrastination between the control group and the experimental group after the MBCT-P intervention was given and after a two-week follow-up by controlling the results of the initial measurements (pre-test) in both groups. The effect size of MBCT-P on reducing university students' academic procrastination in the experimental group is shown by the Partial Eta Squared score $\eta^2=0.579$ ($\eta^2>0.14$), which means that the MBCT-P intervention for four weeks accompanied by a follow-up for two weeks had a big effect in reducing university student academic delays.

Table 3. MANCOVA Test Results

Depend. Variable	F	df	p	η^2
Post-Test & Follow up	27.031	2	0.000	0.579

Hypothesis 2

As presented in Table 4, hypothesis testing using ANOVA on Wilk's Lambda obtained $F=25.705$; $p<0.001$, which means there is a very significant difference in academic procrastination between the control group and the experimental group after the MBCT-P intervention was given by controlling the results of the initial measurements (pre-test) in both groups. The effect size of MBCT-P on reducing university students' academic procrastination in the experimental group is shown by the Partial Eta Squared score $\eta^2=0.410$ ($\eta^2>0.14$), which means that the MBCT-P intervention for four weeks has a large short-term effect in reducing university students' academic procrastination.

Table 4. ANCOVA Test Results

Depend. Variable	F	df	p	η^2
Post-test	25.705	1	0.000	0.410
Follow-Up	45.247	1	0.000	0.532

Hypothesis 3

As presented in Table 4, hypothesis testing using ANOVA on Wilk's Lambda obtained $F=45.247$; $p<0.001$, which means there is a very significant difference in academic procrastination between the control group and the experimental group after a two-week follow-up by controlling the results of the initial measurements (pre-test) in both groups. The effect size of MBCT-P on reducing university students' academic procrastination in the experimental group is shown by the Partial Eta Squared score $\eta^2=0.532$ ($\eta^2>0.14$), which means that the MBCT-P intervention for four weeks has a large long-term effect in reducing university students' academic procrastination.

The results of the descriptive analysis also showed that academic procrastination scores in the experimental group decreased a lot. Before receiving the MBCT-P intervention, the majority of participants had academic procrastination scores in the medium category ($F=17$) and some in the high category ($F=3$). After the intervention, the majority of the experimental group's academic procrastination scores were in the low category ($F=12$), none were in the high category, and only five university Students did not experience a decrease in the category. Conversely, in the control group that did not get the intervention, all participants had moderate academic procrastination ($F=20$). Conversely, in the control group that did not receive the intervention, all participants had moderate academic procrastination ($M=20$) on the pre-test measurement, and only one student showed a slight reduction ($M=1$) in academic procrastination at the post-test measurement, and only one student had a low-grade reduction ($F=1$) on the post-test measurement.

Evidence that this decline in academic procrastination in Muslim university students is due to the effects of MBCT-P intervention can be seen from the scores of mindfulness in the experimental group, which are higher than the control group. The high mindfulness score made participants in the experimental group have a good acceptance of academic tasks so they did not procrastinate. The experimental group had an average score of mindfulness in the medium category for each dimension, while the control group had an average score of mindfulness in the low category for each dimension. ANOVA Test Results showed that there is a very significant difference in scores Mindfulness between the experimental group and the control group on each dimension (Table 4).

Empirically, the results of this study showed that the use of MBCT-P intervention for two weeks is highly effective in reducing academic procrastination in Muslim university students. The high effect of MBCT-P on decreasing academic procrastination in Muslim university students is because MBCT-P has a highly structured method (Segal et al., 2018). MBCT-P interventions in a structured manner teach a variety of skills so that academic procrastinators can accept the tasks received, starting with (1) teaching the skills to focus on observing the tasks received (observing); (2) teaching the skill of describing the various thoughts and feelings that accompany academic tasks; (3) teaching to respond mindfully to academic tasks (acting with awareness) so as not to be controlled by automatic responses in the form of rejection of academic tasks; (4) teaching skills to accept academic tasks (Acceptance), evidenced by not judging oneself (Non-Judging) and not acting reactively towards academic tasks (Non-Reactivity). Such structured formal exercises when done regularly can improve Mindfulness (Kabat-Zinn, 1982, 2003, 2023).

Table 4. Test Results of Differences in Mindfulness Scores of the Experimental Group and the Control Group.

Mindfulness			
Dimension		F	Sig.
Observing		45.693	p<0.001
Describing		29.531	p<0.001
Acting with awareness		74.321	p<0.001
Nonjudging of inner experience		35.700	p<0.001
Nonreactivity to inner experience		31.625	p<0.001

High mindfulness will make the academic procrastinators really realize and subsequently accept the various academic tasks received, resulting in a decrease in academic procrastination. The findings of this study supported previous studies that found a very significant negative correlation between mindfulness and academic procrastination (Cheung & Ng, 2019; Ghasemi Jobaneh et al., 2016; Schutte & Ed Bolger, 2020). The results of this study also showed that the experimental group had higher mindfulness scores compared to the control group, so it can be concluded that the decrease in academic procrastination scores in the control group was due to the increase in mindfulness scores in the experimental group obtained through MBCT-P for two weeks. Various previous studies have reported that individuals with high mindfulness showed more adaptive responses to various events, including academic tasks (Goodman et al., 2021). The ability to respond or use adaptive strategies in facing a task helps individuals be more able to accept various academic tasks and avoid academic procrastination behavior (Rozental et al., 2014; Sirois & Kitner, 2015).

The Temporal Motivation Theory (TMT) approach believes that the main cause of academic procrastination is the low expectation of success caused by: (1) attention that is easily distracted by something more pleasurable; (2) irrational automatic thoughts about tasks, such as perceiving tasks as very difficult and considering themselves incapable; (3) negative judgments of the task, such as automatically feeling bored or resentful of the task (Netzer et al., 2023; Steel & Klingsieck, 2016b; Zhang & Feng, 2020). These characteristics are very different from individuals with high mindfulness. Individuals who have high mindfulness are shown by their ability to focus attention on the present experience, act consciously, and accept completely without judging themselves (Kabat-Zinn, 2023). Therefore, individuals with high mindfulness are able to focus on the various academic tasks received and are able to act consciously because they are not controlled by the various thoughts

and feelings that are automatically present accompanying academic tasks, so they ultimately have a good acceptance of the task and avoid academic procrastination (Cheung & Ng, 2019; Schutte & Ed Bolger, 2020).

The MBCT-P used in this study is a modification of MBCT-for Depression. It is said to be modified because MBCT-P is only given for four weeks, while MBCT-for Depression is given for eight weeks. In addition, although MBCT-P and MBCT-for depression have the same number of sessions (eight sessions), the exercises used in MBCT-P are not entirely the same as those used in MBCT-for depression, for example, the sitting exercise with reflection which is always used in every session of MBCT-for depression, is only used a few times in MBCT-P, while metaphors that are not used very often in MBCT-for depression are used in MBCT-P. Although MBCT-P was only given for four weeks, shorter than MBCT-for depression, the results of this study showed MBCT-P had a significant effect on reducing academic procrastination in university students. These findings correspond with previous studies that reported the use of a combination intervention between cognitive approaches and mindfulness more effectively decreased academic procrastination. This means that MBCT-P can be one of the reliable interventions to reduce academic procrastination in university students (Hayes et al., 2011; Wang et al., 2017). The results of this study reported that the use of MBCT-P has higher effectiveness compared to other interventions that have also used mindfulness approaches, such as mental imagery interventions (Blouin-Hudon & Pychyl, 2017), Acceptance-Based Behavioral Therapy interventions (Scent & Boes, 2014), and Acceptance and Commitment Therapy interventions (Wang et al., 2017b). However, further research still needs to be done, considering that the characteristics of participants used in this study may differ from studies that use interventions other than MBCT-P.

The results of this study showed that the use of the MBCT-P intervention for eight sessions has a direct influence on university students' academic procrastination. The direct effect in this study was obtained by taking direct measurements at the last MBCT-P session given to research participants. MBCT-P has a relatively large direct effect, namely 41%. The immediate effect of MBCT-P is much better when compared with other intervention approaches that have recently been widely used. The use of strength-based intervention (Strength-Based Training), for example, only shows 14% effectiveness in reducing university student academic procrastination (Visser et al., 2017). Likewise, the use of group therapy interventions that focus on recognizing irrational beliefs about assignments (Uzun et al., 2013) only has 8% effectiveness in reducing academic procrastination. However, the difference in the effectiveness of MBCT-P with various other approaches certainly does not have absolute value, because the number of participants and participant characteristics may be different between this study and previous studies.

There was a significant difference in academic procrastination scores between the control group and the experimental group in direct measurements after the intervention, indicating that the administration of the MBCT-P intervention for eight sessions given over 4 (four) weeks was proven to have a large short-term effect on reducing university students' academic procrastination. However, what needs to be paid attention to is that this study reported that the use of the MBCT-P intervention, followed up with independent practice by participants, had a greater effect on reducing university students' academic procrastination. The results of the study showed that participants in the experimental group experienced a significant decrease in academic procrastination scores on measurements directly after the intervention (post-test), and consistently experienced a decrease in measurements after a two-week follow-up. This appears to be different from the academic procrastination scores in the control group which did not experience a decrease in the follow-up measurements, a small percentage even had higher academic procrastination. The findings of this study showed that the more often participants use MBCT-P, the more impact it has on reducing academic procrastination.

These findings support the longitudinal research of Cheung & Ng, (2019) which reported an increasing correlation between mindfulness and academic procrastination over time. Research conducted over the past two years showed that there is a correlation of -0.41 between mindfulness

and academic procrastination in the first half of the six months, which means that the higher a person's mindfulness, the lower the academic procrastination. The correlation between mindfulness and academic procrastination were reported to be -0.47 in the second and third mid-six months, then increased again to -0.54 in the last six months. This shows that individual mindfulness will continue to develop through continuous practice and when mindfulness increases, academic procrastination will decrease.

The findings of this study also supported previous studies that regular mindfulness practice can improve cognitive function and improve mental well-being. Research by [Chambers et al., \(2008\)](#), for example, reported that mindfulness training carried out intensively for 10 days can increase intelligence scores on the IST test, reduce depression scores on the BDI test, improve memory, increase attention, and increase awareness. Longitudinal research ([Hölzel et al., 2011](#)) also reported the benefits of intensive mindfulness training as proven neurologically through Anatomical Magnetic Resonance (MR), can improve concentration, memory, and emotional regulation. Prior to this research, [Tang, et al. \(2007\)](#) also reported similar benefits. It can be concluded that using mindfulness for a long time can improve cognitive and affective functions such as emotional regulation. Individuals who have high emotional regulation will be able to recognize and manage emotions effectively when faced with a task so that they are not trapped in negative judgments about the task which can encourage academic procrastination ([Pychyl & Sirois, 2016b; Sirois & Kitner, 2015](#)). Apart from that, individuals who have the ability to focus on academic tasks will be more effective in managing time so that they can avoid academic procrastination ([Schutte & del Pozo de Bolger, 2020](#)).

Qualitative Data

In order to explain in more depth how mindfulness can reduce academic procrastination, researchers make observations and conduct interviews. In addition, the experimental group also received a workbook that could be used to report on exercise activities while at home and experiences gained during exercise. The results of the thematic analysis of interview transcripts, observations, and participant reports through worksheets will then be used to explain how mindfulness can reduce academic procrastination in university students.

In the first week, the experimental group received material on the importance of mindfulness to overcome various negative thoughts that automatically arise and some exercises of mindfulness (eating with reflection and practice in recognizing bodily sensations). After carrying out the practice of eating with reflection and the exercise of detecting body sensations, from the results of interviews, observations, and analysis of participants' worksheets, the following themes were obtained: (1) being more able to focus and be aware of the various thoughts and feelings that arose with the task; (2) having a better description of what comes to mind and what is outside the self; (3) understanding that the ability to be aware of the various thoughts and feelings that arise with the task is needed; (4) a small percentage reported being more relaxed and less anxious, as conveyed by BNG who said: "This was a very extraordinary experience, I could really feel every movement when eating food, I felt a different sensation from what I was eating, it seemed like I became more focused and more relaxed".

On the second day, the experimental group received body sensation and detection exercises, breathing with reflection, cognitive therapy with ABC techniques (Actual Event, Belief System, and Consequential Feeling) which aimed to help participants recognize various irrational beliefs about the task. Participants in the experimental group also received sitting exercises with reflection, walking with reflection, and SOBER exercises (Stop, Observe, Breath, Expand, Respond) which aimed to provide skills to participants not to act reactively and to be able to find alternative actions when faced with academic tasks. After participating in several exercises, the study participants reported: (1) realizing that assessment of tasks would affect emotions and lead to academic procrastination; (2) becoming more relaxed after sitting with reflection; (3) becoming calmer, less reactive, and able to find alternative solutions after doing SOBER exercises. As stated by TML, "During the exercise I

imagined that when the lecturers entered the class and immediately gave assignments, usually I would automatically grumble, but with the SOBER exercise I became calmer and didn't react immediately."

In week three, the experimental group received sitting exercises with reflection, SOBER, and problem-defining exercises. These interventions aimed at helping participants identify various thoughts and feelings that were the cause of academic procrastination. Participants in the experimental group also received the practice of mindfulness, including allowing and letting go, as well as the metaphor of the King's story, which aimed to provide skills for allowing negative experiences related to duty to be present in thoughts and feelings and then released. After doing some of these exercises, participants in the experimental group reported improved ability to change irrational beliefs about tasks, becoming calmer, and more accepting of tasks as something to be faced rather than avoided. As stated by BRD "In the third week, through several mindfulness exercises, I became calmer and more able to accept various things that happened"

At week four, the experimental group received SOBER exercises, allowing and releasing, exercises mindfulness through the story of "Two Bad Bricks" and cognitive exercises, alternative viewpoints aimed at providing awareness to participants that irrational beliefs in the form of thinking they are unable to complete a task are not facts. Participants of the experimental group also practiced Mindfulness through the metaphor of "Anna's story" and making a plan of action. Participants reported being more receptive to academic tasks and more aware of the importance of performing even the slightest action when receiving academic tasks. As stated by MKL "After practicing allowing and letting go and listening to metaphors, I became more receptive to academic tasks and more motivated to take immediate action, no matter how small."

After completing the MBCT-P intervention for eight sessions, most study participants reported changes in mindfulness skills such as: (1) becoming more focused on the lecturer's explanation; (2) better able to be aware of the thoughts, feelings and actions being undertaken when receiving academic assignments; (4) better informed of the objectives and be aware of the consequences of the actions taken; (5) be more aware of the importance of mindfulness when facing problems; (6) be more open and receptive to various experiences; (7) more accepting without judgment, and (8) more grateful for what happened. As BOB said "I used to always worry when I got an assignment, after following all the MBCT-P exercises I became more confident in my abilities, more relaxed and calmer when I got an assignment"

Study participants also reported a decrease in academic procrastination. Most reported benefits after taking MBCT-P: (1) trying to complete tasks on time; (2) more able to use free time; (3) start working on a task even though it is still far from deadline; (4) the desire to read has increased; (5) the intensity of procrastination decreased from frequent to occasional, some said the desire to quickly complete the task increased; (6) become more courageous in facing tasks and less anxious; (7) more confident in being able to complete the tasks received; (8) more receptive to an assignment; (9) become calmer when receiving assignments.

The benefits of MBCT-P training reported by the experimental group support previous findings. Several studies reported that one of the benefits of mindfulness is increasing the ability to concentrate or focus on tasks (Chin et al., 2020; Marty-Dugas et al., 2023). Through the breathing exercises in MBCT, individuals will practice focusing on each breath and can increase concentration (Carswell & Frewen, 2017). Sitting practice with contemplation is also reported to improve concentration. A neuroimaging study has shown that sitting with contemplation affects areas of the brain associated with concentration (Crane et al., 2021). The experimental group reported after obtaining MBCT-P became more aware of the tasks it was responsible for. This is consistent with previous research reporting Mindfulness can improve cognitive function and increase individual awareness (Fox et al., 2016; Tang et al., 2015). Individuals who have exhibited high Mindfulness are also reported to be more effective in managing emotions when encountering unpleasant events such as academic tasks (Baltruschat et al., 2021; Peixoto & Gondim, 2020).

As reported by participants in the experimental group, through various exercises of mindfulness in MBCT-P, they became more relaxed, calmer, and more receptive to academic tasks.

When the academic procrastinator is able to observe the various negative thoughts and feelings that accompany academic tasks without providing judgment, he will become calmer, no longer afraid of the tasks received, and become more prosperous (Kang & Gray, 2013; Kabat-Zinn, 2023). After receiving MBCT-P, participants in the experimental group showed improvement in their ability to manage their emotions. So, when they received a task, they could manage their emotions and not automatically assess the task as unpleasant. This is supported by several studies that showed that individuals with high emotional regulation tend to have low academic procrastination (Asri et al., 2017; Fitriya & Lukmawati, 2017).

Term Mindfulness has recently become a lot of studies in the field of psychology, actually long before it became part of the teachings of Islam. Mindfulness in the Islamic view can be interpreted as a condition where the individual has full awareness of the presence of Allah Almighty in every aspect of life (Applebaum, 2023). A Muslim who has high mindfulness in every thought, feeling and action will always involve Allah SWT (Helminski, 2017). Term Mindfulness is certainly not to be found in Islamic literature, but many Islamic teachings have long before been taught mindfulness. Among some of the teachings of Islam that contain Mindfulness are: (1) Tafakkur; (2) Dzikir; (3) Gratitude; (4) Patience; (5) Tawakal; and (6) Prayer (Applebaum, 2023). Kabat-Zin (1982, 2003, 2023) in his various writings mentions that to improve mindfulness skills can be obtained through formal (such as sitting with reflection) and non-formal (doing daily activities mindfully) exercises. Prayer activities in Islam are a form of formal exercise of mindfulness, while gratitude, tafakkur, and tawakal are part of the practice of non-formal mindfulness.

The MBCT-P intervention used in this study used several mindfulness exercises such as eating with reflection, sitting with reflection, body scan, and breathing with reflection which aims to train individuals to observe, describe, focus, and be aware of various thoughts and feelings that arise when confronted on a task. The activities in several MBCT-P exercises are similar to tafakkur and dhikr. Other exercises used in MBCT-P are allowing and letting go exercises, mindfulness exercises through metaphors, and SOBER exercises which aim to train individuals to be aware of various thoughts and feelings and accept all experiences related to the task without making judgments. The activities in several MBCT-P exercises are similar to gratitude, patience, and trust. Meanwhile, all the exercises in MBCT-P can be summarized in prayer activities.

Tafakkur is a process of deep contemplation and reflection, where individuals try to remember Allah SWT through all His creations on Earth (Zaman et al., 2023). Tafakkur activities involve a process where a person will focus attention on objects or events around him and try to realize and accept that everything in the world is the creation of Allah SWT (Fithriah et al., 2021). Tafakkur is technically no different from the mindfulness exercises in MBCT-P, so when someone is doing tafakkur at that time they are actually doing exercises to become mindful. Tafakkur has similarities with several MBCT-P exercises, such as eating practice with contemplation, sitting practice with contemplation, and breathing practice with contemplation. When carrying out several MBCT-P exercises, individuals will be taught to focus on objects that are outside themselves, practice describing objects that are outside of themselves, and then practice being aware of all the thoughts and feelings that arise along with them. All of these activities are also carried out when the individual is tafakkur. In various studies, tafakkur or contemplation also has the same benefits as mindfulness. Contemplation is reported to be associated with happiness and psychological well-being (Zaman et al., 2023; Rastelli et al., 2021). Tafakkur to Allah SWT can also improve spiritual well-being when an individual focus on Allah and chants the names of Allah (dhikr) then the individual will gain inner peace (Fourianalistyawati, 2018).

Gratitude in Islam is defined as an individual's mental and spiritual attitude in the form of appreciating everything given by Allah SWT. Gratitude involves a process where an individual will try to let go of various negative thoughts and feelings related to the gifts of Allah SWT, and then try to accept what Allah SWT has given (Wiharjanto & Suharyat, 2022). Meanwhile, patience in Islam is defined as an attitude where individuals can restrain themselves and remain calm when faced with various difficulties or tests from Allah SWT (Rangkuti & Pasaribu, 2023). In mindfulness discourse,

gratitude has similarities with the practice of allowing and letting go, while patience has similarities with the practice of SOBER. Gratitude and patience in various studies have also been reported to have extraordinary benefits. Gratitude has a strong relationship with happiness, and calm, and can motivate individuals to develop for the better (Armenta et al., 2017; Watkins et al., 2003).

One of the main traits of people who have a high level of mindfulness is their ability to accept all events in life (acceptance). This attitude of acceptance in Islam is called tawakal, which is a mental and spiritual attitude in which the individual surrenders everything that will happen to Allah Almighty (Azizah, 2022). The captive individual submits the problems that cannot be resolved to Allah SWT, then accepts everything that will happen by the will of Allah SWT. There are many verses in the Qur'an that emphasize the importance of tawakal, such as in the Qur'an Surat Al-Imran Verse 122 which means "and only to Allah Almighty, only believers are captive" (Kementerian Agama, 2016).

The tawakal attitude has enormous benefits, in psychological reviews, tawakal can improve psychological well-being (Ikhwanisifa & Raudatussalamah, 2022; Kataria et al., 2023; Rahman, 2022). There are so many benefits of tawakal described in the Qur'an, including: (1) getting convenience in the World and Hereafter (QS. Ath Talaq: 1-2); (2) being easily adaptable to various problems; (3) increasing the spirit of never giving up; (4) making individuals more independent (QS. Al-Furqan: 58); (4) giving soul power and able to overcome various temptations of Satan (QS. An-Nahl: 99). In addition to tafakkur, gratitude, patience and tawakal which have benefits to improve mindfulness, prayer in Islam also has many virtues, including increasing mindfulness. The ritual of prayer worship begins with takbir and ends with greetings. During the prayer, the individual is required to always focus and remember Allah SWT (khusyu'), then at the time of bowing and bowing down, praise the majesty of Allah SWT, while surrendering to Allah SWT. It has a lot in common with the practice of mindfulness, not the activity of prayer that equals mindfulness but the practice of mindfulness has actually been taught a lot in Islam (Thomas et al., 2017). Prayers performed solemnly will increase mindfulness, making individuals happy, prosperous, and optimistic, and avoid all problems (Albatnuni & Koszycki, 2020; Chamsi-Pasha & Chamsi-Pasha, 2021; Mawdah, 2020; Syamila & Mansoer, 2023).

CONCLUSION

This study reinforces previous studies suggesting that a combined approach between cognitive therapy and mindfulness (positive psychology) has a greater effect on decreasing academic procrastination. The use of MBCT-P can be an alternative intervention for academic procrastination because it is quantitatively proven to have a greater effect when compared to other combination approaches. Qualitatively, all exercises in MBCT-P provided great benefits to the study participants and were not limited to decreasing academic procrastination. The concept of mindfulness is not new in Islam, many Islamic teachings contain the practice of mindfulness. Yet, there are not many experimental studies that use dzikir, tafakkur, tawakkal, gratitude, and prayer therapy to solve a problem. In the future, experimental research like this needs to be carried out so that Muslims have a lot of literature regarding the benefits of various Islamic teachings. Psychologists and practitioners in education can use MBCT-P to help university students or university students who have academic procrastination, especially those whose academic procrastination in the medium and high categories. The use of MBCT-P in a wider variety of participants is necessary to test the reliability of MBCT-P.

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