

# The Effect of Workload, Dual Role Conflict Working Hours, and Job Stress on The Performance of Female Nurse at Stella Maris Hospital In 2024

Zubaidah P.D Barang<sup>1\*</sup>, Atjo Wahyu<sup>2</sup>, Lalu Muhammad Saleh<sup>3</sup>, M. Furqaan Naiem<sup>4</sup>, Masyita Muis<sup>5</sup>, Wahiduddin<sup>6</sup>, Anwar Mallongi<sup>7</sup>

<sup>1</sup>Masters, Department of Occupational Safety and Health, Faculty of Public Health, Hasanuddin University, Makassar, Indonesia, Email: bedaptri@gmail.com

<sup>2,3,4,5</sup>Department of Occupational Safety and Health, Faculty of Public Health, Hasanuddin University, Makassar, Indonesia

<sup>6</sup>Department of Epidemiology, Faculty of Public Health, Hasanuddin University, Makassar, Indonesia

<sup>7</sup>Department of Environmental Health, Faculty of Public Health, Hasanuddin University, Makassar, Indonesia

\*Corresponding Author

---

Received: 15.08.2024

Revised: 10.09.2024

Accepted: 09.10.2024

---

## ABSTRACT

**Introduction:** In an increasingly competitive work environment, the dual roles assumed by female nurses present significant challenges, particularly in balancing work and family demands. This study aims to analyze the influence of work-family conflict, workload, and working hours on the performance of female nurses at Stella Maris Hospital, with work stress serving as a mediating variable.

**Methods:** This research employs a quantitative approach using a survey method. The sample value (n) obtained was 91 people. The variable in this research is workload, dual role conflict working hours and stress of performance. Data were collected through questionnaires completed by female nurses at the hospital and analyzed using path analysis to identify both direct and indirect effects among the variables studied.

**Results:** The study found that work-family conflict has a significant direct impact on the decline in female nurses' performance ( $p = 0.007$ ), while workload ( $p = 0.508$ ) and working hours ( $p = 0.174$ ) do not have a significant direct influence. Work stress, measured both subjectively (through questionnaires) and objectively (using a colorimeter) ( $t\text{-value} < t\text{-table}$ ), was not found to significantly mediate the relationship between work-family conflict, workload, working hours, and nurse performance.

**Conclusion:** Work stress triggered by excessive workload, dual role conflict, and irregular working hours plays a critical role in reducing the performance of female nurses. Therefore, better management strategies are needed to minimize the negative impacts of these factors to achieve optimal performance.

**Keywords:** Dual role conflict, Female nurses, Job stress, Performance, Workload

## INTRODUCTION

Good human resources are essential for a company to survive in the face of increasing competition and challenges [1]. In facing this competition and challenge, the company focuses on its employees' performance. Indonesia has a female population that is always increasing every year so they choose to become career women with two roles, namely as housewives and as employees. The factors that underlie women's choice to work are education, economic factors, and women's emancipation [2]. Women's participation today not only brings to the fore the issue of equal rights but also highlights the significance of their role in the development of Indonesian society (Mulawarman et al., 2024). Traditional roles include domestic responsibilities as wives, mothers, and homemakers while transitional roles include women's roles as workers, community members, and development agents. It is estimated that the number of women seeking employment will continue to increase in some regions of the world [3,4].

The healthcare industry is important to the national economy in several ways. On the one hand, it is highly innovative, research-intensive, and has high added value, and the increasing life expectancy of humans creates a growing demand for improved quality of health and the products and services provided by the healthcare industry [5]. Hospitals are health service institutions that provide individual services and provide inpatient, outpatient, and emergency services. Paramedics are one of the professions that are mostly dominated by women [6].

The involvement of women in the public sector, especially in work, has many challenges. They are required not to mix family conflicts with work, as paramedics, women are required to always be ready to serve patients and act professionally in their work, especially when dealing with patients who have diverse characteristics, and as a wife and a mother, they are also faced with requests from the family to continue to carry out their roles as they should [7]. Of course, this will give rise to a conflict between the dual roles of female nurses as housewives and also as someone who works [8,9].

Carrying out two roles at once, both as a worker and a housewife, is not an easy challenge. Married female employees with children have greater responsibilities than unmarried women [10]. Previous research has shown a relationship between dual role conflict and the performance of female nurses [11,12]. The dual role of female nurses who are married or unmarried is a conflict that can affect the performance of nurses.

Nurses who have dual roles, of course, are very difficult, because they require high concentration and high emotional levels as well as a lot of burden. This is also related to patient services that must be carried out as optimally as possible [13]. This workload will ultimately cause pressure that results in stress for nurses and will affect the nurse's presentation [14,15]. Workload is a condition of work with a description of tasks that must be completed within a certain time limit [16]. Indicators of workload include work conditions, use of working time, and targets to be achieved [17,18].

Work stress is a common issue, particularly in the night shift due to heavy overtime and limited rest time [19]. Low stress levels range from 37-40 hours per week, while moderate stress levels range from 61-71 hours per week. Stress is a natural part of human life and can hinder employee performance due to the imbalance between employees and workload [20,21]. Based on this background then this study aims to analyze the influence of work-family conflict, workload, and working hours on the performance of female nurses at Stella Maris Hospital, with work stress serving as a mediating variable.

## **METHODS**

### **Study design and setting**

This study uses a quantitative research type, namely research that seeks relationships between variables and then analyzes the collected data. Based on its approach, this study is cross-sectional, namely, the researcher observes or measures the subject variable only once, and the subject variable is measured at the time of the study. The study was conducted in April - May 2024. The location of study was carried out at the Stella Maris Hospital, Makassar City in 2024. The population in this study were all female nurses at Stella Maris Hospital who were married, totaling 119 people. The sample is part of the population that represents the population to be studied. The sample in this study were female nurses at Stella Maris Hospital who met the research sample criteria and were willing to become research respondents. Based on the use of the Lemeshow formula above, the sample value (n) obtained was 91 people.

### **Sampling technique**

The sampling technique used in this study is using the proportional random sampling technique. This technique is a sampling determination technique where all members have the same opportunity to be sampled according to their proportion, the number or smallness of the population. Sample criteria include inclusion criteria and exclusion criteria, where these criteria determine whether or not the sample can be used. The inclusion criteria and exclusion criteria are as follows:

#### **a. Inclusion criteria**

Inclusion criteria are criteria where the research subjects can represent the research sample that meets the requirements as a sample. The number of samples that meet the requirements in this study is 91 female nurse respondents who are married and have children.

#### **b. Exclusion criteria**

Exclusion criteria are criteria where the research subjects cannot represent the sample because they do not meet the requirements as a research sample. The exclusion criteria for this study are that female nurses do not live with family / live alone, and are not willing to be respondents.

### **Data analysis**

Data analysis was conducted using path analysis, which is a technical analysis extension of the regression model, which is used to test the dependence of a number of variables in a model (causal model) where the program used is the AMOS program. This analysis model is used because this study wants to find out the direct and indirect effects of the existing variables.

### **Ethical approval**

Ethical approval recommendations in this study with the number: 1254/UN4.14.1/TP.01.02/2024

## RESULTS

**Table 1:** Parameters and Testing of Direct Effect Hypothesis

Connection			Estimate	S.E.	C.R.	P-value
Work Stress	←	Workload	0.013	0.019	0.681	0.496
Work Stress	←	Tenure	-1.122	0.539	-2.082	0.037*
Work Stress	←	Work-Family Conflict	0.251	0.060	4.162	0.00*
Work Stress	←	Family-Work Conflict	0.610	0.107	5.710	0.00*
Cocorometer	←	Workload	0.156	0.118	1.317	0.188
Cocorometer	←	Tenure	-6.289	3.294	-1.909	0.041*
Cocorometer	←	Work-Family Conflict	0.175	0.369	0.474	0.635
Cocorometer	←	Family-Work Conflict	1.069	0.653	1.637	0.102
Performance	←	Workload	-0.030	0.019	-1.579	0.114
Performance	←	Tenure	0.869	0.549	1.583	0.113
Performance	←	Work-Family Conflict	-0.190	0.064	-2.955	0.003*
Performance	←	Family-Work Conflict	-0.291	0.123	-2.365	0.018*
Performance	←	Work stress	-0.078	0.103	0.755	0.450
Performance	←	Cocorometer	-0.029	0.017	-1.749	0.080

\*p-value < 0.05: There is a significant influence

The study found that workload does not significantly affect work stress, but the length of service significantly affects subjective and objective stress levels. Longer work duration decreases subjective stress, while longer work duration leads to decreased stress. Conflict between work and family has a positive effect on subjective stress, but not objective stress. Work-family conflict and family conflict affecting work have significant negative effects on performance, with higher levels reducing performance. However, subjective and objective work stress did not significantly affect performance, suggesting that other factors may be more dominant in determining individual performance at work

**Table 2:** Sobel Test to Investigate the Indirect Effect of the First Model

Indirect Relationship	T Count	T Table
performance ← Job Stress ← Workload	0.507	1.96
performance ← Job Stress ← Working time	-0.711	1.96
performance ← Job Stress ← Conflict Work-Family	0.745	1.96
performance ← Job Stress ← Conflict Family-Work	0.750	1.96
performance ← Cocorometer ← Workload	-1.044	1.96
performance ← Cocorometer ← Working time	-1.272	1.96
performance ← Cocorometer ← Conflict Work-Family	1.479	1.96
performance ← Cocorometer ← Conflict Family-Work	-1.383	1.96

\*t count > t table: There is a significant influence

Based on Table 2 above, we can see the indirect influence of variables on performance through work stress opinions and cocorometer. The hypothesis criteria are accepted if the value of |t count| > t table. We can see that from the eight indirect influences investigated, it is known that there are no variables that indirectly affect performance because |t count| overall < 1.96

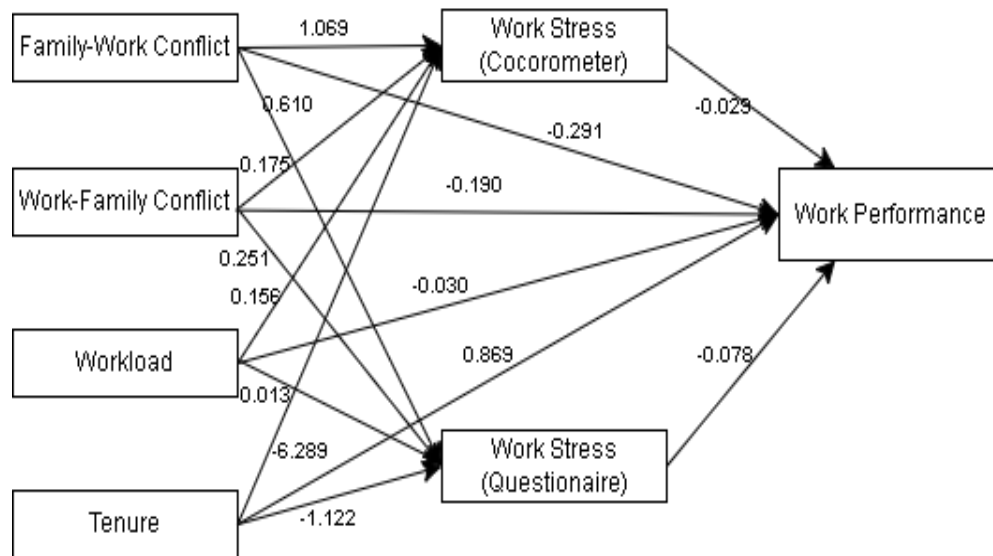


Figure 1. Path Analysis

In this study, two path models will be constructed. The model is the influence of respondents' dual role conflict, workload, and Working time on performance through opinions on work stress, and the second model is the influence of respondents' dual role conflict, workload, and Working time on performance through work stress measured using the Cocorometer. The following is a picture of the construction of the path analysis model. In this model, the variables of opinion on work stress and work stress colorimeter become mediating variables in modeling the respondents' dual role conflict, workload, and work time on performance.

## DISCUSSION

### The Effect of Workload on Job Stress

Workload significantly impacts stress levels in the workplace, affecting mental and physical health and productivity [22]. Research by Sapan suggests that workload management can be a stress reduction strategy. However, the increase in objective stress levels may not be significant enough due to individual physiological responses or coping mechanisms, and external factors like environmental conditions and measurement time [23].

### The Effect of Working Hours on Work Stress

Longer nurses' self-perceived work stress levels decrease, possibly due to better coping strategies or increased acclimatization to work pressure. Additionally, additional incentives can increase motivation and reduce stress [24]. The relationship between working hours and stress levels is complex, with longer hours associated with increased stress and better coping strategies. However, chronic fatigue and health problems may result from extended work hours [25].

### The Influence of Dual Role Conflict on Work Stress

Other studies have also shown that persistent dual role conflict can lead to feelings of isolation from family and community, exacerbate feelings of loneliness, and reduce the social support that should serve as a buffer against stress. In nurses, whose jobs often involve high-pressure and high-stakes decisions, the loss of this support can make them more vulnerable to the negative effects of stress. Therefore, it is important to recognize that the impact of dual role conflict is real, and proactive steps need to be taken to provide the resources and support needed to help nurses manage the balance between their professional and personal lives [26].

The inability to meet expectations in both the home and workplace environments simultaneously can create significant stress, affecting not only the emotional well-being but also the physical health of nurses. This stress often manifests itself in the form of chronic stress, which can negatively impact their ability to concentrate, make informed decisions, and provide high-quality care to patients. Feelings of exhaustion, both mental and physical, are inevitable as nurses continually struggle to maintain a balance between their professional and personal lives [27].

### The Effect of Dual Role Conflict on Performance

This shows that dual role conflict affects the performance of nurses at Dr. Amino Gondohutomo Mental Hospital Semarang [28]. A dual role is a situation where someone experiences two roles, namely as a wife and a

housewife who is required to take care of the household, but on the other hand, is also required to be a professional in developing his career. This dual role conflict often occurs due to pressures from work and family, one of which is the demand to support the household economy as one of the reasons for women to work. If employees who are married cannot carry out their roles between family and work, it will have an impact on the work implementation process which is less productive so that employees cannot carry out their responsibilities normally and optimally [29].

#### **The Effect of Dual Role Conflict on Performance through Work Stress**

The study suggests that while work-family conflict and family-work conflict may increase stress levels, they do not directly affect performance. Instead, factors like social support, coping strategies, and time management skills may be more influential. This highlights the need for a holistic approach to understanding and managing job stress, focusing on employee well-being [30].

#### **The Effect of Workload on Performance**

This means that in the context of this study, workload does not have a strong enough impact to significantly affect employee performance. Several things could be behind this phenomenon [31]. First, employees may have effective coping strategies or adequate social support to manage their workload, so that its negative impact on performance can be minimized. Second, organizations may have good workload management systems, such as fair task distribution and adequate resource availability, which help employees cope with the stress of workload. Third, other factors such as intrinsic motivation, job involvement, and positive work environment may play a more dominant role in influencing performance than workload itself [32-33].

Although the results of this study indicate that workload does not have a significant effect on performance, the theoretical implication of this finding is that other factors may be more dominant in influencing employee performance. For example, factors such as intrinsic motivation, work environment, and management support may play a more important role. From a practical perspective, managers should not only focus on reducing workload to improve performance but also consider other aspects that can improve employee well-being and motivation [33].

#### **The Effect of Workload on Performance through Job Stress**

These findings have theoretical implications indicating that job stress, whether measured objectively or subjectively, does not mediate the relationship between workload and performance in the context of this study. This suggests that other factors are more influential in explaining the relationship, such as social support, coping skills, or other work environment factors. From a practical perspective, management should not only focus on reducing job stress to improve employee performance. More comprehensive interventions, including increasing social support and developing coping skills, may be needed to effectively improve employee performance despite the high workload [34].

This study shows that job stress does not act as a significant mediator between workload and performance. This suggests that other factors are more influential in the relationship between workload and employee performance. Strong social support and effective coping skills can help employees manage their workload without significantly affecting performance. Organizations need to focus on increasing social support and developing coping skills among employees to cope with high workloads. With the right support, employees can maintain good performance despite facing heavy workloads [35-39].

#### **The Effect of Working Hours on Performance**

This insignificant result can be interpreted that working hours may not be the only factor that determines nurse performance. Although experience gained with increasing working hours can improve workability and efficiency, other factors such as fatigue, stress, motivation, skills, job satisfaction, and working environment conditions also play an important role. Fatigue and stress due to long working hours can reduce nurse performance. Nurses who work too long are prone to burnout, which can negatively affect the quality of care they provide. Conversely, a more balanced working time can help nurses maintain higher levels of energy and focus [37-40].

#### **The Influence of Working Hours on Performance Through Work Stress**

These results indicate that although there is an increase in physiological stress with longer working hours, other factors such as work experience, efficiency, and individual adaptation can reduce the negative impact of objective stress on performance. This insignificant result can be interpreted that although longer working hours tend to increase work stress, both measured subjectively and objectively, the level of stress is not strong enough to significantly affect nurse performance [40].

In addition, these results add to our understanding that not all stress factors have the same influence across work contexts. Job stress may not always be a strong mediator in the relationship between work time and

performance, especially in professions where other factors such as job satisfaction, intrinsic motivation, and social support are more dominant. From a practical perspective, reducing work hours or managing job stress alone may not be enough to improve nurse performance. More comprehensive efforts are needed, including skill development, providing emotional support, and creating a work environment that supports work-life balance [41].

### **The Effect of Work Stress on Performance**

Work stress may not always be directly related to decreased performance, especially if other factors such as social support, job satisfaction, and stress management also affect nurse performance. High work stress can lead to decreased performance through various mechanisms, such as fatigue, impaired concentration, and decreased motivation. However, if the stress can be managed well or if nurses have sufficient support, the negative impact of stress on performance may not be so obvious [42- 44].

Theoretically, these results indicate that work stress is not the only factor that affects performance. Other factors such as stress management, social support, and job satisfaction also need to be considered. This indicates that effective stress management and good support can reduce the negative impact of stress on performance. Practically, it is necessary to develop more comprehensive stress management strategies, such as stress management training, providing emotional support, and creating a supportive work environment. This can help nurses cope with stress and improve their overall performance [40].

Job stress has long been recognized as a factor that can affect employee performance. However, in this study, the effect of job stress on performance was not statistically significant. This indicates that although job stress tends to hurt performance, the effect is not strong enough to be considered significant in this context. One reason why job stress does not have a significant effect on performance is because other factors moderate this relationship. For example, social support from coworkers or supervisors, effective coping strategies, and high levels of motivation can help individuals manage their stress and remain productive at work [41,45-47].

### **CONCLUSIONS**

This study concludes that there is a direct influence of work-family conflict on the performance of female nurses at Stella Maris Hospital. Stella Maris Hospital to always pay attention in handling the problem of dual role conflict experienced by female nurses because this problem can trigger work stress which will later affect performance in providing services to patients.

### **CONFLICT OF INTEREST**

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

### **ACKNOWLEDGEMENT**

The author would like to thank the supervisor for his patience, time, energy and thought and attention in providing guidance during the process of preparing this scientific work.

### **REFERENCE**

1. J. Wongsansukcharoen and J. Thaweepaiboonwong, "Effect of innovations in human resource practices, innovation capabilities, and competitive advantage on small and medium enterprises' performance in Thailand," *European Research on Management and Business Economics*, vol. 29, no. 1, p. 100210, 2023. doi: 10.1016/j.iedeen.2022.100210.
2. A. T. Tamata and M. Mohammadnezhad, "A systematic review study on the factors affecting shortage of nursing workforce in the hospitals," *Nursing Open*, vol. 10, no. 3, pp. 1247–1257, 2023. doi: 10.1002/nop2.1434.
3. W. G. Mulawarman, A. Rahmat, and M. Mirnawati, "Re-orientation of women's career self-concept in the transition period of motherhood," *BJGESD*, vol. 1, pp. 1–23, 2024. Available: <https://journalzone.org/index.php/bjgesd/article/view/463>.
4. I. J. Ndosy, "Transition to gender equality," *KAS African Law Study Library - Librairie Africaine d'Etudes Juridiques*, vol. 10, no. 4, pp. 592–600, 2023. doi: 10.5771/2363-6262-2023-4-592.
5. F. Darus, R. W. Basrowi, E. Wasito, and M. S. Kartjito, "Optimizing workplace support for breastfeeding in female worker: A narrative review," *Indonesian Journal of Community and Occupational Medicine*, vol. 2, no. 3, pp. 136–142, 2023. doi: 10.53773/ijcom.v2i3.75.136-42.
6. I. Balatoni, H. V. Szépné, T. Kiss, U. G. Adamu, A. M. Szulc, and L. Csernoch, "The importance of physical activity in preventing fatigue and burnout in healthcare workers," *Healthcare*, vol. 11, no. 13, pp. 1–16, 2023. doi: 10.3390/healthcare11131915.

7. A. Aich and M. K. Pal, "Employment potential in India: Rural-urban divide and female dominance perspective," 2023. Available: <https://www.theigc.org/sites/default/files/2014/09/Hnatkovska-Lahiri-2012-Working-Paper-August.pdf>.
8. X. Yao et al., "Work-family conflict categories and support strategies for married female nurses: A latent profile analysis," *Frontiers in Public Health*, vol. 12, pp. 1–11, 2024. doi: 10.3389/fpubh.2024.1324147.
9. N. N. Arlinda, "The influence of dual role conflict and work stress on the performance of female paramedics at Blut RS Konawe Selatan," *Idea: Jurnal Humaniora*, pp. 185–193, 2019. doi: 10.29313/idea.v0i0.4975.
10. N. M. Yudhaningsih, "The influence of dual role conflict and work stress on nurse performance," *Jurnal Ilmiah Satyagraha*, vol. 4, no. 1, pp. 47–64, 2021. doi: 10.47532/jis.v4i1.230
11. M. Amin, Y. Ekwinaldo, and Y. Novrianti, "Job stress and work conflict affect nurse performance," *Journal of Telenursing*, vol. 2, no. 1, pp. 31–40, 2020. doi: 10.31539/joting.v2i1.521.
12. N. Susijawati, S. Maryam, and L. H. H., "Multiple role conflict, discipline, and organizational commitment towards nurses performance at Gunung Jati Hospital, Cirebon City," *Jurnal Ilmiah Kesehatan*, vol. 8, no. 1, pp. 165–175, 2010. Available: <https://core.ac.uk/download/pdf/196255896.pdf>.
13. N. Karakurt, Y. Erden, and A. Sis Çelik, "The relationship between nurses' work stress levels and work-family conflict during the COVID-19 pandemic and the affecting factors: A study from Turkey," *Archives of Psychiatric Nursing*, vol. 42, Jan. 2023, pp. 61–67. doi: 10.1016/j.apnu.2022.12.015.
14. S. Ku'e, H. Kaseger, M. A. Kiling, and H. Akbar, "Relationship of workload with work stress on nurses in the emergency installation of Kotamobagu City Hospital," *Jurnal Ilmiah Sesebuana*, vol. 6, no. 1, pp. 8–12, 2022. Available: <http://www.e-journal.polnustar.ac.id/jis/article/view/484/380>.
15. M. L. N. Islam, J. Lo, and Subarjo, "Work motivation, workload, and work stress on employee performance at PT. Indonesia Power Surabaya Pgu," *Journal of Applied Business and Technology*, vol. 12, no. 1, pp. 32–46, 2024. doi: 10.35145/jabt.v3i2.99.
16. N. Lelawati, A. Septiani, and I. Kurniawan, "The influence of work conflict and workload on employee performance of PT. PLN (Persero) UP3 Metro City," *International Journal of Research in Science, Commerce and Arts Management Technology*, vol. 3, no. 2, pp. 410–421, 2023. doi: 10.48175/ijarsct-1306.
17. P. F. Alam, W. Suarni, and I. S. Sunarjo, "Nurses' workload and job stress," *Jurnal Sublimapsi*, vol. 2, no. 1, p. 10, 2021. doi: 10.36709/sublimapsi.v2i1.14937.
18. A. Firmansyah and A. Saleh, "Relationship between nurse work shift and the performance of nursing care documenting in regional public hospital of Polewali Mandar," *Jurnal Ilmiah OSF*, vol. 1, no. 1, pp. 1–14, 2014. Available: <https://osf.io/3tp7h/download>.
19. N. D. Faradilla, "The influence of work stress, attitude and emotional intelligence on nurses' performance in the inpatient ward of Surakarta City Hospital," Universitas Muhammadiyah Surakarta, 2019. Available: <https://eprints.ums.ac.id/47633/26/NASKAH%20PUBLIKASI.pdf>.
20. A. Rumijati and R. S. Arifiani, "Exploring social and organizational support's role: The effect of work-family conflict on work stress," *Jurnal Ekonomi*, vol. 20, no. 1, pp. 21–34, 2024. doi: 10.21831/economia.v20i1.49730
21. N. Widiastuti and N. Wening, "The influence of workload, job stress, and job satisfaction on employee performance at the Magelang branch of the BPJS Kesehatan office," *Jurnal Manajemen Kinerja Industri*, vol. 2, no. 2, pp. 44–56, 2024. doi: 10.59581/jmki-widyakarya.v2i2.2963.
22. M. M. Loudoe, J. E. H. J. FoEh, and S. S. Niha, "The influence of work stress, workload, and self-actualization needs on work performance through work motivation as an intervening variable," *Jurnal Siber Multi Disiplin*, vol. 1, no. 2, pp. 52–65, 2023. doi: 10.38035/jsmd.v1i2.47.
23. A. Sapan et al., "Character education as an effort to minimize the negative influence of digital era technology," *Jurnal Pendidikan*, vol. 6, no. 1, pp. 3162–3167, 2023. doi: 10.31004/joe.v6i1.3363.
24. J. Uliasi, "The relationship between work shifts and work stress on employees," *Prosiding Seminar Nasional Kesehatan Masyarakat*, vol. IV, no. 1, pp. 61–70, 2021. Available: [https://prosiding.esaunggul.ac.id/index.php/SNKM\\_UEU/article/view/129](https://prosiding.esaunggul.ac.id/index.php/SNKM_UEU/article/view/129).
25. R. P. Ferdiawan, S. T. Raharjo, and H. A. Rachim, "Coping strategies in working students," *Jurnal Pendidikan Penelitian Masyarakat*, vol. 7, no. 1, pp. 199–207, 2020. doi: 10.24198/jppm.v7i1.22786.
26. X. Hong, Q. Liu, and M. Zhang, "Dual stressors and female pre-school teachers' job satisfaction during the COVID-19: The mediation of work-family conflict," *Frontiers in Psychology*, vol. 12, Jun. 2021. doi: 10.3389/fpsyg.2021.691498.
27. M. Muis, M. F. Nai'em, A. A. Arsin, A. M. Darwis, Y. Thamrin, and N. A. P. Hans, "The effect of multiple role conflicts and work stress on the work performance of female employees," *Gaceta Sanitaria*, vol. 35, pp. S90–S93, 2021. doi: 10.1016/j.gaceta.2020.12.025.

28. R. Septyaningsih and Palupiningdyah, "The effect of work overload and work-family conflict on performance through emotional exhaustion," *Management Analysis Journal*, vol. 6, no. 4, pp. 461–472, 2017. Available: <https://journal.unnes.ac.id/sju/maj/article/view/18341>.
29. S. Komara, "The influence of dual role conflict on female employee performance," *Inkubis: Jurnal Ekonomi dan Bisnis*, vol. 2, no. 2, pp. 104–114, 2020. doi: 10.59261/inkubis.v2i2.8.
30. D. L. Pandey, "Work stress and employee performance: an assessment of impact of work stress," *International Research Journal of Human Resource and Social Sciences*, vol. 7, no. 5, pp. 124–135, 2020.
31. M. A. Fitra, A. Indrayani, A. Andykhatra, S. Syahril, H. Hutasoit, and I. W. C. Yasa, "Effect of Workload, Compensation and Employee Commitment To the Employees Performance of Public Works and Spatial Arrangements Office of Karimun District," *International Journal of Social Science, Educational, Economics, Agriculture Research, and Technology (IJSET)*, vol. 1, no. 2, 2022.
32. Astuti RDP, , Mallongi A, , Rauf AU. Natural enrichment of chromium and nickel in the soil surrounds the karst watershed. *Glob J Environ Sci Manag*. 2021; 7(3): 1–18. <http://doi.org/10.22034/GJESM.2021.03.05>
33. G. Shan, W. Wang, S. Wang, Y. Zhang, and Y. Li, "Cross-level effects of health-promoting leadership on nurse presenteeism: The mediation and moderation effect of workload and performance pressure," *Current Psychology*, vol. 42, no. 15, pp. 12322–12334, 2023.
34. N. Syaputra and L. Martha, "The influence of work stress and workload on the performance of nurses at Bunda Medical Center (BMC) Padang," *JURMA: Jurnal Riset Manajemen*, vol. 2, no. 1, pp. 379–398, 2024. doi: 10.54066/jurma.v2i1.1672.
35. D. Anggraini, M. I. Nasution, and M. A. Prayogi, "Optimizing employee performance: Job stress and quality of work life with the mediation of job satisfaction," *Jurnal Ilmiah Manajemen dan Bisnis*, vol. 24, no. 2, pp. 170–198, 2023. Available: <http://jurnal.umsu.ac.id/index.php/mbisnis170-198>.
36. N. K. N. Rasminingsih, I. W. S. Wibawa, and R. I. Fahrianto, "The influence of workload and work-family conflict on employee performance moderated by social support," *E-Jurnal Manajemen Universitas Udayana*, vol. 10, no. 12, p. 1388, 2021. doi: 10.24843/ejmunud.2021.v10.i12.p07.
37. Eny., Thaha, R. M., Suriah., Syafar, M., Amiruddin, R., Yahya, M., Mallongi, A. (2023). Health Literacy Using Snakes and Ladders on HIV/AIDS Knowledge and Attitudes Among Adolescents. *Journal Of Law And Sustainable Development.*, Miami, v.11, n. 10| pages: 01-13| e01418 |2023
38. Azis ASFW, Darmawansyah, Razak A, Arifin A, Syafar M, Mallongi A. Analysis of Policy Implementation of The First 1000 Days of Life Program in Overcoming Stunting in Phcogj.com Maros District. *Pharmacogn J*. 2023;15(3): 405-410.
39. Hilda, Supriadi, Widiastuty HP, Arsyawina, Mallongi A. Development of Patient Safety Management Learning Model Based on Problem Based Learning Integrated Soft Skill Phcogj.com Higher Level Thinking for Health Students in Samarinda. *Pharmacogn J*. 2023;15(2): 418-423
40. Wahyuni and M. M. Dirdjo, "The relationship between excessive working hours with work fatigue and performance in nurses in the intensive care unit of Abdul Wahab Sjahranie Hospital, Samarinda," *Borneo Studies Research*, vol. 1, no. 3, pp. 1715–1724, 2020. Available: <https://journals.umkt.ac.id/index.php/bsr/article/view/99>.
41. W. Stimpfel, F. Fatehi, and C. Kovner, "Nurses' sleep, work hours, and patient care quality, and safety," *Sleep Health*, vol. 6, no. 3, pp. 314–320, 2020. doi: 10.1016/j.sleh.2019.11.001.
42. Lopo, C., Razak, A., Maidin, A., Amiruddin, R., Palutturi, S., Suarayasa, K., ... & Ngemba, H. R. (2021). Evaluation of Undata Public Hospital Service Quality and Performance Using SERVQUAL Method: Post Multi Disaster (Earthquake, Tsunami, and Liquefaction) in Palu, Central Sulawesi, Indonesia. *Malaysian Journal of Medicine & Health Sciences*, 17.
43. S. Pourteimour, S. Yaghmaei, and H. Babamohamadi, "The relationship between mental workload and job performance among Iranian nurses providing care to COVID-19 patients: A cross-sectional study," *Journal of Nursing Management*, vol. 29, no. 6, pp. 1723–1732, 2021. doi: 10.1111/jonm.13305.
44. M. I. Abdullah, D. Huang, M. Sarfraz, L. Ivascu, and A. Riaz, "Effects of internal service quality on nurses' job satisfaction, commitment and performance: Mediating role of employee well-being," *Nursing Open*, vol. 8, no. 2, pp. 607–619, 2021. doi: 10.1002/nop2.66.
45. R. Babapour, N. Gahassab-Mozaffari, and A. Fathzhad-Kazemi, "Nurses' job stress and its impact on quality of life and caring behaviors: a cross-sectional study," *BMC Nursing*, vol. 21, no. 1, p. 75, 2022. doi: 10.1186/s12912-022-00852-y.
46. Y. Mo et al., "Work stress among Chinese nurses to support Wuhan in fighting against COVID-19 epidemic," *Journal of Nursing Management*, vol. 28, no. 5, pp. 1002–1009, 2020. doi: 10.1111/jonm.13014.
47. O. K. Ornek and M. N. Esin, "Effects of a work-related stress model based mental health promotion program on job stress, stress reactions and coping profiles of women workers: a control groups study," *BMC Public Health*, vol. 20, pp. 1–14, 2020. doi: 10.1186/s12889-020-09769-0



48. Syahriani N, Palutturi S, Birawida AB, Hidayanty H. Clean Water Supply as an Indicator for Healthy Island in Makassar City. *Open-Access Maced J Med Sci.* 2022 Feb 24; 10(E):320-325. <https://doi.org/10.3889/oamjms.2022.8350>
49. Palutturi, S., Saleh, L.M., Rachmat, M., Malek, J.A. (2021). Mapping healthy aisles in Makassar city, Indonesia: Implications for community empowerment. *Gaceta Sanitaria*, 35: S42- S45. <https://doi.org/10.1016/j.gaceta.2020.12.012>
50. Napirah, M. R., Amiruddin, R., Palutturi, S., Syam, A., Mallongi, A., Nur, R., ... & Anshary, A. (2021). Implementing a Non-Smoking Regional Policy to Prohibit Childrens' Smoking Habits In Palu City, Indonesia: A Systematic Review. *Malaysian Journal of Medicine and Health Sciences* (eISSN 2636-9346).
51. Mallongi, A., Rauf, A., Astuti, R., Palutturi, S., & Ishak, H. (2023). Ecological and human health implications of mercury contamination in the coastal water. *Global Journal of Environmental Science and Management*, 9(2), 261-274. doi: 10.22034/gjesm.2023.02.06