

The Effects of Future Time Perspective on Self-Regulation in Learning Mediated by Mindfulness

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Abstract

Self-regulation is a significant thing to achieve better learning process. Therefore, students with low self-regulation will find it hard to manage their time, be passive, and lazy during the learning process. In this, mindfulness was verified to mediate the relationship between future time perspective on self-regulation in learning. This correlational study involved 347 students sampled using a simple random sampling technique, while the data analysis was carried out using bias corrected bootstrapping. Findings revealed that future time perspective predicted mindfulness, self-regulation in learning, while mindfulness predicted self-regulation in learning. Lastly, it was found future time perspective could increase self-regulation in learning through mindfulness. The findings imply the importance of realizing self-awareness for students in terms of psychology and behavior in the learning process.

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INTRODUCTION

Self-regulation in learning is significant because it demands students to have a metacognitive ability and motivate themselves to actively participate in learning (Zimmerman, 1989). Metacognitive process covers skills needed by students in learning, such as managing plans, schedules, or objectives to monitor and evaluate their learning progress (Kuo, Andrew, Kerstin, & Brian, 2014). Individuals with high self-regulation tend to have better learning abilities, study time management, and an ability to evaluate the learning process they had (Hargis, 2000). Therefore, good self-regulation is a must since it is important for students in the learning process.

Unfortunately, the fact says many students still have low self-regulation. A previous study on Senior High School students found that some students were caught sleepy during the class, did not pay attention to teachers' explanation, and were shy to ask when they have not yet understood the lesson yet. In addition, students were noticed to have low independence in learning proved by copying their friends' works, be pretty lazy to make notes, delay assignments completion, and bad study time management.

All above phenomena are assumed to happen due to the lack of self-management. Schultz and Ryan (in Ostafin & Robinson, 2015) state good self-regulation is strongly related to awareness. The awareness mediated by mindfulness promotes disclosure and sensitivity in either small or significant changes which can enable self-regulation (Teper, Segal, and Inzlicht, 2013). Mindfulness aspects of acting consciously and avoiding of being judgmental are prominent to self-regulation. Those who have mindfulness will have better performance, but this one is inseparable from having good self-regulation (Artika, Sunawan, and Awaliya, 2021).

According to Zimbardo and Boyd (2008) mindfulness is an awareness of the current efforts to cope with the desired goals. It is in line with a statement by Siegel (2009), namely

mindfulness functions to explore one's current thoughts, so it is truly related to other variables in student's life, such as future time perspective.

Based on Iyu and Huang (2016) future time perspective is one's characteristic which involves thoughts, feelings, and actions to something desired in the future. Ones who have future time perspective will be consistent, have good motivation, and be able to counter the present challenges to achieve the future goals. In other words, people with this ability will be good self-regulation in learning as well. It is in harmony with a theory by De Volder and Lens (1982) that students who have future orientations will actively involve in the learning process, and that thing will boost their future achievements.

An empirical proof regarding future time perspective is still few. That is why the present study was inspired to enrich the literature of future time perspective in an academic setting. A previous study by Bilde, Vansteenkiste, and Lens (2011) contributes initial support for the importance of a future time perspective in academic settings. However, it only emphasizes that in future time settings and does not emphasize the current state of increasing self-regulation in learning. To overcome this gap, this study sought to clarify the role of mindfulness mediation in the relationship between the future time perspective on self-regulation in learning.

METHODS

Respondents invited in this study totaled 347 students who's the range of age between 15-18 years and studied in 5 different Senior High Schools in Depok City, West Java. Those were selected using a simple random sampling technique.

In collecting the data, three scales were used, namely the scale of self-regulation in learning, the mindfulness scale, and the future time perspective scale. Since all instruments were adapted from foreign journal articles, back translation process was carried out to adjust all instruments to be Indonesian based.

Self-regulation in learning was measured using a Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintrich and Groot (1990). It aims to estimate 2 components of self-regulation in learning, namely cognitive strategy use and self-regulation. Each component consists of 12 and 9 items, so overall are 21 items scored using 7 options, namely (1) strongly disagree up to (7) strongly agree. In terms of reliability, this instrument got the value of Cronbrach α of 0.824 and was declared reliable. Therefore, this scale was used in this study.

Mindfulness was measured using a Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) designed by Feldman, Hayes, Kumar, Greeson, and Laurenceau (2007). CAMS-R aims to measure 4 components of mindfulness, namely Attention, Present Focus, awareness, and Acceptance. It consists of 12 items with 4 answer choices, namely (1) "never" to (4) "almost always." The result of the reliability test on this scale obtained a value of Cronbach α of 0.660 and was declared reliable. Thus, this scale was used in this study.

Future time perspective was determined using a Zimbardo Time Perspective Inventory (ZTPI-Short) scale compiled by Kostal,

Klicperova-Baker, Lukavska, & Lukavsky (2015). It aims to measure 2 components of the future time perspective, namely negative future and positive future. This scale consists of 6 items with 5 option criteria, namely (1) "strongly disagree" to (5) "strongly agree". The result of the reliability test on the ZTPI-short scale obtained a value of Cronbach α of 0.519 and was declared reliable, so this scale was used in this study.

With regard to data analysis, this study used a mediator analysis technique using the PROCESS application developed by Andrew F. Hayes (2013). Meanwhile, the data analysis technique in this study used bias corrected, bootstrapping.

RESULTS AND DISCUSSION

Based on the data description, the mean and standard deviation of each variable was ($M=21.84;SD=3.597$) for future time perspective, ($M = 115.27; SD = 14.302$) for self-regulation in learning, and ($M=33, 54; SD=4.376$) for mindfulness. A larger mean value shows a good representation of the spread of data. In detail the data are presented in table 1.

Tabel 1. Deskripsi Data

Variabel	N	M	SD
Futur time perspectyive	347	21.84	3.597
Self-regulation in learning	347	115.27	14.302
Mindfulness	347	33.54	4.376

Following the data description, the hypothesis testing was carried out using the PROCESS application. A mediation analysis was done using a bias corrected technique,

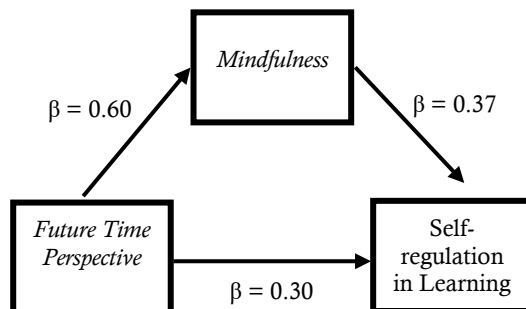
bootstrapping $N=5000$ with the confidential interval of 95%. The results are in the following table 2.

Table 2. The Effect of Mindfulness Variable as a Mediator

Predictors	β	<i>T</i>	<i>P</i>	se	LLCI	ULCI	R	R ²	F	<i>p</i>
Criterion : Mindfulness							0.60	0.36	195.31	<0.05
FTP	0.60	13.97	<0.05	0.052	0.62	0.83				
Criterion : RGL							0.60	0.36	100.79	<0.05
FTP	0.30	5.71	<0.05	0.21	0.79	1.63				
Mindfulness	0.37	6.94	<0.05	0.17	0.87	1.56				
total effect	2.10	11.61	<0.05	0.18	1.75	2.46				
Indirect	0.88			0.15	0.60	1.19				

Regarding table 2, future time perspective had a positive effect on mindfulness by ($\beta=0.60$, $p<0.05$) or 36% ($R^2=0.36$). Then, this variable also had a positive effect of self-regulation in learning by ($\beta=0.30$, $p<0.05$) or 36% ($R^2 = 0.36$).

Another result was mindfulness affected self-regulation in learning by ($\beta=0.37$, $p<0.05$) or 36% ($R^2 = 0.36$). Next, this variable positively mediated the effects caused by future time perspective on self-regulation in learning by ($\beta=0.88$; $\beta=2.10/p<0.05$) with confidential interval of 95% and 10,000 bootstrap samples between 0.60 (LLCI) – 1.19 (ULCI). Deeper details of the regression analysis and mediation are visualized in Figure 1.



The Effect of Mindfulness Variable as a Mediator

The findings indicated that future time perspective affected mindfulness. It is in line with a study by Simons, et al (in McInerney, 2004) that individuals with high future time perspective tend to have a better view on their future goals and have greater awareness of what they are doing. Further, a study by Michael, Antonina, Linnea, Terese, Elisabeth, and Maria (2019) concludes that an individual who has a

high or balanced future time perspective tends to have a better awareness of what he is currently doing.

The above findings infer that individuals who have a positive and high future time perspective will tend to realize things they are currently doing (mindfulness) and have an awareness of the future.

Another finding is future time perspective predicted self-regulation in learning. It is in association with a study by De Volder and Lens (1982) that a future time perspective will have a positive effect on the improvement of students' learning process. Then, an investigation done by Bilde, Vansteenkiste, and Lens (2011) found that an individual who has a high future time perspective will have high motivation in the learning process, good behavior in the learning process such as managing time well, and psychologically will focus more on the learning that is being done.

The above things can happen because future time perspective has a positive psychological characteristic as reflected in motivation which triggers individuals to highly engage in learning process, covering managing effective study time and punctually complete assignments given.

Mindfulness has been confirmed to predict self-regulation in learning. It is similar to that of Ramli, Alavi, Mehrinezhad, and Ahmadi (2018) that the higher the level of awareness of an individual at the moment (mindfulness), the higher the self-regulation in the learning process will be. Meanwhile, the results of a study conducted by Teodorczuk, Guse, and Du Plessis (in Puspita and Suhadianto, 2021) show that

individuals who have self-awareness (mindfulness) tend to be able to carry out learning activities with full sincerity and address each stage of the learning process with full attention.

The previously mentioned phenomena can happen because mindfulness has psychological characteristics which support individuals to actualize actions in the learning process, such as present focus, awareness of what to do, and full consciousness on what is being done. These make individuals more effective in taking part in the learning process and prioritize the learning the most.

Mindfulness was also found to correlate future time perspective and self-regulation in learning. When future time perspective and mindfulness are successfully collaborated, self-regulation in learning will be easier to achieve. The future time perspective coming from within individuals will increase mindfulness, and the effects of future time perspective and mindfulness can enhance individual's ability in the learning process undertaken (Zhangm et al, 2020). It provides benefits for students' cognitive and affective stability which will ultimately increase motivation and also desire in the student learning process (Martin, et.al., 2021). Thus, the results of this study indicated that the future time perspective can improve self-regulation in student learning through mindfulness.

The limitation of this study takes place in the limited discussion of the effect of future time perspective on self-regulation in learning mediated by mindfulness so that there was no intervention given. Therefore, the findings of this study are expected to be used as a basis for the future experimental studies because future time perspective also acts as a self-skill and can be realized in the form of exercises as an effort to increase self-regulation in student's learning.

CONCLUSION

This study has successfully showed a direct effect of future time perspective on self-regulation in learning through mindfulness.

Since it only investigated the correlation between those three variables, the future investigations are recommended to use the findings as a basis for experimental studies. It is because future time perspective also acts as a self-skill that can be realized in the form of training as an effort to increase self-regulation in learning.

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