

## The Effect of Motivation to Transfer Mediation on the Relationship of Individual Characteristics and Work Environment on the Transfer of Learning of Nurses in Hospitals

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### ABSTRACT

*This study aims to determine the direct effects of training design, individual characteristics, work environment, and motivation to transfer on the transfer of learning, as well as the indirect effects through the mediation of motivation to transfer. This research is a quantitative study with a cross-sectional design. Respondent data collection, using a purposive sampling technique with questionnaires as a data collection tool, was completed by 346 nurses in six Siloam Hospitals and then analyzed with PLS-SEM 4. The findings of this study indicate that motivation to transfer, training design, individual characteristics, and work environment have a significant positive effect on the transfer of learning. Training design, individual characteristics, and work environment have an indirect significant positive effect on the transfer of learning through motivation to transfer. It was also found that training design has an indirect significant positive effect on motivation to transfer through individual characteristics. From the mediation analysis test, it is known that motivation to transfer mediated the relationship between individual characteristics and work environment on the transfer of learning. Furthermore, individual characteristics mediated the relationship between training design and motivation to transfer.*

### KEYWORDS



*Individual characteristics, motivation to transfer, training design, transfer of learning, work environment, hospital nurses*

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### INTRODUCTION

Human Resource Management (HR) in hospitals is the process of managing and maintaining a highly skilled and productive workforce (Herzberg et al., 2017). The goal of HR management in the healthcare sector is to attract, retain, and develop employees who can provide quality healthcare services and support the entire mission of the hospital (Božić, 2023). With nearly 40% of all employees working in hospitals (OECD, 2023), nurses play a crucial role in ensuring the quality of service and patient safety by enhancing their performance.

The continuous professional development of nurses is essential for acquiring the knowledge and skills needed to provide patient-centered, safe, and effective care (King et al., 2021). Competent nurses will deliver high-quality nursing services that optimally impact the patient's healing process. Patients who receive quality care will feel satisfied, leading to a higher likelihood of them returning to the hospital when they need medical assistance.

The demand for personnel with up-to-date knowledge and high skills necessitates hospitals to allocate significant funds for the education of their employees, including nurses, through both formal and non-formal education, aiming to improve competence. However, Georgenson (1982) in Ford et al. (2011) estimated that only 10% of training outcomes are reflected through behavioral changes in the workplace. Hutchin in Faraji (2023) states that trainees apply less than 40% of the skills learned in training.

Baldwin & Ford (1988) used Georgenson's statement as a foundation for conducting a review of empirical research related to learning transfer, emphasizing the importance of understanding the factors that affect the transfer of learning. *Work environment, training*

*design*, and *individual characteristics* are factors that influence training transfer both directly and indirectly (Baldwin & Ford, 1988; Ma et al., 2018).

In Indonesia, research on the transfer of learning among nurses in hospitals is not widely found. Research has been more prevalent in the education sector and industries outside healthcare. Mayangsari et al. (2014) conducted a study on the influence of *individual characteristics* and supervisor support on motivation and learning transfer in one of the tuna processing companies. Iswahyudi et al. (2019) researched *self-efficacy* and supervisory support for learning transfer in a rubber processing company.

Siloam Hospitals, one of the largest hospital groups in Indonesia, is committed to human resource development by including the training budget in capital expenditure every year. However, based on patient complaint data and internal evaluations, problems were still found related to the effectiveness of learning transfer from training that nurses had participated in.

The transfer of learning in professional settings, particularly in healthcare, has been a critical area of study due to its direct impact on service quality and patient outcomes. Previous research by Baldwin & Ford (1988) laid the foundation by identifying key factors influencing learning transfer, including *work environment*, *training design*, and *individual characteristics*. Subsequent studies, such as those by Burke & Hutchins (2007) and Velada et al. (2007), further validated these findings, emphasizing the role of a supportive work environment and well-structured training programs. However, much of this research has been conducted in non-healthcare sectors, leaving a gap in understanding how these factors operate within the unique context of hospital nursing. The healthcare environment, with its high-stakes and dynamic nature, demands a tailored examination of learning transfer mechanisms to ensure effective application of training outcomes.

Despite the significant investment in nurse training, studies like Georgenson (1982) and Hutchin (cited in Faraji, 2023) reveal a startling discrepancy: less than 40% of training content is effectively transferred to workplace practices. This gap underscores the need for research that identifies and addresses the barriers to learning transfer in nursing. Existing studies in Indonesia, such as those by Mayangsari et al. (2014) and Iswahyudi et al. (2019), have explored learning transfer in industrial settings but have not extended their focus to healthcare. This omission is particularly concerning given the strategic role of nurses in patient care and the potential consequences of ineffective training transfer on service quality and patient safety. The lack of localized research in this area highlights a critical gap that this study aims to fill.

The urgency of this research is amplified by the increasing demands on healthcare systems and the need for continuous professional development among nurses. Hospitals, such as Siloam Hospitals in Indonesia, allocate substantial resources to training programs, yet internal evaluations and patient complaints suggest persistent issues in the application of training outcomes. These challenges not only undermine the return on training investments but also jeopardize patient care standards. Understanding the factors that facilitate or hinder learning transfer in this context is essential for optimizing training programs and enhancing nursing performance. The findings of this study will provide actionable insights for hospital management to improve training effectiveness, ultimately contributing to better healthcare delivery.

This study introduces novelty by examining the mediating role of *motivation to transfer* in the relationship between *individual characteristics*, *work environment*, and *learning transfer* among nurses—a perspective underexplored in existing literature. While prior research has established the direct effects of these factors, the mediating mechanisms remain less understood, particularly in the healthcare sector. By employing a quantitative approach with PLS-SEM analysis, this study offers a robust methodological contribution, enabling a nuanced understanding of these relationships. Additionally, the focus on Indonesian hospitals adds a cultural and contextual layer to the global discourse on learning transfer, addressing a geographical gap in the literature.

The primary objective of this research is to investigate the direct and indirect effects of *motivation to transfer*, *training design*, *individual characteristics*, and *work environment* on the *learning transfer* of nurses. Specifically, it seeks to determine how *motivation to transfer* mediates the relationship between *individual characteristics*, *work environment*, and *learning transfer*. By doing so, the study aims to uncover the underlying mechanisms that drive successful training outcomes in hospital settings. This objective aligns with the broader goal of enhancing the effectiveness of nurse training programs, ensuring that theoretical knowledge translates into practical skills that benefit both healthcare providers and patients.

The benefits of this research extend to multiple stakeholders, including hospital administrators, nurse educators, and policymakers. For administrators, the findings will inform the design of more effective training programs and the creation of supportive work environments that foster learning transfer. Nurse educators can leverage these insights to tailor training content and delivery methods to better meet the needs of learners. Policymakers may use the results to advocate for systemic changes that prioritize continuous professional development and workplace support for nurses. Ultimately, the study contributes to the broader goal of improving healthcare quality by ensuring that nurses are equipped to apply their training effectively in real-world settings.

By addressing the identified research gaps and providing empirical evidence on the factors influencing learning transfer, this study advances the theoretical understanding of training effectiveness in healthcare. It builds on existing frameworks while introducing new insights into the mediating role of *motivation to transfer*. The practical implications of the findings are significant, offering a roadmap for hospitals to enhance the return on their training investments. As healthcare systems worldwide grapple with the challenges of workforce development, this research provides timely and relevant guidance for improving nurse training and performance.

This study aims to examine the direct influence of *motivation to transfer*, *training design*, *individual characteristics*, and *work environment* on the *transfer of learning*, as well as to test the indirect influence through *motivation to transfer* mediation. This research is important because it can contribute to the understanding of the factors that affect the success of *transfer of learning* in the hospital environment, especially for the nursing profession, which plays a strategic role in health services.

## METHOD

This study uses a quantitative approach with a cross-sectional design. The study

population was nurses in six Siloam Hospitals hospitals consisting of three type C hospitals (Siloam Hospitals Mataram, Siloam Hospitals Jember, Siloam Hospitals Ambon) and three type B hospitals (Siloam Hospitals Surabaya, Siloam Hospitals Kupang, and Siloam Hospitals Labuan Bajo). The number of samples was determined using G\*Power software with an effect size of  $f^2$  0.15,  $\alpha$  err prob 0.05, power 0.95 so that a minimum sample of 107 respondents was obtained. The sampling technique used non-probability purposive sampling with inclusion criteria: (1) nurses who are actively working in the hospital where the research is located, (2) have participated in training, and (3) are willing to be respondents.

The research instrument was in the form of a questionnaire that measured five variables: transfer of learning, individual characteristics, motivation to transfer, work environment, and training design. All variables were measured using a Likert scale of 1-5. Data was collected through an online questionnaire in the form of a Google form in April 2024.

Data analysis was conducted using Partial Least Square Structural Equation Modeling (PLS-SEM) version 4.0. Model evaluation is carried out through two stages: (1) outer model to test the validity and reliability of constructs, and (2) inner model to test the structural relationships between variables. Hypothesis testing was carried out using the bootstrapping method with a significance level of 0.05.

## RESULTS AND DISCUSSION

### Respondent Profile

The total respondents of the study were 346 nurses from six Siloam Hospitals. The majority of respondents were women (79%), aged 31-35 years (38%), S1 educated (64%), and had 6-10 years of work experience (38%). The distribution of respondents based on hospital origin is: Siloam Hospitals Surabaya (29%), Siloam Hospitals Kupang (27%), Siloam Hospitals Ambon (15%), Siloam Hospitals Mataram (13%), Siloam Hospitals Jember (9%), and Siloam Hospitals Labuan Bajo (7%).

### Descriptive Analysis

The results of the descriptive analysis showed that all variables had an average value that was in the category of "Agree" to "Strongly Agree" (range 3.41-5.00). The motivation to transfer variable had the highest average score (4,472), followed by training design (4,190), work environment (4,063), transfer of learning (4,168), and individual characteristics (4,081).

**Table 1. Descriptive Statistics of Research Variables**

Variabel	Mean	Hours of deviation	Category
Individual Characteristics	4.081	0.765	Setuju
Motivation to Transfer	4.472	0.611	Strongly agree
Training Design	4.190	0.685	Setuju
Work Environment	4.063	0.708	Setuju
Transfer of Learning	4.168	0.697	Setuju

### Evaluation of Measurement Models (Outer Model)

The results of the outer model evaluation showed that all indicators had an outer loading value above 0.70, except for three indicators (MT1, TL4, and WE11) which were excluded

from the model because they had loading values below 0.70. Cronbach's alpha value for all constructs is above 0.85, indicating good reliability. The Average Variance Extracted (AVE) value for all constructs is above 0.50, indicating adequate convergent validity.

**Table 2. Outer Model Evaluation Results**

Construct	Cronbach's Alpha	Composite Reliability	AVE	Status
Individual Characteristics	0.898	0.917	0.582	Reliabel & Valid
Motivation to Transfer	0.858	0.914	0.779	Reliabel & Valid
Training Design	0.937	0.949	0.726	Reliabel & Valid
Work Environment	0.944	0.951	0.641	Reliabel & Valid
Transfer of Learning	0.965	0.969	0.707	Reliabel & Valid

### Evaluation of Structural Models (Inner Model)

The multicollinearity test showed that all Variance Inflation Factor (VIF) values were below 5, indicating no serious multicollinearity problems. The R-square value shows that training design can explain 63.1% of individual characteristics variance, independent variables can explain 52.1% of motivation to transfer variance, and all variables can explain 72.2% of transfer of learning variances.

**Table 3. R-Square Test Results**

Variable endogenous	R-Square	R-Square Adjusted	Interpretasi
Individual Characteristics	0.631	0.630	Moderate
Motivation to Transfer	0.521	0.518	Moderate
Transfer of Learning	0.722	0.718	Strong

### Hypothesis Test

The results of hypothesis testing showed that all nine hypotheses proposed were significantly supported ( $p < 0.05$ ). The work environment had the strongest positive influence on the transfer of learning ( $\beta = 0.430$ ,  $p < 0.001$ ), followed by training design ( $\beta = 0.259$ ,  $p < 0.001$ ), motivation to transfer ( $\beta = 0.121$ ,  $p = 0.006$ ), and individual characteristics ( $\beta = 0.112$ ,  $p = 0.020$ ).

**Table 4. Hypothesis Testing Results**

Hipotesis	Path	Standard Coefficient	T-Statistics	P-Value	Result
H1	MT → TL	0.121	2.495	0.006	Supported
H2	WE → TL	0.430	5.177	0.000	Supported
H3	TD → TL	0.259	3.410	0.000	Supported
H4	IC → TL	0.112	2.056	0.020	Supported
H5	IC → MT	0.267	3.480	0.000	Supported
H6	TD → IC	0.794	24.092	0.000	Supported
H7	IC → MT → TL	0.032	1.867	0.030	Supported
H8	WE → MT → TL	0.026	1.958	0.021	Supported
H9	TD → IC → MT	0.212	3.655	0.000	Supported

**Keterangan:** MT = Motivation to Transfer, TL = Transfer of Learning, WE = Work Environment, TD = Training Design, IC = Individual Characteristics

## Mediation Analysis

The results of the mediation analysis showed that motivation to transfer partially mediated the relationship between individual characteristics and work environment to the transfer of learning. Individual characteristics also partially mediate the relationship between training design and motivation to transfer. All three mediation pathways had a low effect size based on the Upsilon V test.

**Table 5. Mediation Analysis Results**

Mediation Pathway	Indirect Effects	Mediation Status	Effect Size
IC → MT → TL	0.032*	Partial Mediation	Low
WE → MT → TL	0.026*	Partial Mediation	Low
TD → IC → MT	0.212*	Partial Mediation	Low

\* $p < 0.05$

## Importance-Performance Map Analysis (IPMA)

The IPMA results show that the work environment is in the "high importance - low performance" quadrant, indicating that this variable is considered important by respondents but that performance still needs to be improved. Training design is in the quadrant of "high importance - high performance", showing good performance and needs to be maintained.

Work environment indicators that need to be prioritized for improvement include: (1) supervisor support in helping to develop realistic performance targets, (2) periodic meetings with supervisors to discuss the implementation of training results, (3) supervisor support in overcoming problems in implementing training results, and (4) availability of resources needed to implement training results.

The findings of this study confirm that the work environment has the strongest influence on the transfer of learning of nurses in hospitals. This is in line with the research of Burke & Hutchins (2007), Yip & Mahmoud (2015), and Yunus et al. (2017) which emphasized the importance of supportive work environment in facilitating the transfer of learning. A supportive work environment, including supervisor support, peer support, opportunities to use, and feedback, creates conditions that allow nurses to apply the knowledge and skills gained from training.

Training design has also been shown to have a significant effect on the transfer of learning, in line with the findings of Velada et al. (2007) and Nafukho et al. (2022). Well-designed training, with methods that are appropriate to the actual working conditions and competent trainers, can increase participants' confidence and motivation to implement the training results.

Individual characteristics, which include learner readiness and self-efficacy, also have a positive effect on the transfer of learning. These findings are consistent with the research of Bhatti et al. (2013) and Madagamage et al. (2014) which showed that the readiness of learning and the confidence of trainees are important factors in the success of the transfer of learning.

Motivation to transfer has been shown to play a role as a partial mediator in the relationship between individual characteristics and work environment to the transfer of



learning. This confirms the findings of Mayangsari et al. (2014) and Iswahyudi et al. (2019) that motivation is a key factor that links individual characteristics and work environment to the success of transfer of learning.

An interesting finding in this study is that training design has a strong influence on individual characteristics, in line with the research of Bhatti & Kaur (2010). Well-designed training can improve participants' self-efficacy by providing relevant application examples and building confidence through effective learning methods.

The results of IPMA show that the work environment needs to be a priority for improvement, especially in the aspects of supervisor support, availability of resources, and providing feedback. This is in line with the findings that the support of superiors and colleagues is a critical factor in creating an environment conducive to the transfer of learning.

### CONCLUSION

This study proves that work environment, training design, individual characteristics, and motivation to transfer have a positive and significant effect on the transfer of learning of nurses in hospitals. The work environment has the strongest influence, showing the importance of creating a work environment that supports the implementation of training results. Motivation to transfer has been shown to mediate the relationship between individual characteristics and the work environment to the transfer of learning, while individual characteristics mediate the relationship between training design and motivation to transfer. Hospital management needs to prioritize improving the work environment, especially supervisor support and feedback systems, as well as maintaining the quality of training design to optimize training investment and improve the quality of nursing services. Further research is suggested to explore other factors such as reward system and leadership style that can influence the transfer of learning in the context of health services.

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