JURNAL LOCUS: Penelitian & Pengabdian
Volume 5 No. 6 June 2026
E-ISSN 2829-7334| P-ISSN 2829-5439
Hompage: https://locus.rivierapublishing.id/index.php/jl

Synthesizing the Organizational Factor with the Rule of Parent and Pediatric Nursing Behavior toward Hospital Performance: Evidence from Indonesia

Rusida Harjayanti Sanindya Arum[1*], Ferdi Antonio[2]
Universitas Aisyah Pringsewu, Indonesia[1]
Universitas Pelita Harapan, Indonesia[2]
Email: usimudapati@gmail.com[1*]

Keywords:
Pediatric nursing;
hospital performance;
parents;
nursing behavior;
organizational factor.

Abstract

This study examines the influence of organizational factors and parental engagement on pediatric nurse caring behavior and perceived hospital performance in Indonesian private hospitals. Despite global improvements in healthcare quality, challenges persist in maintaining high standards of nursing care, particularly in pediatrics, where parental involvement significantly affects patient outcomes. The research aims to identify how managerial support, nurse-nurse collaboration, doctor-nurse relationships, promotion of patient safety, and staffing/resources impact nurses' caring behavior, mediated by parents' education and involvement. A quantitative cross-sectional survey was conducted with 104 pediatric nurses from five private hospitals, and data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate reliability, validity, and hypothesized relationships. Results indicate that pediatric nurse caring behavior is primarily influenced by parental involvement, which is enhanced by the promotion of patient safety and parental education. Managerial support, nurse-nurse collaboration, and doctor-nurse relationships showed limited direct effects on parental engagement. The findings highlight that structural and process factors, such as resource allocation and patient safety initiatives, indirectly improve hospital performance through increased parental participation and nurse caring behavior. The study concludes that hospital management should prioritize strategies fostering parental involvement, support nurses' caring practices, and promote patient safety to enhance both perceived hospital performance and overall quality of pediatric care.

INTRODUCTION

Healthcare services, particularly nursing, play a crucial role in the global healthcare system. However, challenges persist in improving nursing quality and fostering its continuous development. Frequent human errors in nursing practice have raised concerns about the quality of care, necessitating continuous improvement efforts (Graban, 2018; Johnson & Sollecito, 2018; Parush et al., 2017). Caring behavior among nurses is a fundamental aspect influencing hospital performance, as it reflects the quality of interactions between healthcare professionals and patients (Cintra et al., 2022). Therefore, hospitals must identify and support factors that promote positive nursing behaviors to ensure high-quality healthcare services (Rehman et al., 2024).

The World Health Organization (WHO) (2021) classifies healthcare quality into three primary aspects: structure (resources and hospital organization), process (service delivery), and outcome (the impact of services on patient health). The nursing work environment significantly

influences patient and family satisfaction, especially in pediatric care (Otokwala et al., 2020). Previous studies have indicated that nurses' attitudes substantially affect patient perceptions of care (Türkiye, 2016), and aligning nurse-patient perceptions improves interactions and enhances patient satisfaction (2022).

Current hospital conditions are also influenced by Millennials (born 1981–1996) and Generation Z (born 1997–2012), who have recently entered the workforce, including the healthcare sector. These generations often struggle with empathy and communication skills, which are essential competencies in nursing (Burney, McCann & Arnold, 2024). Lack of empathy and poor communication skills can lead to a decline in service quality, increased complaints from patients and their families, and negative reviews that ultimately impact hospital performance (Handayani & Kuntarti, 2021).

This study focuses on identifying factors influencing nurses' caring behavior and their impact on perceived hospital performance. Key factors affecting nursing service quality include Managerial Support – Effective leadership, communication facilitation, training, and resource availability for nurses (Lake et al., 2023). Nurse-Nurse Collaboration – Teamwork among nurses that enhances efficiency and the quality of nursing care (Liao et al., 2015). Doctor-Nurse Collaboration – Strong professional relationships between doctors and nurses that contribute to optimized patient care coordination (Lake et al., 2023). Promotion of Patient Safety – Ensuring patient safety as a fundamental component of healthcare service quality (Oldland et al., 2020). Staffing and Resources – Availability of adequate human resources and medical equipment to support nursing practices (Lake et al., 2023). Patient's Parent Education – Educating parents to improve their understanding and involvement in their child's healthcare (Latour et al., 2023). Patient's Parent Involvement – Active participation of parents in pediatric patient care, which enhances overall healthcare satisfaction (Latour, 2009). Pediatric Nurse Caring Behavior – Nurses' caring attitudes, responsiveness, and emotional support for pediatric patients and their families (CNPI- 70, 2005). Perceived Hospital Performance – Nurses' evaluation of hospital performance based on healthcare quality, operational efficiency, and patient satisfaction (Johnson & Antonio, 2024).

Nurses are expected to demonstrate important levels of empathy, care, and the ability to manage complaints, especially when treating pediatric patients. Pediatric care demands detailed attention, exceptional patience, and the ability to address the high potential for complaints from parents. Issues stemming from low empathy and poor communication skills can lead to a decline in service quality and increased complaints from patients and their families (Kee et al., 2018; Um & Lau, 2018). Such declines in service quality and negative reviews can impact hospital performance and result in potential financial losses (Aamir, 2018; Kee et al., 2018; Zheng et al., 2018).

The ability of nurses to deliver optimal care to patients, especially pediatric patients, is influenced by several factors, including managerial support, nurse-nurse collaboration, doctor-nurse relations, promotion of patient safety, and staffing and resources (Appiah et al., 2022; Janhunen, 2021; Kwame & Petrucka, 2024; Rayan, n.d.). These factors are mediated by patient's parent education, patient's parent involvement, and pediatric nursing behavior, which collectively impact hospital performance.

This study examines the impact of managerial support, work environment, and nurses' caregiving behavior on nurses' performance and hospital efficacy. It explores how effective

managerial support and workplace conditions influence care quality while assessing the direct link between nurses' caregiving behavior and overall hospital performance.

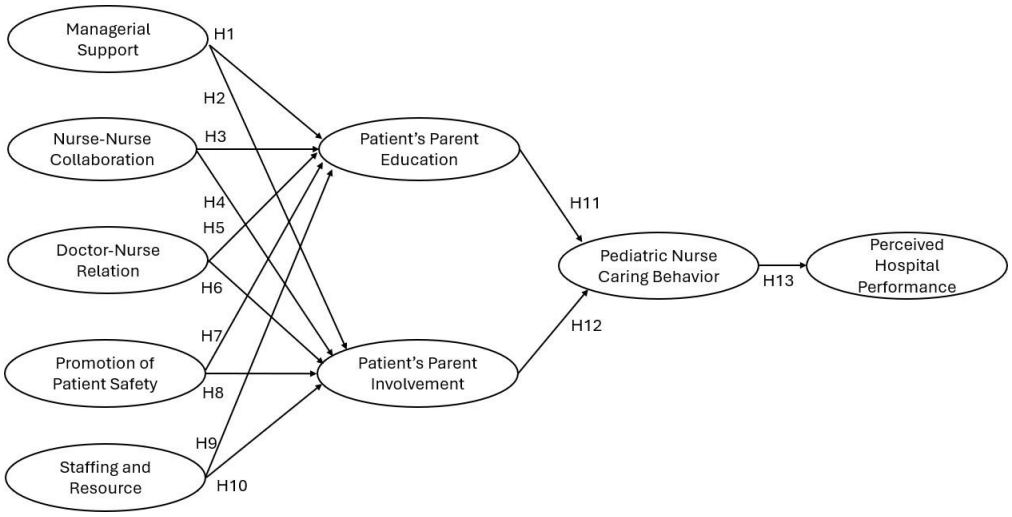


Figure 1. Conceptual Framework

This research model aims to demonstrate that organizational factors contribute to enhancing nurses' care and attention in providing services to patients. Key factors examined in this study include managerial or leadership support in maintaining nurses' dedication to patient care, team collaboration among nurses, professional relationships between doctors and nurses, efforts to promote patient safety, and the alignment of nurses' skills with their assigned roles.

These factors are further influenced by the level of parental education, encompassing both parents' understanding and educational background, as well as cooperative actions by parents during their child's treatment. Collectively, these factors serve as determinants of hospital performance.

RESEARCH METHOD

This study was quantitative research with a survey approach. Data processing was conducted systematically, following a clear, structured, and detailed workflow. The study employed statistical analysis with validity and reliability testing. Data were collected through questionnaires without any specific treatment or intervention for the respondents. The focus of the study was on nurses providing care to pediatric patients in hospitals (excluding outpatient services) to ensure data homogeneity, considering the similarities in respondents' backgrounds, job profiles, and work perspectives.

Data collection was conducted only once within a specific period, categorizing this study as a cross-sectional study. The data collection method used was deemed adequate to support the analysis process and the testing of the theories previously formulated.

Hypothesis testing was performed using inferential statistical methods to determine the relationships between variables in the research model. The data obtained from respondents were utilized to test the hypotheses, and if the results were significant, the findings were expected to be applicable to a broader population.

Setting and Sample

The study was conducted in a developing small town with an agricultural-based economy, where cultural shifts toward modernization are underway. The population comprised nurses caring for pediatric patients in private hospitals with 50–100 beds. A total sampling method was used, involving all eligible participants.

The sample size was determined based on recommendations for multivariate research using partial least square - structural equation modelling (PLS-SEM) with a priori approach through power analysis. Calculations were performed using G*Power® software, with parameters set at f2=0.15f^2 = 0.15f2=0.15 (medium effect size), 90% power, alpha 0.05, and 9 predictors.

Data Collection

This study utilized two types of data: primary and secondary. Primary data were obtained directly through surveys, while secondary data were sourced from literature, previous research, or other relevant written documents as supporting materials.

Primary data were collected from respondents using self-administered questionnaires filled out independently. The questionnaire consisted of three sections: consent for participation, demographic information, and questions related to the research variables. The distribution was conducted online via Google Forms, targeting all active nurses who met the research criteria. Questions were structured using a Likert scale ranging from 1 to 5 to measure the variables, and the analysis was performed using a multivariate PLS-SEM approach.

Secondary data were obtained from literature, books, reports, and other written documents. These data serve as additional references to support the information and analysis in this study

Statistical Analysis

This study employs a multivariate analysis approach to accommodate the complexity of the research model, which consists of 9 variables and 13 pathways. The selected method, Partial Least Square – Structural Equation Modelling (PLS-SEM), enables the examination of variable relationships while assessing the model's predictive capabilities.

PLS-SEM was chosen based on several considerations. First, it aligns with the exploratory study objective, which aims to develop theory by testing the proposed model. Second, PLS-SEM has a causal-predictive nature, allowing it to explain relationships among variables while maintaining strong predictive power. Third, this method is more adaptable as it does not require data normality assumptions, making it easier to implement in research.

Ethical Considerations

Ethical approval was obtained from the Ethics Committee of the University of Pelita Harapan, Jakarta (Ethics Ref 042/MARS/EC/X/2024). Additionally, permission from the original copyright holder was requested and granted. A questionnaire and an information sheet detailing the study were provided to the participants. Measures were taken to ensure the confidentiality of the nurses. The submission of completed questionnaires was considered as implicit consent for participation.

RESULT AND DISCUSSION

Respondent's Characteristics

This study aims to analyze the relationship between work environment factors, particularly for pediatric nurses, and hospital performance, mediated by specific variables. The questionnaire was distributed online via Google Forms with prior approval from each hospital. A total of 104 respondents were obtained through the data collection process.

Table 1. Respondent Characteristics

Description	Category	Count (n)	Presetage (%)
Gender	Male	23	22%
	Female	81	78%
Total		104	100%
Marital Status	Single	25	24%
	Married	79	76%
Total		104	100%
Age	18-27 yo	73	70%
	28-43 yo	23	22%
	44-59 yo	8	8%
Total		104	100%
Education Background	Diploma	61	59%
	Bachelor in Nursing/Midwifery	9	9%
	Professional Degree in Nursing/Midwifery	34	33%
Total		104	100%
Experience	< 1 year	20	19%
	1 - < 5 years	32	31%
	5 - < 10 years	20	19%
	10 - < 15 years	19	18%
	> 15 years	13	13%
Total		104	100%
Wok unit	Inpatient ward	58	56%
	Emergency department	18	17%
	Intensive Care Unit	28	27%
Total		104	100%

Source: Primary survey data from 104 pediatric nurses in five private hospitals in Indonesia; analyzed using SmartPLS 4 for reliability, validity, discriminant validity, inner model path coefficients, and hypothesis testing

This demographic overview provides a detailed insight into the characteristics of the respondents, highlighting their professional background and experience in various hospital settings.

Outer Model

In the measurement model, two main tests were conducted: reliability and validity, performed sequentially. Data processing was conducted using SmartPLS version 4 software with a sample size of 208. The analysis was conducted using the PLS Algorithm through the path analysis feature. The results from the PLS Algorithm were reported in four main

components: Indicator reliability, evaluated based on outer loading values; Construct reliability, measured using Cronbach's alpha, point estimate, and composite reliability; Construct validity, assessed through the average variance extracted (AVE); and Discriminant validity, examined using the heterotrait- monotrait (HTMT) ratio.

The outer model diagram illustrates the outer loading values for each indicator, represented by arrows from blue circles to yellow boxes. The model comprises 46 reflective indicators across 9 latent variables. Once the variables were connected, calculations were performed using the PLS Algorithm. Indicators with a loading factor above 0.7 were considered to have good convergent validity. The path coefficient values were also observed, such as the contribution of nurse-nurse collaboration (0.171) to patient's parent education and promotion of patient safety (0.534) to patient's parent involvement.

Reliability & Validity

Based on the analysis, all variables had Cronbach's alpha and composite reliability (rho_c) values above 0.7, indicating good reliability as recommended by Hair et al. (2019, 2022). No composite reliability value exceeded 0.950, suggesting no indication of redundancy among indicators. The rho_a values were also above 0.7 and aligned with expectations, further supporting the reliability results. Therefore, the measurement model is considered dependable, with consistent and dependable indicators for measuring the constructs.

Table 2. Construct validity and reliability

Variabel	Construct	Code	Outer Loading
Managerial Support	In my opinion, the head of the nursing department has demonstrated a good role as both a manager and a leader for the nurses.	MS1	0.777
	In my opinion, my head of the nursing department can help resolve conflicts that arise between nurses or between doctors and nurses.	MS2	0.833
	In my opinion, the current head of the nursing department is always supportive in promoting the advancement of nurses, both in practice and education.	MS3	0.733
	In my opinion, my superior has given me good appreciation for my work.	MS4	0.875
	In my assessment, the hospital management has carried out effective planning regarding nurses' workload.	MS5	0.84
	CA = 0.873 ; rho_a = 0.902 ; rho_c = 9.07 ; AVE = 0.661		
Nurse-nurse Collaboration	In my opinion, every pediatric nurse here can objectively discuss patients' complaints and fears.	NNC1	0.789
	In my opinion, any conflicts that occur between nurses here can be resolved well.	NNC2	0.707
	In my opinion, if a conflict arises between nurses, my superior accommodates and understands the feelings and perspectives of each conflicting nurse effectively.	NNC3	0.662
	In my opinion, all nurses here agree and collaborate to work optimally while prioritizing patient safety.	NNC4	0.822

Variabel	Construct	Code	Outer Loading
	In my opinion, every nurse here consistently shares the latest and most accurate information about the patient's condition and the therapy received.	NNC5	0.861
	In my opinion, every nurse here understands all protocols and the patient's treatment plan from the beginning to the end.	NNC6	0.87
	CA = 0.877 ; rho_a = 0.888 ; rho_c = 0.907 ; AVE = 0.622		
Doctor-nurse Relation	In my opinion, there is good teamwork between doctors and nurses in my unit/ward. For example, doctors are easily accessible, provide clear instructions, and nurses can receive and execute instructions correctly and efficiently.	DNC1	0.893
	In my opinion, doctors and nurses have a good and professional working relationship.	DNC2	0.93
	In my opinion, doctors and nurses can collaborate effectively in performing interventions or procedures on patients. For example, during special procedures, nurses can assist doctors properly	DNC3	0.877
	CA = 0.883; rho_a = 0.885 ; rho_c = 0.928 ; AVE = 0.811		
Promotion of Patient Safety	I am directed to participate in the care planning as part of therapy administration control. For example, I match the schedule and therapy to be administered, then record the time and details of the therapy given in the electronic medical records	PPS1	0.779
	I am instructed to report all incidents regularly, even if no adverse effects (sentinel events) are found	PPS2	0.747
Variabel	Construct	Code	Outer Loading
	I am involved in risk mitigation efforts for medical errors in my unit. For example, preventing patient falls from bed, infant identification, and preventing medication administration errors.	PPS3	0.796
	I am involved in evaluating performance, including human resources and other needs in my unit	PPS4	0.819
	I receive training on medical error prevention	PPS5	0.469
	CA = 0.781 ; rho_a = 0.824 ; rho_c = 0.849 ; AVE = 0.538		
Staffing and Resource	I feel that the current number of pediatric nurses is sufficient to care for all patients in the unit/ward where I work.	SR1	0.754
	I feel that all pediatric nurses currently have the appropriate qualifications to provide pediatric patient care	SR2	0.847
	I feel that my workplace has comprehensive healthcare facilities to support my patient care.	SR3	0.721
	I feel that I can discuss with fellow nurses regarding patient conditions and care	SR4	0.807
	CA = 0.794 ; rho_a = 0.824 ; rho_c = 0.84 ; AVE = 0.614		
Patient's Parent Education	In my opinion, parents of patients receive clear information about their child's illness.	PPE1	0.766

Variabel	Construct	Code	Outer Loading
	In my opinion, parents of patients in this hospital are aware of the risks associated with the treatments given to their child	PPE2	0.829
	In my opinion, parents of patients in this hospital understand the function and purpose of the medical examinations performed on their child	PPE3	0.84
	In my opinion, parents of patients in this hospital have been clearly informed about their child's illness.	PPE4	0.869
	In my opinion, parents of patients in this hospital have been clearly informed about the continuation of care, including the long-term effects of the treatment.	PPE5	0.847
	CA = 0.887 ; rho_a = 0.889 ; rho_c = 0.918 ; AVE = 0.691		
Patient's Parent Involvment	In my opinion, parents of patients in this hospital are encouraged to be more involved with their children during hospitalization	PPI1	0.769
	In my opinion, parents of patients in this hospital are involved in determining the treatment plan (choosing between inpatient or outpatient care).	PPI2	0.604
	In my opinion, parents of patients in this hospital are encouraged to accompany their child during nursing procedures	PPI3	0.807
	In my opinion, parents of patients in this hospital understand how to continue home care after hospitalization.	PPI4	0.687
	In my opinion, parents of patients in this hospital are free to express concerns regarding their child's illness during hospitalization	PPI5	0.826
	CA = 0.795 ; rho_a = 0.813 ; rho_c = 0.859 ; AVE = 0.552		
Pediatric Nurse Caring Behavior	I show empathy toward the families of pediatric patients who accompany their children during hospitalization	PNCB1	11.16
	I treat pediatric patients with affection as if they were my own children.	PNCB2	16.14
	I can calm down a fussy pediatric patient.	PNCB3	11.09
	I patiently listen to parents' concerns about their child's illness	PNCB4	10.46
	I can comfort the pediatric patients I care for	PNCB5	13.91
	I help them understand the illness and its treatment.	PNCB6	20.81
	I try to help pediatric patients feel less afraid during procedures	PNCB7	14.73
	CA = 0.862 ; rho_a = 0863 ; rho_c = 0.894 ; AVE 0.548		
Variabel	Construct	Code	Outer Loading
Perceived Hospital Performance	In my opinion, this hospital has good performance because it is supported by high-quality nurses with appropriate competencies.	PHOP1	17.03
	In my opinion, patients can testify that the care provided in this hospital is better than in other hospitals.	PHOP2	23.16
	In my opinion, all hospital staff (medical, non-medical, and management) work professionally and in accordance with their respective fields	PHOP3	27.51

Variabel	Construct	Code	Outer Loading
	In my opinion, this hospital has a well-organized management team.	PHOP4	10.01
	In my opinion, this hospital has successfully provided the best services for its patients compared to other hospitals	PHOP5	15.83
	In my opinion, this hospital has successfully anticipated and prevented medical errors, leading to a reduction or elimination of such incidents.	PHOP6	15.5
	CA = 0.883 ; rho_a : 0.886 ; rho_c = 0.912 ; AVE = 0.632		

Source: Primary survey data from 104 pediatric nurses in five private hospitals in Indonesia; analyzed using SmartPLS 4 for reliability, validity, discriminant validity, inner model path coefficients, and hypothesis testing

Based on the reliability analysis, the Cronbach's Alpha, and Composite Reliability (rho_and rho_c) values for all variables met the minimum standard of 0.7. This indicates that all variables exhibit good internal consistency. No indication of indicator redundancy was found, as rho_c values did not exceed 0.950. Therefore, the measurement model is considered dependable, and all indicators are deemed valid in representing the intended constructs.

The average variance extracted (AVE) values for each variable in the model meet the minimum criterion of being greater than 0.50. This indicates that each variable and its indicators can explain more than 50% of the variance measured. The variable with the lowest AVE value is promotion of patient safety, at 0.538. These results suggest that the indicators in the measurement model are valid and adequately represent the constructions being measured.

No relationships between constructions with a ratio value exceeding 0.9 were found. The highest recorded value was 0.893, observed between the constructs of pediatric caring nurse behavior and patient's parent involvement. Thus, all indicators of the 9 variables in this research model have demonstrated an adequate level of discriminant validity. These results indicate that the indicators in the model specifically and appropriately represent their respective constructions, covering aspects of nursing, service quality, and hospital performance.

Discriminant Validity

The HTMT matrix analysis confirms that all HTMT ratios remain below the 0.9 threshold, ensuring discriminant validity between constructs. If any ratio exceeds this limit, an inferential HTMT test using bootstrapping is required to detect validity issues.

Bootstrapping assesses the confidence interval (CI) range, where an upper bound exceeding 1.0 indicates insufficient discrimination. However, the study results show that no HTMT ratio exceeded 0.9, with the highest recorded value at 0.893 for pediatric caring nurse behavior and patient's parent involvement. Thus, all indicators in this study meet the required discriminant validity criteria.

Following outer model evaluation, the study demonstrates statistical reliability and validity, verified through reliability tests (outer loading, Cronbach's alpha, point of estimate, and composite reliability) and construct validity tests (AVE and HTMT ratio). These results confirm that the research model is suitable for further inner model or structural model analysis.

Table 3. Discriminate Validity

	Doctor Nurse Relation	Managerial Support	Nurse-Nurse Collaboration	Patient's Parent Education	Patient's Parent Involvement	Pediatric Nurse Caring Behaviour	Perceived Hospital Performance	Promotion of Patients Safety	Staffing and Resource
Doctor Nurse Relation									
Managerial Support	0.544								
Nurse-Nurse Collaboration	0.735	0.743							
Patient's Parent Education	0.6	0.508	0.714						
Patient's Parent Involvement	0.572	0.312	0.547	0.827					
Pediatric Nurse Caring Behaviour	0.562	0.464	0.672	0.7	0.844				
Perceived Hospital Performance	0.617	0.508	0.66	0.7	0.683	0.778			
Promotion of Patients Safety	0.767	0.668	0.813	0.765	0.74	0.741	0.709		
Staffing and Resource	0.746	0.752	0.828	0.786	0.58	0.573	0.727	0.82	

Source: Primary survey data from 104 pediatric nurses in five private hospitals in Indonesia; analyzed using SmartPLS 4 for reliability, validity, discriminant validity, inner model path coefficients, and hypothesis testing

Inner Model

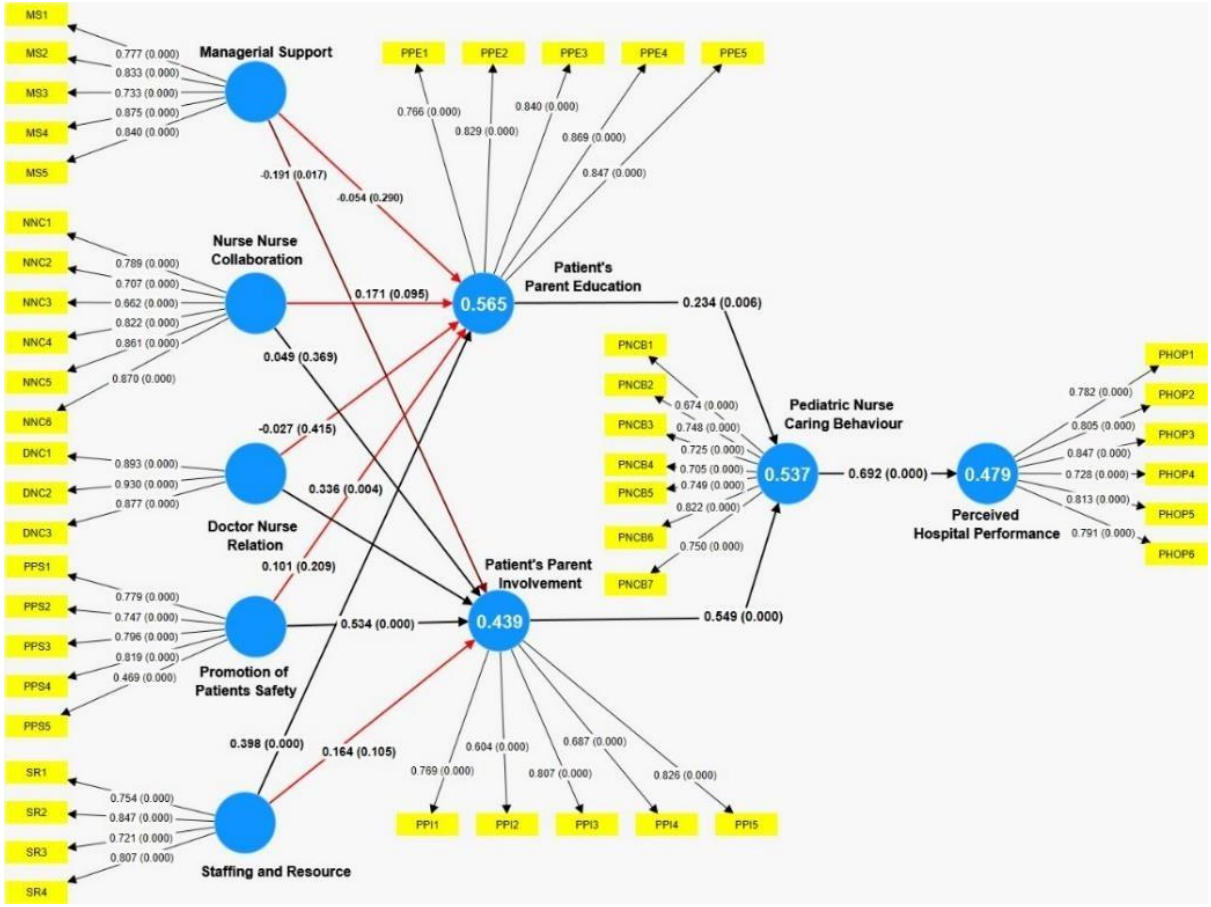


Figure 2. Inner Model

Evaluation of the inner model shows that the predictive power of the model is at moderate to high predictive power, especially in Patient's Parent Education and Pediatric Nurse Caring Behavior. In the relationship between the independent variable and the mediating variable, it was found that Managerial Support had a significant influence on Patient's Parent Education, but in a negative direction. That is, the higher the managerial support, the lower the education level of the patient's parents, which is contrary to the initial hypothesis of the study. Meanwhile, Nurse-Nurse Collaboration did not show a significant relationship with Patient's Parent Education, which shows that collaboration between nurses is not the main factor in increasing parents' understanding of their child's care.

In the relationship between independent variables and Patient's Parent Involvement, it was found that Doctor-Nurse Relation has a significant effect on increasing the involvement of patient parents. That is, the better the relationship between doctors and nurses, the higher the level of involvement of parents in their child's care. In contrast, Staffing and Resources do not have a significant effect on Patient's Parent Involvement, which indicates that the availability of staff and resources alone is not enough to increase parental involvement in child care. One of the important findings in this research is that Promotion of Patient Safety has a very significant contribution in increasing Patient's Parent Involvement. This shows that promoting

patient safety not only increases parents' awareness of child care, but also encourages their involvement in the care process

Furthermore, the involvement of the patient's parents apparently had a greater impact on Pediatric Nurse Caring Behavior compared to the education of the patient's parents. In this relationship, Patient's Parent Involvement has a more significant influence than Patient's Parent Education on increasing the caring behavior of pediatric nurses. These findings indicate that the more active parents are in accompanying their child's care, the higher the nurse's concern for their patient. This reinforces the understanding that direct interactions between parents and nurses can improve the quality of nursing services.

In the relationship between the dependent variable and the outcome Perceived Hospital Performance, it was found that Pediatric Nurse Caring Behavior was the main factor that contributed to increasing Perceived Hospital Performance. That is, the caring behavior of pediatric nurses plays a key role in improving perceptions of hospital performance. This finding supports the idea that improving the quality of patient care does not only depend on the managerial system and work environment, but is also greatly influenced by direct interaction between medical personnel and patients.

The R^2 value in this model shows that Patient's Parent Education has an R^2 value of 0.565, which means that 56.5% of the variability in Patient's Parent Education can be explained by the independent variables in this model. For Patient's Parent Involvement, the R^2 value is 0.439, which means that parental involvement can be explained by 43.9% by the independent variable. Pediatric Nurse Caring Behavior has an R^2 value of 0.537, indicating that the model is able to explain 53.7% of the variability in pediatric nurses' caring behavior, while Perceived Hospital Performance has an R^2 value of 0.479, which means that the independent and mediating variables in this model are able to explain 47.9% of the variation in hospital performance. These values indicate that the model has quite strong predictive power, especially in explaining the factors that influence Pediatric Nurse Caring Behavior and Perceived Hospital Performance. Overall, the results of this research highlight several key findings. The most influential factor in improving the quality of hospital services is the caring behavior of pediatric nurses, which is influenced by the involvement of patient parents. Promoting patient safety has been shown to be a key factor in increasing parental involvement, which indirectly also has an impact on increasing the caring behavior of pediatric nurses. The relationship between doctors and nurses has a significant influence on parental involvement, while the availability of staff and resources has no significant influence on increasing their involvement.

Hypothesis testing result.

The hypothesis connecting promotion of patient safety and patient’s parent education was supported, with a significant positive coefficient of 0.336, indicating that the promotion of patient safety correlates with improved parental education. Similarly, the hypothesis linking promotion of patient safety to patient’s parent involvement was supported, demonstrating a significant positive relationship, where increased promotion of patient safety corresponds to greater parent involvement. The hypothesis regarding staffing and resources and patient’s parent education was also supported, showing a significant positive relationship, where the availability of competent staff correlates with higher parental education.

Overall, these findings indicate that managerial support and the promotion of patient safety significantly and positively impact parental education and involvement. Similarly, the

availability of staff and resources has a significant positive effect on parental education but not directly on their involvement. These results highlight the importance of considering other factors that may influence parental involvement in the context of staffing and resource availability.

Table 4. Hypothesis Result

Hypotesis	Standardizes Ceofficient	P-Values	Confidence Interval		Result
			lower 5%	upper 95%	
Doctor Nurse Relation -> Patient's Parent Education	-0.027	0.83	-0.293	0.199	not suported
Doctor Nurse Relation -> Patient's Parent Involvement	0.101	0.417	-0.172	0.314	not suported
Managerial Support -> Patient's Parent Education	-0.054	0.579	-0.237	0.144	not suported
Managerial Support -> Patient's Parent Involvement	-0.191	0.034	-0.364	-0.01	supported
Nurse Nurse Collaboration -> Patient's Parent Education	0.171	0.19	-0.062	0.442	not suported
Nurse Nurse Collaboration -> Patient's Parent Involvement	0.049	0.738	-0.21	0.366	not suported
Patient's Parent Education -> Pediatric Nurse Caring Behaviour	0.234	0.012	0.061	0.429	supported
Patient's Parent Involvement -> Pediatric Nurse Caring Behaviour	0.549	0	0.335	0.733	supported
Pediatric Nurse Caring Behaviour -> Perceived Hospital Performance	0.692	0	0.573	0.812	supported
Promotion of Patients Safety -> Patient's Parent Education	0.336	0.007	0.078	0.572	supported
Promotion of Patients Safety -> Patient's Parent Involvement	0.534	0	0.299	0.757	supported
Staffing and Resource -> Patient's Parent Education	0.398	0.001	0.163	0.622	supported
Staffing and Resource -> Patient's Parent Involvement	0.164	0.21	-0.098	0.417	not suported

Source: Primary survey data from 104 pediatric nurses in five private hospitals in Indonesia; analyzed using SmartPLS 4 for reliability, validity, discriminant validity, inner model path coefficients, and hypothesis testing

Among all the hypotheses, several key relationships were significant, particularly those involving Patient's Parent Education, Patient's Parent Involvement, and Pediatric Nurse Caring Behavior. However, hypotheses involving the variables Doctor-Nurse Relation and Managerial Support were not significant, indicating that their influence on parental education or involvement in this study was weak or irrelevant. These findings support most of the relationships in the model but highlight the need for strengthening certain aspects to enhance the results of further analysis.

Overall, the results of this research highlight several key findings. The most influential factor in improving the quality of hospital services is the caring behavior of pediatric nurses,

which is influenced by the involvement of patient parents. Promotion of patient safety is proven to be a key factor in increasing parental involvement, which indirectly also has an impact on increasing the caring behavior of pediatric nurses. The relationship between doctors and nurses has a significant influence on parental involvement, while the availability of staff and resources does not have a significant influence on increasing their involvement.

One finding that needs further attention is that high managerial support is actually negatively correlated with the education level of the patient's parents. This indicates that there are other possible factors that influence this relationship, such as communication between medical personnel and patient families, which need to be investigated more deeply in future research. Thus, this research provides insight for hospital management in developing strategies to increase parental involvement, strengthen the role of nurses in providing care, and improve the overall quality of health services.

The implications of the results of this research can be used as a basis for hospitals in optimizing service improvement strategies. By increasing the promotion of patient safety, hospitals can increase parental involvement in their child's care, which in turn will also increase nurses' caring behavior towards patients. Additionally, strengthening doctor-nurse relationships can help create a more collaborative work environment, which ultimately has a positive impact on family involvement in patient care. The overall results of this study confirm that improving the quality of hospital services is very dependent on how hospitals manage the involvement of patient parents, build effective communication between medical personnel, and ensure that nurses have sufficient capacity to provide quality care.

The findings indicate that higher managerial support may reduce parental involvement in pediatric care, while parental education supports pediatric nurses' caring behavior. Parental involvement has a significant positive relationship with pediatric nurse caring behavior, which enhances hospital performance in both reputation and financial outcomes. Patient safety promotion demonstrates a positive relationship with parental education and involvement. Additionally, competent staff significantly influence the acceptance of explanations by well-educated parents.

However, we also realize that this study still has limitations. One of the limitations of this study is that there are still many young nurses with new work experience, besides that the number of nurses from each hospital has a relatively different number. another condition that is still a limitation of this study is that the study does not differentiate the work areas of nurses in the hospital.

CONCLUSION

This study highlights the significant relationship between the nursing work environment and hospital performance, emphasizing key factors such as managerial support, nurse collaboration, doctor-nurse relations, patient safety promotion, parental education, and parental involvement. The findings confirm that patient safety promotion and staffing resources positively impact parental education, while parental involvement and pediatric nurse caring behavior significantly contribute to perceived hospital performance. However, managerial support, nurse-nurse collaboration, and doctor-nurse relations were not found to significantly influence parental education or involvement. This study reinforces the importance of structural factors (organizational and environmental support), processes (parental education and

involvement), and outcomes (hospital performance). Effective management strategies, including workforce optimization and fostering a supportive work environment, are crucial in enhancing nurses' caring behavior and ultimately improving hospital service quality.

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