

Mindfulness Training to Reduce Ego Depletion in College Students: A Quasi Experimental Study

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Abstract : Ego depletion is a condition where individuals experience a setback in self-control and daily activities. The aim of the intervention was to determine the effectiveness of mindfulness training in reducing ego depletion in 6th semester students. There were 60 participants divided into the experimental group (N=30) and the control group (N=30). Mindfulness training in this study consisted of five sessions. The design of the study was an untreated control group design with dependent pretest and posttest samples. Data analysis used descriptive statistical techniques with quantitative and qualitative tables. The ego depletion research instrument uses an adaptation scale totaling 15 items of physical, mental and emotional exhaustion. The results showed that there were significant differences in the experimental group and the control group. This proves that mindfulness is proven to reduce student ego depletion.

INTRODUCTION

There are a number of factors that cause individuals to experience ego depletion. According to Undarwati et al., (2017) the group that experienced the most ego depletion was the student group. Where these factors are caused by personal will, social demands, self-control, busyness, family problems, idealism, and pre-menstrual factors. In addition, other causes that can form ego depletion according to Baumeister et al., (1998), namely self-control, making decisions, self-regulation, and also choices.

Students can be said to experience ego depletion if they meet three aspects, namely physical exhaustion, mental exhaustion, and emotional exhaustion. Physical fatigue is extreme physical exhaustion, as well as reduced individual ability to engage in physical activities that will be experienced during the working day. Mental fatigue is extreme mental fatigue, as well as reduced individual ability to engage in physical activities that will be experienced

during the working day. Emotional fatigue is extreme emotional exhaustion, as well as reduced individual ability to engage in physical activities that will be experienced during the working day (Frone & Tidwell, 2015).

Research on ego depletion reveals that as many as 92% of postgraduate students are prone to experiencing ego depletion which is characterized by disturbances in cognitive, emotional, self-control, anxiety, and prospective memory (Dwi & Ningtyas, 2021). According to Undarwati et al., (2017) students who experience ego depletion experience physical fatigue, psychological fatigue, and helplessness.

Students are one of the individuals who are prone to experiencing ego depletion during lectures. Judging based on the age of students, namely the range of 18 to 25 years, which at that age is a transition period from adolescence to early adulthood. There are demands and developmental tasks for students arising from several aspects such as physical, psychological,

and social (Hulukati & Djibran, 2018). In addition, students can also experience ego depletion because of the increasing demands on the world of lectures. Demands such as organizations, lecture assignments, and friendships (Syafira & Paramastri, 2018).

In addition, according to Waluyo et al., (2018) students who experience ego depletion have several levels, namely high, medium, and low. Research from Gissubel et al., (2018) states that the effect of ego depletion on students results in disruption of learning abilities, and also academic performance. Also, ego-depression also affects students' academic motivation (Hagger et al., 2010). This is indicated by the presence of mental fatigue, and decreased self-confidence in students.

Ego depletion can also be experienced by workers or employees (Rahim & Fauzihardani, 2023). One of the factors that causes employees to experience ego depletion is the quality of audit judgment. Also, according to Harkness et al., (2015) ego depletion can interfere with individual memory. Where individuals who experience ego depletion will experience difficulties in the ability to present more actual information.

Previous research has shown that ego depletion can be treated with several treatments, one of which is mindfulness training. Mindfulness is a skill in providing attention that focuses on one goal, living in the present or living in the present (Kabat, 1990; Fachrudin & Hasanat, 2016; Fourianalistyawati & Listiyandini, 2021). Mindfulness focuses on individual personal experiences, such as breath, body sensation or body sensations, accepted thoughts and emotions or feelings and thoughts (Germer, 2009; Fourianalistyawati & Listiyandini, 2021).

Syafira & Paramastri, (2018) provide mindfulness training as an intervention in dealing with ego depletion in college students. As a result, those who received mindfulness training felt a change in the form of positive benefits, especially in breathing exercises so that they experienced a decrease in ego depletion compared to those who did not receive training.

Wijayaningsih et al., (2022) also performed mindfulness techniques when dealing with insomnia in college students. As a result, mindfulness techniques help students who experience insomnia and can have more effective sleep patterns.

Mindfulness training conducted by Bennett, et al., (2018) also affects the performance of recalling information or remembering students. The results showed that students who were placed in the mindfulness training group remembered faster than those who did not receive training. Research from Azmi Arifuddin, et al., (2021) shows that the mindfulness training intervention provided is effective in reducing alexithymia levels in college students. Where students who receive mindfulness training can better show the emotions they are feeling. Rahmawati, et al., (2020) also conducted mindfulness teaching training which was effective in increasing the responsive welfare of teachers in inclusive schools.

In addition, research conducted by Krisdiyanto (2022) provides mindfulness meditation training to improve emotional regulation so as to reduce aggressive behavior. As a result, mindfulness meditation training can be used as a way to improve emotional regulation. Fourianalistyawati & Listiyandini (2021) also perform mindfulness techniques to improve the quality of awareness. As a result, mindfulness techniques help students carry out their activities more optimally. So that mindfulness training can be used by students to reduce the level of ego depletion experienced.

The essence of mindfulness is awareness and attention. Where, awareness influences self-control and self-regulation by paying attention to cognition and individual behavior (Yang & Li, 2020). Mindfulness training is proven to overcome ego depletion. This is because, in mindfulness, individuals will be encouraged to maintain an orientation regarding self-control, openness, and acceptance (Stocker et al., 2019). In addition, when individuals experience inner conflict due to ego depletion, mindfulness will help in providing encouragement to reflect on

the pros and cons regarding the behavior or decision to be taken (Englert, 2017).

Mindfulness training to reduce the level of ego depletion experienced by students is very important. This is because if the level of ego depletion is higher, it will have an influence on attention control (Garrison et al., 2019). In student settings, decreased ego depletion conditions will have an impact on their academic motivation and academic performance. This is important because students need the ability to overcome the ego depletion they face (Hagger et al., 2018). This study aims to look at the effectiveness of mindfulness training in efforts to overcome ego depletion in sixth semester students.

METHOD

Research Design

This research is an experimental research, using an untreated control group design with dependent pretest and posttest samples. There are two groups, namely the experimental and control groups. Treatment was given to the experimental group while the control was not. Post - test was carried out with the same measuring instrument as the Pre - test, for both groups. The results of the pre - test and post - test will be compared, to find out whether there is a significant difference. The design notation in this proposal is according to Creswell (2014).

Table 1: Research Design

Experiment:	NR	O₁	X	O₂
Control:	NR	O₁		O₂

Research Respondents

Respondents of this study were 6th semester students of UIN Sunan Ampel Surabaya. The selection of respondents was carried out based on a number of criteria, namely the results of the initial screening showed the presence of ego depletion in the high category.

Research Instruments

The measuring instrument in this study adapted the Ego Depletion scale created by Frone & Tidwell, (2015). The Ego Depletion Scale is a 15 item scale that measures 3 aspects of ego depletion: (a) Physical fatigue involves extreme tiredness and an inability to engage in physical activity or is extremely physically exhausted and unable to engage in physical activity (eg, Item 3 : "On campus, I often feel tired"), (b) Mental fatigue involves extreme tiredness and an inability to engage in physical activity or is extremely tired and unable to think or concentrate (eg, Item 11: "When I tired, I have difficulty concentrating), (c) Emotional fatigue involves extreme mental tiredness and an inability to feel or show emotions (eg, Item 7: when I am tired, I get angry easily).

The instrument was rated on a 4-point Likert scale: very suitable (4), suitable (3), not suitable (2), very unsuitable (1). The scale allows assessment of the risk and severity of student ego depletion using three cut-off scores (Gonzalez, 2022). A total score below 20 is considered a low level of ego depletion. Scores between 21 and 40 are considered moderate levels of ego depletion. Meanwhile, a score between 41 and 60 is considered to have a high level of ego depletion.

Data Collection Procedures

The data collection procedure in this experimental research consisted of three stages, namely the pre-experimental stage, the treatment stage and the post-experimental stage. The pre-experimental stage consisted of determining the population, preparing ego depletion instruments, screening, and developing a treatment plan. At the experimental stage, pretest, treatment, and posttest were carried out. Respondents were given an Ego Depletion scale before being given treatment. At the treatment stage, the respondents received intervention in two intervention meetings, each meeting the researchers made observations related to how the respondents responded.

There are several mindfulness techniques that can be used for students to reduce or reduce the level of ego-depletion (Syafira & Paramastri,

2018). The techniques are breathing meditation (Cho et al., 2016; Santoso & Rinaldi, 2022), body sensation (Hildebrandt et al., 2017), Compassionate Body Scan (Pintado, 2019), Open Awareness meditation (Ryan & Deci, 2000), Wanting Release (Krisdiyanto, 2022), Mindfulness is a Way of Life (Tobin, 2016).

In this study, researchers used two mindfulness techniques, namely open awareness meditation and breathing meditation. The reason we use these two techniques is from research from Syafira & Paramastri (2018) only using 1

intervention session (1 technique used), namely mindfulness breathing and two additional sessions, namely opening and follow-up to reduce ego depletion in new students. The existence of the open awareness meditation technique in this study provides novelty to research related to mindfulness and ego depletion.

mindfulness training lasts for two days with a total of 5 sessions. Each session has its own theme with the following arrangement:

Table 2: Mindfulness Training Intervention Session

Session	Activity	Objective
Session 1 (Introduction and Observing)	<ul style="list-style-type: none"> • Introduction • activity contract • material delivery • Pre-test • FGD ego depletion with problem tree 	Increase understanding regarding ego depletion, mindfulness training and self-awareness of triggers for psychological and physical fatigue as well as auto-observation
Session 2 Acting with awareness (Breathing Meditation)	<ul style="list-style-type: none"> • Breathing Meditation (breathing meditation) 	Promotes a relaxed state
Session 3 Acting with awareness (Open Awareness meditation)	<ul style="list-style-type: none"> • Breathing meditation • Open Awareness Meditation 	Increase security regarding the thoughts and feelings experienced from the conditions they are experiencing
Session 4 Accepting without judgment (Exercise five senses)	<ul style="list-style-type: none"> • Mindfulness quiz 5 senses (How to use your senses to get out of your mind) 	Makes you aware of how your body is really feeling
Session 5 reflection & Closing	<ul style="list-style-type: none"> • Post-test • Reflection • Prize distribution • Closing 	The facilitator fosters a perception of mindfulness that is important to do everyday by inviting them to reflect

The final stage is post-experimental. In the post-experimental stage, the pretest and posttest data were analyzed using descriptive statistics and the results of the observations were described.

Data analysis

Paired-Samples T-Test and Independent Sample t-Test analysis. Paired-Samples T-Test was conducted to find out whether there were differences in pretest and post-test scores in the experimental class before and after being given

the intervention. The paired sample t-test was carried out on the experimental group's pre-test data and the experimental group's post-test. In addition, the paired t-test was also carried out on the control group's pre-test data and the control group's post-test. The next data analysis is the analysis of the Independent Sample t-Test. This test is used to compare the post-test scores between the control group and the experimental group.

RESULTS

Statistic Data

The results of the statistical descriptive analysis of the experimental group and the control group can be seen in the following table.

Table 3: Pre-Post Test Descriptive Analysis

Measuremet	Experiment Group (N=30)				Control Group (N=30)			
	Min	Max	Means	std. Deviation	Min	Max	Means	std. Deviation
Pre-Test	31	54	44.70	6.176	38	51	43.73	3,814
Post-Test	18	43	30.10	7,554	35	85	44.60	9065

From table 3, it is known that the average pre-test result in the experimental group is higher, namely 44.70 compared to the average pre-test result in the control group, which is

43.73. As for the post-test scores in the experimental group, it was lower, namely 30.10 compared to the control group, 44.60.

Table 4: Test Paired Sample Pre-Post Test

Pair	Experimental Pre-Test - Experimental Post-Test	Paired Differences				t	df	Significance	
		Means	std. Deviation	std. Error Means	95% Confidence Interval of the Difference			One-Sided p	Two-Sided p
								14,600	10,685

The results of the paired t-test in table 4 on the pre-test and post-test data of the experimental group show a significance value of 0.000 <0.05. This shows that there is a significant difference

in the ego depletion of respondents before and after treatment.

Table 5: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Differences	std. Error Difference	95% Confidence Interval of the Difference			
									Lower	Upper		
Ego Depletion in Students	Equal variances assumed	.746	.391	-	58	.000	-14.50000	2.15436	-	-	18.81242	10.18758
	Equal variances not assumed			-	56,172	.000	-14.50000	2.15436	-	-	18.81541	10.18459

The results of the independent t-test on the post-test data for the experimental group and the control group showed a significance value of

0.000 <0.05. This shows that there is a significant difference between the ego depletion experimental group of respondents after being

given treatment compared to the control group who was not given treatment.

Qualitative Data

Table 6: Qualitative Data

No	Dimensions	Session	Respondents' reactions
1	Emotional fatigue involves extreme mental tiredness and an inability to feel or show emotions	Introduction And Observing	Respondents mentioned various kinds of emotional fatigue such as irritability, offense, explosiveness, being alone, and crying/sad. Where this is triggered by the many quite heavy assignments, organizational activities on campus and off campus, tired of having to prepare all your own physiological needs (offshore children), demands from family, conflicts with the mind, etc. They mentioned the effects they felt, such as easily feeling dizzy, feeling very tired, insomnia, feeling sleepy in class, complaining a lot, not doing their assignments optimally.
		Accepting without judgment (Exercise five senses)	Respondents revealed what the 5 senses they felt after participating in mindfulness meditation. In their listeners' senses they listen to breathing sounds, musical accompaniment, the facilitator's instructions. On their sense of smell they smell the air-conditioned room, body odor, perfume. In their sense of sight they see the color of the walls, the facilitator, their bodies, the blackboard, relaxed friends. On the sense of taste they feel bitter on the tongue. On the sense of touch they feel the touch of a hand on their body.
2	Physical fatigue involves extreme tiredness and an inability to engage in physical activity	Acting with awareness (Breathing Meditation)	Respondents felt relieved after doing breathing meditation, where they relaxed, breathed freely, calmed down, their muscles relaxed and their bodies felt light.
3	Mental fatigue involves extreme tiredness and an inability to engage in physical activity	Acting with awareness (Open Awareness meditation)	After conducting this session the respondents felt more focused, calmer, more relaxed, more aware that they mattered, more proud of themselves, not depressed by inner conflicts so far, grateful to themselves.
		reflection & Closing	Respondents want to perceive that mindfulness is important to do because it helps improve the mental state of those who feel easily mentally fatigued, feel bored and often feel less motivated

DISCUSSION

Based on the analysis of quantitative and qualitative data, it shows that there is a significant difference between the control group and the experimental group. Thus, the hypothesis in the study is acceptable, namely that there is a significant relationship regarding mindfulness training to reduce ego depletion in students of Psychology Study Program UIN

Sunan Ampel Surabaya semester 6. Data analysis proves that before being given treatment, the experimental group and the control group have ego depletion with a range quite high and tall. Whereas after being given treatment, the results showed that there were differences regarding the level of ego depletion between the control group and the experimental group. In other words, mindfulness training in

this study is proven to reduce ego depletion in college students.

Based on the results of the research that has been done, this is in line with the theory put forward by Yusainy & Lawrence, (2014) which states that mindfulness is proven to reduce ego depletion in terms of aggressive behavior. In addition, mindfulness is also proven to increase self-control in individuals who experience ego depletion (Friese et al., 2012). Research that is also in line with this research is from Shaabani et al., (2020) which states that, mindfulness can reduce emotional stress and stressful situations from ego depletion. In addition, mindfulness can have a positive effect on individual psychological conditions, including well-being and emotional regulation (Keng et al., 2011). The mindfulness technique in this study aims to help respondents overcome ego depletion by directing respondents to be more relaxed, calm, and comfortable in dealing with everything that happens. Especially those related to lectures such as course assignments or feelings of anxiety in the final semester of lectures.

In the first session of mindfulness training, namely introduction and observing, respondents were led to state what they are feeling at the moment. Respondents mentioned that they experienced various forms of emotional exhaustion. Such as irritability, crying, easy to despair, irritability, and various other negative emotions. The emotional exhaustion experienced by respondents is in line with the impact on daily life. Where respondents feel physically tired, dizzy, insomnia, procrastination, and decline in academic performance. From this, there are factors that make respondents experience emotional exhaustion, including: social demands, task demands, family problems, expectations, and even pre-menstrual syndrome. In other words, the emotional exhaustion experienced by respondents is called ego depletion.

After the respondents identified the emotional exhaustion they experienced. So the mindfulness training was continued with an acceptance without judgment session. In this session, respondents are required to feel their

five senses by paying attention to their surroundings. For example, on their listeners' senses they listen to breathing sounds, musical accompaniment, facilitator's instructions, and other five senses. In line with the theory of Baer et al., (2004), the aim of this session is to take a non-evaluative stance on thoughts, feelings, and bodily sensations without making judgments. Where, individuals will be directed not to be easy in judging by labeling the good and bad for the experiences or events that are going through or events at this time (Syafiasani & Rahayu, 2022).

One technique in mindfulness training is breathing meditation or breathing meditation (Santoso & Rinaldi, 2022). The purpose of breathing meditation is to regulate the condition of the inner body by changing the parameters of breathing (Drigas & Mitsea, 2022). In breathing meditation, individuals will be helped to improve emotional health, where emotional health is always related to physical health (Fernros et al., 2008).

Breathing exercises can improve lung function and also respiratory muscle strength (Jansang et al., 2016). Where, Aguilar-Raab et al., (2021) stated that breathing meditation can increase the hormone cortisol by reducing sympathetic activity, and the hypothalamus-pituitary-adrenal. In addition, Martin & Mardian, (2016) stated that meditation can also help individuals to reduce blood pressure. Also, breathing meditation can also help individuals to calm the body and mind (Syafira & Paramastri, 2018). Thus, this can help respondents to see from a clearer perspective about the problem at hand. In this breathing meditation session, respondents stated that they felt relieved after doing breathing meditation. This is marked by the body's response in the form of relaxation, light breathing, and a more focused mind.

Furthermore, in the core session, namely open awareness meditation, respondents were guided to close their eyes and listen to affirmations from the facilitator. The purpose of the session This is in line with research conducted by Kroon et al., (2015) which stated that open awareness is intended to open

individual minds about experiences or events experienced by individuals either in the past or present. Therefore, open awareness can increase empathy, perspective taking, and recognition of emotional intelligence (Dariotis et al., 2023). Apart from that, it can also improve self-acceptance and emotional regulation (Lindsay & Creswell, 2019). From the several benefits of open awareness that have been mentioned, this is evidenced by the responses of participants who stated that after doing meditation, respondents felt a positive impact, including: a calmer, more focused, and relaxed mind. Respondents also stated that they felt more accepting of themselves, and also felt more grateful for what they had been through. Where, this happened after the respondent received positive affirmations delivered by the facilitator.

CONCLUSION

Mindfulness training is proven to reduce ego depletion, especially in final students. This was reinforced by data analysis which proved that there were significant differences between the control group and the experimental group regarding ego depletion. Before the intervention was given, the respondents felt that they had emotional exhaustion which was characterized by irritability, crying, despair, and offense. And this has an impact on their daily activities, such as decreased academic performance, fatigue and dizziness, and also those who experience insomnia. The factor of ego fatigue that they experience is due to social and task demands, family problems, expectations, and can even be from pre-menstrual syndrome. The effect after being given mindfulness is that respondents feel their emotions are more positive, their minds are calmer, relaxed, and grateful.

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