ORIGINAL ARTICLE

The Relationship between Psychological Well-Being and Self-Directed Learning in Medical Students

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ABSTRACT

INTRODUCTION: Student well-being plays a crucial role in influencing self-directed learning (SDL), particularly among medical students who face intense academic demands. This study aimed to assess the levels of psychological well-being and SDL among undergraduate students at the Faculty of Medicine, Universitas Islam Indonesia (FM UII), and to examine the relationship between the two variables. **MATERIALS AND METHODS:** An observational, cross-sectional study design was employed, involving 317 undergraduate medical students from FM UII. Data collection utilized the Indonesian versions of Ryff's Psychological Well-Being Scale and the Self-Directed Learning Readiness Scale. Univariate and bivariate analyses were conducted to evaluate the data and determine correlations. **RESULTS:** Findings revealed that most students demonstrated moderate to high psychological well-being. SDL levels were predominantly high, with 74.8% of respondents reporting a high level of SDL, 25.2% reporting a moderate level, and none reporting low SDL. A statistically significant positive correlation was identified between psychological well-being and SDL ($p=0.000$; $r=0.352$), indicating a moderate relationship. **CONCLUSION:** The results suggest that most medical students at FM UII possess good psychological well-being and strong SDL readiness. A positive correlation between psychological well-being and SDL indicates that students with higher well-being are more likely to be confident and proactive in managing their own learning. These findings highlight the importance of fostering a supportive academic environment that prioritizes student mental health to enhance SDL capabilities. Faculty and educators should therefore integrate strategies that promote psychological well-being to improve learning outcomes.

Keywords
psychological well-being, self-directed learning, medical students

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INTRODUCTION

One of the main objectives of learning in higher education is the achievement of student competencies. The achievement of learning competencies is influenced by many factors, one of which is self-directed learning. Students need self-directed learning (SDL) to support their learning success, especially medical students who study in a student-centred learning system. Student-centred learning is a learning system that requires students to take an active role in the learning process instead of only receiving material from the lecturers as their facilitators. Medical students also need self-directed learning due to the significant amount of learning load and complexity of the learning material.[1]

The high learning load and demand for mastering the competencies in the medical faculty become a stressor for students. Previous studies have shown that the prevalence of stress among medical students is quite high, reaching more than 30%. In addition, many medical students experience anxiety or other psychological disorders, which can lead to mental health disorders.[2,3] This psychological condition can affect students' well-being, especially their psychological well-being.

Psychological well-being is the integration of six dimensions which include the ability of individuals to accept themselves as they are (self-acceptance), establish

a positive relationship with other individuals (positive relation with others), have independence in dealing with social pressure (autonomy), control the external environment (environmental mastery), have a life purpose (purpose in life), and have the ability to materialize and continuously develop their potential (personal growth).[4]

Achieving psychological well-being will have a positive impact on the corresponding dimensions. In the self-acceptance dimension, individuals will feel satisfied with themselves and accept any past events in their lives. In the positive relationship with others and environmental mastery dimensions, individuals will feel the freedom in socializing and be able to create an environment that suits their needs. In addition, in the autonomy and personal growth dimensions, individuals will be able to develop their attitudes and actions without depending on others. In the purpose in life dimension, individuals will focus not only on the past but also on the directed goals which have been set for the future life.[5] A failure to achieve psychological well-being will have an impact on the inability to control situations. This will negatively affect the cognitive, emotional, physiological, and behavioural aspects of individuals.[6] Furthermore, decreased psychological well-being in students is likely to influence their self-directed learning, which will further play a role in reducing student achievement.[7]

Self-directed learning is the attitude of an individual towards being independent of others while going through a learning process, having the freedom to make decisions, and showing great initiative and effectiveness in taking action, which is spurred by self-encouragement or intrinsic motivation to master specific competencies although there is still the possibility of involving others. One of the characteristics of individuals with self-directed learning is that they have the willingness to progress and develop, along with the ability to think critically, creatively, and innovatively.[8] In addition, such individuals can work independently with perseverance and discipline, as well as being able to master the skills in their field.[9]

Both characteristics can be influenced by psychological well-being since they reflect the impact of achieving psychological well-being from the autonomy and personal growth dimensions. Individuals who can take on the autonomy and personal growth dimensions of psychological well-being will be eager to improve their attitudes and actions without relying on others.[5] Several previous studies have examined the correlation between student psychological well-being and students' ability to manage their learning (self-regulated learning). Some findings show that psychological well-being is associated with self-regulated learning.[10] Furthermore, another study specifically assessing self-directed learning and well-being also found that there is a correlation between both aspects.[11,12] However, as far as the researchers are concerned, there have been no studies examining the correlation between psychological well-being and the self-directed learning of medical students who have more specific characteristics compared to students majoring in other subjects. Therefore, this research aims to identify the levels of self-directed learning and psychological well-being of medical students and their correlation.

MATERIALS AND METHODS

This study is an analytical observational study with a cross-sectional design. The population of this study was undergraduate students of the Faculty of Medicine of Universitas Islam Indonesia. The samples were determined by using a proportionate stratified random sampling technique. The inclusion criteria for the research samples were active undergraduate students of the Faculty of Medicine of Universitas Islam Indonesia for the 2021/2022 academic year who had never taken academic leave. Meanwhile, the exclusion criteria were for students who were receiving scholarships, students who were being diagnosed with severe medical disorders in the last month, students who had been or were being diagnosed with psychiatric disorders, and students who were taking psychiatric drugs.

To determine the level of psychological well-being of the respondents, the questionnaire instrument Ryff's Psychological Well-Being Scale (RPWBS) was used. This questionnaire was developed based on the

psychological well-being dimensions invented by Ryff.[4] The psychological well-being instrument used in this study was a form of adaptation by Revelia (2018) with its 43 statement items and 4 answer choices, including "absolutely appropriate", "appropriate", "inappropriate", and "absolutely inappropriate", which were then converted into numbers 1-4 with a Likert scale according to the favourable and unfavourable items.[13] The questionnaire was tested for construct validity with a t value of >1.96 and for reliability with a Cronbach alpha score of 0.810.

Furthermore, the level of students' self-directed learning was measured by using the Self-Directed Learning Readiness Scale questionnaire. The instrument was developed by Guglielmino, containing several questions related to the characteristics, independence, desire, and learning motivation of the respondents.[14,15] This study used the adapted version in the Indonesian language.[16] The questionnaire had been validated with a validity score of r>0.268 and a Cronbach alpha reliability score of 0.90.[17] There were 36 statements to answer with the choices in a Likert scale consisting of "strongly agree", "agree", "neither agree nor disagree", "disagree", and "strongly disagree".

Following the distribution, a total of 355 students from year 1 to year 4 filled out the questionnaire; of this total, 38 responses were excluded from this study since they did not meet the inclusion criteria. The data from 317 respondents was analyzed by using both descriptive analysis and correlational analysis. The descriptive analysis was carried out to identify the distribution of characteristics among the research samples, especially those related to the level of psychological well-being and self-directed learning. Meanwhile, the correlational analysis was performed to examine the correlation between the two ordinal-scale variables.

This research received ethical approval with No. 7/ Ka.Kom.Et/70/KE/VIII/2021 from the Medical and Health Research Ethics Committee of the Faculty of Medicine of Universitas Islam Indonesia. All the respondents had been informed about the study and had signed an informed consent form.

RESULTS

A total of 317 students participated in this study, with an average age of 19.63 years, comprising 85 male respondents (26.8%) and 232 female participants (73.2%).

Table I: Sociodemographic characteristics of participants (n=317)

Variables		Frequency	%
Age			
	16-20	228	71.9 %
	21-24	89	28.1 %
Gender			
	Male	85	26.8 %
	Female	232	73.2 %
Grade/Year			
	4th	69	21.8 %
	3rd	92	29.0 %
	2nd	77	24.3 %
	1st	79	24.9 %

Most of the respondents self-reported having a high level of self-directed learning (237 respondents or 74.8%). Meanwhile, 80 respondents with a percentage of 25.2% self-reported having a moderate level of self-directed learning, and none of them self-reported having low self-directed learning (Table 2).

Table II: Distribution of the levels of self-directed learning

Indicator	Mean ± SD	N	%
Low		0	0 %
Moderate	122.1 ± 8.6	80	25.2 %
High	145.2 ± 10.5	237	74.8 %
Total		317	100 %

Low: (X<84); Moderate (84 ≤X<132); High: (X≥132)

In addition, Table 3 shows that psychological well-being is at a moderate level, with a percentage of 69.4% and a frequency of 220 respondents. The remaining 94 respondents (29.7%) self-reported having a high level of psychological well-being, whereas 3 or 0.9% of respondents self-reported having a low level of psychological well-being.

Table III: Distribution of the levels of psychological well-being

Indicator	Mean ± SD	N	%
Low	74.7 ± 7.6	3	0.9 %
Moderate	116.8 ± 8.3	220	69.4 %
High	137.3 ± 8.3	94	29.7 %
Total		317	100 %

Low: (X<86); Moderate (86 ≤ X < 129); High: (X ≥ 129)

In terms of the other variables (confounding variables) that might influence students' self-directed learning and psychological well-being, which are gender, age, and year of study, the results are described in Figures 1, 2, and 3. The results in Figure 1 show that most male and female

students self-reported having high self-directed learning skills, and only about 25% of students in both groups reported having moderate levels of self-directed learning skills. No students reported having low self-directed learning skills. On the other hand, the level of psychological well-being in both male and female students, as self-reported, was moderate (more than 65%) and followed by a high level. Only less than 1% of male and female students self-reported low psychological well-being.

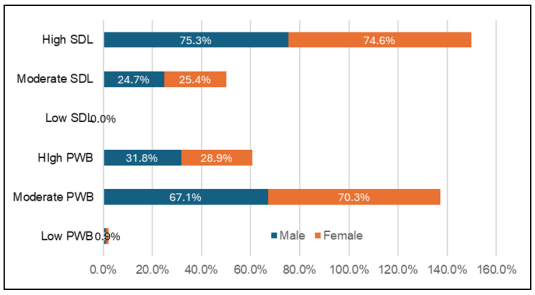

Figure 1: Distribution of self-directed learning (SDL) and psychological well-being (PWB) based on gender.

Figure 2 shows that older students self-reported having better psychological well-being than younger students (40.4%). Most younger students self-reported having moderate psychological well-being. Figure 2 also indicates that most students in the younger and older groups reported having high self-directed learning.

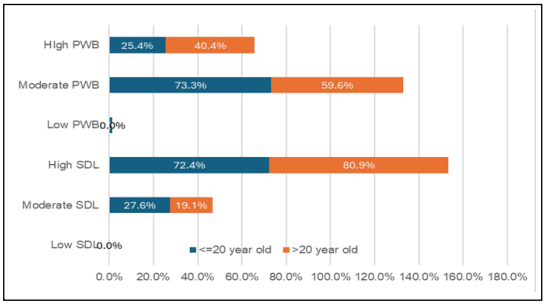

Figure 2: Distribution of self-directed learning (SDL) and psychological well-being (PWB) based on age

Figure 3 indicates that most students in each year self-reported having high self-directed learning skills, and there was an increasing trend from year 1 to year 4. No students each year self-reported having low self-directed learning skills. On the other hand, most students each year self-reported having moderate psychological well-being. The highest percentage was in year 2 (more than 80%). Students with high levels of psychological well-being were around 18%-35%. Only a few students self-reported having low psychological well-being each year (< 1%).

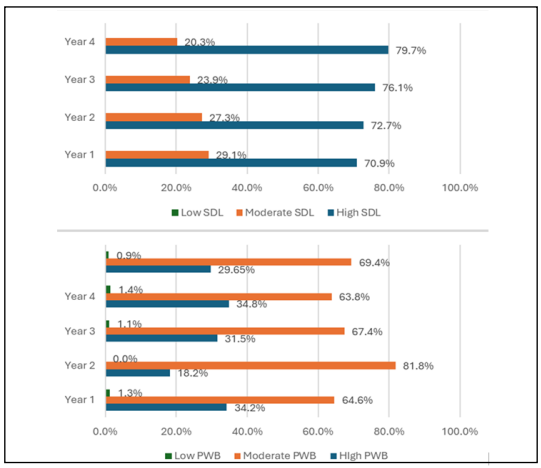

Figure 3: Distribution of self-directed learning (SDL) and psychological well-being (PWB) based on year of study

The chi-square test resulted in a p-value of 0.000 (<0.05), indicating that there was a statistically significant correlation between psychological well-being and self-directed learning of the students of FM UII (Table 4). From Spearman's correlation test, the obtained correlation coefficient was 0.352, which indicated that the strength of the correlation between the two variables was moderate. The positive correlation coefficient resulted in this study showed that the higher the level of psychological well-being of the respondents, the higher the level of self-directed learning, whereas the lower the level of psychological well-being, the lower the level of self-directed learning.

Table IV: Correlation between psychological well-being and self-directed learning

		Self-directed Learning				Total		p value *	Correlation Coefficient
		Moderate		High					
		n	(%)	n	(%)	n	(%)		
Psycho-logical well-being	Low	2	0.6	1	0.3	3	0.9	0.000	0.352
	Moderate	76	24	144	45.4	220	69.4		
	High	2	0.6	92	29.1	94	29.7		
Total		80	25.2	237	74.8	317	100		

The Chi-square analysis was also conducted to analyze the correlation between students' self-directed learning, psychological well-being, and confounding variables (gender, year of study, and age). There was no correlation between the confounding variables (gender, year of study, and age) and students' self-directed learning skills (p>0.05). The results also show no correlation between the variables of gender, year of study, and psychological well-being. However, a significant correlation was found between age and psychological well-being (p<0.05).

DISCUSSION

In this study, most of the respondents self-reported having high and moderate levels of self-directed learning, and no students reported having a low level of self-directed learning. The results also show that the level of self-directed learning increased from year to year (year 1 to year 4). One of the likely causes of this finding is the active, self-directed learning system applied in the Problem-Based Learning (PBL) method. FM UII has been implementing PBL as the main learning method for approximately 21 years. The PBL method is a learning approach that presents problems in life as a learning context for students. This allows students to think more critically and to hone their skills in solving existing problems. The PBL method can encourage students to be more independent since they are required to be able to determine their learning goals and essential concepts based on the lectures or learning material given. In addition, the high level of self-directed learning among these medical students can result from the learning methods and activities used in the medical faculty, which can significantly improve their self-directed learning, such as the individual and group assignments, research programs, and Focus Group Discussions (FGDs).[8]

The result also shows that the older students tend to have higher self-directed learning levels than the younger ones. Even though the level of self-directed learning between younger and older students was not significantly different, the results indicate that self-directed learning is a skill that develops over the life span until someone is 50. The development of self-directed learning is consistent in both females and males. This condition is the underlying reason why there were no significant differences in the level of self-directed learning across genders in this study.[18]

In this study, the respondents' psychological well-being was reported to be at moderate and high levels. One of the factors that has been found to affect the level of psychological well-being is educational attainment and socioeconomic status; the better the education that an individual attains, as well as the social status and income, the better the psychological well-being.[16,19,20] According to a study involving FM UII students as the respondents, it was found that 46% of the respondents had an allowance of >1 million IDR per month.[21] This indicates that FM UII students are likely to have a high economic status. In addition, education is one of the factors that is directly proportional to social status.[22] The respondents involved in this study were undergraduate students, thus showing that they pursue higher education, which correspondingly indicates their likely high social status.

The results of this study also show that the level of psychological well-being did not correlate with gender. It means that the levels of psychological well-being in males and females were not significantly different. This finding aligns with previous research showing that psychological well-being was not influenced by gender.[23] Other previous research showed various results regarding the correlation between gender and psychological well-being. These results depended on the context of the research, culture, and other factors, such as the characteristics of the research subject.[24]

The result of this study also reveals that the age of the subjects is related to the level of psychological well-being; the results indicate that older students had a higher level of psychological well-being. This research aligns with previous research conducted in three age groups (young, adult, and elderly). The result of previous research showed that each age group had different psychological well-being levels. This condition might happen because age or maturity could influence someone's ability to make meaning in life and psychological well-being.[25]

In addition, the research revealed that there was a correlation between psychological well-being and students' self-directed learning ($p<0.05$), with a positive correlation strength. This indicates that the higher the level of psychological well-being of the respondents, the higher the level of their self-directed learning. A high level of psychological well-being indicates optimal positive psychological functioning. One of the impacts of

achieving psychological well-being is the ability to develop without depending on others.[26] Students with high psychological well-being will have confidence in their abilities and efforts to develop, thus leading to a higher level of self-directed learning. On the other hand, students with a low level of psychological well-being will tend to be insecure, depend on others, have difficulty establishing good relationships with others, have no purpose in life, and have problems in opening up to new experiences, making their self-directed learning level tend to be low.[27]

The results of this study are in line with research that investigates the relationship between psychological well-being and self-adjustment, the findings of which indicate that good psychological well-being can also improve the adaptability of an individual. One aspect of adaptability is independence, self-evaluation, and determination of purpose in life. Therefore, individuals with high adaptability will also become highly independent. This is in accordance with a study that found that there is a fairly strong positive correlation between self-adjustment and self-directed learning.[28]

The results of this study are also in line with the findings of a study that shows a correlation between psychological well-being and self-directed learning. The study found that the higher the psychological well-being, the higher the respondents' intention and perseverance in learning, thus resulting in optimal self-directed learning.[29]

Since the research hypothesis is accepted, this study shows that the level of psychological well-being is considered to be one of the determining factors in the high or low level of students' self-directed learning. In addition, the problem-based learning system implemented at FM UII can also stimulate students' self-directed learning. This is in accordance with the results of a study in which there is a positive correlation between the problem-based learning system and self-directed learning.[8] The problem-based learning system and efforts to stimulate self-directed learning carried out at FM UII during the tutorial process, concomitantly with high psychological well-being, will increase the level of self-directed learning among FM UII students. Self-directed learning is defined as a concept of independency in learning, which includes the concept of active learning to achieve a competency that will subsequently become useful in problem-solving processes with the support of independently acquired knowledge and competencies that include learning goals and how to achieve them as well as the learning time, place, rhythm, pace, method, and evaluation.[9,30]

The strength of this research lies in its role in enriching references related to the correlation between psychological well-being and self-directed learning in medical students, which, to our knowledge, has never been studied in Indonesia. Medical students have a heavy learning load with different learning characteristics from other study programs; thus, the findings of this study provide benefits for optimizing the existing learning processes. This research has a limitation in that it was only carried out in one institution, thus requiring further studies to obtain generalizations in other contexts.

CONCLUSIONS

The self-directed learning of medical students was at moderate and high levels. The students' psychological well-being was also at medium and high levels. In addition, there was a significant correlation between the psychological well-being and self-directed learning of FM UII students, with a moderate level of correlation. Regarding the correlation between self-directed learning, psychological well-being, and confounding factors, such as gender and year of study, the results show no significant correlation. Only age had a significant relationship with psychological well-being. This study recommends that future research should use more comprehensive methods, such as mixed methods, to identify deeper insights into the other factors that can influence the levels of self-directed learning and psychological well-being among students. Further studies should also consider the confounding factors influencing students' psychological well-being and self-directed learning. As practical implications of this study, faculty and teachers should provide learning environments that support students' psychological

well-being and self-directed learning. For instance, in the PBL tutorial context, the teachers/ tutors could provide constructive feedback that stimulates students' psychological well-being, so students' self-directed learning would improve.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

INSTITUTIONAL REVIEW BOARD (ETHIC COMMITTEE)

This study has been approved by the Ethics Committee of FM UII with number 7/Ka.Kom.Et/70/KE/VIII/2021. Written informed consent was obtained from the students who participated in this study.

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