

The Effect of Training on Employee Performance in Healthcare: Does Behavioral Competence Matter?

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ABSTRACT

Purpose: Behavioral competencies have been recognized as key to organizational success in achieving their goals. Understanding how to improve them can help identify factors that determine the achievement of strategic plans. However, research on training mechanisms that contribute to the performance of healthcare employees is still limited. Using the Human Capital Theory framework, this study aims to examine the influence of training on behavioral competencies and its effects on employee performance.

Research Method: This study employed a quantitative approach, using primary data collected through questionnaires distributed to 85 employees at Dr. Ario Wirawan Lung Hospital. The data were analyzed using Partial Least Squares Structural Equation Modeling.

Results and Discussion: The results revealed that training positively influenced behavioral competencies but had no significant effect on employee performance. Further findings indicate that behavioral competencies positively impact employee performance in healthcare.

Implications: The study's findings encourage hospital management to improve employees' core competencies and behaviors through various training programs.

Originality: This study provides empirical evidence about the role of training, behavioral competencies, and employee performance in enhancing healthcare performance.

Keywords: training; behavioral competency; employee performance; healthcare.

1. Introduction

Organizations supported by human resources (HR) with strong core competencies (hard skills) and behavioral competencies (soft skills) more readily achieve their strategic vision (Albino, 2018; Hermawan & Harsono, 2025; Karneli *et al.*, 2024; Pramono & Prahiawan, 2021). This competency framework reflects a paradigm shift in which HR is no longer viewed as a transactional administrative function but as a key driver of individual employee performance and, cumulatively, organizational sustainability (Parman *et al.*, 2026; Vong *et al.*, 2025). Hard skills refer to the technical knowledge required to perform specific job functions, including data analytics, information systems, and digital transformation tools (Dutta, 2024; Nicolás-Agustín *et al.*, 2024), while soft skills, such as emotional intelligence, leadership, communication, and collaborative ability, enable employees to translate technical expertise into strategic action (Kowal *et al.*, 2022; Treviño-Elizondo & García-Reyes, 2023). Furthermore, soft skills are a critical factor that enables employees to translate technical insights into strategy-centric strategies. These competencies

include emotional intelligence, leadership, communication, resilience, and the ability to build collaborative partnerships (Hoholeva *et al.*, 2023; Janani & Pougajendy, 2024).

Because organizational-level outcomes are, by definition, an aggregation of individual employee contributions, unmet performance targets at the institutional level typically signal underlying deficits in individual employee competency. At Dr. Ario Wirawan Lung Hospital (RSPAW), Salatiga, several hospital-level indicators, including the modernization of Public Service Agency (BLU) management, the ratio of employee expenses to operating income, and the share of non-JKN income to operating income, have not yet been achieved (Kemenkes, 2026). Given that these indicators are driven by the collective productivity, efficiency, and service quality of hospital staff, their underachievement points to suboptimal individual employee performance as a proximate cause, making employee-level competency development a strategically relevant intervention point. This need is further intensified by regulatory changes allowing foreign investors to hold up to 70% ownership in Indonesian healthcare providers (Presidential Regulation No. 10/2021; Bisnis.com, 2021). Foreign investment in private hospitals reached IDR 8.2 trillion in Q4 2025 (Andrianto, 2026). As internationally standardized private hospitals intensify competitive pressure, public hospitals such as RSPAW must rely on strengthening the behavioral competencies of individual employees, rather than capital or technology alone, as a primary lever for sustaining competitiveness.

Prior studies show that both on-the-job and off-the-job training improve work competency (Oktavia *et al.*, 2025; Pastore & Pompili, 2020; Suronoto *et al.*, 2026) and support successful implementation of organizational strategy (Elnaga & Imran, 2013; Sendawula *et al.*, 2018). The right training strategy contributes to increasing work competencies and having a positive impact on employee performance (Yimam, 2022). However, evidence on the training–performance relationship remains inconsistent: while hard-skills training is associated with innovation and competitiveness (Gogia *et al.*, 2024; Risfayanti Rustam *et al.*, 2024), other studies find that soft-skills training does not significantly affect employee performance (Februari *et al.*, 2024). This inconsistency suggests that the effect of training on performance may not be direct, but rather operates through an intermediate mechanism.

Building on Human Capital Theory, this study proposes that behavioral competence mediates the relationship between training and employee performance, whereby training enhances behavioral competence, which in turn translates into improved individual performance. This study aims to examine (1) the effect of training on behavioral competence, and (2) the mediating role of behavioral competence in the training–performance relationship among healthcare employees. Theoretically, this study extends Human Capital Theory by clarifying the mechanism through which training generates performance outcomes. Practically, it offers guidance for hospital management in designing soft-skills development programs.

The remainder of this paper is organized as follows. Section 2 provides a literature review and hypothesis development. Section 3 presents the research method and design. Section 4 provides the results and discussion. Section 5 presents Concluding Remarks and Recommendations.

2. Literature Review and Hypothesis Development

2.1 Literature Review

2.1.1 Human Capital Theory

The Human Capital Theory (HCT) explains that education and training are deliberate investments in people that yield measurable economic returns (Mincer, 1958; Schultz, 1961). Moreover, knowledge, skills, and abilities increase an individual's productive capacity, which is reflected in higher job performance, income, and organizational value (Becker, 1964). Furthermore, Breton (2014) states that training is a strategic investment in employees' knowledge, skills, and abilities. This investment can increase their productive capacity and economic value to the organization (Osorio-Londoño *et al.*, 2024; Tamayo-Verleene *et al.*, 2024; Teixeira, 2014). The perspective treats human capital as a critical asset. When developed through systematic training, this capital directly contributes to improved job performance, competitive advantage, and business performance (Idris *et al.*, 2020).

2.1.2 Training

Job training is defined as a structured process in which employees acquire job-relevant knowledge, skills, and behaviors necessary to perform specific tasks in the workplace effectively, efficiently, and safely (Aguinis & Kraiger, 2009). The primary goal of job training is to bridge the gap between an employee's existing abilities and the competencies required by the current or future job role, thereby facilitating increased productivity, safety, and adaptability in a dynamic work environment (Arthur *et al.*, 2003). Training includes formal (on-the-job training) and informal learning activities that are intentionally designed, implemented, and evaluated to improve individual and organizational performance (J. van Zolingen *et al.*, 2000). Within the HCT framework outlined above, training is the observable input through which the organization's investment in human capital is enacted.

2.1.3 Behavioral Competence

Behavioral competence represents a multifaceted construct that integrates observable performance with underlying knowledge, skills, and contextual understanding within the framework of applied behavior analysis (Bonesso *et al.*, 2020; Brodhead *et al.*, 2018). According to Hämäläinen *et al.*, (2021), employee competence is the integration of three main aspects, i.e., knowledge, skills, and attitudes. Furthermore, behavioral competence refers to the collection of knowledge and skills that support employees' behavior in work tasks (Albino, 2018). In HCT terms, behavioral competence is the embodied, converted form of human capital - the productive asset that an employee actually carries into the job.

2.1.4 Employee Performance

According to Ibojo & Akinade (2024), employee performance is a multifaceted construct that encompasses the measurable outcomes and behaviors an employee demonstrates in fulfilling their job responsibilities. On the other hand, human resource (HR) performance refers to the measurable contribution of an organization's workforce toward achieving strategic objectives, encompassing both individual employee effectiveness and collective human capital impact on organizational outcomes (Yang & Tang, 2023). Furthermore, employee performance is often operationalized as the achievements, work capabilities, and tangible results generated by an individual, which are crucial for an organization

to attain its strategic goals (Sjarifudin *et al.*, 2025). Within HCT, performance is the realized return on the organization's human capital investment.

2.2 Hypothesis Development

2.2.1 Training and Behavioral Competence

Building on the HCT, training is the deliberate mechanism through which an organization's resource investment is converted into embodied human capital. Because training is designed to transmit knowledge, model desired behaviors, and provide structured practice (Aguinis & Kraiger, 2009), HCT predicts that it should directly increase employees' behavioral competence - the knowledge-skills-attitudes bundle that constitutes usable, applied human capital (Hämäläinen *et al.*, 2021). This theoretical expectation is corroborated empirically: properly designed and implemented training programs have been shown to produce significant improvements in behavioral or soft-skill competence (Aziz *et al.*, 2021). This is reinforced by the research by Tamsah *et al.*, (2023), which proves that training effectively improves soft skill competence. Behavioral competencies developed through training, supported by post-training reinforcement such as coaching, goal setting, supervisor support, and the work environment, will impact skill application in the workplace (Hamzah *et al.*, 2024). Based on this description, the following hypothesis is proposed:

H1: *Training has a positive effect on behavioral competence.*

2.2.2 Training and Employee Performance

HCT further predicts that training is an investment that raises an employee's underlying productive capacity; organizations should observe performance gains attributable to training independent of any single measured pathway through which that capacity is expressed, since human capital gains manifest broadly across the tasks an employee performs (Becker, 1964). Training plays a crucial role in improving human resource performance, including in the healthcare sector. This is achieved by improving clinical processes, patient relationships, and work efficiency. Evidence from previous studies indicates that well-structured training results in measurable performance improvements at the individual, team, and organizational levels (Mehmood & Atiq, 2024; Tamsah *et al.*, 2023). Other studies confirm that effective training positively impacts healthcare worker performance, both directly and indirectly through improved soft skills competencies and employee capacity (Lubis *et al.*, 2022). Based on the literature and findings from previous studies, the following hypothesis can be proposed:

H2: *Training has a positive effect on healthcare employee performance.*

2.2.3 Behavioral Competence and Employee Performance

Within the HCT framework, behavioral competencies are theorized as a form of human capital manifestation consisting of applied knowledge, skills, and attitudes that employees bring to bear in carrying out their work tasks (Becker, 1964). In line with this, Salman *et al.*, (2020) stated that competence is a key factor in organizational performance. Competence has a significant impact on employee performance, enabling them to perform their jobs and complete assigned tasks effectively (Fatmasari Wijayanti & Retno Titi Sari, 2023). Competence is one of the factors that improve employee performance (Darmanto & Supriyadi, 2022). Several study results show that employee competence influences the quality of employee work results (Izzah & Firdaus, 2022; Widianingsih *et al.*, 2023). Another study by Hastuti *et al.*, (2023) revealed that highly competent employees, including in skills, attitudes, and

knowledge, influence the quality of their work. Based on the description above, the following hypothesis can be proposed:

H3: Behavioral competencies have a positive effect on employee performance.

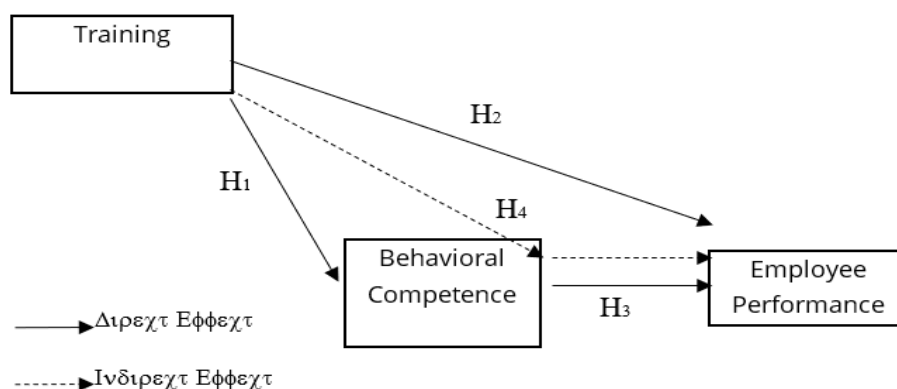
2.2.4 Training, Behavioral Competence, and Employee Performance

HCT frames training as an investment (input), behavioral competencies as embodied capital converted (throughput), and employee performance as realized returns (output). Therefore, behavioral competencies are the investment-return mechanism of training that builds competencies and is used by the organization to generate performance. Studies by Pramono & Prahiawan (2021), Wang *et al.*, (2021), and Tamsah *et al.*, (2023) demonstrated the role of behavioral competencies in mediating the influence of training effectiveness on health worker performance. This improvement subsequently improves individual performance, organizational effectiveness, and broader social outcomes such as success in employment and education. The strength and resilience of this relationship depend on various factors, including the quality of the training design, organizational support, individual characteristics, and post-training reinforcement mechanisms (Tamsah *et al.*, 2023; Untari *et al.*, 2024). Based on the above description, the following hypothesis can be proposed:

H4: Behavioral competencies mediate the indirect effect of training on employee performance.

Based on the literature and previous research, the conceptual framework in this study is that training and competence have a direct and indirect positive impact on employee performance in healthcare service organizations. The relationship between these variables is conceptually shown in Figure 1.

Figure 1. Conceptual Framework of the Research



3. Research Method

3.1 Research Design

This research is classified as explanatory research using a quantitative approach, namely an approach that focuses on collecting and analyzing data in the form of numbers. Quantitative data is used to test hypotheses statistically, thus allowing the determination of the direction and strength of the relationship between variables. The use of a quantitative approach in this study is in accordance with explanatory characteristics, namely, to analyze causal relationships between variables through inferential statistical

methods. This research is associative-causal in nature because it aims to examine the causal relationship between training variables, behavioral competencies, and human resource performance.

3.2 Samples and Sampling Techniques

The population of this study was all permanent employees of RSPAW Salatiga. Based on data from the personnel department, the number of employees is 600. The sample size was determined using the Slovin formula:

$$n = N / (1 + N \cdot e^2) \dots\dots\dots(1)$$

Where n is the required sample size, N is the population size (600), and e is the acceptable margin of error, set at 10% (e = 0.10) in accordance with conventional practice for exploratory organizational survey research (Patten & Newhart, 2017). Substituting these values:

$$n = 600 / (1 + 600 \times 0.10^2) = 600 / 7 = 85.71 \dots\dots\dots(2)$$

The sample is calculated using the Slovin formula as in formula 2, obtaining n = 85,71, so that it is determined that 85 employees. The sampling method used was stratified random sampling to increase the accuracy and representativeness of research findings by explicitly taking into account heterogeneity in the target population (Patten & Newhart, 2017). The main statistical advantage of this method is its ability to significantly reduce the variance of the estimator for the population parameter, compared to simple random sampling of the same size (Kesintürk & Er, 2007).

3.3 Measurement of Research Variables

The instrument given to respondents was divided into two parts: respondent identity and research variables. The measurement of research variables focused on statements on three variables: the independent variable of training, the mediating variable of behavioral competency, and the dependent variable of human resource performance. The conceptual and operational definitions of the research variables are presented in Table 1. The statement indicators of each variable were measured using a Likert scale to gauge the respondent's response to the object being studied. In this study, 7 Likert scale answers were used, with 1 for Strongly Disagree to 7 for Strongly Agree.

3.4 Validity and Reliability Test

The validity test in this study used the factor analysis technique, which is used to test whether the questions or indicators used can confirm a construct. The validity and reliability tests of the research variables in this study were conducted using the SPSS program. The results of the validity test on the pilot sample showed high factor loading values above 0.5. Other results confirmed that the sample's confidence level limits had been met, with KMO and Bartlett's test values >0.50 and the Component Matrix value >0.40 (Ghozali, 2023). To measure the reliability of this sample, Cronbach's Alpha reliability testing was used, which will show whether there is consistency between questions and subsections of question groups. Internal consistency is intended to determine the consistency of the question items used to measure the construct. The results of the reliability test on the pilot sample are considered reliable because they provide a Cronbach's alpha value > 0.60 (Ghozali, 2023). Furthermore, discriminant

validity between the conceptually adjacent constructs of behavioral competence and employee performance was assessed at the full-sample stage using the HTMT ratio (Henseler *et al.*, 2015) and the Fornell–Larcker criterion (Fornell & Larcker, 1981).

Table 1. Variables and Measurement

Variables	Dimensions	Indicators	Sources
Training	1. Training needs assessment	1. Training at this hospital has been designed to be oriented towards employee needs.	(Suronoto <i>et al.</i> , 2026)
		2. Training planning in hospitals is in accordance with organizational goals.	
	2. Training design	1. Believe the training provided by the hospital is professionally designed.	
		2. The implementation of training in hospitals is designed with case studies that are appropriate to the workplace.	
	3. Training delivery style	1. The training instructors at the hospital have been delivering the material in accordance with the principles of adult learning (andragogy).	
		2. Adequate facilities have supported the delivery of training materials in hospitals.	
	4. Training evaluation	1. Often gain additional job skills after each training session.	
		2. Understand the activities carried out during the training.	
		3. Apply the experience gained from the training in my current job.	
	Behavioral Competence	1. Find the latest knowledge to add skills.	
		2. Ability (skill) to prioritize efficiency in work.	
		3. Make a systematic step-by-step plan for my work.	
		4. Find solutions to problems faced by the work team.	
		5. Communicate ideas and convince others to follow what I want.	
Employee Performance	1. Responsiveness	1. Have a high level of responsiveness, especially regarding service work.	(Kim <i>et al.</i> , 2025; Yang & Tang, 2023)
		2. Willingness to adapt to the needs of the job.	
	2. Availability	3. Maintain my presence at the hospital according to my work schedule.	
		4. Provide timely service to hospital patients.	
	3. Productivity	5. Prioritize work productivity over other activities.	
		6. Share collective responsibility with my colleagues in achieving the hospital's outcomes.	
	4. Use of Competencies	7. Apply skills at work as much as possible.	
		8. Serious about ensuring that the quality of work matches my qualifications.	

3.5 Normality Test

The normality test aims to test whether the data has a normal distribution. If the distribution is normal, parametric statistical analysis is used; otherwise, non-parametric statistical analysis is used. Data normality is detected using the Kolmogorov-Smirnov (KS) statistic. The calculation results show a significance value of $0.007 < 0.05$, so it is concluded that the data are not normally distributed (Ghozali, 2023).

3.6 Common Method Bias Assessment

Because training, behavioral competence, and employee performance were all measured through the same questionnaire, completed by the same respondents, at the same point in time, and using the same seven-point Likert response format, the study design carries an elevated risk of common method bias (CMB) (Podsakoff *et al.*, 2003, 2012). Both procedural and statistical remedies were therefore applied.

3.7 Data Analysis Techniques

Based on the normality test results, normality was not met, so a non-parametric statistical analysis, namely Partial Least Squares Structural Equation Modeling (PLS-SEM), was used. PLS-SEM was chosen because it has excellent predictive power (J. Hair *et al.*, 2022). In addition, PLS-SEM can provide coefficient values and probabilities of indirect effects to test the mediation role (J. F. Hair *et al.*, 2019). The structural equation to test this research model is as follows:

$$\begin{aligned} \text{BECO} &= \beta_1 \text{ TRAIN} + e_1 \dots\dots\dots(3) \\ \text{EMPE} &= \beta_2 \text{ TRAIN} + \beta_3 \text{ BECO} + e_2 \dots\dots\dots(4) \end{aligned}$$

Note:

BECO = Behavioral Competence;
TRAIN = Training;
EMPE = Employee Performance;
 β = Estimation coefficient;
e = Error.

4. Results and Discussion

4.1 Analysis Results

4.1.1 Respondent Profile

This research was conducted at Dr. Ario Wirawan Salatiga Pulmonary Hospital, starting with the distribution of questionnaires to respondents from May to June 2026. A total of 85 respondents participated in this study, and their answers were deemed suitable for analysis. A brief description of the respondent profile can be shown in Table 2. Based on these results, the respondents were predominantly female (74.1%), aged 41-50 years (35.3%), had worked in hospitals for 11-20 years (42.4%), and the most common profession was nursing (36.3%).

Table 2. Respondent Profile

Demographics	Information	Amount	Percentage
Gender	Man	22	25.9
	Woman	63	74.1
Age	20-25 years	6	7.1
	26-30 years	9	10.6
	31-40 years	27	31.8
	41-50 years	30	35.3
	Over 50 years	13	15.3
Work experience	1-5 years	14	16.5
	6-10 years	10	11.8
	11-20 years	36	42.4
	Over 20 years	25	29.4
Education	High School	8	9.4
	Diploma	34	40
	Bachelor	37	43.5
	Master	6	7.1
Profession	Doctor	10	11.8
	Nurse	30	35.3
	Laboratory / Radiology / Pharmacy	21	24.7
	Administration	15	17.6
	Other	9	10.6

4.1.2 Descriptive Statistics

Table 3 summarizes the descriptive statistics for the three research variables. Overall, all three variables have a high Mean with values above 6.00. This indicates that the training conditions, behavioral competencies, and employee performance in the research object have been running very well. Furthermore, the Standard Deviation values below 1.00, the kurtosis value below 2, and the skewness value below 1 for all variables are relatively small; it can be concluded that this research data is stable and does not have extreme inequality in answers among respondents.

Table 3. Descriptive Statistics of Research Variables

Variables	Min.	Max.	Mean	Standard Deviation	Kurtosis	Skewness
Training	5	7	6.27	0.517	1.406	-0.649
Behavioral Competence	4	7	6.15	0.644	1.352	-0.814
Employee Performance	4	7	6.32	0.633	1.451	-1.078

4.1.3 Common Method Bias Assessment

Because all constructs were measured through a single self-administered questionnaire, completed by the same respondents at the same point in time and using the same response scale, the data collection design carries an inherent risk of common-method bias (CMB). To address this concern, procedural remedies were applied ex-ante during instrument design, including assurance of respondent anonymity and confidentiality, separation of item order across constructs within the questionnaire, and pilot testing of item wording to reduce ambiguity, following the recommendations of (Podsakoff *et al.*, 2003).

In addition to these procedural remedies, a statistical assessment of CMB was conducted using Harman's single-factor test and a full collinearity VIF assessment (Kock & Dow, 2025). The single-factor

test indicated that one general factor accounted for 39.06% of the total variance, which is below the 50% threshold commonly used as an indication of problematic CMB. This result was corroborated by the full collinearity VIF values for all constructs, which remained below the conservative threshold of 3.3 (see Table 4). Taken together, these results suggest that common-method bias is unlikely to be a serious threat to the validity of the findings reported below.

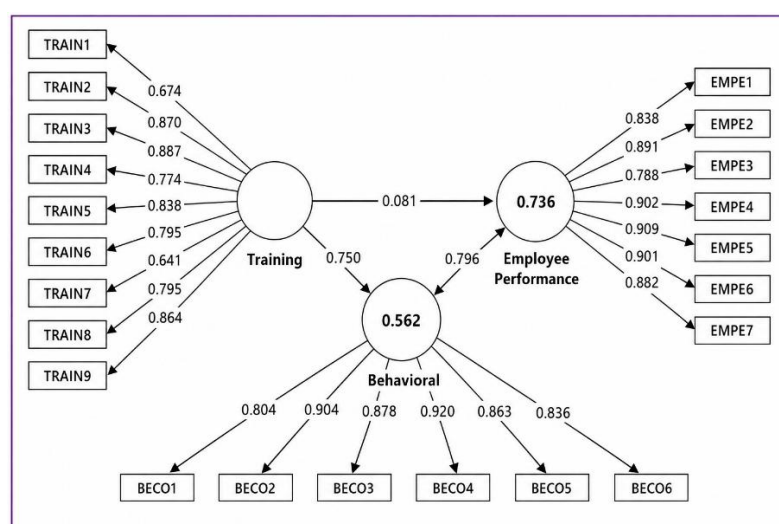
Table 4. Collinearity statistics (VIF)

Relationship	VIF
Behavior Competence → Human Resource Performance	2.286
Training → Behavior Competence	1.000
Training → Human Resource Performance	2.286

4.1.4 Measurement Model Assessment

The measurement (outer) model was evaluated using SmartPLS version 4.1.1.8. Figure 2 presents the full measurement and structural model. A reviewer noted that Figure 2 alone is not sufficiently legible and is not supported by a complete indicator-level table; the exact outer loading for every indicator shown in Figure 2 is therefore also reported in Table 5. As shown in Table 5, most indicator outer loadings exceeded the recommended threshold of 0.7, with only two indicators close to this value (TRAIN7 = 0.641 and TRAIN1 = 0.674); these were retained because their removal did not materially improve composite reliability or AVE. Construct-specific reliability and convergent validity statistics, aggregated from these indicators, are reported in Table 6: Cronbach's alpha (CA) and composite reliability (CR) exceeded 0.7 for all three constructs, and the average variance extracted (AVE) exceeded 0.5 for all three constructs, indicating adequate internal consistency reliability and convergent validity.

Figure 2. PLS-SEM Results by SmartPLS 4



Discriminant validity was assessed using the Heterotrait-Monotrait ratio of correlations (HTMT), as reported in Table 7. All HTMT values were below the conservative threshold of 0.90, indicating that the three constructs are empirically distinct from one another. Cross-loadings were also examined and confirmed that each indicator loaded more strongly on its intended construct than on any other construct in the model.

Table 5. Indicator-Level Outer Loadings

Variable	Indicator	Outer Loading
Training	TRAIN1	0.674
	TRAIN2	0.870
	TRAIN3	0.887
	TRAIN4	0.774
	TRAIN5	0.838
	TRAIN6	0.795
	TRAIN7	0.641
	TRAIN8	0.795
	TRAIN9	0.864
Behavioral Competence	BECO1	0.804
	BECO2	0.904
	BECO3	0.878
	BECO4	0.920
	BECO5	0.863
	BECO6	0.836
Employee Performance	EMPE1	0.838
	EMPE2	0.891
	EMPE3	0.788
	EMPE4	0.902
	EMPE5	0.909
	EMPE6	0.901
	EMPE7	0.882

Table 6. Construct Reliability and Convergent Validity

Variable	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Behavior Competence	0.934	0.937	0.948	0.754
Human Resource Performance	0.948	0.953	0.958	0.764
Training	0.927	0.940	0.940	0.636

Table 7. Discriminant Validity

Variable	Behavior Competence	Human Resource Performance	Training
Behavior Competence	0.868	0.856	0.750
Human Resource Performance	0.800	0.874	0.678
Training	0.792	0.706	0.797

Note: Diagonal is AVE Root Square; Below is HTMT; above is correlation



4.1.5 Structural Model and Hypothesis Testing

The calculation results in Table 8 support three statistically significant hypotheses, with p-values below 0.05, so H1, H3, and H4 are accepted. The next result explains that the direct effect of training on employee performance is not significant, with a p-value of 0.469 > 0.05, so H2 is rejected. Thus, it can be stated that training has an indirect impact on employee performance through behavioral competency. These results confirm that behavioral competency plays a role as a pure mediation variable.

Table 8. Hypothesis Testing

Hypothesis	B	T Statistics	P value	Decision
H1: Training → Behavioral Competence	0.750	17.589	0.000	Supported
H2: Training → Employee Performance	0.081	0.724	0.469	Rejected
H3: Behavioral Competence → Employee Performance	0.796	7.164	0.000	Supported
H4: Training → Competence → Employee Performance	0.597	6,500	0.000	Supported

Note: R-square=0.562, 0.736; F-square=0.011, 1.050, 1.0286; SRMR = 0.070; NFI=0.725

4.2 Discussion

The first results demonstrated that training has a positive contribution to employee behavioral competency. In line with Human Capital Theory (Breton, 2014), behavioral competencies are defined as the observable and measurable application of knowledge, skills, attitudes, and interpersonal abilities in the workplace. These soft skills are not only the product of innate abilities but are also significantly shaped by structured learning interventions. Training is the primary mechanism by which organizations systematically enhance these competencies, translating theoretical understanding into consistent and effective workplace behaviors. The results of this study align with previous findings that team training has significant positive effects on team performance outcomes, with effect sizes varying by training design and contextual factors (Pramono & Prahiawan, 2021; Salas *et al.*, 2008).

A contradictory finding from this study is that training has no significant direct effect on improving employee performance. This can be explained by the fact that employee training does not necessarily improve the quality and quantity of their work output in healthcare organizations. This finding is understandable, as training improves healthcare worker performance through several interrelated mechanisms, such as building technical and behavioral knowledge and skills. It also enables behavioral change through adult learning principles, improves team coordination and safety culture, and enhances decision-making. Ultimately, training fosters continuous professional development, increases motivation and retention, and contributes to improving the quality of work systems within a broader performance management framework. The most effective approach is needs-based, competency-focused, tailored to the context, and reinforced through ongoing support and feedback. This study's findings contradict previous research findings that training positively contributes to improving employee performance (Lubis *et al.*, 2022; Mehmood & Atiq, 2024; Tamsah *et al.*, 2023).

The further findings demonstrate that behavioral competencies positively impact the performance of healthcare employees. Behavioral competencies, which in this study include information-seeking capabilities, efficiency orientation, systematic planning, problem-solving, and persuasive abilities, have been identified as important determinants of effective performance in complex

interpersonal environments such as healthcare. Consistent with research by Albino (2018), these competencies are fundamental to individual performance, career success, and well-being across various professional sectors, with particular emphasis on roles that demand high levels of communication, empathy, and adaptive decision-making. In the specific context of healthcare workers, these attributes directly impact improved patient interactions, team collaboration, and adherence to safety protocols (Hastuti *et al.*, 2023; Salman *et al.*, 2020b).

The final findings confirm the mediating role of behavioral competencies in the indirect effect of training on employee performance. These findings reflect that in a hospital setting, human resource development and employee competencies both have a significant positive influence on hospital staff performance. Correspondingly, this study explicitly strengthens the role of behavioral competencies as a key mediator between training effectiveness (Pramono & Prahawan, 2021; Wang *et al.*, 2021) and healthcare employee performance (Tamsah *et al.*, 2023). These findings confirm that developing behavioral and cognitive abilities paves the way to higher performance (Untari *et al.*, 2024).

5. Concluding Remarks and Recommendation

This research is intended to provide empirical evidence on the influence of training on behavioral competencies and its effects on employee performance. Based on the results and discussions, the study concludes that training has a positive contribution to behavioral competency. Furthermore, this study concludes that behavioral competency has a positive impact on the performance of health employees, with a significant mediating role. The mediating role confirms that behavioral competency is a key mediator between the effectiveness of training in improving the quality of employee work results.

As a managerial implication, this study encourages hospital management to enhance human resource training programs, particularly in improving core competencies (hard skills) and behavioral competencies (soft skills). Hospital management needs to continuously develop human resources to be agile in addressing external organizational challenges and to provide the best service to patients. Hospital management cannot simply focus on physical resources, such as buildings and medical equipment. A true long-term investment lies in improving human resource competency through various training programs. Furthermore, to strengthen training outcomes, management needs to strengthen a comprehensive health training evaluation system. This evaluation system measures not only whether participants learn something, but also whether that learning leads to better practices. This study contributes theoretically to Human Capital Theory by providing empirical evidence of the positive role of training in improving behavioral competencies and their impact on employee performance. The theoretical implications of this study's findings emphasize that human resource (HR) performance improvement does not occur instantly through training alone, but rather through strengthening behavioral competencies. This enriches the Human Resource Management literature by providing structural clarity regarding the dynamic development of human capital in a competitive business environment.

This study has a limited scope due to its empirical findings, which focused on government healthcare services. Therefore, further research is needed to expand the study's scope to private healthcare facilities. This requires strategic selection of indicators at all levels of the job hierarchy, careful articulation of competency alignment, and rigorous monitoring within the training evaluation system.

Furthermore, the inconsistent findings regarding the direct effect of training on employee performance need to be reexamined to clarify its role in the human resource management literature.

Ethical Clearance

The research was conducted in accordance with the Declaration of Helsinki and approved by the Ethics Committee of Dr. Ario Wirawan Lung Hospital, Salatiga (No. DP.04.03.D.XL.9.7/018/2026). The confidentiality of respondent data was guaranteed, and data were anonymized.

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Statement of Use of Generative AI

During the preparation of this work, the author used generative artificial intelligence tools to support the scientific writing process. Grammarly was used to check grammar, refine writing style, and improve clarity in scientific writing. All interpretations, analyses, and conclusions presented in this study are the sole responsibility of the author.

References

- Aguinis, H., & Kraiger, K. (2009). Benefits of Training and Development for Individuals and Teams, Organizations, and Society. *Annual Review of Psychology*, 60(1), 451–474. <https://doi.org/10.1146/annurev.psych.60.110707.163505>
- Albino, G. (2018). Technical and Behavioral Competencies on Performance Evaluation: Petrek Leaders' Perspectives. *SAGE Open*, 8(2). <https://doi.org/10.1177/2158244018780972>
- Andrianto, R. (2026). *Investasi Rumah Sakit Melonjak di Akhir 2025, Nilainya Rp 8,2 T*. CNBC Indonesia. <https://www.cnbcindonesia.com/news/20260115160325-4-702740/investasi-rumah-sakit-melonjak-di-akhir-2025-nilainya-rp-82-t>
- Arthur, W., Bennett, W., Edens, P. S., & Bell, S. T. (2003). Effectiveness of training in organizations: A meta-analysis of design and evaluation features. *Journal of Applied Psychology*, 88(2), 234–245. <https://doi.org/10.1037/0021-9010.88.2.234>
- Aziz, H. M., Othman, B. J., Gardi, B., Ahmed, S. A., Sabir, B. Y., Ismael, N. B., Hamza, P. A., Sorguli, S., Ali, B. J., & Anwar, G. (2021). Employee Commitment: The Relationship between Employee Commitment and Job Satisfaction. *Journal of Humanities and Education Development*, 3(3), 54–66. <https://doi.org/10.22161/jhed.3.3.6>
- Becker, G. S. (1964). *Human capital: a theoretical and empirical analysis, with special reference to education*. University of Chicago Press, Chicago.
- Bisnis.com, -. (2021). *Investor Asing Bisa Miliki Saham Rumah Sakit hingga 70 Persen*. <https://ekonomi.bisnis.com/read/20211213/12/1477184/investor-asing-bisa-miliki-saham-rumah-sakit-hingga-70-persen>
- Bonesso, S., Gerli, F., Zampieri, R., & Boyatzis, R. E. (2020). Updating the Debate on Behavioral Competency Development: State of the Art and Future Challenges. *Frontiers in Psychology*, 11(June). <https://doi.org/10.3389/fpsyg.2020.01267>
- Breton, T. R. (2014). A Human Capital Theory of Growth: New Evidence for an Old Idea. In *SSRN Electronic Journal*. Elsevier BV. <https://doi.org/10.2139/ssrn.2456903>
- Brodhead, M. T., Quigley, S. P., & Wilczynski, S. M. (2018). A Call for Discussion About Scope of Competence in Behavior Analysis. *Behavior Analysis in Practice*, 11(4), 424–435. <https://doi.org/10.1007/s40617-018->



00303-8

- Darmanto, S., & Supriyadi, Y. (2022). Development of employee performance model based on transactional leadership, competency, and job satisfaction. *Jurnal Aplikasi Manajemen*, 20(2), 427–437. <https://doi.org/10.21776/ub.jam.2022.020.02.18>
- Dutta, S. (2024). Human Resource: Futuristic Role of HR Professional Enhancing Technical Skills. *Interantional Journal of Scientific Research in Engineering and Management*, 08(05), 1–5. <https://doi.org/10.55041/IJSREM33378>
- Elnaga, A., & Imran, A. (2013). The effect of training on employee performanElnaga. *European Journal of Business and Management*, 5(4), 137–147.
- Fatmasari Wijayanti, & Retno Titi Sari. (2023). The Influence of Competency on Employee Performance:(A Literature Review). *International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC)*, 1(6), 920–931. <https://doi.org/10.61990/ijamesc.v1i6.118>
- Februari, B., Damanik, Z. G., Hardi, S. C., & Zainarti, Z. (2024). Pengaruh Pelatihan Soft Skill, Pelatihan Hard Skill, dan Tingkat Pendidikan Terhadap Kualitas Sumber Daya Manusia di UMKM Tomimase UIN Sumatera Utara. *JURNAL ILMIAH EKONOMI DAN MANAJEMEN*, 2(6), 823–839. <https://doi.org/10.61722/jiem.v2i6.1706>
- Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Ghozali, I. (2023). *Aplikasi analisis multivariate dengan program IBM SPSS 26*. Badan penerbit universitas Diponegoro.
- Gogia, E. H., Shao, Z., & Akhter, A. R. (2024). Unlocking Success: Exploring the Impact of Human Resource Competence on Job Performance in Pakistan's Engineering Sector. *Engineering, Technology & Applied Science Research*, 14(3), 14754–14759. <https://doi.org/10.48084/etasr.7363>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Inc.
- Hämäläinen, R., Nissinen, K., Mannonen, J., Lämsä, J., Leino, K., & Taajamo, M. (2021). Understanding teaching professionals' digital competence: What do PIAAC and TALIS reveal about technology-related skills, attitudes, and knowledge? *Computers in Human Behavior*, 117, 106672. <https://doi.org/10.1016/j.chb.2020.106672>
- Hamzah, H. A., Marcinko, A. J., Stephens, B., & Weick, M. (2024). Making soft skills 'stick': a systematic scoping review and integrated training transfer framework grounded in behavioural science. *European Journal of Work and Organizational Psychology*, 34(2), 237–250. <https://doi.org/10.1080/1359432x.2024.2376909>
- Hastuti, N. T. L. P., Wahyuningsih, S. H., & Handayani, S. D. (2023). A bibliometric analysis of competency and job satisfaction research. *Multidisciplinary Reviews*, 7(1), 2024014. <https://doi.org/10.31893/multirev.2024014>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hermawan, B., & Harsono, R. D. M. (2025). The Role of Training and Competence in Enhancing Job Satisfaction and Employee Performance: A Literature Review. *Jurnal E-Bis*, 9(2), 818–826. <https://doi.org/10.37339/e-bis.v9i2.2545>
- Hoholeva, E., Lysenko, E., Ovsyannikova, D., Firukova, A., & Yumatova, A. (2023). Soft skills of an HR manager: Request in the labor market and formation in an educational environment. *Management of the Personnel and Intellectual Resources in Russia*, 12(3), 91–97. <https://doi.org/10.12737/2305-7807-2023-12-3-91-97>
- Ibojo, B. O., & Akinade, M. E. (2024). Human Resource Development and Employees Performance: A Theoretical Review. *IIARD International Journal of Economics and Business Management*, 9(9), 110–121. <https://doi.org/10.56201/ijebm.v9.no9.2023.pg110.121>
- Idris, B., Saridakis, G., & Johnstone, S. (2020). Training and performance in SMEs: Empirical evidence from large-



- scale data from the UK. *Journal of Small Business Management*, 61(2), 769–801. <https://doi.org/10.1080/00472778.2020.1816431>
- Izzah, N., & Firdaus, V. (2022). Kompetensi, pelatihan, dan kepuasan kerja dan pengaruhnya terhadap kinerja karyawan. *Jurnal Ekonomi, Bisnis dan Pendidikan (JEBP)*, 2(9), 805–815. <https://doi.org/https://journal3.um.ac.id/index.php/fe/article/view/4991/2971>
- J. van Zolingen, S., Streumer, J. N., De Jong, R., & R. van der Klink, M. (2000). Implementing on-the-job training: critical success factors. *International Journal of Training and Development*, 4(3), 208–216. <https://doi.org/10.1111/1468-2419.00108>
- Janani, S., & Pougajendy, S. (2024). Resilience and Emotional Intelligence: A Dynamic for HR Professionals in Workplace with Reference to Supreme Industries Ltd. *International Journal For Multidisciplinary Research*, 6(6), 1–8. <https://doi.org/10.36948/ijfmr.2024.v06i06.33442>
- Karneli, O., Handayati, R., & Rijal, S. (2024). Enhancement of Soft Skills Competence in Human Resources as a Key Success Factor in the Digital Business Era. *Journal of Contemporary Administration and Management (ADMAN)*, 2(1), 319–324. <https://doi.org/10.61100/adman.v2i1.126>
- Kemenkes, K. K. D. J. K. L. (2026). *Hasil Perhitungan IKT 11 Rumah Sakit BLU Kementerian Kesehatan bulan Februari 2026*.
- Keskintürk, T., & Er, Ş. (2007). A genetic algorithm approach to determine stratum boundaries and sample sizes of each stratum in stratified sampling. *Computational Statistics & Data Analysis*, 52(1), 53–67. <https://doi.org/10.1016/j.csda.2007.03.026>
- Kim, M., Park, O., & Kim, H. (2025). Unraveling the complexities of human resource performance attribution: impacts on employee outcomes and the moderating role of career growth opportunities. *Employee Relations*, 48(1), 135–149. <https://doi.org/10.1108/ER-01-2025-0011>
- Kock, N., & Dow, K. E. (2025). Statistical Significance and Effect Size Tests in SEM: Common Method Bias and Strong Theorizing. In C. Akroyd (Ed.), *Advances in Management Accounting* (Vol. 37, p. 0). Emerald Publishing Limited. <https://doi.org/10.1108/S1474-787120250000037005>
- Kowal, B., Włodarz, D., Brzychczy, E., & Klepka, A. (2022). Analysis of Employees' Competencies in the Context of Industry 4.0. *Energies*, 15(19), 7142. <https://doi.org/10.3390/en15197142>
- Lubis, F. R. A., Syaifuddin, undefined, & Lubis, Y. (2022). Human Resources Performance Improvement Through Training During the Covid-19 Pandemic. *International Journal of Science and Society*, 4(1), 196–204. <https://doi.org/10.54783/ijssoc.v4i1.429>
- Mehmood, R., & Atiq, M. (2024). Impact of Employees Participation, Recognition and Trainings on Job Performance: A Case of a Healthcare Organization in Saudi Arabia. *Pakistan Journal of Humanities and Social Sciences*, 12(2), 1885–1897. <https://doi.org/10.52131/pjhss.2024.v12i2.2329>
- Mincer, J. (1958). Investment in Human Capital and Personal Income Distribution. *Journal of Political Economy*, 66(4), 281–302. <https://doi.org/10.1086/258055>
- Nicolás-Agustín, Á., Jiménez-Jiménez, D., Maeso Fernandez, F., & Di Prima, C. (2024). ICT training, digital transformation and company performance: an empirical study. *European Journal of Innovation Management*, 28(4), 1687–1708. <https://doi.org/10.1108/EJIM-11-2022-0622>
- Oktavia, M. P., Febrian, W. D., & Yuliana, L. (2025). Implementation of Off The Job and On The Job Training in Human Resource Planning and Development. *Multidisipliner Knowledge*, 3(1 Januari), 116–124. <https://e-journal.stai-almaliki.ac.id>
- Osorio-Londoño, A. A., Naranjo-Valencia, J. C., & Calderón-Hernandez, G. (2024). Linking training with competitive strategy: the mediating role of human capital. *International Journal of Training and Development*, 29(1), 74–93. <https://doi.org/10.1111/ijtd.12343>
- Parman, M. R., Biasane, A. N., Tiwow, C., Paramita, G., Musqori, N., & Resource, D. H. (2026). Manajemen Sumber Daya Manusia: Tinjauan Literatur terhadap. *Fokus Jurnal Manajemen Dan Bisnis*, 8(1), 1–12. <https://jurnal.uic.ac.id/fokus/article/view/447>
- Pastore, F., & Pompili, M. (2020). Assessing the Impact of Off-the-Job and On-the-Job Training on Employment

- Outcomes: A Counterfactual Evaluation of the PIPOL Program. *Evaluation Review*, 44(2–3), 145–184. <https://doi.org/10.1177/0193841X20966112>
- Patten, M. L., & Newhart, M. (2017). Stratified Random Sampling. In *Understanding Research Methods* (pp. 95–97). Routledge. <https://doi.org/10.4324/9781315213033-31>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, 63(1), 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Pramono, A. C., & Prahawan, W. (2021). Effect Of Training On Employee Performance With Competence And Commitment As Intervening. *APTISI Transactions on Management (ATM)*, 6(2), 142–150. <https://doi.org/10.33050/atm.v6i2.1742>
- Risfayanti Rustam, undefined, Moh Aris Pasigai, undefined, & Zalkha Soraya, undefined. (2024). The Influence of Hard Skills and Career Development on Employee Performance Achievement at the Makassar City Transportation Service. *International Journal of Economic Research and Financial Accounting (IJERFA)*, 2(3). <https://doi.org/10.55227/ijerfa.v2i3.80>
- Salas, E., DiazGranados, D., Klein, C., Burke, C. S., Stagl, K. C., Goodwin, G. F., & Halpin, S. M. (2008). Does Team Training Improve Team Performance? A Meta-Analysis. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 50(6), 903–933. <https://doi.org/10.1518/001872008x375009>
- Salman, M., Ganie, S. A., & Saleem, I. (2020a). Employee Competencies as Predictors of Organizational Performance: A Study of Public and Private Sector Banks. *Management and Labour Studies*, 45(4), 416–432. <https://doi.org/10.1177/0258042X20939014>
- Salman, M., Ganie, S. A., & Saleem, I. (2020b). The concept of competence: a thematic review and discussion. *European Journal of Training and Development*, 44(6/7), 717–742. <https://doi.org/10.1108/EJTD-10-2019-0171>
- Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1–17.
- Sendawula, K., Nakyejwe Kimuli, S., Bananuka, J., & Najjemba Muganga, G. (2018). Training, employee engagement and employee performance: Evidence from Uganda's health sector. *Cogent Business & Management*, 5(1), 1470891. <https://doi.org/10.1080/23311975.2018.1470891>
- Sjarifudin, D., Tambunan, E. B. M., Haekal, J., & Saepudin, T. H. (2025). The Effect of Talent Management and Work Motivation on Employee Performance: A Systematic Literature Review. *Greenation International Journal of Economics and Accounting*, 3(1), 49–57. <https://doi.org/10.38035/gijea.v3i1.349>
- Suronoto, M. D., Mendo, A. Y., & Biki, S. B. (2026). The Role of Training Needs Assessment and Off-the-Job Training Methods on the Performance of Employees at the Investment and One-Stop Integrated Services Office of Gorontalo Province. *Jurnal Manajemen Bisnis*, 13(1), 273–287. <https://doi.org/10.33096/jmb.v13i1.1171>
- Tamayo-Verleene, K., Giangreco, A., Maes, J., & Della Torre, E. (2024). Unpacking the Black Box of the Training-Performance Relationship: Evidence from Philippine Call Centers. *M@n@gement*. <https://doi.org/10.37725/mgmt.2024.7799>
- Tamsah, H., Ilyas, G. B., Nurung, J., Jusuf, E., & Rahmi, S. (2023). Soft skill competency and employees' capacity as the intervening factors between training effectiveness and health workers' performance. *Cogent Business & Management*, 10(1). <https://doi.org/10.1080/23311975.2023.2199493>
- Teixeira, P. N. (2014). Gary Becker's early work on human capital – collaborations and distinctiveness. *IZA Journal of Labor Economics*, 3(1). <https://doi.org/10.1186/s40172-014-0012-2>
- Treviño-Elizondo, B. L., & García-Reyes, H. (2023). An Employee Competency Development Maturity Model for Industry 4.0 Adoption. *Sustainability*, 15(14), 11371. <https://doi.org/10.3390/su151411371>
- Untari, U. D., Qomariah, N., Undefined, U., & Putu Martini, N. N. (2024). Efforts to Improve Hospital Employee Performance through Human Resource and Competency Development. *Journal of Economics, Finance And*

- Management Studies*, 7(7). <https://doi.org/10.47191/jefms/v7-i7-54>
- Vong, K. C., Udomvitid, K., Ueki, Y., Intalar, N., Pongsathornwivat, A., Pannakkong, W., Komolavanij, S., & Jeenanunta, C. (2025). Strategic Human Resource Development for Industry 4.0 Readiness: A Sustainable Transformation Framework for Emerging Economies. In *Sustainability* (Vol. 17, Issue 15, p. 6988). <https://doi.org/10.3390/su17156988>
- Wang, J.-M., Liao, P.-C., & Yu, G.-B. (2021). The Mediating Role of Job Competence between Safety Participation and Behavioral Compliance. *International Journal of Environmental Research and Public Health*, 18(11), 5783. <https://doi.org/10.3390/ijerph18115783>
- Widianingsih, T., Santoso, D., & Saddewisasi, W. (2023). Pengaruh pelatihan, budaya organisasi dan kompetensi kerja terhadap kinerja karyawan. *Sustainable Business Journal*, 2(1), 76–88. <https://doi.org/10.26623/sbj.v2i1.7013>
- Yang, Q., & Tang, Y. (2023). Big Data-based Human Resource Performance Evaluation Model Using Bayesian Network of Deep Learning. *Applied Artificial Intelligence*, 37(1). <https://doi.org/10.1080/08839514.2023.2198897>
- Yimam, M. H. (2022). Impact of training on employees performance: A case study of Bahir Dar university, Ethiopia. *Cogent Education*, 9(1), 2107301. <https://doi.org/10.1080/2331186X.2022.2107301>

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