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The Relationship Between Transformational Resilience-Based Performance Model and Improvement in Work Productivity of Inpatient Nurses at Majalengka Regional General Hospital

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Abstract
Introduction: *Nurses are the frontline of hospital services and are required to remain effective despite work pressures, family dynamics, and social demands. The existing gap in productivity highlights the need to strengthen transformational resilience–based performance.* ***Objective:*** *This study aimed to analyze the relationship between transformational resilience–based performance and work productivity among inpatient nurses at Majalengka Regional General Hospital.* ***Method:*** *A quantitative study with a cross-sectional design was conducted, involving all inpatient nurses as the population (N = 259). A total of 157 nurses were selected using proportionate random sampling. Data analysis consisted of univariate (frequency distribution) and bivariate (2×2 chi-square test).* ***Result and Discussion:*** *Results showed that 62.4% of nurses had good resilience, and 76.4% demonstrated good productivity. There was a significant association between resilience and productivity (p = 0.010) with an odds ratio (OR) of 2.83 (95% CI: 1.33–6.03), indicating that nurses with good resilience were 2.8 times more likely to demonstrate good productivity.* ***Conclusion:*** *These findings emphasize the importance of evaluating and adjusting workloads to prevent excessive stress that could reduce resilience and nurse performance*

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Introduction

Human resources are very important for organisations in managing and utilising human resources so that they can function productively to achieve organisational goals (Patarru' et al., 2020), Nurses, as one of the professions working in a hospital health institution that is an important component in the world of health, are required to persevere in the face of difficult conditions such as the current situation. Like other people, they can also face many problems in their work, family, and social life. In reality, it is not easy to carry out their role as nurses. Nurses are required to be fully committed to their work and must set aside any personal issues they may be facing at the same time. The pressure and stress experienced by nurses can lead to low resilience or endurance. Nurses with high levels of resilience or endurance tend to be less susceptible to stress and remain in prime condition at work (Digdyani & Kaloeti, 2020).

The relationship between transformational resilience-based performance and work productivity is very close. Nurses who have good resilience in dealing with problems in their duties as nurses in hospitals will see an increase in their personal capacity, which ultimately leads to good work productivity (Simanjuntak et al., 2024). Work productivity is the ability of individuals or groups of people to produce goods or services within a specified time frame and in accordance with what has been planned. Scientifically, productivity is the ratio between output or results achieved and input or all the resources required (Yusrin & Kurniaty, 2023).

Based on the BOR indicator for Majalengka Regional General Hospital, which reached 61.02% in 2023, the AvLos indicator value for all inpatient rooms at Majalengka Regional General Hospital was 3 days, the TOI indicator was 2 days, and the BTO value was 73 times.

Transformational resilience-based performance has been implemented and has been running for one year. This is an effort by the Majalengka Regional General Hospital to improve the productivity of nurses. However, based on the results of a preliminary study conducted through interviews and documentation by looking at the profile of the Majalengka Regional General Hospital, it is known that there are several problems in work productivity and human resource development, including nurses.

Based on the results of interviews conducted by researchers in the General and Personnel Subdivision, it was found that hospitals are able to provide support to nurses, such as providing skills improvement training, seminars on increasing knowledge of new phenomena, developing mutual support between employees and management, providing wages in accordance with regulations, and fulfilling the need for medical equipment. The aim of this is to increase the productivity of nurses and enable them to adapt to developments and have resilience to various problems encountered. However, based on interviews conducted by the researcher with the Head of the Education and Training, Research and Development, Planning, Evaluation and Reporting Section, data shows that there are still nurses with symptoms of decline due to high workloads.

This is in line with the explanation provided by the Sub-Division of Education, Training, Research and Human Resource Development regarding the increase in work stress at the Majalengka Regional General Hospital, where nurses appear to be more silent (uncommunicative), appearing fatigued, frequently experiencing headaches, and becoming easily irritable (emotional), which ultimately leads to many nurses arriving late for work. Attendance data also shows that many nurses take leave or do not come to work due to illness. In addition, based on the results of the performance evaluation of nurses at

the Majalengka Regional General Hospital, which was measured using the 2023 hospital accreditation standards, data shows that the nurses at the Majalengka Regional General Hospital have not met the targets set by the Director of the Majalengka Regional General Hospital. The results of the 2023 survey conducted internally by the hospital on public satisfaction with the performance of nurses in the following dimensions are: reliability = 72.75% (satisfied), responsiveness = 69.37% (satisfied), assurance = 76.35% (satisfied), empathy = 85.5% (very satisfied), and tangibility = 74.02% (satisfied). These results are still below the target set by Majalengka Regional General Hospital, which is 90%.

Method

This study is quantitative research. The research approach or design uses a cross-sectional approach, which is a research design that analyses the relationship between cause and effect factors using various approaches such as observation or data collection in one (Notoatmodjo, 2019).

The population in this study consisted of all inpatient nurses at the Majalengka Regional General Hospital in 2024, totalling 259 individuals, The sample in this study consisted of 157 nurses working in the inpatient ward of the Majalengka Regional General Hospital with the criteria of Diploma III Nursing education for 92 nurses, Bachelor of Nursing education and Ners profession for 58 nurses, and Master of Nursing education for 7 nurses, The sampling technique used in this study was proportioned random sampling.

Result and Discussion

1. Result

Univariate Analysis

Table 1
Distribution of transformational resilience-based performance models

No	Transformational Resilience-Based Performance	Frequency	Percentage
1	Inadequate	59	37.6
2	Good	98	62.4
	Total	**157**	**100.0**

Based on the table above, it is known that 59 people (37.6%) based on transformational resilience-based performance were in the poor category and 98 people (62.4%) were in the good category. Thus, less than half (37.6%) based on transformational resilience-based performance had Inadequate.

Table 2
Frequency distribution of nurse productivity

No	Nurse Productivity	Frequency	Percentage
1	Inadequate	37	23.6
2	Good	120	76.4
	Total	**157**	**100.0**

Based on the table above, it is known that 37 people (23.6%) of nurses had poor performance and 120 people (76.4%) had good performance. Thus, a small portion (23.6%) of nurses at the Majalengka Regional General Hospital had Inadequate.

Bivariate Analysis

Table 3
Distribution of the proportion of the relationship between the transformational resilience-based performance model and increased work productivity of inpatients

Transformational Resilience-Based Performance	Work Productivity						p-value
	Inadequate		Good		**Total**		
	f	**%**	**f**	**%**	**f**	**%**	
Inadequate	21	35.6	38	64.4	59	100	
Good	16	16.3	82	74.9	98	100	0.010
Total	**37**	**23.6**	**120**	**76.4**	**157**	**100**	

It is known that 21 people (35.6%) of nurses with poor resilience-based performance also had poor work productivity, higher than nurses with good transformational-based performance and good performance. There is a relationship between transformational resilience-based performance and the work productivity of nurses at Majalengka Regional General Hospital. The OR value = 2.83 (95% CI 1.33–6.03), indicating that nurses with good resilience are 2.8 times more likely to demonstrate good productivity than those with poor resilience.

2. Discussion

An overview of the transformational resilience-based performance model at the Majalengka Regional General Hospital

Resilience-based performance is measured through seven dimensions that capture nurses' capacity to remain effective under pressure. The personal competency dimension assesses high professional standards, tenacity, and problem-solving skills (I1–I3). Adaptability reflects flexibility in dealing with diverse patient characters and cultures, changes in management systems, staff shortages, patient surges, and developments in nursing systems/technology (I4–I10). Workload measures readiness to complete multiple tasks simultaneously and acceptance of responsibility (I11–I12). Trust in instincts captures confidence in intuition at work, tolerance for negative thoughts, and ability to cope with stress (I13–I15).

Positive acceptance assesses the attitude of accepting change and the ability to maintain safe working relationships (I16–I17). Self-control assesses self-regulation in work situations and under pressure (I18–I19). Finally, spirituality captures belief in spiritual values and acceptance of destiny—as a source of meaning and inner resilience (I20–I21).

Theoretically, this mapping aligns with the CD-RISC (Connor–Davidson Resilience Scale) domain: personal competence, trust in one's instincts/tolerance of negative affect, positive acceptance of change, control, and spiritual influences—which are widely used as references for measuring modern resilience (Minnett, 2024; CD-RISC Manual). Furthermore, within the Job Demands–Resources (JD-R) framework, resilience functions as a personal resource that supports performance and engagement when work demands are high (Lee et al., 2023; Scholze et al., 2024). The dimension of spirituality also contributes: a recent study of healthcare workers showed that spiritual well-being is positively associated with resilience and mental well-being—relevant to items I20–I21 (Woo et al., 2025).

Univariately, the proportion of nurses with good transformational resilience-based performance reached 62.4%, while good work productivity was 76.4%. This picture indicates that the majority of respondents already have adequate work resilience and convert it into relatively good work output in inpatient services. However, the remaining proportion that is still in the poor category provides room for targeted improvement in weak aspects.

When examined at the item level, the five highest scores on the resilience construct, with an average score of 3.3-3.6, describe strengths in competence under pressure, adaptation to patient surges when staff are limited, the ability to complete multiple tasks simultaneously (multitasking), dealing with complaints from patients with diverse characteristics, and maintaining good relationships with superiors/colleagues/patients/families. This pattern is logical in the context of inpatient care: work pressure and patient load dynamics demand cognitive-emotional flexibility, careful time management, and solid team collaboration to maintain safety and quality standards. Recent literature indicates that nursing resilience is positively associated with performance and work engagement, and that both face-to-face and digital-based resilience interventions can improve resilience indicators and work well-being in the short term (3–5 months) (Yu et al., 2024; Han et al., 2023).

Conversely, the five lowest scores, with an average score of 2-3.1 on resilience, converged on the spiritual dimension (belief in spiritual values and destiny), acceptance of multitasking as a ‘responsibility’, managing negative thoughts, and adaptation when there was a reduction in nurses. This indicates that some nurses have not yet utilised the spiritual realm as a source of coping, and there is still tension between the ability to multitask and the acceptance of multitasking as a normal duty. Recent research reinforces that spiritual well-being is positively correlated with resilience and mental health among healthcare workers, thereby enriching their capacity to cope with work stress (Woo et al., 2025).

Thus, well-being support that incorporates spiritual self-care elements is relevant to strengthening emotional resilience, especially when facing difficult events in acute care services (Salehpour et al., 2025). The Majalengka Regional General Hospital has implemented a resilience-based performance model for all health workers and all rooms. Nurses' ability to respond to the resilience-based performance model is based on their level of education.

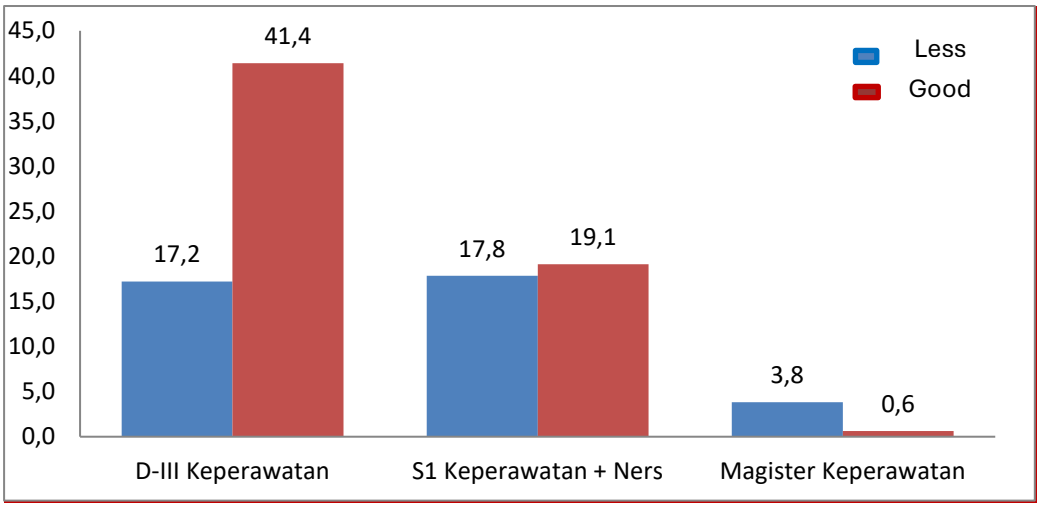
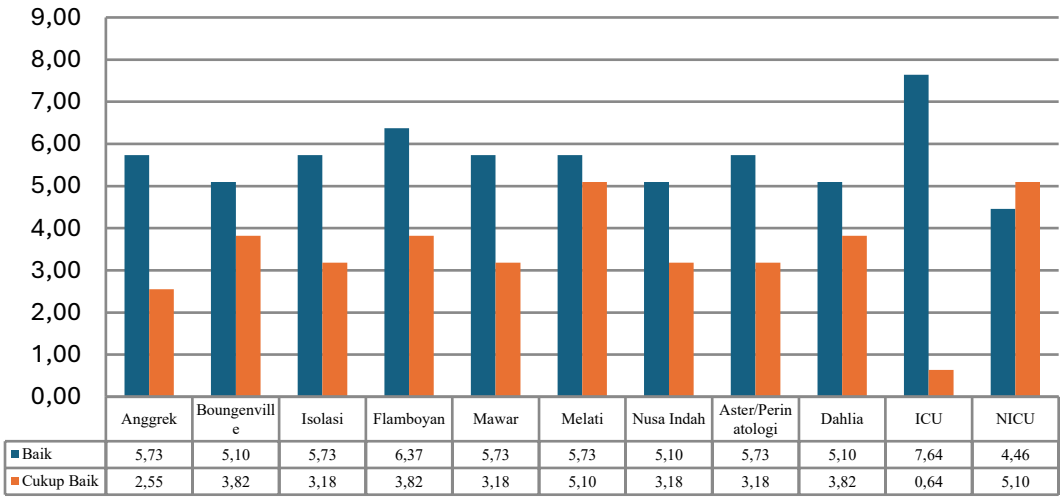


Figure 1. Nurses' ability to respond to resilience-based performance models based on educational level

Based on the level of education, the resilience-based performance model of nurses at the master's level of nursing education is better than that of nurses with bachelor's degrees in nursing and professions and Diploma III in Nursing. Higher levels of education are generally associated with higher levels of resilience, both in individual and organisational contexts. Higher education can provide individuals with better skills, knowledge, and resources to overcome challenges and adapt to change, which are key components of resilience. Higher education often involves critical thinking, analysis, and problem solving, all of which are important skills in building resilience. The educational environment, especially at higher levels, can provide access to broader social networks and support from peers, mentors, and professors, which can help individuals cope with stress and challenges. Academic achievement and recognition of that achievement can boost self-confidence and self-esteem, which are important factors in resilience. A broader education can help individuals understand the complexity of the world and the various challenges they may face, so that they are better prepared to deal with them.



	Anggrek	Boungenville	Isolasi	Flamboyan	Mawar	Melati	Nusa Indah	Aster/Perinatologi	Dahlia	ICU	NICU
Baik	5,73	5,10	5,73	6,37	5,73	5,73	5,10	5,73	5,10	7,64	4,46
Cukup Baik	2,55	3,82	3,18	3,82	3,18	5,10	3,18	3,18	3,82	0,64	5,10

Figure 2. Nurses' Ability to Implement Resilience-Based Performance Based on Room

Based on the graph above, it can be seen that the distribution of nurses with the best implementation of resilience-based performance is in the Intensive Care Unit (ICU), followed by the flamboyant room and the aster room.

The results of this study indicate that most nurses have good work productivity (76.4%). The highest scores were found in the indicators of compliance with Standard Operating Procedures (SOP) and self-evaluation, while the lowest scores were in the effectiveness and efficiency of daily work. These findings are in line with Robbins (2015), who states that performance is determined by quality, quantity, timeliness, cooperation, and effectiveness and efficiency. Nurses with high resilience are better able to manage work demands so that they can maintain compliance with procedures, complete work on time, and conduct self-evaluations. However, the low scores in the effectiveness and efficiency aspects confirm that high workloads can be an obstacle for nurses in optimising available resources. Thus, the findings of this study support Robbins' view that performance is a function of ability, motivation, and opportunity, which must be facilitated by the organisation.

An overview of the productivity of nurses at Majalengka Regional General Hospital

Work productivity is measured through six dimensions of work behaviour that are intertwined with nursing quality indicators: competence (efficiency, effectiveness, compliance with Standard Operating Procedures (SOP): P1–P3), improving results (quality of work & service; improving weaknesses: P4–P6), work enthusiasm and positive influence on the team (P7–P8), self-development (improving competence & self-evaluation: P9–P10), quality (quality of work & working according to instructions: P11–P12), and time efficiency (punctuality: P13).

From the perspective of quality and safety theory, these indicators align with Nursing Quality/Performance Indicators (structure–process–outcome) and good clinical communication practices. The implementation of SBAR as a structured communication tool, for example, has been repeatedly linked to improved patient safety and effective handover that supports compliance with Standard Operating Procedures (SOPs), interprofessional coordination, and work process efficiency (Muler et al., 2018; AHRQ PSNet, 2025). Meanwhile, a recent review of hospital performance/productivity indicators emphasises the importance of measuring efficiency, quality, and continuous improvement as the foundation for service performance evaluation (Hadian et al., 2024).

In terms of productivity, the highest scores (with an average score of 3.5-3.6) were seen in compliance with Standard Operating Procedures (SOPs), self-performance evaluation, working according to instructions, improving weaknesses, and spreading positive values within the team. This indicates a culture of procedural and continuous improvement as well as a supportive work environment. Strengthening structured clinical communication such as SBAR has the potential to maintain consistency in quality and efficiency of handover, in line with evidence from systematic reviews that SBAR is associated with improved patient safety and safety climate (Müller et al., 2018; Shahid et al., 2018).

The lowest scores in productivity, with an average score of 3.1-3.3, namely daily effectiveness/efficiency, service improvement, and competency development activities, indicate the need to strengthen time management (to improve effectiveness/efficiency) and more equitable access to continuing education, especially for nurses with limited training opportunities. Cross-country findings also emphasise that low psychological

well-being is associated with a loss of nursing productivity, making resilience interventions and social support relevant (Hussein et al., 2024; Katsiroumpa et al., 2025).

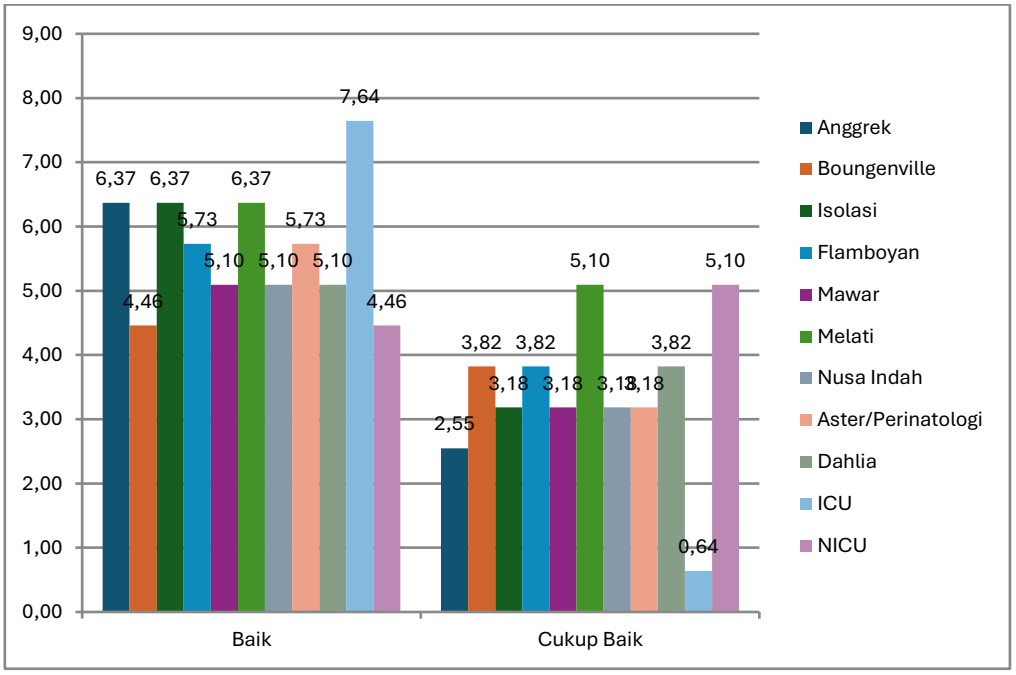


Figure 2. Work Productivity of Nurses at Majalengka Regional General Hospital Based on Room

From the diagram above, it can be seen that most of the productive nurses work in the ICU (7.64%), while the less productive nurses mostly work in the Melati and NICU wards (5.10%).

The relationship between transformational resilience-based performance models and increased work productivity among nurses at Majalengka Regional General Hospital

Overall, 62.4% of nurses demonstrated good work resilience (98/157) and 76.4% demonstrated good productivity (120/157). The distribution of respondents' education levels was as follows: Diploma III in Nursing 58.6% (92/157), Bachelor of Nursing and nursing profession 36.9% (58/157), and Master of Nursing 4.5% (7/157). This picture indicates that the majority of nursing staff have adequate resilience and are relatively able to convert it into good work output, although there is still room for improvement in about one-third of respondents for resilience and one-quarter of respondents for productivity.

The results of the bivariate analysis reinforce the above pattern: there is a significant relationship between resilience-based performance and productivity ($\chi^2 = 6.56$; $p = 0.010$). The odds ratio for nurses with good resilience to demonstrate good productivity is OR = 2.83 (95% CI 1.33–6.03), indicating that nurses with good resilience are 2.8 times more likely to demonstrate good productivity than those with poor resilience. Clinically, these findings confirm the role of resilience as 'psychological fuel' for maintaining performance amid high work demands.

Substantively, resilience helps nurses remain effective amid high workloads, staff shortages, and clinical dynamics, resulting in more consistent work output. Recent evidence from interventions such as web/digital-based resilience training programmes also shows good acceptance in busy work environments and has a positive impact on psychological/work indicators (Henshall et al., 2023; Bock et al., 2024).

The study also showed a significant association between education and resilience (p = 0.002). The proportion of resilience according to level was: Diploma III Nursing 71.7%, Bachelor of Nursing and Nursing profession 53.4%, and Master of Nursing 14.3%. These results indicate a non-linear gradient, with D III Nursing being the highest, S1 Nursing and Nursing the middle, and S2 the lowest. Substantively, this direction can be explained by the composition and work context: respondents with Nursing Master's degrees (a very small number) are very likely to take on coordinative/strategic roles in demanding units (e.g., supervisory workload, non-clinical responsibilities, role strain), thereby driving their resilience scores down. In addition, selection bias (who is willing/available to complete the questionnaire) and differences in work units (ICU vs non-ICU) may influence the pattern. Thus, education tends to act as a confounder and/or moderator in the relationship between resilience and productivity, but the estimates for the Master's degree group are unstable due to the very small number of respondents.

Furthermore, education was not significantly associated with productivity (p = 0.191). The proportion of productive workers was relatively similar across levels: Diploma III Nursing 71.4%, Bachelor of Nursing and Nursing Profession 84.5%, Master of Nursing 71.4%. This indicates that standardised work processes, such as compliance with Standard Operating Procedures (SOP) and structured SBAR communication, can level productivity across levels, even though resilience capital differs. In other words, strong job resources can ‘equalise’ productivity output even though personal resources (resilience) are not equally strong in all groups.

In terms of respondent characteristics, qualitative findings in the manuscript suggest that educational level may play a role: higher education generally enriches critical thinking, problem-solving, and professional confidence, a set of assets that support resilience and clinical leadership, which in turn impacts unit productivity. Recent nursing education research indicates that early access to master's education for novice nurses can foster the leadership and resilience skills needed on the front lines of care (Carson et al., 2025). In other words, investment in continuing education and equitable access to training has the potential to level the playing field in terms of resilience and productivity across units.

Based on data patterns and the hospital context, it is known that, first, the surge in patients amid limited manpower forces situational adaptation (reflected in the high adaptation item), but at the same time makes the acceptance of multitasking as a ‘routine responsibility’ uneven, not because of incompetence, but because of chronic simultaneous burdens that risk reducing well-being without system support. Second, a culture of compliance with Standard Operating Procedures (SOP), self-evaluation, working according to instructions, and structured communication (SBAR) will maintain quality consistency, reduce errors, and save handover time, thereby increasing team productivity (Muller et al., 2018; Shahid et al., 2018). Third, the spiritual dimension does not yet appear to be internalised as a source of personal coping by some nurses; well-being programmes that incorporate spiritual self-care without imposing a particular affiliation can strengthen psychological resilience (Woo et al., 2025; Salehpour et al., 2025). Fourth,

access to continuing education (clinical courses, time-management training, career coaching) will directly improve effectiveness/efficiency and competency development, while supporting resilience at the individual and team levels (Yu et al., 2024; Han et al., 2023).

The practical implications of these findings are clear, namely: (1) develop a resilience-building programme (combining short face-to-face sessions and self-directed digital modules) that targets coping, reflection, self-compassion, and stress management; (2) institutionalise SBAR in handover and interprofessional communication; (3) facilitate inclusive spiritual self-care; (4) expanding access to education and training (including time management/priority setting), with a special focus on less educated groups to achieve convergence in resilience quality across units. With this strategy, the bivariate findings (OR 2.8) are expected to not only be associative but also transform into sustainable productivity improvements.

Conclusion

Majority of nurses exhibit good performance based on transformational resilience (62.4%) and good work productivity (76.4%) at the Majalengka Regional General Hospital. Additionally, a significant relationship was found between transformational resilience-based performance and the work productivity of nurses (p-value = 0.010).

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