Vol 7 No 2 May 2026

E-ISSN :2722-0877

ORIGINAL ARTICLE

Self-Efficacy and Tutorial Performance of First-Year Students in The Faculty of Medicine

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Abstract: Introduction: PBL (Problem Based Learning) is a common learning method in medical faculty around the world. Tutorials are the main learning activity in PBL. Internal (self-efficacy) and external (learning model) factors affect student learning performance. This study aims to determine the relationship between self-efficacy and tutorial performance of first year students of the Faculty of Medicine, Islamic University of Indonesia.
Method: This study used a quantitative method with a cross-sectional observational design. The research instruments used in the study were the General Self-Efficacy Scale (GSES) that had been adapted in Bahasa Indonesia and the tutorial activity score of Block 1.6 Endocrine and Reproductive Systems of the 2021 Competency-Based Curriculum (CBC).
Result: There is a significant relationship between self-efficacy and tutorial performance ($p<0.05$). There is a significant difference in tutorial performance based on gender, motivation to enter the faculty of medicine and participation in student organizations.
Discussion: There is a relationship between self-efficacy and student activeness in tutorial performance. However, tutorial performance is also related to several confounding variables, which are gender, motivation to enter the faculty of medicine and participation in student organizations.

Keywords: self-efficacy, tutorial performance, first-year students, medical faculty

INTRODUCTION

Learning is a process that facilitates the acquisition of knowledge, skills, and character development in students in a learning environment. In addition, it is considered successful when the objectives are achieved. Several studies have shown that adequate resources are also crucial to support a successful learning process. An effective way teachers can manage the flow of the process is by using an appropriate learning method. A learning method is a series of activities that provide a structured overview of teaching and support appropriate teaching objectives.

E-ISSN :2722-0877

Problem-Based Learning (PBL) is a widely applied method in medical education.[1,2,3] The main learning activity in PBL method is tutorial, through which students are expected to develop strong learning independence, critical thinking skills, gain experience, and acquire learning abilities.[4]

Internal and external factors can influence the learning process or activities, such as tutorials. One internal factor in the learning process is self-efficacy. Self-efficacy is an individual's belief in their ability to perform a task and achieve satisfactory results.[5] Meanwhile, an external factor that significantly influences student academic achievement is the learning method. The right learning method helps in achieving the stated objectives.[6] PBL as one of a learning method can stimulate student independent learning.[7] One aspect of self-regulated learning is student self-efficacy, which means PBL learning activities are indirectly related to it.[8]

According to previous studies, first-year students are still adapting to the university environment. During this process, students often face various psychological challenges, both academic and non-academic. These academic challenges make the first year of college a foundation for future academic success. The results of a previous study indicate that self-efficacy is related to first-year student academic achievement.[1] Another study of medical students at a Saudi Arabian university showed that self-efficacy was influenced by academic seniority. As students gain age and academic seniority, there is a potential of being exposed more to difficult and unexpected situations, which increases their confidence in facing these challenges. This increases motivation, resilience, and persistence, leading to the ability to find solutions.[9] Therefore, this study aims to examine the relationship between self-efficacy and tutorial performance of first-year medical students.

METHOD

This study used a quantitative, cross-sectional observational design with an offline questionnaire, received ethical approval from the Ethics Committee of the Faculty of Medicine, University of Indonesia (UII) (No: 8/Ka.Kom.Et/70/KE/VII/2024).

The population in this study was first-year students of the Faculty of Medicine, Islamic University of Indonesia (UII), Bachelor of Medicine Program. The inclusion criteria included active status in the 2023/2024 Academic Year, never taking academic leave, and consistently attending tutorials >75%, while exclusion criteria were those failing the blocking process and having a mental disorder or currently taking antipsychotic medication. A probability sampling technique was used, namely the simple random sampling method.

Data collection was conducted by distributing an online questionnaire to first-year students of the Faculty of Medicine, UII. Before completing the questionnaire, respondents completed a medical consent form. The questionnaire contained respondents' identities, and to measure student self-efficacy, General Self-Efficacy Scale (GSES) questionnaire was used. GSES questionnaire was unidimensional (not

E-ISSN :2722-0877

divided into several subscales), consisting of 10 questions developed by Schwarzer & Jerusalem (1995) with adequate evidence of validity.[10] This questionnaire was Indonesian version whose construct validity had been evaluated.[11] Each question in GSES reflected Bandura's theory of self-efficacy dimensions, namely magnitude, strength, and generality. Magnitude described a person's belief in their ability to complete a task of a given difficulty. Strength was a person's belief in the strength of their competence, while generality described a person's confidence in performing a variety of tasks in different contexts.[5]

Students' tutorial performance was assessed through two main aspects The first aspect is participation during the tutorial discussion, which are responsibility, communication, information sources, and critical thinking skills, with a range of 0 to 100. The second aspect is tutorial achievement, evaluated through a mini-quiz administered at the end of each discussion session for every scenario/case, with a score range of 1–100. The weighting of these two components is set at 70% for participation and 30% for the mini-quiz score. The score used was tutorial score for the Endocrine and Reproductive Systems block (1.6) in the Academic section of the Undergraduate Medical Study Program, the Faculty of Medicine, UII.

In this study, the data were analyzed univariately using descriptive statistics to provide an overview or description of the data seen from the average value (mean), standard deviation, maximum, minimum, and bivariate analysis, both descriptively and correlation analysis. The correlation test used the Spearman non-parametric correlation test, with the data considered very statistically significant if the P value <0.05. Bivariate analysis was also carried out on other variables related to tutorial activities, namely gender, organizational experience, and motivation to enter the Faculty of Medicine UII. Tests of the variables used the t-independent test with a significance level of p <0.05.

RESULTS

The total number of participating subjects was 141, and after exclusion, the number of respondents became 130. Respondents consisted of 53 males and 77 females, or 40.8% males and 59.2% females (Table 1). In terms of organizational involvement, as many as 67 or 51.5% of respondents had or were currently participating in an organization, while 63 or 48.5% of respondents were not included in an organization. Based on the motivation to study at the Faculty of Medicine, as many as 114 respondents were due to their own desires, while the other 16 respondents were caused by other factors.

Table 1. Respondent characteristics (n=130)

Variables	Frequency	%
Gender		
Male	53	40.8 %
Female	77	59.2 %
Organizational experience		
Yes	67	51.5 %
No	63	48.5 %
Motivation for entering the Faculty of Medicine		
My own desire	114	87.7%
Not my own desire	16	12.3 %

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The univariate analysis results in Table 2 showed that self-efficacy scores ranged from 24 to 40, with a mean of 34.82 (SD ± 4.81). Respondents' tutorial performance ranged from 66 to 98, with a mean of 84.56 (SD ± 5.47).

Table 2. Self-efficacy and tutorial performance

Variables	Min	Max	Mean±SD	P value (CI 95%)	R
Self-Efficacy	24	40	34.82±4.81	0.000*	0.510
Tutorial performance	66	98	84.56±5.47		

* significant with a p value <0.05

The results of students' responses to each item of the GSES questionnaire are shown in Table 3, indicating that the average achievement per item was > 3 (on a scale of 4). These results suggested that all aspects of first-year student self-efficacy were high (achievement > 75%).

Table 3. First-year student self-efficacy was reviewed per GSES questionnaire item

Item No	Scope of the contents of the statement	Min	Max	Mean±SD
1	Confidence in overcoming difficult problems	1	4	3.26±0.52
2	Confidence in finding solutions to problems	1	4	3.29±0.53
3	Confidence in being consistent in goals and striving to achieve them	1	4	3.34±0.56
4	Confidence in being able to act well in unexpected situations	1	4	3.39±0.59
5	Confidence in being able to take appropriate action in unexpected situations	2	4	3.46±0.60
6	Problem-solving skills	2	4	3.48±0.61
7	Calmness in resolving difficulties due to ability	2	4	3.55±0.65
8	Confidence in the availability of various ideas to solve problems	2	4	3.59±0.63
9	Confidence in being able to overcome difficult situations	2	4	3.42±0.65
10	Readiness to face various conditions	1	4	3.45±0.61

The results of bivariate analysis in Table 2 showed a significant relationship between self-efficacy and tutorial performance with a p-value of 0.000. The correlation value (r) of 0.510 indicated a moderate positive relationship.

The results of bivariate analysis among tutorial performance and other variables are presented in Table 4. The results of the independent t-test between gender, organizational experience, and motivation to enter the Faculty of Medicine on the value of tutorial performance obtained a p-value of 0.000 (p<0.05). These results indicated a significant difference in tutorial activities between students. The variables of gender, organizational experience, and motivation to enter the Faculty of Medicine, UII, were confounding variables in this study.

Table 4. Analysis of differences in tutorial performance based on gender, organizational experience, and motivation to enter the Faculty of Medicine.

Variables	Category	Tutorial Performance (Mean)	Score P value (CI 95%)
Gender	Male	81.86	0.000*
	Female	86.42	
Organizational experience	Yes	88.52	0.000*
	No	80.36	
Motivation for entering the	My own desire	79.11	0.000*

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Faculty of Medicine	Not my own desire	85.33

*significant with p value <0.05

DISCUSSION

Respondent characteristics and univariate analysis

This study showed that the majority of respondents were females (59.2%) and males (40.8%). These results were consistent with previous study reporting a similar gender composition in medical education in Saudi Arabia. These results were significant because participation patterns that were influenced by social trends were illustrated, in which females increasingly chose healthcare professions.[12]

Approximately 51.5% of respondents had organizational experience, while 48.5% were inactive. First-year students were known to be actively involved in organizations due to their strong need to build social connections and feel a sense of belonging on campus. Participation in organizations helped students find groups that supported their needs both socially and academically. This support was crucial in the transition to higher education and emphasized the importance of non-academic support for developing social skills.[13]

This study also showed that 87.7% of respondents chose to study medicine for their own reasons, while 12.3% attributed their choice to other factors. These results indicated that intrinsic motivation predominated in their choice to study medicine. Intrinsic motivation was often driven by basic psychological needs such as autonomy, competence, and social connectedness. According to Self-Determination Theory (SDT), intrinsic motivation could arise when an individual experienced pleasure or personal satisfaction in engaging in an activity and tended to be more persistent than extrinsic motivation driven by external rewards.[14]

The analysis of student self-efficacy study revealed an average self-efficacy score of 34.24±4.81. This study showed that medical student self-efficacy was in the moderate to high range, indicating that students generally had a strong belief in their ability to achieve their academic goals in medicine. In addition, this result was consistent with a study observing that self-efficacy played a significant role in academic success, particularly in study programs that required intense focus, such as medicine. This showed that increasing self-efficacy helped students cope with more complex academic demands and fostered resilience when experiencing challenges.[15]

General Self-Efficacy Scale (GSES) comprised magnitude, strength, and generality. In addition, the results showed that students scored well on each item, indicating that students possessed good magnitude, strength, and generality. Magnitude reflected student confidence in managing specific tasks at varying levels of difficulty. High magnitude scores often increased student focus and commitment to challenging tasks. High magnitude also indicated their ability to overcome specific challenges, reflecting their understanding of the task difficulty. High magnitude ultimately contributed positively to

E-ISSN :2722-0877

engagement and improved academic achievement.[16]

Those with high strength were resilient in the face of academic obstacles, and this was categorized as high. High strength helped students maintain active participation despite difficulties, specifically in collaborative learning such as tutorials. These results were consistent with a previous study conducted on high school students in a province in Indonesia, showing that students with high strength scores demonstrated more stable performance even when faced with difficult tasks.[17]

The generality component of GSES reflected a student ability to apply their self-confidence across a variety of academic situations. A high generality score indicated a student adaptability to diverse learning contexts. Confidence in adaptability to various conditions could minimize stress, enabling a person to perform tasks even in unfamiliar situations. Generalization was honed by stimulating students in a variety of learning settings. Furthermore, getting students used to planning could increase their confidence in facing a wider array of conditions or situations.[18,19]

All three components of self-efficacy contributed to improve students' academic performance. Students with high levels of magnitude and strength tended to be more confident and persistent in their learning, and more able to achieve significant academic success. Meanwhile, students with moderate to high generality facilitated their adaptation to diverse learning contexts.

Based on the results of this study, the average student tutorial performance score was 84.56, which was high because, when compared to the grading system at the Faculty of Medicine, UII, this score was equivalent to an A. In tutorial context, this high score showed that students actively participate in discussions and group assignments. This was essential for achieving optimal academic results.[20] The results were consistent with a previous study showing that active student engagement in tutorials and group discussions correlated with better understanding of the material and higher grades. The study also found that students with high levels of engagement supported success in collaborative academic environments.[21]

Analysis of the relationship between tutorial performance with self-efficacy, and other variables

In this study, a significant relationship was found between self-efficacy and tutorial performance ($r = 0.510$, $p < 0.001$). Students with higher self-efficacy had greater confidence in their abilities to undertake academic activities. Self-efficacy had a greater impact on academic achievement than student actual abilities.[22] In addition, it was essential in learning activities such as PBL tutorials. Previous studies showed that self-efficacy was significantly related to student communication skills. A student with high self-efficacy was more proactive in communicating.[23] In PBL tutorials, students with low self-efficacy had difficulty expressing their ideas or opinions during learning activities.

E-ISSN :2722-0877

The results showing a relationship between self-efficacy and student performance in tutorials indicated a link between aspects of self-efficacy (magnitude, strength, and generality) and tutorial performance. The aspect of self-confidence related to the ability to complete tasks (magnitude) played a significant role in tutorial engagement. Students with a high magnitude tended to be active in tutorial discussions because there was a feeling of confidence in their ability to achieve learning objectives, despite the varying levels of difficulty in the Endocrine and Reproductive Systems 1.6 block. A high magnitude allowed students to cope with various levels of learning difficulty.[16]

A total of two other components of self-efficacy, namely strength and generality, played a significant role in student academic engagement, particularly in tutorial activities. The strength component, measuring resilience to challenges, showed that students who felt capable and confident in completing assignments were more active in tutorials. Self-efficacy was interrelated with academic performance. [24]

The generality component, which referred to the application of self-confidence across diverse situations, contributed to student engagement in tutorial activities. PBL tutorials required strong self-regulated learning skills because students must determine their own learning goals and identify their own learning resources.[7] Knowledge attainment in tutorial discussions also depended, in part, on the extent to which students regulated their own learning. Good generality could give students the confidence to engage in tutorial discussions with different types of problems.

This study explored the relationship between confounding variables such as gender, organizational experience, and motivation to join the Faculty of Medicine, and tutorial engagement. The results showed significant differences in tutorial engagement based on gender, organizational expertise, and motivation to join the Faculty of Medicine ($p=0.000$). This result was consistent with several previous studies, suggesting that intrinsic motivation influenced student engagement in tutorials. These results showed that intrinsic motivation was a significant driver of student engagement, particularly in active learning environments such as tutorials.[25]

In this study, gender was a confounding variable in tutorial engagement. These results were consistent with a study observing that gender influenced academic discussion activities, particularly in classes with a collaborative learning approach.[26] Female students tended to be more active and enjoy tutorial discussions because there was a feeling of being equal to male students. In active learning activities, the social hierarchy that typically existed was minimized.

Organizational experience was also a confounding variable in this study. The results showed a difference in tutorial engagement between students who participated in organizations and those who did not ($p<0.05$). This result was consistent with a previous study identifying that students who participate in organizations

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achieve better academically.[27] Organizational experience could improve student interpersonal skills and self-confidence, positively contributing to their engagement in academic discussions. This experience prepared students to participate more effectively in collaborative activities such as PBL tutorials.

This study had the advantage of specifically targeting first-year medical students, a situation that was not addressed in previous studies. In addition, it had limitations, including the presence of several uncontrolled confounding variables, such as tutor performance, motivation, gender, and organizational experience. This study was conducted at a single institution, making it uncertain whether it represented the broader population.

CONCLUSION

In conclusion, this study shows that medical student self-efficacy is in the moderate to high range. The average student activity scores also show that tutorial performance of students studied is good. There is a significant relationship between self-efficacy and student tutorial performance, with a moderate correlation strength. Significant differences in tutorial performance are observed based on gender, motivation to enter the Faculty of Medicine, and organizational participation. This suggests that these 3 variables are confounding factors in this study.

As practical implication of this study, students were expected to improve their self-efficacy to support their tutorial performance and achieve satisfactory learning outcomes. Institutions were expected to facilitate a quality learning process and provide feedback that could enhance student self-efficacy. Further studies were needed to examine other factors influencing student self-efficacy and tutorial engagement. A study must also be conducted on a broader population using a more comprehensive study design.

ACKNOWLEDGMENTS

The authors are grateful to the various parties who contributed to this study, including Dr. Baiq Rohaslia Rhadiana, M.Sc., Sp.KJ, who provided input to improve the study quality. The authors are also grateful to the students of Faculty of Medicine, UII, who volunteered to participate in this study.

REFERENCES

1. Yasin C, Noviekayati I, Rina A. Penyesuaian akademik pada mahasiswa tahun pertama: Bagaimana peran efikasi diri? J Psychol Res. 2023;2(4):626-632.
2. Ardianti R, Sujarwanto E, Surrahman E. Problem-based Learning: Apa dan Bagaimana. J Phys Educ Appl Phys. 2021;3(1):27-35.
3. Koh GCH, Khoo HE, Wong ML, Koh D. The effects of problem-based learning during medical school on physician competency: A systematic review. Can Med Assoc J. 2008;178(1):34-41. doi:10.1503/cmaj.070565
4. Sari MI, Lisiswanti R, Oktaria D. Pembelajaran di Fakultas Kedokteran : Pengenalan bagi Mahasiswa Baru. J Kedokt

E-ISSN :2722-0877

UNILA. 2016;1(2):399-403.
5. Bandura A. Self Efficacy: The Exercise of Control. Freemantle; 1997.
6. Halnas RM, Kusasi M, Sholahuddin A. Meningkatkan self efficacy dan hasil belajar melalui penggunaan model problem based learning pada materi larutan elektrolit dan nonelektrolit. JCAE (Journal Chem Educ. 2022;6(1):42-53. doi:10.20527/jcae.v6i1.1599
7. English MC, Kitsantas A. Supporting student self-regulated learning in Problem- and Project-Based Learning. Interdiscip J Probl Learn. 2013;7(2).
8. Schunk DH, Usher EL. Assessing self-efficacy for self-regulated learning. In: Zimmerman, BJ Schunk DH, ed. Handbook of Self-Regulation of Learning and Performance. Routledge/Taylor & Francis Group; 2011:282-297. doi:https://doi.org/10.4324/9780203839010
9. Burney, J Alyami, H Almansour, A Alshehri, A Althobaiti SM, Alsaadi HD et al. Impact of Academic Seniority on General Self-Efficacy of Medical Students at Taif University. 2018;8(August):35-40.
10. Schwarzer R, Jerusalem M. Generalized self-efficacy scale. In: Weinman S, Wright, Johnston M, eds. Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs. NFER-NELSON; 1995:35-37.
11. Novrianto, R., Marettih, A. K. E., Wahyudi H. Validitas konstruk instrumeng general self efficacy ccale versi Indonesia. J Psikol. 2019;15(1):1-9.
12. AlHaqwi AI, Mohamed TA, Al Kabba AF, et al. Problem-based learning in undergraduate medical education in Saudi Arabia: Time has come to reflect on the experience. Med Teach. 2015;37(S1):S61-S66. doi:10.3109/0142159X.2015.1006608
13. Murphy, L. Eduljee, N. B., Parkman, S., Croteau K. Gender differences in teaching and classroom participation methods: a pilot study. J Psychosoc Res. 2019;13(2):307-319. doi:10.32381/jpr.2018.13.02.5
14. Çelik O. Academic motivation in adolescents: the role of parental autonomy support, psychological needs satisfaction and self-control. Front Psychol. 2024;15(May):1-14. doi:10.3389/fpsyg.2024.1384695
15. Honicke T, Broadbent J. The influence of academic self-efficacy on academic performance: A systematic review. Educ Res Rev. 2016;17(January):63-84. doi:10.1016/j.edurev.2015.11.002
16. Dixon H, Hawe E, Hamilton R. The case for using exemplars to develop academic self-efficacy. Assess Eval High Educ. 2020;45(3):460-471. doi:10.1080/02602938.2019.1666084
17. Alam S, Budiarto MT, Siswono TYE. Assessing students' self-efficacy when solve mathematical problem based on gender. Int J Trends Math Educ Res. 2022;5(4):374-386. doi:10.33122/ijtmer.v5i4.149
18. Prestiana NDI, Purbandini D. Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In S. Weinman, Wright, & J. M (Eds.), Measures in health psychology: A user's portfolio. Causal and control beliefs (pp. 35–37). NFER-NELSON. Holladay CL, Quiñones MA. Practice variab. J Pemikir dan Penelit Psikol. 2013;5(2).
19. Harefa EY, Simamora E, Trimay G, Juniarta J, Silitonga E. Gambaran efikasi diri

E-ISSN :2722-0877

mahasiswa keperawatan di Indonesia. J Keperawatan Cikini. 2023;4(1):6-14. doi:10.55644/jkc.v4i1.98
20. Delfino AP. Student engagement and academic performance of students of Partido State University. Asian J Univ Educ. 2019;15(1):22-41. doi:10.24191/ajue.v15i3.05
21. Estévez I, Rodríguez-Llorente C, Piñeiro I, González-Suárez R, Valle A. School engagement, academic achievement, and self-regulated learning. Sustain. 2021;13(6). doi:10.3390/su13063011
22. Beatson NJ, Berg DAG, Smith JK. The influence of self-efficacy beliefs and prior learning on performance. Account Financ. 2020;60(2):1271-1294. doi:10.1111/acfi.12440
23. Astuti B, Pratama A. Hubungan antara efikasi diri dengan keterampilan komunikasi siswa. J Penelit Ilmu Pendidik. 2020;13(2):147-155.
24. Burns RA, Crisp DA, Burns RB. Re-examining the reciprocal effects model of self-concept, self-efficacy, and academic achievement in a comparison of the Cross-Lagged Panel and Random-Intercept Cross-Lagged Panel frameworks. Br J Educ Psychol. 2020;90(1):77-91. doi:https://doi.org/10.1111/bjep.12265
25. Harun NF, Mohd Yusof, Khairiyah Jamaludin MZ, Syed Hassan SDAH. Motivation in problem-based learning implementation. Procedia - Soc Behav Sci. 2012;56:233-242.
26. Zech ST, Rublee MR, Deejay A, Flanik WM. Active learning and the graduate classroom: How gender and international student status affect preferences and experiences. J Polit Sci Educ. 2022;18(1):22-34. doi:10.1080/15512169.2021.1996383
27. Sholikhah A. Pengaruh keaktifan mahasiswa dalam organisasi terhadap prestasi belajar mahasiswa jurusan Pendidikan Ekonomi FE UNESA Angkatan 2015. J Pendidik Ekon. 2018;6(2).