



OCCUPATIONAL HEALTH AND EMPLOYEE PRODUCTIVITY: TESTING WORKLOAD MEDIATION AT RSUD JATISAMPURNA

KESEHATAN KERJA DAN PRODUKTIVITAS KARYAWAN: PENGUJIAN PERAN MEDIASI BEBAN KERJA DI RSUD JATISAMPURNA

Dwi Sudarwanto^{1*}, Zaharuddin², Granit Agustina³

^{1*}Universitas Mitra Bangsa, Email: dwisudarwanto80@gmail.com

²Universitas Mitra Bangsa, Email: zaharuddin@umiba.ac.id

³Universitas Mitra Bangsa, Email: granitagustina1982@gmail.com

*email koresponden: dwisudarwanto80@gmail.com

DOI: <https://doi.org/10.62567/micjo.v3i4.3424>

Abstract

This study examines how perceived occupational safety and occupational health relate to employee productivity at Jatisampurna Regional General Hospital, with perceived workload assessed as an intervening variable. A cross-sectional questionnaire survey involved 77 employees drawn from a stated workforce of 327. The original analysis used partial least squares structural equation modelling in SmartPLS 4.1.1.8. Job demands–resources theory provides the interpretive framework: workload represents a demand, while safety and health arrangements are potential resources whose relationships with that demand need to be tested rather than assumed. Occupational health was negatively associated with workload ($\beta = -0.769$, $p < .001$) and positively associated with self-reported productivity ($\beta = 0.443$, $p = .001$). Workload was negatively associated with productivity ($\beta = -0.245$, $p < .001$); the health–workload–productivity indirect association was positive ($\beta = 0.188$, reported $t = 2.483$). Neither occupational safety path nor its indirect association reached the .05 significance threshold. The study distinguishes the observed health-related pathway from the unsupported safety-related pathway in one public hospital. Managers should examine staff health support alongside workload allocation, while retaining safety measures for their independent protective purpose. The single-site, cross-sectional and self-reported design does not establish causal mediation or measured service output.

Keywords : Occupational Health, Occupational Safety, Perceived Workload, Employee Productivity, Public Hospital, Job Demands-Resources.



Abstrak

Studi ini meneliti bagaimana persepsi keselamatan kerja dan kesehatan kerja berkaitan dengan produktivitas karyawan di Rumah Sakit Umum Regional Jatisampurna, dengan beban kerja yang dirasakan dinilai sebagai variabel perantara. Survei kuesioner lintas seksi melibatkan 77 karyawan dari total 327 tenaga kerja. Analisis awal menggunakan pemodelan persamaan struktur partial least squares dalam SmartPLS 4.1.1.8. Teori tuntutan-sumber daya memberikan kerangka interpretatif: beban kerja mewakili permintaan, sementara pengaturan keselamatan dan kesehatan adalah sumber daya potensial yang hubungannya dengan permintaan tersebut perlu diuji daripada diasumsikan. Kesehatan kerja berasosiasi negatif dengan beban kerja ($\beta = -0,769$, $p < .001$) dan positif terkait dengan produktivitas yang dilaporkan sendiri ($\beta = 0,443$, $p = 0,001$). Beban kerja berasosiasi negatif dengan produktivitas ($\beta = -0,245$, $p < .001$); Asosiasi tidak langsung kesehatan–beban kerja–produktivitas positif ($\beta = 0,188$, dilaporkan $t = 2,483$). Baik jalur keselamatan kerja maupun asosiasi tidak langsungnya tidak mencapai ambang signifikansi 0,05. Studi ini membedakan jalur terkait kesehatan yang diamati dari jalur terkait keselamatan yang tidak didukung di satu rumah sakit umum. Manajer harus memeriksa dukungan kesehatan staf bersamaan dengan alokasi beban kerja, sambil mempertahankan langkah-langkah keselamatan untuk tujuan perlindungan independen mereka. Desain satu lokasi, penampang lintang, dan laporan sendiri tidak menetapkan mediasi kausal atau output layanan yang terukur.

Kata Kunci : Kesehatan Kerja, Keselamatan Kerja, Beban Kerja Yang Dipersepsikan, Produktivitas Karyawan, Rumah Sakit Umum, Tuntutan-Sumber Daya Pekerjaan.

1. INTRODUCTION

Hospitals must maintain reliable services while protecting the people who deliver them. Staffing pressure, shift arrangements and exposure to physical and psychosocial hazards make this tension especially visible in public hospitals. Evidence from nursing research links adverse working conditions to poorer worker health, exhaustion and care-related outcomes (Dall’Ora et al., 2020; Elbejjani et al., 2020; Li et al., 2024). Yet “productivity” requires care as a research outcome. Healthcare job performance encompasses task, contextual and adaptive performance, whereas the present survey appears to capture employees’ own assessment of their work rather than patient throughput or independently audited quality (Krijghsheld et al., 2022).

The empirical setting is Jatisampurna Regional General Hospital (RSUD Jatisampurna), Indonesia. The source manuscript reports a workforce of 327 and responses from 77 employees. It proposes that occupational safety and occupational health are associated with employee productivity both directly and through workload. This question matters because a safer workplace need not reduce the number of assigned tasks, while health support may change the strain associated with those tasks. The distinction has practical consequences: managers who treat safety, health and staffing as interchangeable may miss the mechanism indicated by their own data.

Job demands-resources theory distinguishes aspects of work that require sustained effort from conditions that help employees deal with those demands (Bakker & Demerouti, 2017). Workload is a plausible demand; occupational health provision and safety arrangements are possible resources. The categories depend on what employees actually experience. Reviews identify work overload as a recurrent demand in nursing, alongside managerial support, professional resources and autonomy as relevant resources (Broetje et al., 2020). A cross-profession study also found that perceived resources differ among healthcare occupations, cautioning against treating all hospital employees as one homogeneous group (Gynning et al., 2024). Prospective evidence in European healthcare links



demands and resources to subsequent well-being, although that literature does not make the causal order in this hospital's single survey observable (Marzocchi et al., 2024).

Existing research gives competing reasons to expect associations between safety, health, workload and performance. Among hospital nurses, organisational safety practices were associated with lower physical workload and job strain (Lee & Lee, 2017). A separate hospital study connected safety climate with safety performance rather than with general task productivity (G. Zhao & Yin, 2023); research on nurses likewise identifies job demands and psychosocial safety climate as relevant to safety performance (Abdi et al., 2023). More recently, safety climate has been linked to sustainable work performance through safety compliance and participation (Çağatay, 2025). Shift choice and inadequate staffing have also been associated with burnout, underscoring the role of scheduling alongside formal safety measures (Dall'Ora et al., 2023). These studies do not imply that a perceived-safety score must have a detectable association with perceived workload or productivity in every setting.

Health and workload research addresses a somewhat different pathway. Elbejjani et al., (2020) measured several dimensions of perceived workload alongside nurses' physical and mental health; Jun et al., (2021) synthesised associations between burnout and organisational outcomes, including nurse productivity. Li et al., (2024) found that burnout was associated with less favourable patient safety and quality indicators across a much larger evidence base. Staff health, perceived task demands, self-rated productivity and patient outcomes are therefore related but distinct constructs. The question in this study is which associations are visible when safety and health perceptions are entered together, and whether the estimated indirect paths through workload differ.

The contribution is an empirical distinction between two workplace domains within the same hospital model. The study asks: How are perceived occupational safety and health associated with self-reported employee productivity, directly and indirectly through perceived workload, at RSUD Jatisampurna? Its estimates can inform local scrutiny of health support and task allocation. They cannot establish that a workplace intervention changed workload or productivity.

Better occupational health conditions may coincide with less perceived workload and higher self-rated productivity. Greater workload may coincide with lower productivity when the demands of assigned work exceed available capacity. Safety arrangements may also accompany better outcomes, but their principal function is protection against hazards; whether they relate to perceived workload and productivity is an empirical question. Staffing and patient safety studies reinforce the importance of work organisation without equating these outcomes with the present survey measure (Aiken et al., 2012; Bae, 2021; Dall'Ora et al., 2022). The model tests the following directional expectations:

- H1: Occupational safety is negatively associated with perceived workload.
- H2: Occupational health is negatively associated with perceived workload.
- H3: Occupational safety is positively associated with self-reported productivity.
- H4: Occupational health is positively associated with self-reported productivity.
- H5: Perceived workload is negatively associated with self-reported productivity.
- H6: Occupational health has a positive indirect association with self-reported productivity through lower perceived workload.
- H7: Occupational safety has a positive indirect association with self-reported productivity through lower perceived workload.

These expectations specify signs consistent with the proposed demand pathway. They do not retroactively recode the original responses or change any estimated coefficient.

2. RESEARCH METHOD

This research was conducted using a quantitative, single-site, cross-sectional survey of employees at RSUD Jatisampurna. A questionnaire design is suitable for estimating associations among employees' perceptions of occupational safety, occupational health, workload and their own productivity at one point in time. The source manuscript states a population of 327 employees and an



analysed sample of 77. It attributes the sample size to a Slovin calculation with a 10% margin: $327/(1 + 327(0.10^2)) = 76.58$, rounded to 77. That arithmetic explains the stated target but provides no evidence that the achieved respondents form a probability sample or that the study has adequate power for every model path (Creswell & Creswell, 2018).

The source does not document the survey dates, eligibility criteria, staff categories, selection procedure, number invited, response rate or missing-data treatment. Accordingly, the 77 respondents are described as an analysed sample; representativeness cannot be established. The source identifies questionnaire responses as primary data. It does not provide a verified secondary dataset or a description of document review, so no secondary-data triangulation is claimed. The phrase “Puskesmas Seroja” in the original methods conflicts with the title, population and results referring to RSUD Jatisampurna and is treated as a location error requiring author confirmation.

The original model includes four latent variables: occupational safety, occupational health, perceived workload and self-reported employee productivity. A displayed safety item concerns whether the work area is clean, orderly and free of hazards; a displayed health item concerns periodic health checks. A productivity item concerns meeting service quality standards. The workload item singled out in the source reads, “I can manage my time effectively between routine and additional tasks.” Because agreement with that item may indicate capacity to manage work rather than heavier workload, the direction of workload scoring and any reverse coding must be checked against the original questionnaire before the sign of the paths is interpreted substantively.

The supplied outputs were generated in SmartPLS version 4.1.1.8. Partial least squares structural equation modelling estimates the measurement and structural models jointly; its use here enables comparison of direct and specific indirect paths with several latent constructs (Hair et al., 2019). The manuscript first evaluates the available indicator loadings and internal consistency, then reports structural path coefficients, bootstrap *t* statistics and *p* values, and finally the supplied Q²predict summary. A mediation claim is assessed through the *specific indirect effect*, rather than by requiring a significant total effect (Nitzl et al., 2016; X. Zhao et al., 2010). The source does not state the number of bootstrap resamples, confidence interval method, missing-data setting or PLSpredict cross-validation configuration. These settings must be recovered from the original project for replication.

Measurement assessment is limited to the outputs supplied. Reliability coefficients are available, but average variance extracted, full item loading lists, heterotrait–monotrait ratios and collinearity diagnostics are not. Consequently, convergent and discriminant validity cannot be certified from the summary alone (Henseler et al., 2015). The positive Q²predict values are reported as supplied, without assigning a grade to predictive accuracy in the absence of benchmark errors (Shmueli et al., 2019b).

All four constructs and productivity were apparently assessed through the same employee questionnaire at the same occasion. Shared response tendencies and reverse causation may contribute to the observed paths (Podsakoff et al., 2003). No independent productivity records, occupational incident data or patient outcomes are supplied for triangulation. The source also does not report ethics approval, informed consent, confidentiality safeguards or data access arrangements. These are reporting gaps for the authors to document from study records; the present revision does not infer that approval was obtained or absent. The reporting of the observational design follows the transparency principles of the STROBE statement (von Elm et al., 2007).

3. RESULT AND DISCUSSION

Measurement model: what the supplied evidence supports

The source states that the model was estimated twice and that some invalid indicators were removed. Its narrative says retained loadings exceeded 0.70 and reports the largest loading for safety item KK2 as 0.827, health item KES8 as 0.862, productivity item PK9 as 0.831 and workload item BK6 as 0.888. The embedded diagram is retained in Figure 1 so the original model can be compared with the final item-level output. The full deleted-item list, exact loadings and prespecified deletion



rule are unavailable; the evidence therefore supports a narrower statement than “all measures are valid”.

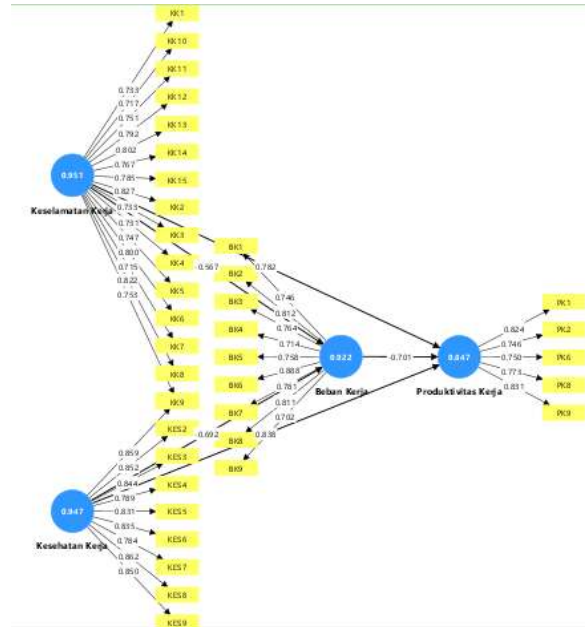


Figure 1. Retained indicator model for occupational safety, occupational health, workload and self-reported productivity at RSUD Jatisampurna.

Source: Author-supplied SmartPLS 4.1.1.8

Figure 1. Shows the four constructs and the retained item links. The source identifies KK2 (0.827), KES8 (0.862), PK9 (0.831), and BK6 (0.888) as the highest factor loadings within their respective constructs. The figure itself does not list the deleted indicators, AVE, or discriminant validity.

Table 1. Internal consistency of the four survey constructs.

Construct	Cronbach's α	Reported composite reliability (ρ_A)
Perceived workload	0.917	0.932
Occupational health	0.945	0.954
Occupational safety	0.949	0.955
Self-reported productivity	0.844	0.890

Source: Author-supplied SmartPLS output, 2026,

Table 1 shows that all reported coefficients exceed 0.70, indicating internal consistency based on the specified criteria. A value as high as 0.95 for the safety and health scale also necessitates a review to determine whether some items have highly similar content. Reliability alone does not resolve the issues of construct overlap or rating ambiguity on the BK6.

The latter point affects the central argument. If the workload scale mixes demand items with time-management or coping items without reverse scoring, a negative coefficient may reflect inconsistent measurement rather than a clean “more demands, less productivity” relationship. The questionnaire and item coding are thus essential to the interpretation, even though the statistical signs in Tables 2-3 are reproduced faithfully. The reliability evidence remains useful, but the construct cannot yet be treated as fully validated.

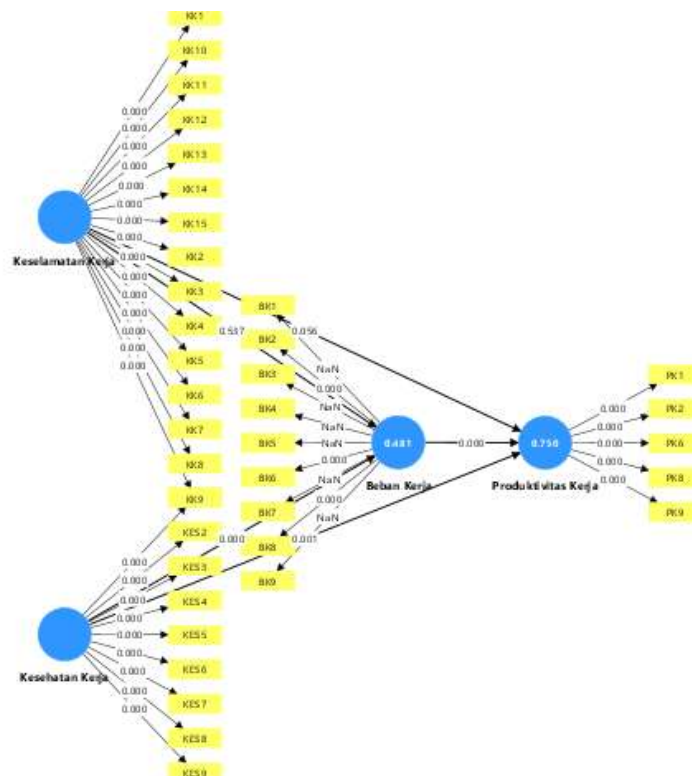


Figure 2. Structural paths in the author-supplied SmartPLS model.

Source: Author-supplied SmartPLS 4.1.1.8 screenshot, 2026; reproduced from the submitted manuscript.

The diagram indicates the proposed direct links among safety, health, workload and productivity. Table 2 supplies the readable coefficients and tests; do not infer missing fit indices or demographic information from the image.

Table 2. Direct associations in the structural model.

Path	β	Bootstrap mean	SE	t	Reported p	Decision at $\alpha = .05$
Workload $\rightarrow$ productivity (H5)	-0.245	-0.243	0.068	3.612	< .001	Supported
Occupational health $\rightarrow$ workload (H2)	-0.769	-0.762	0.149	5.173	< .001	Supported
Occupational health $\rightarrow$ productivity (H4)	0.443	0.440	0.138	3.203	.001	Supported
Occupational safety $\rightarrow$ workload (H1)	0.090	0.082	0.145	0.618	.537	Unsupported
Occupational safety $\rightarrow$ productivity (H3)	0.265	0.272	0.139	1.908	.056	Unsupported

Source: Author-supplied SmartPLS output, 2026,

Table 2. Interpretation: β represents the reported standardised path coefficient; “unsupported” means the evidence does not cross the prespecified .05 threshold. Original software displays of $p = .000$ are rendered as $p < .001$. Confidence intervals were not supplied.

Occupational health has the largest reported association with perceived workload ($\beta = -0.769$). Employees giving more favourable occupational-health ratings tended to report lower workload ratings, conditional on the other predictor in this model. Better health ratings also coincided with higher self-rated productivity ($\beta = 0.443$). In the job demands–resources frame, these results are



compatible with health support accompanying a less burdensome work experience. They do not show whether health initiatives lowered the objective number of tasks, whether employees in lighter roles rated health provision more favourably, or whether both perceptions reflect broader working conditions.

The distinction matters in comparison with earlier studies. Elbejjani et al., (2020) related perceived workload dimensions and work-environment conditions to nurses' health outcomes, while Broetje et al., (2020) placed work overload among key nursing demands. Those studies motivate a demand-health connection, but their dependent variables and study populations differ from this hospital's mixed employee sample. The present negative path concerns a *perception scale*, and its unusually large magnitude makes discriminant-validity and scoring checks especially consequential. Prospective syntheses provide stronger evidence about temporal order in healthcare workplaces than the current one-time questionnaire (Marzocchi et al., 2024).

Perceived workload itself was negatively associated with self-rated productivity ($\beta = -0.245$). This aligns with a strain interpretation in which demanding work competes for attention and time. Jun et al., (2021) reviewed associations between burnout and nurse productivity, and Dall'Ora et al., (2022) linked staffing levels with patient outcomes in longitudinal studies. Neither comparison converts this coefficient into evidence that reducing workload by one unit would raise actual patient throughput. Staffing levels, perceived workload, burnout, self-rated productivity and patient outcomes require separate measurement before such an operational claim is warranted.

There is also a possible rival explanation: employees who consider their performance weak might experience identical tasks as more onerous. Surveyed occupational groups may differ in exposure, staffing and authority, a pattern visible in Gunning & Kellas, (2024). The present model cannot assess these alternatives because it supplies neither role-stratified estimates nor temporal data. Managers can nevertheless use the result as a reason to review workload distribution by unit, shift and occupation, then compare staff reports with rosters and service indicators.

Occupational safety: an unsupported pathway is informative

Occupational safety was not significantly associated with workload ($\beta = 0.090$, $p = .537$), and its direct association with productivity did not meet the .05 threshold ($\beta = 0.265$, $p = .056$). The positive point estimate for safety $\rightarrow$ workload is also opposite to H1's expected negative sign. Treating either estimate as proof of *no relationship* would be unwarranted; the study has 77 respondents, and bootstrap confidence intervals are absent. A path just above .05 should not be redescribed as statistically supported after seeing the data.

Prior work helps specify what this result does and does not challenge. Lee & Lee, (2017) found that safety practices among hospital nurses were associated with less physical workload and job strain. Their physical-workload measure is narrower than this manuscript's unspecified workload index. G. Zhao & Yin, (2023) studied safety *performance*, while (Abdi et al., 2023) modelled safety climate and nurses' safe behaviour. Çağatay, (2025) found links to sustainable work performance through safety compliance and participation. Those mechanisms do not require a direct safety $\rightarrow$ self-rated productivity association in every hospital survey. Seo & Lee, (2025) also showed that organisational support for patient and workplace safety can relate to safety compliance and safety outcomes in distinct ways. Taken together, the literature suggests that injury prevention, safety behaviour and perceived task productivity should be kept analytically separate.

This interpretation is particularly important for hospital policy. A nonsignificant productivity coefficient is no reason to reduce protective equipment, incident prevention, training or hazard controls. Safety programmes may prevent rare but consequential injuries and protect patients even where a small cross-sectional survey cannot detect a productivity association. The local implication is to evaluate safety with appropriate outcomes, including incidents, exposure reports, compliance and safe work practices, while separately tracking workloads and work output.



Specific indirect associations through workload

Table 3. Reported specific indirect associations through perceived workload.

Indirect path	β	Bootstrap mean	SE	t	p in original table	Assessment
Occupational health → workload → productivity (H6)	0.188	0.189	0.076	2.483	.001†	Supported at .05 if the reported t is correct
Occupational safety → workload → productivity (H7)	-0.022	-0.023	0.040	0.551	.582	Unsupported

Source: Author-supplied SmartPLS output, 2026.

Table 3. Interpretation: The positive health indirect coefficient is consistent with two negative component paths ($-0.769 \times -0.245 \approx 0.188$). The negative safety indirect coefficient is likewise consistent with $0.090 \times -0.245 \approx -0.022$. †Data check: The original table gives $p = .001$ for H6, but its prose gives $p = .013$; a two-sided t of 2.483 corresponds approximately to $p = .013$ under a normal approximation. The statistical decision at .05 is the same, but the exact SmartPLS bootstrap p and confidence interval must be verified against the export. The manuscript retains the table's value visibly rather than silently substituting one.

The health pathway has a positive indirect estimate ($\beta = 0.188$), alongside a positive direct estimate ($\beta = 0.443$). Under the specified model, favourable occupational-health perceptions coincide with lower perceived workload, which in turn coincides with higher self-rated productivity. It is reasonable to call this a statistical indirect association. It is not evidence that workload changed *after* health conditions or that workload causally transmitted an intervention effect. Mediation analysis needs both a well-defined construct and defensible time order; a significant product term alone cannot provide either (Nitzl et al., 2016; X. Zhao et al., 2010).

The safety pathway has a small negative indirect estimate ($\beta = -0.022$, $p = .582$). It gives no statistical support for the proposed safety → workload → productivity route. The direct safety estimate is positive but also does not meet .05, so there is no basis to label the safety relationship “full mediation” or to infer a compensating effect. Safety may act through accident prevention, safe behaviour, trust or task continuity, pathways not measured by this model. The theory thus helps identify an omitted-mechanism question rather than rescue an unsupported hypothesis.

The positive health indirect association is potentially useful but depends on a specific coding decision. Item BK6 describes effective time management between routine and extra duties. If a high BK6 score was treated as *more* workload without reverse coding, the substantive “lower workload” narrative may be wrong. Before submission, the author should disclose every retained workload item, the response anchors, the reverse-code rules and AVE/HTMT results. This is a material validity issue, not a cosmetic reporting request.

Prediction, scope and managerial implications

Table 4. Supplied Q^2 predict statistics for endogenous constructs.

Construct	Q^2 predict	RMSE	MAE
Perceived workload	0.451	0.792	0.638
Self-reported productivity	0.692	0.570	0.433

Source: Author-supplied SmartPLS output, 2026.

Table 4. Interpretation: The reported Q^2 predict values are positive for both outcomes. The table does not include indicator-level prediction errors, a naive linear-model benchmark, fold settings or repeated cross-validation results. RMSE and MAE therefore cannot establish that the PLS model predicts better than an alternative model, and the numbers should not be called “good predictive performance” without the missing comparison (Shmueli et al., 2019a).



The structural pattern has one locally actionable focus: favourable occupational-health ratings cluster with lower perceived workload and better self-rated task delivery, while the corresponding safety path is unsupported. Hospital managers could compare staffing and task allocation across units, inspect access to periodic health checks and occupational support, and monitor both employee-reported burden and independently recorded service indicators. The data cannot select a particular intervention or predict its effect size. A prospective pilot that tracks the same units before and after a defined change would better test whether improved health support or staffing arrangements precede changes in demand and performance.

Table 5. Synthesis of the seven prespecified hypotheses.

Hypothesis	Expected sign	Observed estimate	Decision	Substantive reading
H1 Safety → workload	–	0.090	Unsupported	Estimate has the opposite sign and $p = .537$.
H2 Health → workload	–	–0.769	Supported	More favourable health ratings coincide with lower workload scores.
H3 Safety → productivity	+	0.265	Unsupported	Positive estimate, $p = .056$.
H4 Health → productivity	+	0.443	Supported	More favourable health ratings coincide with higher self-ratings.
H5 Workload → productivity	–	–0.245	Supported	Higher workload scores coincide with lower self-ratings.
H6 Health → workload → productivity	+	0.188	Supported provisionally	Exact bootstrap p conflicts across the source table and prose.
H7 Safety → workload → productivity	+	–0.022	Unsupported	Small estimate, opposite the expected sign.

Source: Synthesis of author-supplied SmartPLS direct and indirect effects, 2026,

Tables 2-3 and 5. Interpretation: Decisions use $\alpha = .05$ and retain the original coefficients. “Supported” denotes statistical compatibility with the directional expectation in this sample; it does not demonstrate a causal effect.

4. CONCLUSION

This study set out to assess the direct and workload-related associations of occupational safety and health with employee productivity at RSUD Jatisampurna. Among 77 surveyed employees, favourable occupational-health ratings were associated with lower workload scores and higher self-rated productivity; workload scores were negatively associated with productivity. The estimated indirect health association through workload was positive. The corresponding safety associations were not statistically supported. The contribution is the distinction between health-related and safety-related pathways in the same local model, which cautions against evaluating safety solely through an employee-productivity scale.

Hospital managers can review occupational-health support and workload allocation together, while assessing safety programmes against hazard and safety-behaviour outcomes. The conclusions are limited by one hospital, a small analysed sample, simultaneous self-reports, incomplete measurement documentation and conflicting source p values for one indirect path. A follow-up study should confirm scale coding and bootstrap output, report respondents by occupation, and relate staff perceptions to independently recorded workload and service measures over time.



5. REFERENCES

- Abdi, F., Jahangiri, M., Kamalinia, M., Cousins, R., & Mokarami, H. (2023). Developing a model for predicting safety performance of nurses based on psychosocial safety climate and role of job demands and resources, job satisfaction, and emotional exhaustion as mediators. *BMC Psychology*, 11, 187. <https://doi.org/10.1186/s40359-023-01223-1>
- Aiken, L. H., Sermeus, W., Van den Heede, K., Sloane, D. M., Busse, R., McKee, M., Bruyneel, L., Rafferty, A. M., Griffiths, P., Moreno-Casbas, M. T., Tishelman, C., Scott, A., Brzostek, T., Kinnunen, J., Schwendimann, R., Heinen, M., Zikos, D., Strømseng Sjetne, I., Smith, H. L., & Kutney-Lee, A. (2012). Patient safety, satisfaction, and quality of hospital care: Cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*, 344, e1717. <https://doi.org/10.1136/bmj.e1717>
- Bae, S.-H. (2021). Intensive care nurse staffing and nurse outcomes: A systematic review. *Nursing in Critical Care*, 26(6), 457–466. <https://doi.org/10.1111/nicc.12588>
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. <https://doi.org/10.1037/ocp0000056>
- Broetje, S., Jenny, G. J., & Bauer, G. F. (2020). The key job demands and resources of nursing staff: An integrative review of reviews. *Frontiers in Psychology*, 11, 84. <https://doi.org/10.3389/fpsyg.2020.00084>
- Çağatay, H. T. (2025). The mediating role of safety compliance and participation in the relationship between safety climate and nurses' sustainable work outcomes. *Work*, 82(2), 516–526. <https://doi.org/10.1177/10519815251346474>
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th Editio). SAGE Publications Ltd.
- Dall'Ora, C., Ball, J., Recio-Saucedo, A., & Griffiths, P. (2020). Burnout in nursing: A theoretical review. *Human Resources for Health*, 18, 41. <https://doi.org/10.1186/s12960-020-00469-9>
- Dall'Ora, C., Ejebu, O.-Z., Ball, J., & Griffiths, P. (2023). Shift work characteristics and burnout among nurses: Cross-sectional survey. *Occupational Medicine*, 73(4), 199–204. <https://doi.org/10.1093/occmed/kqad046>
- Dall'Ora, C., Saville, C., Rubbo, B., Turner, L., Jones, J., & Griffiths, P. (2022). Nurse staffing levels and patient outcomes: A systematic review of longitudinal studies. *International Journal of Nursing Studies*, 134, 104311. <https://doi.org/10.1016/j.ijnurstu.2022.104311>
- Elbejjani, M., Abed Al Ahad, M., Simon, M., Ausserhofer, D., Dumit, N., Abu-Saad Huijjer, H., & Dhaini, S. R. (2020). Work environment-related factors and nurses' health outcomes: A cross-sectional study in Lebanese hospitals. *BMC Nursing*, 19, 95. <https://doi.org/10.1186/s12912-020-00485-z>
- Gunning, J. N., & Kellas, J. K. (2024). "Being Sick Does Not De fi ne You" : Communicated Narrative Sense-Making of Autoimmune Disease in Emerging Adult Women in the U . S . *Sage Journals*, 12(2), 175–186. <https://doi.org/10.1177/21676968231217781>
- Gynning, B. E., Karlsson, E., Teoh, K., Gustavsson, P., Christiansen, F., & Brulin, E. (2024). Contextualising the job demands–resources model: A cross-sectional study of the psychosocial work environment across different healthcare professions. *Human Resources for Health*, 22, 77. <https://doi.org/10.1186/s12960-024-00958-1>
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). The Results of PLS-SEM Article information. *European Business Review*, 31(1), 2–24.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Jun, J., Ojemeni, M. M., Kalamani, R., Tong, J., & Crecelius, M. L. (2021). Relationship between nurse burnout, patient and organizational outcomes: Systematic review. *International Journal*



- of *Nursing Studies*, 119, 103933. <https://doi.org/10.1016/j.ijnurstu.2021.103933>
- Krijghsheld, M., Tummers, L. G., & Scheepers, F. E. (2022). Job performance in healthcare: A systematic review. *BMC Health Services Research*, 22, 149. <https://doi.org/10.1186/s12913-021-07357-5>
- Lee, J. H., & Lee, S.-J. (2017). Associations of organizational safety practices and culture with physical workload, perceptions about work, and work-related injury and symptoms among hospital nurses. *Journal of Nursing Administration*, 47(7–8), 404–411. <https://doi.org/10.1097/NNA.0000000000000504>
- Li, L. Z., Yang, P., Singer, S. J., Pfeffer, J., Mathur, M. B., & Shanafelt, T. D. (2024). Nurse burnout and patient safety, satisfaction, and quality of care: A systematic review and meta-analysis. *JAMA Network Open*, 7(11), e2443059. <https://doi.org/10.1001/jamanetworkopen.2024.43059>
- Marzocchi, I., Nielsen, K., Di Tecco, C., Vignoli, M., Ghelli, M., Ronchetti, M., & Iavicoli, S. (2024). Job demands and resources and their association with employee well-being in the European healthcare sector: A systematic review and meta-analysis of prospective research. *Work & Stress*, 38(3), 293–320. <https://doi.org/10.1080/02678373.2024.2308812>
- Nitzl, C., Roldán, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss more sophisticated models. *Industrial Management & Data Systems*, 116(9), 1849–1864. <https://doi.org/10.1108/IMDS-07-2015-0302>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Seo, J. K., & Lee, S. E. (2025). Spillover effects of organizational support for patient and workplace safety on safety outcomes: The mediating role of safety compliance. *Journal of Advanced Nursing*, 81(9), 5365–5375. <https://doi.org/10.1111/jan.16222>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019a). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J. H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019b). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- von Elm, E., Altman, D. G., Egger, M., Pocock, S. J., Gøtzsche, P. C., & Vandenbroucke, J. P. (2007). The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: Guidelines for reporting observational studies. *PLOS Medicine*, 4(10), e296. <https://doi.org/10.1371/journal.pmed.0040296>
- Zhao, G., & Yin, C. (2023). Impact of job control on hospital workers' safety performance: A moderated mediation analysis of the influences of hospital safety climate and social support. *Nursing Open*, 10(2), 781–789. <https://doi.org/10.1002/nop2.1345>
- Zhao, X., Lynch Jr., J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. <https://doi.org/10.1086/651257>