DIJEMSS: Dinasti International Journal of Education Management and Social Science
E-ISSN: 2686-6331
P-ISSN: 2686-6358
DINASTI PUBLISHER
https://dinastipub.org/DIJEMSS dinasti.info@gmail.com +62 811 7404 455
DOI: https://doi.org/10.38035/dijemss.v6i3

Self-Directed Learning Readiness Affects Academic Achievement of Medical Students

Ramdani Firmansyah Hamid[1], Lutfi Rachman[2], Marindra Firmansyah[3]*
[1]Universitas Islam Malang, Indonesia
[2]Universitas Islam Malang, Indonesia
[3]Universitas Islam Malang, Indonesia, marindraf@unisma.ac.id

Corresponding Author: marindraf@unisma.ac.id

Abstract: Students' willingness and desire to learn have an impact on their academic achievement. Students' willingness and desire to learn can be measured by Self-Directed Learning Readiness. However, the relationship between SDLR and academic achievement of medical students has never been studied, so it needs to be done. Descriptive analytical research with a cross-sectional approach was conducted on students (n=184) who met the respondent inclusion criteria. Self-Directed Learning Readiness consists of self-management, self-control, and desire to learn. Self-Directed Learning Readiness ability was measured using the Self-Directed Learning Readiness Scale questionnaire. The academic achievements used in this study were the Objective Structured Clinical Examination scores, Weekly Exams, and Final Block Exams in the Emergency Medicine Block and the Endocrine System Pathology, Metabolism, and Nutrition Block for the 2024/2025 academic year. None of the UNISMA Faculty of Medicine students had low Self-Directed Learning Readiness (high = 126, medium = 58) and there was a significant relationship with the Weekly Exam scores (p = 0.003), Final Block Exam (p = 0.004), and Objective Structured Clinical Examination (p = 0.008). Students with high Self-Directed Learning Readiness showed better academic achievement, especially on the Objective Structured Clinical Examination score (mean = 62.53). There were significant differences between the high, medium, and low Self-Directed Learning Readiness groups on the Weekly Exam scores (p = 0.003), End of Block Exam (p = 0.004), and Objective Structured Clinical Examination (p = 0.008). The test also showed that self-management (p = 0.000, t = 4.862), self-control (p = 0.000, t = 3.507), and learning desire (p = 0.001, t = 3.336) had a significant positive effect on academic achievement. These results indicate the importance of readiness for independent learning in achieving academic success, as well as providing direction for institutions to continue developing students' SDLR. Self-Directed Learning Readiness abilities consisting of self-management, self-control, and desire to learn have a positive and significant effect on the academic achievement of students of the Medical Education Study Program, FK Unisma.

Keyword: Self-Directed Learning Readiness, Self-Management, Self-Control, Desire To Learn, Academic Achievement.

INTRODUCTION

The shift from a teacher-oriented teaching model to a student-focused model in medical education programs in Indonesia has affected activities, methods, and outcomes in Indonesian medical faculties. In a student-oriented approach to learning, they are expected to be responsible for their own learning process. This concept is closely related to Self-Directed Learning Readiness (SDLR) which includes the ability to learn independently and continuously throughout life (Oishi, 2020).

SDLR is the ability of students to learn independently where they are responsible for planning, executing, and evaluating their own learning efforts (Premkumar et al., 2018). SDLR can be evaluated through the Self-Directed Learning Readiness Scale (SDLRS) which measures three main aspects, namely self-control, self-management, and desire to learn (M. J. Fisher & King, 2010). Research from Mandolang (2021) shows that medical students, especially at the early level, often show low SDLR, but can increase over time with adaptation and independent learning experiences (Mandolang, 2021). Meanwhile, a study by Fatmawati (2019) revealed that students with high SDLR are more likely to achieve better academic achievement (Fatmawati & Malik, 2019).

Even though Self-Directed Learning (SDL) has been scheduled at the Faculty of Medicine, University of Islam Malang (FK UNISMA), many students do not take full advantage of this opportunity, so their academic achievement decreases (Habib et al., 2022). This study will examine the impact of SDLR in terms of self-management, desire to learn, and self-control on the academic achievement of students in levels II and III of the FK UNISMA medical education program.

METHOD

Design, Time and Place of Research

This study is an analytical descriptive research that uses a quantitative methodology with a cross-sectional design. The research took place from March to May 2024 according to the schedule of the Endocrine System Pathology, Metabolism, and Nutrition (PSEMN) block and the Emergency Medicine (EM) block for the 2023/2024 academic year which will be distributed using offline questionnaires in the Faculty of Medicine, Islamic University of Malang. The Health Research Ethics Commission of the Islamic University of Malang has approved and the certificate number is No.070/LE.003/VII/01/2023.

Research Respondents

A total of 514 students are registered at the Faculty of Medicine, Islamic University of Malang. Of these, as many as 184 students met the inclusion criteria as research respondents. This number exceeded the minimum limit of respondents calculated based on the Krejcie and Morgan formula, which was 163 students. Students who are eligible to take part in this study are those who are willing to become respondents and are participating in the Emergency Medicine (EM) block and the Endocrine System Pathology, Metabolism, and Nutrition (PSEMN) block for the first time. Students who repeat EM and PSEMN blocks, do not attend lectures, or do not focus on this research will be excluded from the research sample.

Pengukuran Self-Directed Learning Readiness (SDLR)

The measurement of SDLR level was carried out using the Self-Directed Learning Readiness Scale (SDLRS) questionnaire which included aspects of self-management, self-control, and learning desire.7 The validity test using Cronbach's Alpha coefficient showed a value of 0.952. The SDLRS questionnaire was applied using a likert scale with a value range of 1 to 5, which represented strongly disagree, disagree, neutral, agree, and strongly agree, respectively. The questionnaire was distributed directly through WhatsApp Group (WAG) and

respondents filled out the questionnaire through Google Form which was held in the FK UNISMA classroom.

Measurement of Academic Achievement

The measurement of academic achievement is based on the values from the Objective Structured Clinical Examination (OSCE), Weekly Exam (UM), and Final Block Exam (UAB) in the Pathology, Metabolism, and Nutrition of the Endocrine System (PSEMN) block and Emergency Medicine (EM) for the 2023/2024 school year before remidi. The data on academic grades was obtained from the academic section of FK UNISMA Medical Education.

Data Analysis Techniques

Data taken from the characteristics of respondents were analyzed using Chi-Square in the SPSS software application version 25. Furthermore, the analysis was carried out using SmartPLS 3 software, which combines the Partial Least Squares (PLS) and Structural Equation Model (SEM) approaches to evaluate the influence of independent variables on bound variables.

RESULTS AND DISCUSSION

Results

The Results Of The Analysis Of The Characteristics Of Respondents

This study analyzed the SDLR and the overall score of respondents who were differentiated by gender, age, and education level. Table 1 shows that most of the respondents were women. In terms of gender, male respondents tended to show higher scores in self-management, study motivation, and overall score SDLR. In contrast, female respondents had higher scores in aspects of self-control compared to men.

In the age-based analysis, it was seen that respondents in the age range of 21-22 years had high scores on self-management, learning motivation, and overall score SDLR, higher than other age groups. On the other hand, the self-control dimension with a high category was found more in respondents aged 19-20 years.

In the education level analysis, respondents from Level III showed high category dominant results on the dimensions of self-management, self-control, learning desire, and overall score of SDLR compared to Level II respondents.

From the results of the analysis that the relationship between gender, age, and level of education on the ability of SDLR and its dimensions, namely the desire to learn, self-control, and self-management showed significant results.

Results of Respondent Characteristics Analysis

This study analyzed the SDLR and the overall score of the respondents which were differentiated by gender, age, and education level. Table 1 indicates that most of the respondents are women. In terms of gender, male respondents tended to show higher scores in self-management, learning motivation, and overall SDLR score. On the other hand, female respondents have higher scores in self-control compared to men.

In the age-based analysis, it was seen that respondents in the age range of 21-22 years had high scores on self-management, learning motivation, and overall SDLR scores, higher than other age groups. On the other hand, the high category of self-control dimension was more found in respondents aged 19-20 years.

In the analysis of education level, respondents from level III showed high category dominant results in the dimensions of self-management, self-control, desire to learn, and overall SDLR score compared to level II respondents.

From the results of the analysis, the relationship between gender, age, and education level on SDLR ability and its dimensions, namely desire to learn, self-control, and self-management, showed significant results.

Results of Academic Performance Analysis Based on Self-Directed Learning Readiness (SDLR)

This study analyzes academic achievement which includes Objective Structured Clinical Examination (OSCE), Weekly Exam (UM), and Final Block Exam (UAB) based on SDLR which can be seen in Table 2.

In the aspect of self-management, students with high SDLR consistently performed better than the medium category on all exams. This was seen in UM, UAB, and OSCE with a statistically significant difference ($p < 0.05$). Self-control also showed a similar pattern, where students with high levels scored better and the difference between the high, medium, and low groups was significant on all exams. Likewise with the aspect of learning desire, the results show that students with high SDLR have better academic achievement and have statistically .

Table 1. Respondent Characteristics Based on Self-Directed Learning Readiness (SDLR)

Characteristic		Self-directed learning readiness (SLDR)										Overall score			
		Self-management			P value	Self-control			P value	Desire to learn			P value	High	Medium	Low	P value
		High	Medium	Low		High	Medium	Low		High	Medium	Low					
Gender	Male (n=66)	77.3%	22.7 %	0 %	0,019	75.8%	21.2 %	3 %	0,001	66.7%	333.3%	0%	0.006	100 %	0%	0 %	0.000
	Female (n=118)	60.2%	39.8 %	0 %		94.1%	5.9 %	0 %		46.6%	44.9 %	8.5 %		50.8 %	49.2 %	0 %	
Age (years)	≤18 (n=0)	0%	0%	0 %	0,001	0%	0%	0 %	0,043	0%	0%	0%	0,001	0%	0%	0 %	0.000
	19-20 (n=90)	54,4%	45,6 %	0 %		93,3%	5,6 %	1,1 %		43,3%	45,6 %	11,1%		35,6 %	64,4 %	0 %	
	21-22 (n=94)	77.7%	22.3 %	0 %		81,9%	17%	1,1 %		63,8%	36,2 %	0%		100 %	0%	0 %	
	>22 (n=0)	0%	0%	0 %		0%	0%	0 %		0%	0%	0%		0%	0%	0 %	
Levels	II (n=105)	48,6%	51,4 %	0 %	0,000	84.8%	13.3 %	1.9 %	0,000	51.4%	39%	9.5 %	0.019	44.8 %	55.2 %	0 %	0.000
	III (n=79)	89,9%	10,1 %	0 %		91,1%	8,9 %	0 %		57 %	43%	0%		100 %	0%	0 %	

Description: Self-Directed Learning Readiness (SDLR) has 3 dimensions, namely desire to learn, self-control, and self-management. The dimensions of SDLR and SDLR are divided into high, medium, and low categories based on the Self-Directed Learning Readiness Scale (SDLRS) scores. The analysis of respondent characteristics data was carried out using Chi Square to evaluate whether there was a significant difference between categories with a p value of < 0.05.

Table 2. Academic Achievement Based on Self-Directed Learning Readiness (SDLR)

Academic achievement	Self-directed learning readiness (SDLR)										Overall score		
	Self-management		P value	Self-control			P value	Desire to learn			P value	High (n=126)	Medium (n=58)	P value
	High (n=122)	Medium (n=62)		High (n=161)	Medium (n=21)	Low (n=2)		High (n=99)	Medium (n=75)	Low (n=10)				
Weekly Exam	47,57 ± 14,230	36,53 ± 11,349	0,034	44,38 ± 14,270	41,64 ± 13,787	23,75 ± 4,950	0,019	45,26 ± 15,201	43,20 ± 13,186	34,73 ± 9,364	0,046	48,38 ± 14,207	34 ± 8,294	0,003
End-of-block testing	50,57 ± 10,777	48 ± 11,508	0,031	50,11 ± 11,401	47,29 ± 8,038	42,5 ± 7,778	0,004	50,57 ± 10,706	48,69 ± 11,738	48,7 ± 9,511	0,000	50,16 ± 10,407	48,71 ± 12,413	0,004
Objective structured clinical examination (OSCE)	62,30 ± 17,257	58,03 ± 24,684	0,019	65,76 ± 20,508	60,07 ± 20,092	73,5 ± 4,950	0,042	63,22 ± 21,596	59,05 ± 17,049	51,1 ± 23,544	0,043	62,53 ± 17,853	57,24 ± 24,062	0,008
Block value	A	0,8 %	0%	0,033	0,6 %	0%	0%	0,004	1%	0%	0%	0,006	0,8 %	0%	0,014
	B+	1,6 %	3,2%		1,9 %	4,8%	0%		3%	1,3%	0%		2,4 %	1,7%	
	B	27,9 %	24,2 %		27,3 %	23,8 %	0%		31,3%	21,3 %	20 %		27%	25,9 %	
	C+	51,6 %	38,7 %		45,3 %	57,1 %	100%		45,5%	50,7 %	40 %		52,4 %	36,2 %	
	C	15,6 %	19,4 %		18%	9,5%	0%		13,1%	20%	30 %		13,5 %	24,1 %	
	D	2,5 %	14,5 %		6,8 %	4,8%	0%		6,1 %	6,7%	10 %		4%	12,1 %	
	E	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	

Description: Self-Directed Learning Readiness (SDLR) has 3 dimensions and academic achievements are used, namely Objective Structured Clinical Examination (OSCE), Weekly Exam (UM), Final Block Exam (UAB) and Block Values for Endocrine System Pathology, Metabolism, and Nutrition (PSEMN) and Emergency Medicine (EM) for the 2023/2024 school year used by this study. The data was analyzed using the ANOVA test to determine whether there was a significant difference between the SDLR category and the UM, UAB, and OSCE categories with a p value of <0.05. Likewise, the SDLR category with Block Value uses Chi Square data analysis to evaluate whether there is a significant difference between categories with a p value of < 0.05.

Overall, students with high SDLR levels consistently score higher in all aspects of assessment compared to those with moderate SDLR. This can be observed from the significant p value of < 0.05 in all exams indicating a significant difference between the two groups. In conclusion, higher SDLRs are positively correlated with better academic outcomes, emphasizing the importance of learning readiness and independence in supporting students' academic success.

Table 2 also displays the distribution of the final value of the block for various categories in the context of the SDLR with a focus on learning desire, self-control, and self-management. In the self-management category, most respondents with high self-management received a score of C+ (51.6%), followed by a score of B (27.9%) and C (15.6%). D and B+ grades are rarer, while A grades are almost non-existent. This is also the case with moderate

self-management where C+ also dominates. The significant difference between high and medium levels of self-management can be seen from the higher proportion of D grades at moderate levels of self-management.

Meanwhile, the self-control category has a high proportion of C+ grades at all levels, but at low levels of self-control it gets a C+ grade. In addition, in the Learning Desire the majority of respondents are at a high level of learning desire and are getting a C+ score. However, at low levels, the proportion of C and C+ grades is high, indicating that low desire to learn correlates with lower grades.

Overall, it shows the distribution of scores for all respondents where C+ is the most obtained, followed by B and C grades. Overall, this data indicates that most respondents have a moderate to high SDLR with the majority getting a C+ score. The analysis of the p value shows the level of statistical significance between the SDLR and the block value with several categories showing significant p value values. These findings indicate a statistically significant difference in the SDLR level as seen from the aspects of self-management, self-control, and desire to learn for academic achievement.

Results of the Evaluation of Academic Achievement of FK UNISMA Students

Regarding this study, the researcher analyzed the results of the evaluation of the respondents' academic achievement in terms of Objective Structured Clinical Examination (OSCE), Weekly Exam (UM), and Final Block Exam (UAB). Table 3 presents the average results of student academic achievement from UM, UAB, and OSCE scores. In the third level students, it showed a higher score at UM with an average of 56.68, compared to the second level students with an average number of 34.20 and the results of the t test were very significant. The same thing happened at UAB where level III students scored an average of 52.81 compared to level II students with an average number of 47.36 with a very significant t test. Meanwhile, in the OSCE score, the average result of the second level students showed a slightly higher average result at 62.95 compared to the third level students with an average of 58.08 with the t-test results not significant.

From the results of the study, it was concluded that the academic achievement of students was more influenced by the level of education in UM and UAB, while the influence was not significant on the OSCE.

Table 3. Academic Achievement of Research Subjects by Level

Academic achievement	Academic level		T test
	II	III	
Weekly exams	34,20 ± 8,209	56,68 ± 9.853	0,000
End-of-block testing	47,36 ± 11,38	52,81 ± 9,868	0,001
Objective structured clinical examination (OSCE)	62,95 ± 24,453	58,08 ± 11,682	0,076

Description: Data is presented in the form of mean values with standard deviations. The t-test was applied to assess whether there was a significant difference between the averages of different data categories, with the p-value criterion < 0.05.

Analisa Partial Least Square (PLS)

Analisa Partial Least Square (PLS)

Evaluation of Reflective Measurement Models

The framework of this research involves four variables, namely self-management, self-control, desire to learn, and academic achievement. Evaluation of measurement models aims to understand the relationship between observed variables and latent variables (Aurellia & Perdana, 2020). In the evaluation of this measurement model, there were 184 respondents who had met the inclusion criteria.

Convergent validity is used in evaluating the extent to which an indicator reflects the theoretical concepts underlying a particular variable. In this test, the outer loading measurement shown in the loading factor table is used in the evaluation of the degree of correlation between the indicator and the latent variable. Valid indicators if they have a loading factor value of > 0.7.9 The first Convergent validity test results have indicators from SDLR that have a Convergent validity value of <0.7, namely two indicators (X2.3, X2.7, and X2.8) in the learning desire dimension and one indicator (X3.1) in the self-control dimension. Therefore, these indicators were considered invalid for measuring SDLR variables and academic achievement and were removed from the study.

Furthermore, retesting was carried out without including invalid indicators. After retesting, the results obtained can be observed in Table 4 that all indicators have completed the requirements in Convergent validity (>0.7). Thus, no modification or deletion of the indicator is required, and the data can be considered valid and ideal, so that the research can be continued to the next stage.

The Fornell-Larcker method is applied to assess the validity of discrimination by comparing the square root of the Average Variance Extracted (AVE) value for each construct with the level of correlation between constructs in the model (Rohmatulloh & Nugraha, 2022). The AVE value must be ≥ 0.5. An explanation of the mean variance (AVE) of ≥ 0.5 indicates that the construct can explain at least half of the variability of its items (Rohmatulloh & Nugraha, 2022). Based on Table 4, the AVE value for all constructs is > 0.5. This indicates that there are no issues with the model being tested, as all constructs meet the Discriminant Validity criteria and are declared valid.

Construct reliability testing can be done through composite reliability measurements. A construct is declared reliable if it has a composite reliability value of > 0.7, in accordance with the applicable testing criteria (Haryono, 2017). Referring to Table 4, all variables show a composite reliability value of > 0.7 which means a good level of reliability.

Cronbach's alpha aims to determine the minimum limit of reliability of a construct, while composite reliability is to measure the level of reliability more accurately. The research instrument is considered reliable if Cronbach's Alpha value > 0.60 (Ghozali, 2016). From Table 4, it can be seen that the value of Cronbach's Alpha for all variables > 0.60, so it can be concluded that the instrument is also reliable.

The evaluation image of the reflective measurement model (outer model) that has been made on the SEM-PLS method can be observed in Figure 2. The loading factor value is represented by the numbers next to the dimension. In the academic achievement model, the number below the circle indicates the R Square value obtained from the correlation between variables.

Evaluasi Model Struktural
Structural Model Evaluation

The assessment of structural design (inner model) aims to be able to guess the relationship between latent variables. This method uses the p value to evaluate the significance of the path coefficient and R Square (R^2) to measure the impact of the independent variable on the bound variable, as well as determine whether the influence is significant or not (Haryono, 2017). In Table 5, the R^2 value shows that the model can explain 96.6% of the variance in academic achievement, while the other 3.4% is influenced by other factors not examined in this study. Meanwhile, the almost similar R Square Adjusted value shows high accuracy in prediction after adjusting the number of predictor variables in the model. If the R Square value < 0.5, it is considered weak in describing the relationship between the bound and free variables. Likewise vice versa, if the R Square value > 0.5, it can be concluded that there is a considerable correlation between independent and dependent variables (Rohmatulloh & Nugraha, 2022).

Table 5. Table R Square

	R square (R^2)	R square adjusted
Academic achievement	0,966	0,965

Remarks: R square (R2) > 0.5 = strong, < 0.5 = weak.

Furthermore, the Goodness of Fit (GoF) test, which serves to assess the extent to which the model can accurately describe the data, showed very significant results in this study. The GoF index obtained is 0.7998, which is included in the high category, because the GoF value with the range of 0.00-0.24 is considered small, 0.25-0.37 is in the medium category, and 0.38-1.00 is categorized as high, thus confirming that the model used can explain the variability of the data well.

In determining whether exogenous variables affect endogenous variables, hypothesis testing is needed. A hypothesis is considered to have a significant positive influence if the t-value statistically exceeds 1.96 and the p-value is less than 0.05. Conversely, a hypothesis will be considered insignificant if the t-value statistically is less than 1.96 and the p-value is more than 0.05. Based on the data presented in Table 6, it was found that the self-management variable on academic achievement obtained a p value of 0.000 and a statistical t value of 4.862 which showed a significant positive influence. Similarly, for the variable of learning desire for academic achievement, a p value of 0.001 and a statistical t value of 3.336 were obtained, indicating that this variable also had a significant effect. In addition, the self-control variable on academic achievement showed a p value of 0.000 and a statistical t value of 3.507 which was much greater than 1.96 which indicated that this variable also had a significant effect.

Tabel 4. Convergent Validity, Cronbach's Alpha, Composite Realibility, Average Variance Extracted (AVE)

Variable	Dimension	Indicator	Indicator description	Convergent validity	Cronbach's alpha	Composite realiability	Average variance extracted (AVE)
Self-directed learning readiness (SDLR)	Self-management	X1.1	I solved the problem by using the plan	0,892	0,952	0,958	0,638
		X1.2	I prioritize my work	0,873			
		X1.3	I manage my time well	0,793			
		X1.4	I have good management skills	0,864			
		X1.5	I set strict time limits for getting things done	0,888			
		X1.6	I prefer to plan my own learning	0,835			
		X1.7	I learned systematically	0,824			
		X1.8	I am very confident in my ability to search for information	0,766			
		X1.9	I set a specific time to study	0,726			
		X1.10	I am a disciplined person	0,733			
		X1.11	I am an organized person	0,722			

	X1.12	I am a systematic person	0,727			
	X1.13	I can be trusted in the pursuit of education	0,707			
Desire to learn	X2.1	I critically evaluate new ideas	0,746	0,872	0,901	0,566
	X2.2	I learned from mistakes	0,770			
	X2.4	I like to evaluate the things I do	0,725			
	X2.5	I love learning	0,736			
	X2.6	I have a desire to learn	0,715			
	X2.9	I love learning new things	0,837			
	X2.10	I like to gather facts before deciding on something	0,733			
Self-control	X3.2	I prefer to set self-study goals	0,866	0,966	0,970	0,729
	X3.3	I am a responsible person	0,847			
	X3.4	I have high personal standards	0,773			
	X3.5	I have high confidence in my abilities	0,860			
	X3.6	I am aware of my limitations	0,909			
	X3.7	I'm a logical person	0,864			
	X3.8	I evaluate my own performance	0,883			
	X3..9	I prefer to set my own criteria to evaluate my performance	0,784			
	X3.10	I am responsible for my own decisions or actions	0,910			
	X3.11	I was able to find information for myself	0,870			
	X3.12	I choose to define my own goals	0,875			
	X3.13	I control my own life	0,788			
Academic achievement	UM	Weekly exams	0,849	0,875	0,923	0,800
	UAB	End-of-block testing	0,914			
	OSCE	Objective structured clinical examination	0,919			

Description: The above data evaluates the reliability and validity of the construct. If Convergent Validity > 0.7 = valid, < 0.7 = invalid. Ave α 0.5 = valid, < 0.5 = invalid. Cronbach's Alpha > 0.60 = reliable, < 0.60 = unreal. Composite Realiability > 0.7 = reliable, < 0.7 = not reliable

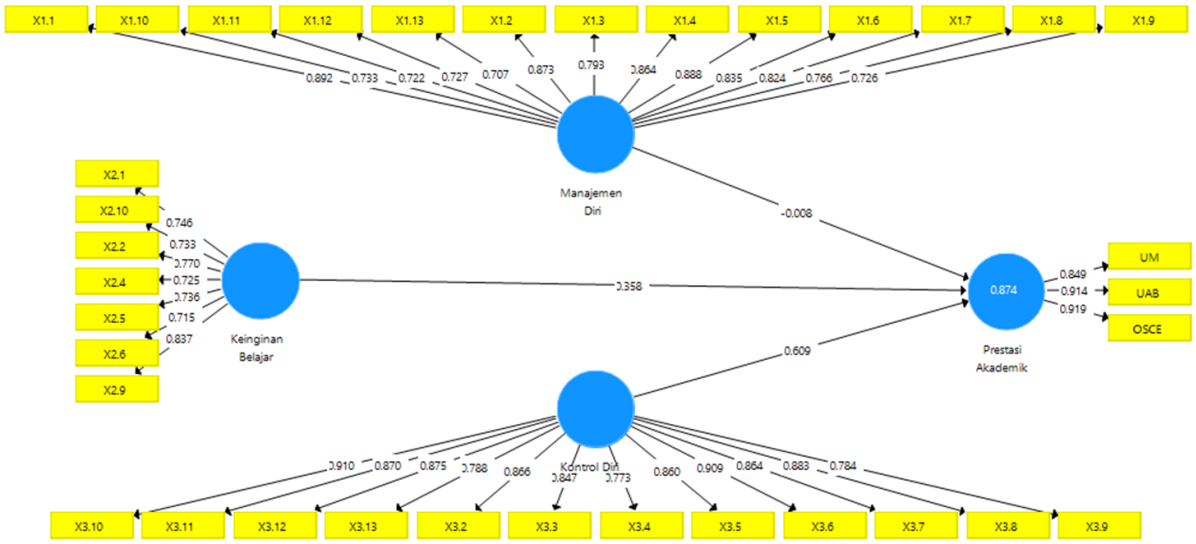

Figure 2. PLS Modeling Path Schematic

Description: X1 is an indicator of self-management, X2 is an indicator of desire to learn, X3 is an indicator of self-control, and Y is an indicator of academic achievement. If the loading factor > 0.7, it can be concluded that the indicator of the latent variable already has a good convergent validity value. In the variables of self-control, self-management, and desire to learn, there were path coefficient values of -0.008, 0.358, 0.609 respectively in assessing academic achievement.

Table 6. Path Coefficient and Hypothesis Testing between Variables

Influence between variables	Original Sample (O)	T statistic	P Value	Information	Hypothesis decision
Desire to learn -> academic achievement	0.352	3.336	0.001	Significant	Accepted
Self-control -> academic achievement	0.125	3.507	0.000	Significant	Accepted
Self-management -> academic achievement	0.520	4.862	0.000	Significant	Accepted

Description: The data above shows the path coefficient between the variables p value < 0.05 and t statistics > 1.96 = significant, p value > 0.05 and t statistics < 1.96 = not significant.

Discussion

Elements Affecting Academic Performance

The findings of this study show that the R Square value obtained is 0.966, which means that 96.6% of the variation in student academic achievement can be interpreted by the factors analyzed. The remaining variability was 3.4% which was influenced by other elements not studied in this study. These results emphasize the importance of a deep understanding of the various variables that can affect student motivation and academic achievement. This variability not only reflects academic achievement, but also provides insight into external factors that can affect learning outcomes which ultimately becomes the basis for the development of strategies to improve academic achievement.

Beyond the variables identified in the study, there are a number of significant factors that may contribute. One of them is anxiety before exams, which can often disrupt students' focus and reduce motivation to study (Hunta et al., 2020). This anxiety can have a direct impact on academic outcomes, where students who experience high levels of stress tend to be unable

to perform at their best during exams (Hunta et al., 2020). Therefore, it is important for students to develop stress management strategies to better cope with exams and minimize the negative impact that may be caused (Hunta et al., 2020).

In addition to anxiety, student academic readiness is also very important to consider. This readiness is related to the orientation of achievement motivation where students with a high level of achievement motivation tend to be more prepared and committed to achieving their academic goals (Ocvitasari et al., 2020). This motivation for achievement is a strong driver in increasing learning efforts and helping students achieve better results (Ocvitasari et al., 2020). In addition, involvement in non-academic activities can play a positive role on learning motivation, as activities outside the classroom can improve social and emotional skills which in turn supports academic success (Ocvitasari et al., 2020).

Other factors that also affect academic achievement are tutor performance and learning interactions. Adequate tutor performance can increase student learning motivation, where constructive interaction between tutors and students contributes to increasing students' understanding and interest in the material taught (Nugroho et al., 2021). High teaching quality is very important to form positive learning motivation (Nugroho et al., 2021). In addition, the quality of the scenario and the effectiveness of the tutorial discussion also have a significant effect on the learning process, because interactive and relevant discussions are able to increase student involvement and deepen their understanding (Purhadi et al., 2020).

The quality of student learning, including study techniques and time management, also contributes to academic achievement (Khoirotunisa et al., 2022). Students who have a good study strategy and are able to manage their time effectively tend to be more successful in absorbing subject matter (Khoirotunisa et al., 2022). Spiritual intelligence related to self-awareness and life goals also plays an important role in shaping academic motivation and achievement (Waskito et al., 2022). In addition, learning readiness related to learning efficacy, the number of credits taken, critical thinking skills, and reading habits and skills are key factors that are so influential to achieve maximum academic success (M. S. K. Putri et al., 2020; N. A. Putri et al., 2023; Rahmawati et al., 2023; Yustika et al., 2020).

Finally, students' academic readiness can be influenced by their socio-economic background and integrated support from the surrounding environment, including family and friends (Firdani et al., 2020). A supportive environment can provide additional motivation and create conducive conditions for learning (Firdani et al., 2020). Thus, this study informs that academic achievement is not only influenced by the variables analyzed, but also by various external factors that are interconnected. Therefore, understanding these factors is essential to improve student academic achievement.

The Effect of Self-Control on Academic Achievement

This finding proves that self-control has a significant effect on the academic achievement of FK Unisma Level II and III students. The results of the hypothesis test showed that there was a significant relationship between self-control and academic achievement, with a p value of 0.000. The findings showed that the p value < the established level of significance (alpha = 5%). This shows that the improvement and decrease in academic achievement are influenced by self-control.

The findings are in line with the views of Ma and colleagues (2023) who stated that the higher the level of self-control of students, the better their academic performance (Ma & Li, 2023). This is in line with the statement from Arum (2016) that students with low self-control will be more easily influenced by the things around them and can have a negative impact on their grades, results, or learning achievements (Arum, 2016). A similar view was also conveyed by Sari (2018) who stated that self-penis has a significant impact on independence in learning (Sari, 2018). Students who are able to master self-control will be more skilled in setting learning goals and making the right decisions. Thus, if a person has a high learning

independence, his academic achievement will increase. Conversely, low learning independence will lead to a decline in academic achievement (Pramusinto & Ismiyati, 2022).

The findings of the study show that students' academic achievement is influenced by their self-control ability. This statement agrees with the views of some experts who state that self-control has significant results and has a positive impact on learning independence. Therefore, the findings of this study reinforce existing theories. Meanwhile, to date, no studies have shown results that contradict these findings.

The Influence of Self-Management on Academic Achievement

This finding states that academic achievement is influenced by the self-management of FK Unisma Level II and III students. The results of the hypothesis test show that the influence of self-management on academic achievement has a p value of 0.000. These findings show that the p value < the established level of significance (alpha = 5%). This shows that the increase and decrease in academic achievement is also influenced by self-management.

Research according to Lestari (2023) states that neither low nor high student self-management shows a significant influence on learning achievement (Lestari, 2023). These results contradict Rohmah's (2013) statement that students with strong self-management skills have better academic success, while students who have poor self-management skills tend to have lower academic achievement (Rohmah, 2023). Winkel (2013) also stated that in achieving good academic achievement, the right strategy is needed, namely through optimal self-management. The better an individual manages himself, the higher the academic achievement will be achieved (Winkel, 1996).

The same opinion was conveyed by Habibaturrohmah and colleagues (2020) stating that self-management is the ability to manage one's own personality which starts from effective planning (Habibaturrohmah, 2022). Self-management is an important factor in achieving educational success. Self-management is very important in achieving academic success in the teaching process because it helps to create a more organized and structured approach to learning activities that ultimately improves learning achievement.30 In addition to this opinion, Rahmadani (2017) highlights that self-management involves the transformation of all aspects of oneself including intellectual, emotional, spiritual, and physical in achieving the desired results (Rahmadani et al., 2017). Individuals who are able to develop themselves comprehensively, especially regarding the learning process, will achieve better academic success (Rahmadani et al., 2017).

From the results of the study, it was found that student self-management affects academic achievement. This finding is the same as the opinion of various experts who reveal that self-management has a significant impact on academic achievement. Therefore, these results support the correctness of existing theories.

The Effect of Learning Desire on Academic Achievement

The findings of the study show that the desire to learn has an impact on the academic achievement of FK Unisma Level II and III students positively and meaningfully. From the results of hypothesis testing, it is known that the influence of learning desire on academic achievement produces a p value of 0.001. The results show that the p value < the level of significance (alpha = 5%). This shows that changes in academic achievement are also influenced by the desire to learn.

In the theory, Kapiten and his colleagues (2021) stated that the increase and decrease in academic achievement is not influenced by the desire to learn (Kapitan et al., 2021). The findings of this study contradict Nurrahmaniah's (2019) research that the desire to learn greatly affects academic achievement (Nurrahmaniah, 2019). The desire to learn is a person's psychological state that serves as an encouragement to achieve optimal results (Kapitan et al., 2021). A strong desire for something is an important capital to achieve the desired goal

(Kapitan et al., 2021). A high desire to learn can make students more motivated to study diligently, so that optimal academic success can be achieved more easily. The findings are in line with the view of Alam (2018) which reveals that the desire to learn has a significant impact on academic achievement. Students who have a high desire to learn tend to achieve good academic achievements. The formation of a desire to learn is very important to encourage changes in learning in a more positive direction (Alam, 2018). This view is also similar by Rusmiati (2017) who stated that the importance of students' desire to learn, one of which is to encourage a more positive way of learning. This perspective is in line with the belief According to Wardiana (2004), students who have high learning initiative are more productive and effective in completing tasks compared to students who lack motivation. Students who show high learning initiative will get superior results (Wardiana, 2004).

From the findings of the study, it was found that students' desire to learn can affect academic achievement. This result agrees with experts who argue that the desire to learn has a significant impact on academic achievement. Therefore, the results of these findings help the correctness of existing theories.

The Effect of Self-Directed Learning Readiness (SDLR) on Academic Achievement

Self-Directed Learning Readiness (SDLR) describes the ability to learn alone, which includes the desire to learn, self-control, and manage self-actions (M. Fisher et al., 2001). The study revealed that self-regulation, self-discipline, and a thirst for knowledge play an important role in determining academic success. This result is believed to be due to the fact that students who are well prepared for independent learning usually show strong motivation to learn, skills in self-management, and abilities in self-control. Therefore, individuals with a strong tendency towards self-learning usually get better academic outcomes (Zulharman & Kumara, 2008).

This finding is contrary to the findings of Ramli et al. (2018) and Baptista et al. (2021) who both stated that students' Self-Directed Learning Readiness (SDLR) did not have an impact on academic achievement (Baptista et al., 2021).

The Role of Respondent Characteristics in Research Results

These findings categorize respondents based on gender, age, and level of education. In the characteristics of respondents by gender, it was found that men had a better desire to learn, self-management, and SDLR than women, although women were superior in the dimension of self-control. These findings agree with the findings of Chang (2023) which revealed that the level of SDLR, desire to learn, and self-management is higher for men than for women (Chang, 2023). In contrast, research by Islami (2023) found that women tend to be stronger in self-control settings, supporting the finding that while men are superior in self-management, women have advantages in self-control (Islami et al., 2023).

In terms of age, the results of the study show that increasing age is related to improved self-management, desire to learn, and SDLR. This result is consistent with the findings of Purnamasari et al. (2021), which revealed that increasing age is related to an individual's readiness for independent learning because as they age, a person's responsibility for learning also increases.40 Independent readiness in a person is a concept related to adult learning, so that as a person ages, their readiness to learn is higher (Purnamasari et al., 2021).

Based on the level of education, level III students show better abilities in self-management, self-control, desire to learn, and SDLR than level II students. This finding agrees with the study of Zachariah (2011) which shows that a higher level of education in students will be followed by an increase in their motivation to learn as well as the ability to manage themselves, which is influenced by richer academic experiences (Deyo et al., 2011). Mandolang (2021) research also supports that SDLR can improve over time with adaptation and self-paced learning experiences.

Disadvantages and Advantages of Research

This research has various advantages and disadvantages that may arise due to certain factors, both from within and outside the respondents. The main advantage of this study is the reliability and validity test process that has been carried out before the respondents fill out the questionnaire. In addition, the researcher also conducted direct observation to evaluate the reaction and situation of the respondents when filling out the questionnaire. Another advantage is that this research can be used as a reference for future research.

The shortcoming in this research is the characteristics of the sample that only uses levels II and III so that there is no assessment of SDLR ability for first and fourth year students at FK UNISMA.

CONCLUSION

Based on the results and analysis of the data obtained, it can be concluded that self-management has a positive and significant influence on the academic achievement of level II and III students in the medical education program of the Faculty of Medicine, University of Islam Malang. In addition, the desire to learn also shows a positive and significant influence on the academic achievement of students in the same group. Similarly, self-control is proven to have a positive and significant influence on the academic achievement of level II and III students in the faculty.

As a recommendation for future research, it is recommended to involve a more varied population with diverse respondent characteristics to increase the validity of the findings. Further research is also expected to add other dimensions that may affect the academic success of medical students, apart from the aspect of Self-Directed Learning Readiness (SDLR). In addition, qualitative interviews or group discussions with respondents need to be conducted to dig deeper into their experience in building SDLR that has an impact on the academic performance of medical students.

Acknowledgement

The author appreciates the participation of all respondents who voluntarily participated in this study. The author also expressed his appreciation for the financial assistance provided by the Student Parents Association (IOM) FK UNISMA and to dr. Rahma Triliana, M.Kes, Ph.D who acted as a peer reviewer.

REFERENCES

Alam, Y. (2018). Dampak minat belajar terhadap prestasi belajar siswa pada SMK PGRI 1 Palembang. *MOTIVASI*, *3*(2), 573–591.

Arum, C. F. (2016). Hubungan Antara Kontrol Diri Dengan Prestasi Belajar Siswa Kelas Viii Sekolah Menengah Pertama Negeri 3 Bantul, Bantul Yogyakarta Tahun Ajaran 2015/2016. *Prodi. Bimbingan Konseling, FKIP, Universitas PGRI Yogyakarta*.

Aurellia, T., & Perdana, H. (2020). Penerapan Structural Equation Modeling Partial Least Square Pada Kepuasan Masyarakat Terhadap Pelayanan Publik Kepolisian Kalimantan Barat. *Bimaster: Buletin Ilmiah Matematika, Statistika Dan Terapannya*, *9*(4).

Baptista, Y., Setianingrum, E. L. S., Dedy, M. A. E., & Kareri, D. G. R. (2021). Hubungan Self Directed Learning Readiness Dengan Prestasi Belajar Mahasiswa Fakultas Kedokteran Universitas Nusa Cendana. *Cendana Medical Journal*, *9*(2), 207–215.

Chang, W. C. (2023). Impact of Gender on Self-Directed Learning among eLearning Nursing Undergraduate in Malaysia. *Journal of Educators Online*, *20*(4), n4.

Deyo, Z. M., Huynh, D., Rochester, C., Sturpe, D. A., & Kiser, K. (2011). Readiness for self-directed learning and academic performance in an abilities laboratory course. *American Journal of Pharmaceutical Education*, *75*(2), 25.

Fatmawati, D., & Malik, R. (2019). Hubungan antara Self Directed Learning Readiness

(SDLR) dengan prestasi belajar mahasiswa Fakultas Kedokteran Universitas Tarumanagara angkatan 2015. *Tarumanagara Medical Journal*, *1*(3), 494–498.

Firdani, A. M., Rachman, L., & Firmansyah, M. (2020). Analisis Faktor Kesiapan Akademik Terkait Sosial-Ekonomi dan Dukungan Terintegrasi terhadap Prestasi Akademik Mahasiswa. *Jurnal Bio Komplementer Medicine*, *7*(2).

Fisher, M. J., & King, J. (2010). The self-directed learning readiness scale for nursing education revisited: A confirmatory factor analysis. *Nurse Education Today*, *30*(1), 44–48.

Fisher, M., King, J., & Tague, G. (2001). Development of a self-directed learning readiness scale for nursing education. *Nurse Education Today*, *21*(7), 516–525.

Ghozali, I. (2016). Aplikasi Analisis Multivariete dengan Program IBM SPSS. In *Semarang, Universitas Diponegoro*. Badan Penerbit Universitas Diponegoro.

Habib, A. N., Indria, D. M., & Firmansyah, M. (2022). Pengaruh Proses Pembelajaran Mandiri dan Kolaboratif dalam Problem Based Learning (PBL) Terhadap Performa Akademik Berbentuk Indeks Prestasi pada Mahasiswa Fakultas Kedokteran. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *10*(1).

Habibaturrohmah, H. (2022). Upaya Meningkatkan Motivasi dan Prestasi Belajar dengan Buku Awe Inspiring Me dalam Konsep Manajemen Diri. *MANAZHIM*, *4*(1), 1–17.

Haryono, S. (2017). Metode SEM untuk penelitian manajemen dengan AMOS LISREL PLS. *Luxima Metro Media*, *450*.

Hunta, W., Herlina, S., & Firmansyah, M. (2020). Analisis faktor pengaruh self regulated learning Terkait motivasi akademik dan kecemasan sebelum ujian Terhadap prestasi akademik mahasiswa. *Jurnal Bio Komplementer Medicine*, *7*(2).

Islami, C. M., Umari, T., & Donal, D. (2023). Perbedaan Tingkat Kontrol Diri (Self Control) Siswa Laki-Laki dan Perempuan dari Urutan Kelahiran. *Jurnal Pendidikan Tambusai*, *7*(3), 28894–28898.

Kapitan, I. K., Kareri, D. G. R., & Amat, A. L. S. (2021). Hubungan Motivasi Belajar Dengan Prestasi Akademik Mahasiswa Fakultas Kedokteran Di Nusa Tenggara Timur. *Cendana Medical Journal*, *9*(1), 64–71.

Khoirotunisa, R., Indria, D. M., & Firmansyah, M. (2022). Pengaruh Perilaku Belajar Mahasiswa Sebelum Ujian Kognitif terhadap Prestasi Akademik. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *10*(2).

Lestari, W. (2023). *Studi Korelasi Manajemen Diri dengan Prestasi Belajar Matematika Kelas X & XI*. UNIVERSITAS ISLAM SULTAN AGUNG.

Ma, S., & Li, Y. (2023). The Impact Between Self-Control on Academic Performance among Chinese Adolescents. *Journal of Education, Humanities and Social Sciences*, *8*, 1497–1501.

Mandolang, A. C. (2021). Gambaran Self Directed Learning Readiness (SDLR) pada Mahasiswa Tingkat Pertama Program Studi Pendidikan Dokter di Fakultas Kedokteran Universitas Sam Ratulangi. *Medical Scope Journal*, *3*(1), 33–39.

Nugroho, M. W. S., Firmansyah, M., & Anisa, R. (2021). Korelasi Kinerja Tutor dan Motivasi Belajar Mahasiswa dengan Prestasi Akademik Fakultas Kedokteran. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *9*(1).

Nurrahmaniah, N. (2019). Peningkatan prestasi akademik melalui manajemen waktu (time management) dan minat belajar. *Andragogi: Jurnal Pendidikan Islam Dan Manajemen Pendidikan Islam*, *1*(1), 149–176.

Ocvitasari, A., Widiasi, D. E., & Firmansyah, M. (2020). Analisis Faktor Kesiapan Akademik Terkait Orientasi Motivasi Berprestasi, M-Score dan Kegiatan Non Akademik Terhadap Prestasi Akademik Mahasiswa. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *8*(2).

Oishi, I. R. V. (2020). Pentingnya belajar mandiri bagi peserta didik di perguruan tinggi. *IKRA-ITH HUMANIORA: Jurnal Sosial Dan Humaniora*, *4*(1), 108–112.

Pramusinto, H., & Ismiyati, I. (2022). Pengaruh Kemandirian Belajar Terhadap Prestasi Akademik Dengan Latar Belakang Pendidikan Sebagai Variabel Covarian Pada Mahasiswa Jurusan Pendidikan Ekonomi Universitas Negeri Semarang. *Business and Accounting Education Journal*, *3*(3), 314–319.

Premkumar, K., Vinod, E., Sathishkumar, S., Pulimood, A. B., Umaefulam, V., Prasanna Samuel, P., & John, T. A. (2018). Self-directed learning readiness of Indian medical students: a mixed method study. *BMC Medical Education*, *18*, 1–10.

Purhadi, L. I. O., Anisa, R., & Firmansyah, M. (2020). Korelasi Antara Kualitas Skenario dan Keefektifan Diskusi Tutorial Terhadap Prestasi Akademik Mahasiswa. *Jurnal Bio Komplementer Medicine*, *7*(2).

Purnamasari, T., Siregar, S. M., Isnayanti, D., & Suhaymi, E. (2021). Hubungan Motivasi Belajar Terhadap Kesiapan Belajar Mandiri Mahasiswa Profesi Dokter di Masa Pandemi COVID-19. *Jurnal Ilmiah Kohesi*, *5*(3), 7–14.

Putri, M. S. K., Kusumawati, S., & Firmansyah, M. (2020). Analisis Faktor Kesiapan Akademik Terkait Efikasi Belajar dan Jumlah Satuan Kredit Semester (SKS) Terhadap Prestasi Akademik Mahasiswa. *Jurnal Bio Komplementer Medicine*, *7*(2).

Putri, N. A., Adiputra, F. B., & Firmansyah, M. (2023). Evaluasi Kemampuan Berpikir Kritis Mahasiswa Kedokteran pada Kegiatan Praktikum Patologi Klinik dan Pengaruhnya terhadap Prestasi Akademik. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *11*(2).

Rahmadani, H., Arlizon, R., & Saam, Z. (2017). Self-Management Relationship With Student Learning Achievements Semester IV Guidance Counseling University of Riau. *Jom Fkip Unri*, 1–9.

Rahmawati, K., Amalia, Y., & Firmansyah, M. (2023). Evaluasi Berpikir Kritis Kegiatan Clinical Skill Learning dan Pengaruhnya Terhadap Prestasi Akademik Mahasiswa Kedokteran. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *11*(2).

Rohmah, I. N. L. (2023). *Pengaruh Self Management Terhadap Prestasi Akademik Pada Mahasiswa Fakultas Uhuluddin Adab Dan Dakwah IAIN Ponorogo Angkatan 2020*. IAIN Ponorogo.

Rohmatulloh, I. H., & Nugraha, J. (2022). Penggunaan learning management system di pendidikan tinggi pada masa pandemi covid-19: model UTAUT. *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, *10*(1), 48–66.

Sari, L. N. (2018). Pengaruh Manajemen Diri Dan Kontrol Diri Terhadap Kemandirian Belajar. *BASIC EDUCATION*, *7*(37), 3–676.

Wardiana, U. (2004). *Psikologi Umum*. Jakarta: PT. Bina Ilmu.

Waskito, M. I. B., Pramono, A. D., & Firmansyah, M. (2022). Kontribusi Kecerdasan Spiritual Dan Kecerdasan Sosial Terhadap Prestasi Akademik Mahasiswa. *Jurnal Kedokteran Komunitas (Journal of Community Medicine)*, *10*(2).

Winkel, W. S. (1996). *Psikologi Pengajaran (edisi revisi) cetakan ke-5*. Jakarta: Gramedia Widiasarana Indonesia.

Yustika, S. D., Herlina, S., & Firmansyah, M. (2020). Analisis Faktor Kesiapan Akademik Terkait Perilaku Membaca, Kebiasaan Membaca, dan Kemampuan Akademik terhadap Prestasi Akademik Mahasiswa. *Jurnal Bio Komplementer Medicine*, *7*(2).

Zulharman, H., & Kumara, A. (2008). Peran self directed learning readiness pada prestasi belajar mahasiswa tahun pertama Fakultas Kedokteran Universitas Riau. *J Pendidikan Kedokteran Dan Profesi Kesehatan Indonesia*, *3*, 1041.

&&&