

The Effect of Adversity Quotient and Self-Efficacy on Health Lecturer Performance

¹Ade Fitriani & ²Virgana Virgana

Abstract

As health officers face various challenges during the performance of their duties, students in the academic training at Health Colleges are expected to be trained by their lecturers with the same amount of high endurance. While the performance of the lecturers highly impacts on the agility of the students, their own performance is highly dependent on several factors. Hence, this study analyses the direct and indirect influence of adversity quotient and self-efficacy on lecturer performance at selected Health Colleges in West Java, Indonesia. With a sample size of 180 lecturers, data analysis was carried out using path analysis with the help of Smart-partial least squares software. The research data analysis requirements include tests of normality, homogeneity, and linearity. There are four significant research test results: the direct influence of adversity quotient on academic achievement and self-efficacy on lecturer performance, the self-efficacy on lecturer performance, and the indirect impact of adversity quotient on lecturer performance through self-efficacy. The results affirm that a good performance of lecturers in the Health Colleges is necessary to encourage students to graduate on time.

Keywords: *academic achievement, adversity quotient, path analysis, self-efficacy*

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About the authors:

¹STIKES Muhamadiyah Ciamis, West Java, Indonesia. Email: adefitriani879@gmail.com

²Corresponding author. Postgraduate Associate Professor at Universitas Indraprasta PGRI, Jakarta, Indonesia. Corresponding email: virganaunindra@gmail.com.



1. Introduction

The poor population in Indonesia increased to 27.55 million people (10.19%) in 2020 (BPS, 2020). A large number of these poor people get their health services from the government. As many poor people need a sufficient ratio of health workers (Peters et al., 2008), an adequate number of health workers will provide a better life expectancy (Septian Pradana, 2021). In the worldwide phenomenon during the Covid-19 pandemic, many health workers and doctors died, which added pressing concerns to the health sector to almost all countries in the world, not only in Indonesia. However, studies showed that many health workers and doctors died during the Covid-19 pandemic in Indonesia due to inadequate personal protection (Fadli et al., 2020). With these alarming scenarios, domino effects cascaded to the different stakeholders, including the academic sectors supplying the health workers.

The duties and functions of the health worker are cumbersome; that is, the task independently is the work for which he is responsible, and the dependent task is the work of helping the medical doctor (Dowie, 2017). While the performances of the health works around the world are related to many factors (Salehi Zalani et al., 2016; Sharma et al., 2014; Kiani et al., 2017; Shenje & Wushe, 2019; Singh et al., 2018; Worku et al., 2019; Ojaka et al., 2014; Chmielewska et al., 2020; John et al., 2020; Rong et al., 2022), there are studies that link the work quality of health professionals to their educational background (Norcini et al., 2010; West et al., 2011; Joyce et al., 2007; Muthaura et al., 2015). According to Gibbs and McLean (2011), medical education has the accountability to the society. Hence, the biggest social accountability lies on the medical teachers providing the knowledge, honing the skills and developing the attitude of the students to become health workers.

People who work in hospitals, medical personnel or health workers face tedious routine job (Aronsson et al., 2021; Dahlke et al., 2018; George et al., 2017; Curtis Breslin et al., 2007) requiring strong appropriate personality and attitude more than the skills. While hospitals need health workers who have reliable misfortune, health workers are expected to have high adversity quotient (AQ) in serving patients (Li et al., 2022; Wang et al., 2021), which can describe a person's ability to survive facing difficulties (Sigit et al., 2019). A person who can solve life difficulties will shape one's character, become strong and not give up easily (D. Yazon & Ang-Manaig, 2019). Hence, AQ predicts performance and success reasonably well (Stoltz, 2017).

The role of medical schools in the development of the health workers is crucial to the success of the healthcare sector. According to Gibbs and McLean (2011), the medical schools provide the quality of work through their graduates. While there were numerous studies associating the performance of teachers to the academic achievement of their students (Kim et al., 2018; Luo & Zhan, 2021; Osagie & Akinlosotu, 2017) Tukiman Hendrawijaya, 2020; Kunter et al., 2013), the crucial role of medical lecturers on the future performance of their students is not an overstatement. Lecturers who have misfortune affect the success of academic performance (Safi'i et al., 2021). Therefore, to produce health workers with high AQ requires lecturers with high AQ as well (Bautista, 2015). The lecturers provide an example to students so that students develop high AQ as prospective health professionals (Tian & Fan, 2014; Bingquan et al., 2019). A lecturer must have self-efficacy and be able to support success in the academic field of his students, which will only reflect when students begin to work as health professionals. Moreover, the lecturers with high self-efficacy affect the students' academic achievement (Hayat et al., 2020; Mehmood et al., 2019; Ahmad & Safaria, 2013).

With the crucial role of health lecturers on the success of their students and the lack of studies focused on the AQ and self-efficacy of health lecturers, this research aims to test the following research questions:

1. Is there a direct influence of adversity quotient and self-efficacy on lecturer performance?
2. Is there a direct influence of adversity quotient on self-efficacy?
3. Is there a direct influence of adversity quotient through self-efficacy on lecturer performance?

2. Literature Review

2.1. Lecturer Performance (LP)

The achievement of lecturers' work is an activity of the psychological work process involving cognitive, affective, and psychomotor aspects in a work period (Kasyadi & Virgana, 2022). Performance is related to all the work efforts of lecturers in achieving the performance measures and indicators (Suendarti & Virgana, 2022; Yeh et al., 2019). Each individual achieves work results differently (Keller et al., 2022); lecturers' work achievement can be measured through access to various variables (Marks & O'Connell, 2023). While the

performance can be a result of conducive work environment (Bimaruci Hazrati Havidz & Mujakiah, 2023), the measurement of lecturers' work consists of education or training, implementation of research, implementation of community service, and supporting activities (Regulation of the Republic of Indonesia, 2013). Moreover, the mastery of ICT competencies in the 21st century is necessary for teachers (Rivalina, 2014) to increase performance effectiveness (Mislia et al., 2021). In congruence with the Regulation of the Republic of Indonesia (2013) and the required 21st century ICT competencies, this study posits that lecturer's work performance is manifested by indicators such as educational activities, training, research activities, community service, ICT support and mastery.

2.2. Adversity Quotient (AQ)

Resilience is a person's resistance to obstacles that hinder the work process in achieving goals, which can be manifested through AQ. Researchers argue that the AQ is a pinup of cultivating a person's ability to be responsible in the face of difficulties (Manzon, 2021). It is a person's ability to solve challenges (Ra et al., 2023; Safi'i et al., 2021) that can turn challenges into opportunities because it determines survivability and overcoming adversity (Hanifah et al., 2021). In the actual work, health professionals, whether in the industry or academe, do not distinguish between patients from racial or ethnic groups, and they work based on assigned tasks (James & Armstrong, 2023). Hence, they are tasked to perform in according with what is required not whether easy or hard in order to provide solutions to the problems. With the different qualities associated with AQ, this study posits that the manifestation of AQ includes steadfastness, discipline, hard work, patience, and self-mastery.

2.3. Self-efficacy (SE)

Research provides empirical evidence on the value of self-efficacy in teaching various disciplines (Garvis & Pendergast, 2016; Lu et al., 2023; Phan & Locke, 2016; Zhou et al., 2020; Ritchie & Laura, 2016; Peciuliauskiene et al., 2022; Bjerke & Solomon, 2020; Macatangay & Callo, 2022; Reyes & Del Valle, 2023). Regardless of the discipline, the status of a lecturer requires authority and confidence that fosters trust on his ability to carry out activities and functions in the performance of the responsibility. Self-efficacy is an individual's self-confidence in activities (Hassan & Ibourk, 2021; Virgana, 2019; Senler, 2016) that makes one professional in the performance of the job (Kasalak & Dağyar, 2020). It is also a person's decision because of his ability to organize and act to achieve his job's demands (Batubara et al., 2021). In this context, the lecturer with high self-efficacy knows what to do (Cabir

Hakyemez & Mardikyan, 2021) and with high self-efficacy will quickly work on something new (Hardianto et al., 2023). Hence, this study posits self-efficacy to do something through its competencies as indicated by confidence, competence, responsibility, positive thinking, and eagerness.

3. Methodology

3.1. Participants

The research used quantitative method with a population size of 500 lecturers from a College of Health in West Java, Indonesia. The least possible sample size of the survey is 180 with 95% efficiency (Adam, 2020) that is enough to prove the hypothesis (Andrade, 2020). The study used random sampling that provided an equal opportunity to become a sample representative of the population (Etikan & Bala, 2017). The demographics of the respondents are shown in table 1.

Table 1

Demographic Characteristics

No	Component	Male	Female	Total
1	Gender	70 (38.89%)	110 (61.11%)	180 (100%)
2	Qualification			
	Bachelor degree	23(12.78.56%)	30(16.67%)	53 (29.45%)
	Master degree	46(25.27%)	78(43.33%)	124 (68.89%)
	Doctor degree	1(0.56%)	2(1.11%)	3 (1.67%)
3	Teaching experience			
	0 – 8	20 (11.11%)	48 (26.67%)	68 (37.78%)
	9 - 15	24(13.33%)	18 (10.00%)	42 (23.33%)
	16 - 22	16 (8.89%)	18 (10.00%)	34 (18.89%)
	23 - 29	6 (3.33%)	21 (13.33%)	27(15%)
	>29	4 (2.22%)	5 (2.78%)	9 (5.00%)
4	Age			
	< 25	20(11.11%)	25(13.89%)	45(25%)
	26 - 35	18(10.00%)	30(16.67%)	48(26.67%)
	34 - 45	22(12.22%)	22(12.22%)	44(24.44%)
	46 - 55	12(6.67%)	18(10.00%)	30(16.67%)
	54– 65	5(2.78%)	6(3.33%)	11(6.11%)
	> 65	1(0.55%)	1(0.55%)	2(1.11%)

Based on the demographic characteristics, the representative samples consist of various lecturers' attributes. The difference in respondent status is to obtain multiple impressions and get a global analysis. Similarly, it brings numerous opinions to get a comprehensive analysis. The investigation needs variation in respondent status research (Szabo, 2020) while the interpretation of respondents give consistent answers (Bais et al., 2020).

3.2 Data Collection

This research is a quantitative survey to observe exogenous variables' direct and indirect influence on the endogenous variable. The data collection was administered from October 2022 to February 2023 with data retrieval via questionnaire using a Likert scale of three variables: AQ, SE, and LP. Each variable has five indicators; each indicator has four questions. The respondents answered the entire questionnaire with five options: 1 (powerfully differ) to 5 (powerfully coincide). The total number of the experiment was 60 items.

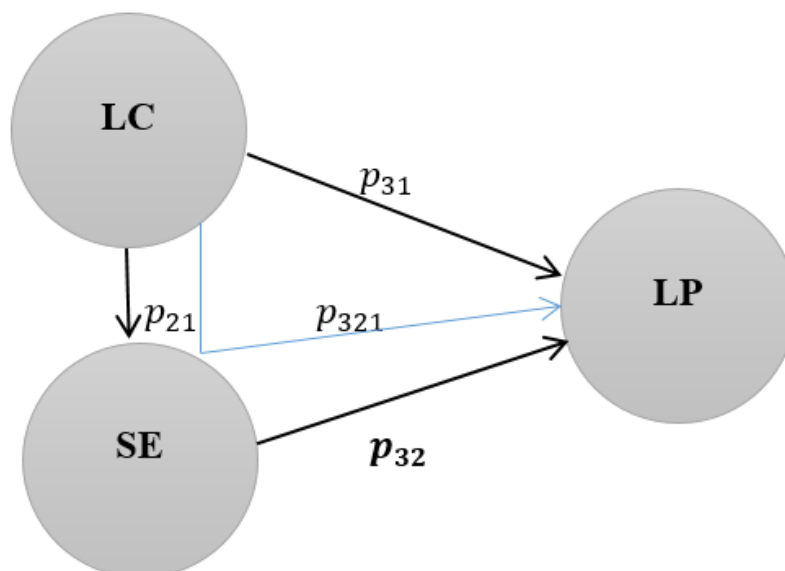
The study compiled research investigation based on variable indicators determined by researchers. Before writing a statement for a device, researchers first created a master plan for the device as a guideline to regulate the three variables of the device. There were two sections of the instrument: section one, demographic data of the respondents, and section two, the items of the research instrument. Each variable has 20 items, and the total number of the investigation was 60 items.

3.3 Research Design and Analysis

This study used statistical path analysis with Smart-PLS tools while repositioning instrument indicators through Exploratory Factor Analysis with SPSS 24 stone tools.

Figure 1

Path analysis Research Design



Entrenched the research design to answer the research question by analyzing hypothesis research is as follows:

H_1 : There is a significant influence of AQ on LP directly

H_2 : There is a direct positive influence of AQ on SE

H_3 : There is a considerable influence of SE on LP directly

H_4 : AQ has a substantial impact on LP indirectly through SE.

4. Findings and Discussions

4.1. Exploratory Factor Analysis

After completing the research instrument, the Exploratory Factor analysis (EFA) was conducted to identify natural factors based on the items' similarity in the variables to be measured (Wetkin, 2018). EFA is a consistent method of instrument development (Wetzel, 2012). The EFA analysis collected a repositioning of items, resulting in new variable dimensions. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) $> .50$ with a compelling value at $< .05$. The adjustment in the number code of sizes on a variable is in table 2.

Table 2

Final Result of New Dimensions Instrument Composition

No	Variable	Number of dimensions before EFA	Number of dimensions after EFA	Info
1	AQ	5	3	Encoding items exchange to new dimensions
2	SE	5	5	Encoding items exchange to new dimensions
3	TP	5	3	Encoding items exchange to new dimensions

Initially, the dimensions in each variable amounted to five. After the EFA analysis, there was a change in the number of dimensions as shown in table 2. Moreover, there was also a repositioning of items given with a new code.

Table 3 shows the instrument composition description of the indicator deployment in the dimension before and after EFA.

Table 3*Reposition Instrument Item Composition before and after EF*

No	Item Distribution before EFA	Dimension before EFA	Item Distribution after EFA	Dimension after EFA
		Adversity Quotient		Adversity Quotient
1	AQ11	Steadfastness	AQ11 = V111	Steadfastness
2	AQ12		AQ12 = V112	
3	AQ13		AQ13 = V113	
4	AQ14		AQ14 = V114	
5	AQ21	Discipline	AQ32 = V115	
6	AQ22		AQ21 = V121	Discipline
7	AQ23		AQ22 = V122	
8	AQ24		AQ24 = V123	
9	AQ31	Hard work	AQ31 = V124	
10	AQ32		AQ32 = V125	
11	AQ33		AQ33 = V126	
12	AQ34		AQ44 = V127	
13	AQ41	Patience	AQ54 = V128	
14	AQ42		AQ34 = V131	Self-mastery
15	AQ43		AQ41 = V132	
16	AQ44		AQ42 = V133	
17	AQ51	Self-mastery	AQ43 = V134	
18	AQ52		AQ51 = V135	
19	AQ53		AQ52 = V136	
20	AQ54		AQ53 = V137	
		Self-Efficacy		Self-Efficacy
21	SE11	Confidence	SE23 = V211	Confidence
22	SE12		SE33 = V212	
23	SE13		SE43 = V213	
24	SE14		SE52 = V214	
25	SE21	Competence	SE54 = V215	
26	SE22		SE11 = V221	Competence
27	SE23		SE14 = V222	
28	SE24		SE34 = V223	
29	SE31	Responsibility	SE12 = V231	Responsibility
30	SE32		SE22 = V232	
31	SE33		SE31 = V233	

No	Item Distribution before EFA	Dimension before EFA	Item Distribution after EFA	Dimension after EFA
32	SE34		SE42 = V234	
33	SE41	Positive Thinking	SE51 = V235	
34	SE42		SE24 = V241	Positive Thinking
35	SE43		SE32 = V242	
36	SE44		SE53 = V243	
37	SE51	Eager	SE13 = V251	Eager
38	SE52		SE21 = V252	
39	SE53		SE41 = V253	
40	SE54		SE41 = V254	
		Lecturer Performance		Lecturer Performance
41	LP11	Educational Activities	LP11 = V311	Educational Activities
42	LP12		LP13 = V312	
43	LP13		LP21 = V312	
44	LP14		LP23 = V314	
45	LP21	Research Activities	LP31 = V315	
46	LP22		LP32 = V316	
47	LP23		LP43 = V317	
48	LP24		LP12 = V321	Research Activities
49	LP31	Community Service	LP22 = V322	
50	LP32		LP24 = V323	
51	LP33		LP33 = V324	
52	LP34		LP34 = V325	
53	LP41	Education support	LP41 = V326	
54	LP42		LP51 = V327	
55	LP43		LP14 = V331	ICT Mastery
56	LP44		LP42 = V332	
57	LP51	ICT Mastery	LP44 = V333	
58	LP52		LP52 = V334	
59	LP53		LP53 = V335	
60	LP54		LP54 = V336	

4.2. Validity and Reliability

This study requires calculating the validity and reliability of data through the PLS algorithm, and the data is declared valid if it meets $r > .70$. Based on invalid data, calculations

is $V233 = .687$, and $V253 = .683$ or $< .70$, the data is omitted, not used in the analysis. While a reliability value of Cronbach's Alpha and Composite, $r > .70$ and Average Variance Extracted (AVE), has a value of $r > .50$. Based on table 4, all indicators are consistent in measuring their construction so that the research can continue.

Table 4

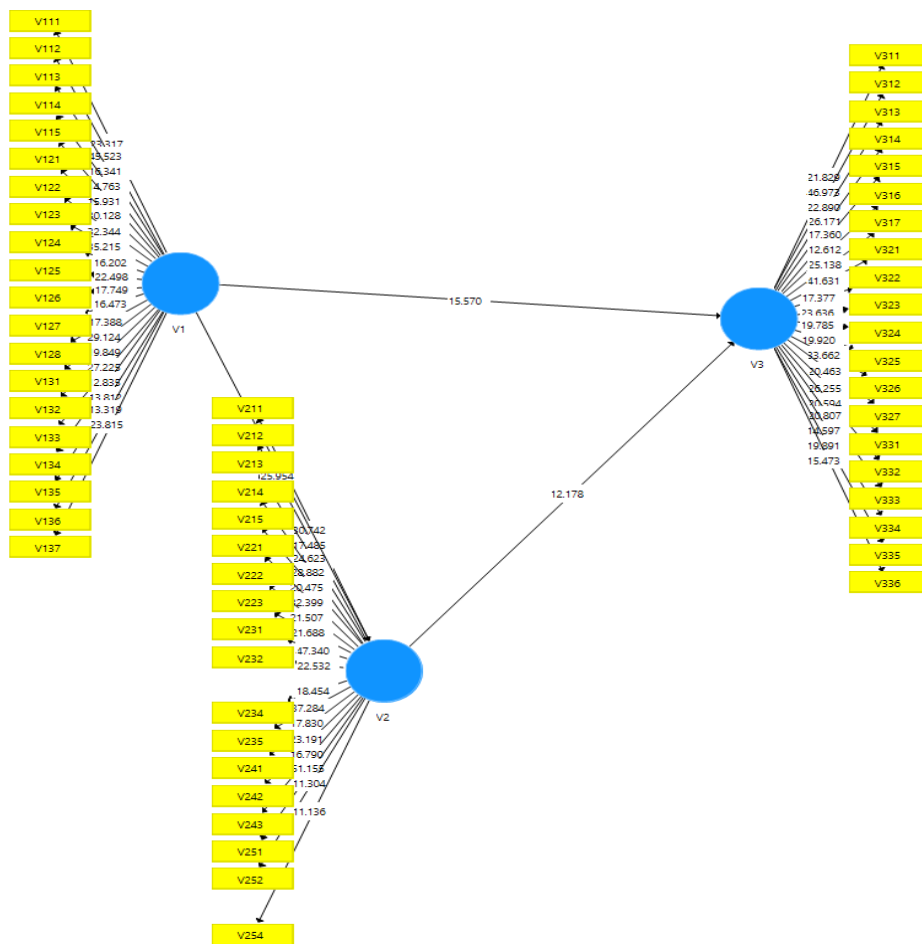
Reliability data

No	Variable	Cronbach's alpha	Composite Reliability	AVE
1	AQ (V1)	.962	.970	.610
2	SE (V2)	.964	.968	.620
3	TP (V3)	.968	.964	.592

The results of bootstrapping analysis on Smart-PLS produce coefficients in each substructure that determine the direct and indirect effects of independent variables on dependent variables. Figure 2 is the result of bootstrapping on Smart-PLS.

Figure 2

Bootstrapping of Smart-PLS



The resume results bootstrapping Smart-PLS is shown in table 5.

Table 5

Mean, STDEV, T Values, P-Values

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
V1 -> V3 (p31)	0.565	0.563	0.034	16.713	0.000
V1 -> V2 (p12)	0.835	0.833	0.029	28.955	0.000
V2 -> V3 (p32)	0.446	0.448	0.34	13.046	0.000
V1 -> V2 -> V3 (p321)	0.372	0.373	0.028	13.144	0.000

The statistical analysis results listed in table 5 answer the research questions of the study. Based on the bootstrapping analysis, Smart-PLS confirmed five significant direct and indirect influences of free variables on bound variables. That is, it has a p-value sig. < 0.05.

First, to answer the direct influence of adversity quotient and self-efficacy on lecturer performance, the results of the statistical test from the first proof of hypothesis prove that AQ has a positive influence directly on lecturer performance based on the t-statistical test obtained a t-statistical value of 16.713, on the sig. p-value $0.000 < 0.05$. In other words, the test results show that an increase in AQ will increase the performance of lecturers in the health colleges. The result is congruent with other studies that AQ significantly influenced performance (Hanifah et al., 2021; Safi'i et al., 2021; D. Yazon & Ang-Manaig, 2019).

The third hypothesis is an evidence on the significant direct influence of self-efficacy on lecturer performance, based on the t-statistical test obtaining a t-statistical value of 13,046 on the sig. p-value $0.000 < 0.05$. The test results show that an increase in the self-efficacy will also increase the performance of lecturers. It affirms that self-efficacy significantly influenced performance (Muliati et al., 2022; Batubara et al., 2021) and teachers' self-efficacy affects students' academic performance (Mwivanda & Kingi, 2020; Palomino et al., 2023). Comparing the influence magnitude of $p31 = 0.3192$ and $p32 = 0.1989$, then $p31 > p32$ with the value of t-statistic $p31 = 16,317 > p32 = 13,046$, this indicates that the magnitude of the influence of AQ on lecturer performance is greater than self-efficacy.

The second research question on the direct influence of AQ on self-efficacy was supported by the statistical test results from the second proof of hypothesis. The results proved that AQ has positive influence directly on self-efficacy based on the t-statistical test obtaining a t-statistical value of 28.955 on the sig. p-value $0.000 < 0.05$. While the magnitude of the AQ on self-efficacy is $p_{21} \times p_{21} = 0.6972$ or 69.72%, it tells that the lecturer's AQ is closely related to the self-efficacy. This confirms that a positive AQ influences teacher self-efficacy (Astri & Latifah, 2017).

The third research question on the indirect influence of AQ through self-efficacy on lecturers' performance is supported by the statistical test results from the fourth confirmation of the hypothesis. It proved that AQ has significant influence indirectly on the lecturer's performance via self-efficacy based on the t-statistical test at the value of 13.144 on the sig. p-value $0.000 < 0.05$. By comparing direct and indirect influences, it will obtain the magnitude of influence $p_{31} = 31.92\%$ while the magnitude of the influence of $P_{321} = 0.835 \times 0.446 = 37.24\%$. Thus, the magnitude of $p_{321} > p_{31}$ means that self-efficacy as an intervening variable effectively influences the lecturers' performance. Other studies also stated that self-efficacy as an intervening variable contributes to performance (Tuti & Anasrulloh, 2022; Prima Melyana & Pujiati, 2023).

5. Conclusion

Based on the hypothesis testing, this study concludes that AQ and self-efficacy influence lecturers' performance at the college of health either directly or indirectly. The study showed that the magnitude of influence of AQ on lecturers' performance is greater than the influence of self-efficacy indicating that AQ fostered in the health college's working environment contributed to the positive performance of the lecturers. With the high AQ, lecturers can withstand the difficulties and challenges caused by organizational problems. Moreover, there was an indirect influence of AQ towards lecturers' performance through self-efficacy.

The results suggest a priority program to increase the lecturers' AQ at the health college in West Java, Indonesia. Similarly, Hence, the human resource department address the lecturers' capacity building through programs and initiatives in keeping their professional educational services to the students. The study also suggests the potential admission policy on

prospective students at the college of health through AQ and self-efficacy evaluation intended to obtain medical health employees with endurance to serve patients and fulfil health services to the community optimally.

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