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The Influence of Psychological Capital on Work Engagement among Nurses in Hospital

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Abstract: Nurses in intensive care units often face high psychological and emotional demands that can affect their level of engagement at work. This study aimed to examine the effect of Psychological Capital (PsyCap) on Work Engagement among pediatric intensive care nurses in Indonesia, using the Job Demands–Resources (JD-R) framework. The study focused on PsyCap as a personal resource consisting of self-efficacy, hope, optimism, and resilience. A quantitative cross-sectional design was conducted with 36 nurses working in the Pediatric Intensive Care Unit of a hospital in Jakarta. Data were collected using the Psychological Capital Questionnaire (PCQ-24) and the Utrecht Work Engagement Scale (UWES-17) and analyzed through simple linear regression. The results showed that PsyCap significantly predicted Work Engagement ($\beta = .651$, $p < .001$), explaining 42.4% of the variance ($R^2 = .424$). Nurses with higher self-efficacy, hope, optimism, and resilience tended to demonstrate greater vigor, dedication, and absorption in their work. This relationship remained evident despite adequate staffing conditions. The findings highlight the importance of Psychological Capital as a personal resource that supports sustainable work engagement. Healthcare organizations should therefore strengthen nurses' PsyCap through training, coaching, mentoring, and supportive workplace practices to promote well-being, retention, and quality of patient care.

Keyword: Psychological Capital, Work Engagement, Nurses, Intensive Care Unit, Job Demands–Resources Model.

INTRODUCTION

The increase in the number of participants and the equitable distribution of BPJS Kesehatan (JKN) services in Indonesia has increased the demand for quality and responsive hospital care. According to data obtained from BPJS Kesehatan Indonesia, the number of participants in the National Health Insurance (JKN) program as of March 31, 2026, reached 283.4 million, or approximately 99% of Indonesia's population, with an average of two million health-related transactions or services per day supported by more than 23,000 clinics and 3,170 hospitals spread across all cities and regencies in Indonesia. Public enthusiasm for utilizing the

health services facilitated by BPJS Kesehatan (JKN) must be supported by high-quality healthcare provided by institutions and organizations in the health sector, particularly hospitals that offer more comprehensive healthcare facilities. In this context, nurses play a central role in meeting this demand because they are directly involved in patient care and interact continuously with patients and their families.

The high level of public demand for healthcare services is still not adequately supported by the availability of nursing staff in hospitals. The Ministry of Health of the Republic of Indonesia has set a standard for the number of nurses required per capita by 2026 at two nurses per 1,000 populations, with a nurse-to-patient ratio of 1:2. However, the reality is that the ratio of healthcare nurses in Indonesia as of early 2026 has only reached 1.82 per 1,000 populations, with an uneven distribution. This situation clearly indicates that the nurse-to-patient ratio is insufficient, which will increase nurses' workloads and may affect their commitment to their jobs. The high number of patients visiting hospitals requires nurses to quickly complete complex tasks while on duty, compounded by the emotional burden and stress of the hospital environment, which may place nurses at risk of fatigue, burnout, and declining work engagement that can ultimately affect their performance and the quality and safety of patient care. Engaged nurses are expected to demonstrate energy and persistence when carrying out their responsibilities, feel a strong sense of meaning and commitment toward their work, and become deeply involved in their professional activities. Therefore, work engagement among nurses—as a key factor contributing to the quality of hospital services—must be maintained and should not experience a significant decline.

In this study, Work Engagement refers to a positive and fulfilling psychological state characterized by vigor, dedication, and absorption in one's work (Schaufeli & Bakker, 2010). Findings from a study conducted by Schaufeli et al. (2002) indicate that employees who are engaged with their company possess high energy and self-efficacy, characterized by several known traits, including a positive and active attitude toward work; providing positive self-feedback as a form of self-reward for success; maintaining high enthusiasm, even outside of work; deriving job satisfaction despite feeling tired from work; and holding the view that work is pleasure.

Several previous studies have linked work engagement to psychological capital, which serves as a key mediator in enhancing work engagement in a healthy work environment among ICU nurses (Xue et al., 2023). The results of a study conducted on ICU nurses from 18 general hospitals in China, where the nurse-to-patient ratio ranged from 1:2.5 to 1:3, indicate that psychological capital not only acts as a direct factor but also as a psychological mechanism that strengthens the relationship between the work environment and work engagement. A recent study on the relationship between psychological capital and work engagement among nurses in China found that nurses with psychological capital exhibit a positive attitude toward work engagement (Liu et al., 2025). A similar study conducted by Park S. and Ha Y. (2025) on healthcare nurses from three general hospitals in South Korea—where the nurse-to-patient ratio in general hospitals is 1:9.5 according to OECD Indicators (2025), showed that work engagement is significantly influenced by psychological capital, thereby contributing to more effective nurse performance, better service delivery, higher productivity, and improved retention rates in the workplace.

The relationship between Psychological Capital and Work Engagement is explained primarily through the Job Demands–Resources (JD-R) Model proposed by Bakker and Demerouti (2007). The model proposes that employees' well-being and motivation are influenced by the interaction between job demands, job resources, and personal resources. Job demands refer to aspects of work that require sustained physical or psychological effort, while job resources are aspects of the work environment that help employees achieve work goals, reduce job demands, or stimulate personal growth. Meanwhile, personal resources, including

psychological capital, represent positive psychological characteristics which consists of self-efficacy, optimism, hope, and resilience (Luthans et al., 2007). Furthermore, both job resources and personal resources have a positive impact on work engagement when job demands are high. This statement is supported by numerous previous studies indicating that self-efficacy, organizational self-esteem, and optimism constitute aspects of psychological capital—also known as personal resources—while organizational support, psychological climate, and social support represent aspects of job resources (Shahpouri et al., 2016).

In Indonesia, a study on the influence of psychological capital on work engagement at a private hospital in Makassar—where the nurse-to-patient ratio is 1:1.2—showed that psychological capital has a significant positive influence on work engagement (Syam R. and Arifin N. A.I., 2021), which in turn can affect the quality of care provided by nurses to patients at that hospital. Previous studies among nurses have similarly reported a positive relationship between Psychological Capital and Work Engagement, particularly in demanding healthcare environments. However, much of the existing evidence has focused on settings where nurses face high workloads or inadequate staffing.

This context provides an important point of departure for the present study. At the Pediatric Intensive Care Unit of RSAB Harapan Kita Jakarta, the nurse-to-patient ratio is relatively adequate, with 40 nurses serving a capacity of 16 intensive care beds and staffing arrangements designed to maintain a 1:1 ratio during duty schedules. Therefore, main objective of this the study does not merely ask whether nurses experience high workload, but rather examines whether Psychological Capital remains an important personal resource for Work Engagement even when staffing conditions are adequate among pediatric intensive care nurses at RSAB Harapan Kita Jakarta. The central research question is: Does Psychological Capital significantly contribute to Work Engagement among pediatric intensive care nurses when adequate nurse staffing is available? Answering this question is important because it may clarify whether nurses' engagement is determined not only by external job resources, such as adequate staffing, but also by the psychological resources they possess themselves.

METHODS

This study employed a quantitative correlational method with a cross-sectional survey design to examine the effect of psychological capital on work engagement. The study was conducted at RSAB Harapan Kita in Jakarta, which was selected because it met the nurse-to-patient ratio standards set by the Ministry of Health of the Republic of Indonesia.

The study population consisted of all nurses in the hospital or hospital units, while the sampling technique used was purposive sampling. The sampling criteria included active nurses working in the pediatric intensive care unit (ICU) with more than one year of service. These criteria were selected to ensure that the respondents were relevant and capable of providing information appropriate to the study's needs.

Data collection was conducted using a questionnaire distributed via Google Forms. This study utilized two main scales: the psychological capital scale and the work engagement scale. The psychological capital scale employed the PCQ-24 (Psychological Capital Questionnaire), developed by Luthans, Avolio, and Avey, to measure four dimensions: self-efficacy, hope, optimism, and resilience. Meanwhile, the work engagement scale used the UWES-17 (Utrecht Work Engagement Scale), developed by Schaufeli, to measure three dimensions: vigor, dedication, and absorption. Both scales were designed using a Likert scale model with six distinct response categories.

Data analysis was conducted using SPSS version 27.0 for Windows to test the relationship and influence of independent variables on the dependent variable using simple linear regression. Classical assumption tests, including normality and linearity tests, were first performed to ensure the model's suitability. This method allows researchers to identify the

direction and magnitude of the independent variables' influence on the dependent variable more comprehensively.

RESULTS AND DISCUSSION

The results of the analysis are presented in graphical form to facilitate understanding of the information, simplify comparisons between categories, and avoid ambiguity in data presentation. This study began with the distribution of a questionnaire via Google Forms to 36 active nurses working in the pediatric intensive care unit (ICU) at RSAB Harapan Kita in the Jakarta area, with the criterion of having more than one year of service. The data in this study were analyzed using simple linear regression.

The results of the linearity test showed that the linearity component had a significance level of $p < 0.001$, indicating that the relationship between psychological capital and work engagement is significantly linear. However, the deviation from linearity value of 0.022 ($p < 0.05$) indicates a deviation from the linear pattern. Nevertheless, the relationship between the two variables remains sufficiently linear so that simple linear regression analysis can still be used, provided that this deviation is taken into account in the discussion of the research results.

Tabel 1. Results of the Linearity Test

ANOVA Table							
			Sum of Squares	Df	Mean Square	F	Sig.
Work engagement* Psychology capital	Between Groups	(Combined)	3275.056	21	155.955	5.336	.001
		Linearity	1562.698	1	1562.698	53.469	<.001
		Deviation from Linearity	1712.358	20	85.618	2.929	.002
	Within Groups		409.167	14	29.226		
	Total		3684.222	35			

A normality test was conducted to ensure that the research data were normally distributed, as a prerequisite for using parametric analysis. Based on the results of the Shapiro-Wilk test, significance values of 0.452 and 0.180 were obtained for the work engagement and psychological capital variables, respectively. Both values were greater than 0.05 ($p > 0.05$).

Thus, it can be concluded that the data for both variables are normally distributed. These results indicate that the assumption of normality has been met, allowing parametric statistical analysis to be used in hypothesis testing.

Tabel 2. Results of the Normality Test

Tests of Normality						
	Statistic	df	Sig.	Statistic	df	Sig.
Work engagement	.103	36	.200*	.971	36	.452
Psychology capital	.124	36	.181	.958	36	.180

*. This is a lower bound of true significance

a. Lilliefors Significance Correction

The selection of the analytical methods in this study was based on the results of the assumption tests that were conducted and were tailored to the study's objectives. The results of the normality test indicated that the data were normally distributed, while the linearity test showed that the relationship between the variables was significantly linear, although there was a slight deviation from perfect linearity.

Given that the data in this study are normally distributed, simple linear regression was used. This method allows researchers to identify the direction and magnitude of the independent variables' effects on the dependent variable more comprehensively. Based on the results of the assumption tests conducted, it can be concluded that the research data meet the

assumption of normality and generally meet the assumption of linearity. Therefore, the use of parametric analysis is deemed appropriate. In this study, simple linear regression was chosen as the primary method because it aligns with the research objective, which focuses on testing the effect of psychological capital on work engagement. However, indications of deviations from linearity must be taken into account when interpreting the results, so that the research findings are presented in a balanced and critical manner.

Based on the results of the simple linear regression test in the Coefficients table, the regression coefficient (B) for the psychological capital variable was found to be 0.786 with a significance level of < 0.001 . These results indicate that psychological capital has a positive and significant effect on work engagement. Since the significance level is less than 0.05, the hypothesis stating that psychological capital influences work engagement is accepted. A regression coefficient of 0.786 indicates that for every one-point increase in psychological capital, work engagement will increase by 0.786, assuming all other factors remain constant. This finding suggests that the higher an individual's level of psychological capital, the higher their level of work engagement.

In addition, the standardized beta coefficient of 0.651 indicates that the relationship between psychological capital and work engagement is strong and positive. The t-value of 5.004 further confirms that the psychological capital variable makes a significant contribution to predicting work engagement. The simple linear regression equation obtained in this study is as follows:

$$Y = -7,311 + 0,786X$$

The equation shows that the constant term of -7.311 represents the value of work engagement when psychological capital is zero. However, the main focus of this study is on the direction and significance of the regression coefficients for the independent variable—psychological capital—which was found to have a positive effect on work engagement.

Tabel 3. Results of the Simple Linear Regression Test

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
1	(Constant)	-7.311	16.345		-.447
	Psychology capital	.786	.157	.651	5.004
					.658
					<.001

a. Dependent Variable: Work engagement

Based on the results of the simple linear regression analysis, a correlation coefficient (R) of 0.651 was obtained, indicating a strong relationship between psychological capital as the independent variable and work engagement as the dependent variable. This value is consistent with the results of the previous correlation test, which indicated a relatively strong relationship between the variables. Meanwhile, the coefficient of determination (R-square) of 0.424 indicates that psychological capital accounts for 42.4% of the variation in work engagement. In other words, the contribution of psychological capital to work engagement is quite significant in this research model.

The Adjusted R-Square value of 0.407 indicates that, after adjusting for the sample size and the number of variables in the model, psychological capital explains 40.7% of the variance in work engagement. This value provides a more accurate picture of the model's ability to explain the dependent variable in the population. On the other hand, a Standard Error of the Estimate of 7.899 indicates the magnitude of prediction error in the regression model. The smaller this value, the better the model's ability to predict the dependent variable. In this context, this value indicates that the model's prediction error remains within acceptable limits.

Tabel 4. Calculated R-Square Values

Model Summary				
Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	.651 ^a	.424	.407	7.899

a. Predictors: (Constant), psychological capital

Based on these results, it can be concluded that the regression model developed is fairly effective in explaining the variation in work engagement through psychological capital. However, approximately 57.6% of the variance is still explained by factors outside the research model, indicating that there is an opportunity to further investigate other variables.

Discussion

The findings of this study answer the research question by demonstrating that Psychological Capital still significantly and positively influences Work Engagement among nurses in the pediatric intensive care unit at RSAB Harapan Kita in Jakarta, where working conditions are adequate. The result shown that although an adequate nurse-to-patient ratio can provide an important job resource, it does not necessarily eliminate the psychological demands associated with intensive care work, because intensive care nursing involves continuous patient monitoring, complex clinical responsibilities, and frequent exposure to emotionally demanding situations. Therefore, this study focused on whether nurses' internal psychological resources, particularly Psychological Capital, could help explain differences in their level of Work Engagement.

Regression results indicate that an increase in Psychological Capital is accompanied by an increase in Work Engagement, supporting the hypothesis that higher Psychological Capital is associated with higher Work Engagement among pediatric intensive care nurses. In practical terms, nurses who possess stronger psychological resources tend to demonstrate greater energy, dedication, and concentration in their work. Psychological Capital consists of four interrelated psychological capacities: self-efficacy, hope, optimism, and resilience (Luthans et al., 2007). Self-efficacy may help nurses feel more confident in handling their responsibilities and responding to challenging clinical situations. Hope may support their motivation to pursue work-related goals, while optimism may help them maintain positive expectations when facing difficult circumstances. Resilience, meanwhile, may enable nurses to recover and continue functioning after experiencing pressure or setbacks. Together, these resources provide a psychological foundation that may support nurses' continued involvement in their work.

The results are consistent with the Job Demands–Resources (JD-R) Model (Bakker & Demerouti, 2007), which positions Psychological Capital as a personal resource that helps employees manage demanding work conditions and maintain motivation. They also support Luthans et al.'s (2007) view that self-efficacy, hope, optimism, and resilience help individuals respond constructively to workplace challenges. Personal resources refer to positive characteristics that help individuals manage challenges, maintain motivation, and function effectively. Work Engagement, in turn, represents a positive motivational state characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2010). From this perspective, nurses with stronger Psychological Capital may have greater psychological capacity to remain energetic, committed, and focused while performing their responsibilities. Importantly, this relationship was found even though the ICU maintained an adequate nurse-to-patient ratio. This suggests that Work Engagement is influenced not only by external conditions such as staffing and workload, but also by nurses' internal psychological resources.

An important aspect of these findings is the context in which the study was conducted. Previous research by Xue et al. (2023), Park and Ha (2025), and Syam and Arifin (2021), concerning nurses and Psychological Capital has been carried out in environments where

nurses experience substantial workloads or less favorable staffing conditions. In contrast, the ICU at RSAB Harapan Kita Jakarta has an adequate nurse-to-patient ratio, with staffing arrangements designed to support intensive care delivery. The significant relationship found in this setting suggests that Psychological Capital remains relevant even when an important external work resource, namely adequate staffing, is available. Thus, the findings provide support for considering both external work conditions and internal psychological resources when examining nurses' Work Engagement.

The findings are in line and consistent with previous empirical research. Xue et al. (2023) reported a positive relationship between Psychological Capital and Work Engagement among ICU nurses in China, indicating that psychological resources can support engagement in demanding healthcare environments. Similarly, Park and Ha (2025) found that Psychological Capital significantly influenced Work Engagement among hospital nurses in South Korea. Research conducted in Indonesia by Syam and Arifin (2021) also reported a positive effect of Psychological Capital on Work Engagement among hospital nurses in Makassar. The consistency of these findings across different healthcare settings strengthens the evidence that Psychological Capital is an important psychological resource associated with nurses' engagement at work.

The present findings also provide a more specific understanding of how Psychological Capital may relate to the three dimensions of Work Engagement. Nurses with stronger psychological resources may be better positioned to maintain vigor, reflected in energy and persistence when carrying out their responsibilities. Their sense of dedication may be supported by hope, optimism, and confidence in their ability to contribute meaningfully to patient care. At the same time, resilience and self-efficacy may help them maintain absorption, allowing them to remain focused on their duties despite the demanding nature of intensive care work. However, these interpretations describe the theoretical relevance of the dimensions and should not be understood as evidence that each dimension was independently tested in the present analysis.

The results therefore answer the central research problem: Psychological Capital significantly contributes to Work Engagement among nurses in the ICU at RSAB Harapan Kita Jakarta, even within a setting with an adequate nurse-to-patient ratio. The hypothesis proposing a positive influence of Psychological Capital on Work Engagement is supported by the statistical findings. Nevertheless, the R^2 value of 42.4% also indicates that Psychological Capital does not account for all differences in nurses' Work Engagement. The remaining variance suggests that other factors may also be relevant, although they were not examined in the present study. Possible factors for future investigation include organizational support, job satisfaction, burnout, social support, and work-life balance.

Overall, the findings reinforce the importance of viewing nurses' Work Engagement not solely as a consequence of workload or staffing conditions. The psychological resources that nurses bring to their work also appear to play an important role. In the specific context of this study, Psychological Capital represents a meaningful personal resource associated with nurses' ability to remain engaged in their professional roles. This finding provides empirical support for the study's hypothesis and strengthens the application of the JD-R framework to understanding Work Engagement among pediatric intensive care nurses in Indonesia.

CONCLUSION

Based on the results of this study, it can be concluded that Psychological Capital has a positive and significant effect on Work Engagement among nurses in the Pediatric Intensive Care Unit at RSAB Harapan Kita Jakarta. In line with the study's objective, the findings indicate that nurses with higher levels of self-efficacy, hope, optimism, and resilience tend to demonstrate higher levels of work engagement. Importantly, this relationship was observed in

an ICU with an adequate nurse-to-patient ratio, indicating that Psychological Capital remains relevant as a personal resource in supporting nurses' engagement even when staffing conditions are adequate.

From a practical perspective, the findings suggest that hospital human resource management can consider Psychological Capital as part of nurse development efforts. Training, coaching, mentoring, counseling, and supportive workplace practices may be used to help strengthen the psychological resources that are reflected in nurses' self-efficacy, hope, optimism, and resilience. Such efforts are relevant to maintaining work engagement, although the present findings do not establish that these interventions directly improve patient care outcomes.

For the broader field of applied science and organizational practice, this study adds empirical evidence that employees' psychological resources should be considered alongside structural or operational conditions when understanding work engagement. Future research should examine other factors that may contribute to nurses' engagement, using larger samples and more diverse hospital settings to determine whether the present findings remain consistent across different healthcare contexts.

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