

Psychosocial risks among junior high school teachers: Associations with mental workload and work stress in Makassar

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ABSTRACT

Psychosocial risks are increasingly recognized as important non-physical occupational hazards, yet evidence on their simultaneous relationship with mental workload and work stress among teachers remains limited; this study addresses that gap in junior high schools in Makassar. This study aimed to determine the relationship between psychosocial risk, mental workload, and work stress among teachers. A quantitative cross-sectional study was conducted among 123 teachers selected through census sampling at SMPN 23 Makassar and SMPN 19 Makassar. Psychosocial risk was assessed using the Copenhagen Psychosocial Questionnaire (COPSOQ), mental workload using the National Aeronautics and Space Administration Task Load Index (NASA-TLX), and work stress using the Depression Anxiety Stress Scales-21 (DASS-21). Data were analyzed using univariate analysis and Spearman's rank correlation test. Psychosocial risk was significantly associated with mental workload ($p=0.016$; $r=0.218$), indicating a weak positive correlation, and with work stress ($p<0.001$; $r=0.546$), indicating a moderate positive correlation. Higher psychosocial risk was therefore associated with greater mental workload and work stress. These findings support the need for school-based occupational health interventions focusing on balanced workload distribution, stronger social support, clearer role organization, and policies that promote teachers' mental health and safer working conditions.

ABSTRAK

Risiko psikososial semakin diakui sebagai salah satu bahaya kerja nonfisik yang penting, namun bukti mengenai hubungannya secara bersamaan dengan beban kerja mental dan stres kerja pada guru masih terbatas; penelitian ini berupaya mengisi kesenjangan tersebut pada sekolah menengah pertama di Kota Makassar. Penelitian ini bertujuan untuk mengetahui hubungan antara risiko psikososial, beban kerja mental, dan stres kerja pada guru. Penelitian kuantitatif dengan desain cross-sectional dilakukan terhadap 123 guru yang dipilih menggunakan teknik census sampling di SMPN 23 Makassar dan SMPN 19 Makassar. Risiko psikososial diukur menggunakan Copenhagen Psychosocial Questionnaire (COPSOQ), beban kerja mental menggunakan National Aeronautics and Space Administration Task Load Index (NASA-TLX), dan stres kerja menggunakan Depression Anxiety Stress Scales-21 (DASS-21). Data dianalisis menggunakan analisis univariat dan uji korelasi peringkat Spearman. Risiko psikososial berhubungan secara signifikan dengan beban kerja mental ($p=0,016$; $r=0,218$), yang menunjukkan korelasi positif lemah, serta dengan stres kerja ($p<0,001$; $r=0,546$), yang menunjukkan korelasi positif sedang. Dengan demikian, semakin tinggi risiko psikososial, semakin besar pula beban kerja mental dan stres kerja yang dialami guru. Temuan ini mendukung perlunya intervensi kesehatan kerja berbasis sekolah yang berfokus pada pembagian beban kerja yang seimbang, penguatan dukungan sosial, kejelasan pengorganisasian peran, serta kebijakan yang mendukung kesehatan mental guru dan kondisi kerja yang lebih aman.

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INTRODUCTION

Psychosocial risk has emerged as an important non-physical hazard within Occupational Safety and Health (OSH) because of its substantial effects on workers' psychological well-being, health, productivity, and organizational performance. Unlike conventional physical or chemical hazards, psychosocial risks originate primarily from the organization and management of work, including excessive job demands, limited control, role ambiguity, interpersonal conflict, inadequate organizational support, and work arrangements that exceed workers' coping capacities. The World Health Organization has identified psychosocial hazards as major contributors to workplace mental health problems, including chronic stress, anxiety, depression, burnout, and reduced work performance. Similarly, the International Labour Organization has reported that more than 2.93 million workers die annually from occupational accidents and work-related diseases, while psychosocial problems are increasingly recognized as an important component of the global occupational health burden. These conditions highlight the need to incorporate psychosocial risk assessment and management into comprehensive OSH programs across diverse employment sectors.

Teachers represent an occupational group with considerable psychosocial exposure because their work requires sustained cognitive, emotional, and interpersonal engagement. In addition to classroom teaching, teachers are responsible for lesson preparation, assessment, administrative documentation, curriculum adaptation, extracurricular activities, professional development, communication with parents, and management of students' academic and behavioral needs. Changes in educational policies and teaching systems may further increase workload and require continuous adaptation. Anwar (2022) reported that increasing educational demands and changes in instructional systems are important sources of work-related stress among teachers. Prolonged exposure to these demands may increase mental workload, reduce motivation, impair psychological well-being, and ultimately affect teaching quality and educational outcomes.

The central occupational health problem among teachers is the interaction between adverse psychosocial working conditions, excessive mental workload, and work-related stress. Mental workload reflects the cognitive and psychological demands required to complete occupational tasks, whereas work stress develops when perceived demands exceed workers' available resources and coping capacity. In schools, multiple simultaneous responsibilities, time pressure, administrative burden, emotional demands, and limited organizational support may amplify these conditions. Effective prevention therefore requires an integrated psychosocial risk management approach rather than interventions directed solely at individual coping. Such an approach should include appropriate workload allocation, clear job roles, supportive supervision, adequate participation in decision-making, organizational communication, and access to workplace mental health support. Understanding the relationships among psychosocial risk, mental workload, and work stress is essential for identifying priorities for school-based occupational health intervention.

Previous studies indicate that unfavorable psychosocial working conditions are associated with psychological strain among educators. Wahyuni (2019) reported that teachers in Makassar experienced moderate to high work stress, particularly in relation to excessive workload, inadequate supervisory support, and role conflict. Mallapiang et al. (2022) similarly found that increasing job demands contributed substantially to teachers' psychological burden. These findings demonstrate that organizational conditions can influence workers' capacity to manage occupational demands and may contribute to sustained psychological stress when adequate resources and support are unavailable.

The relationship between job demands and workers' psychological responses can also be understood through the balance between workload, job control, and available organizational resources. Lubis (2022) reported that an imbalance between job demands and job control significantly increased work stress among educators. This evidence suggests that reducing psychosocial risk requires organizational interventions that address not only the quantity of work but also workers' autonomy, clarity of responsibilities, supervisory support, and opportunities for recovery. Instruments such as the Copenhagen Psychosocial Questionnaire (COPSOQ), the National Aeronautics and

Space Administration Task Load Index (NASA-TLX), and the Depression Anxiety Stress Scales-21 (DASS-21) provide complementary approaches for evaluating psychosocial working conditions, perceived mental workload, and psychological stress. Their simultaneous use may provide a more comprehensive understanding of occupational mental health among teachers.

Although previous research has documented psychosocial factors, mental workload, and work stress among teachers, these variables have frequently been examined separately. Evidence remains limited regarding the relationship between psychosocial risk and both mental workload and work stress within a single analytical framework, particularly among junior high school teachers in Makassar. Moreover, studies focusing on public schools characterized by relatively high performance demands, administrative responsibilities, and experienced teaching staff remain scarce. This gap limits the development of targeted occupational health interventions that address the organizational origins of psychological strain rather than focusing exclusively on individual stress responses.

The novelty of this study lies in simultaneously examining psychosocial risk, mental workload, and work stress using established measurement instruments within the OSH framework. The study included 123 teachers from SMPN 23 Makassar and SMPN 19 Makassar, with the latter included to achieve the required sample while maintaining comparable institutional characteristics. Using a quantitative cross-sectional design and census sampling, psychosocial risk was assessed using COPSOQ, mental workload using NASA-TLX, and work stress using DASS-21. Accordingly, this study aimed to determine the relationship between psychosocial risk, mental workload, and work stress among junior high school teachers in Makassar City. The findings are expected to support schools and education authorities in developing evidence-based strategies for workload management, organizational support, psychosocial risk reduction, and promotion of healthier and safer educational workplaces.

METHODS

Study Design and Setting

This study employed a quantitative analytical design with a cross-sectional approach to examine the relationship between psychosocial risk, mental workload, and work stress among junior high school teachers in Makassar City. The study was conducted from January to February 2026 at SMPN 23 Makassar and SMPN 19 Makassar, South Sulawesi, Indonesia. The cross-sectional design was selected because measurements of the independent and dependent variables were conducted during the same study period, allowing assessment of the relationships among psychosocial working conditions, perceived mental workload, and work stress.

Population, Sample, and Sampling Technique

The study population consisted of all teachers employed at SMPN 23 Makassar and SMPN 19 Makassar during the study period. A census or total sampling technique was applied, whereby all eligible members of the population were included as study participants. A total of 123 teachers participated, consisting of 56 teachers from SMPN 23 Makassar and 67 teachers from SMPN 19 Makassar. Eligible participants were teachers who were actively employed at one of the participating schools during data collection, were willing to participate, and completed the required study instruments. The independent variable was psychosocial risk, while the dependent variables were mental workload and work stress.

Research Instruments and Data Collection

Primary data were collected using structured self-administered questionnaires. Psychosocial risk was assessed using the Copenhagen Psychosocial Questionnaire (COPSOQ), which evaluates psychosocial dimensions of the work environment, including job demands, job control, social relationships, organizational factors, and role-related conditions. Mental workload was measured using the National Aeronautics and Space Administration Task Load Index (NASA-TLX), which assesses perceived workload across several dimensions of task demand and performance. Work stress was assessed using the Depression Anxiety Stress Scales-21 (DASS-21), with the relevant stress component

used to characterize respondents' work-related psychological strain. Secondary data, including school profiles and the total number of teachers, were obtained from administrative records at the two participating schools. Before data collection, respondents received an explanation regarding the study objectives, procedures, confidentiality of information, and voluntary nature of participation. Questionnaires were then completed independently by respondents and subsequently checked for completeness before data processing.

Data Processing and Analysis

Data processing consisted of editing, coding, data entry, cleaning, and tabulation. Editing was performed to assess the completeness and consistency of questionnaire responses, followed by coding of study variables and entry into a statistical data-processing application. Data cleaning was conducted to identify and correct possible entry errors before analysis. Univariate analysis was performed to describe respondents' characteristics and the distribution of psychosocial risk, mental workload, and work stress using appropriate descriptive statistics, including frequencies, percentages, and measures of central tendency and dispersion. Before bivariate analysis, a normality test was conducted to determine the distribution of numerical variables. Because the data did not meet the assumptions of normal distribution, non-parametric statistical analysis was applied. The relationship between psychosocial risk and mental workload was analyzed using Spearman's rank correlation test. The same test was used to assess the relationship between psychosocial risk and work stress. Statistical significance was established at $p < 0.05$. Correlation coefficients were interpreted according to their direction and magnitude to determine whether the relationships were positive or negative and whether their strength was weak, moderate, or strong.

Ethical Considerations and Informed Consent

This study received ethical approval from the Health Research Ethics Committee of the Faculty of Medicine and Health Sciences, Universitas Islam Negeri Alauddin Makassar, under approval number B.03/KEPK/FKIK/I/2026. All participants were informed about the study objectives and procedures before participation. Participation was voluntary, and written informed consent was obtained from all respondents. Confidentiality and anonymity were maintained throughout data collection, analysis, and reporting, and all information was used solely for research purposes.

RESULTS AND DISCUSSION

Table 1 presents the characteristics of the respondents included in this study. A total of 123 junior high school teachers from SMPN 23 Makassar and SMPN 19 Makassar participated in the study. Based on gender, the majority of respondents were female (73.2%), while male respondents accounted for 26.8%. According to age, most respondents were middle-aged adults (41–60 years), representing 63.4% of the total sample, whereas 36.6% were young adults (18–40 years). In terms of length of employment, most teachers had worked for ≥ 5 years (66.7%), while 33.3% had worked for less than 5 years. These findings indicate that the respondents were predominantly female, middle-aged, and had relatively long working experience, reflecting a mature and experienced teaching workforce.

Table 1
Distribution of Respondents Characteristics among Junior High School Teachers

Variable	n	%
Gender		
Male	33	26.8
Female	90	73.2
Age		
Young Adults (18–40 years)	45	36.6
Middle-aged Adults (41–60 years)	78	63.4
Length of work		
<5 Years	41	33.3
≥ 5 Years	82	66.7

Table 2

Distribution of Psychosocial Risk, Mental Workload, and Work Stress among Junior High School Teachers

Variable	n	%
Psychosocial Risk		
Low	2	1.6
Moderate	120	97.6
High	1	0.8
Mental Workload		
Low	1	0.8
Moderate	21	17.1
High	65	52.8
Very High	36	29.3
Work Stress		
Very Low	33	26.8
Low	28	22.8
Moderate	22	17.9
High	31	25.2
Very High	9	7.3

According to [Table 2](#), the distribution of psychosocial risk among junior high school teachers showed that the majority of respondents experienced a moderate level of psychosocial risk, accounting for 120 respondents (97.6%), while only 2 respondents (1.6%) experienced low psychosocial risk and 1 respondent (0.8%) experienced high psychosocial risk. Regarding mental workload, most respondents experienced a high level of mental workload (52.8%), followed by a very high level (29.3%), a moderate level (17.1%), and a low level (0.8%). In terms of work stress, the largest proportion of respondents experienced very low work stress (26.8%), followed by high work stress (25.2%), low work stress (22.8%), moderate work stress (17.9%), and very high work stress (7.3%). These findings indicate that although most teachers experienced a moderate level of psychosocial risk, a considerable proportion reported high to very high mental workload, whereas work stress levels varied among respondents, with most experiencing very low to low levels of work stress.

According to [Table 3](#), the results of Spearman's rank correlation analysis showed a statistically significant relationship between psychosocial risk and mental workload among junior high school teachers in SMPN 23 and SMPN 19 Makassar ($p = 0.016$). Among respondents with a high level of mental workload, 63 teachers (96.9%) experienced a moderate level of psychosocial risk, while 2 teachers (3.1%) experienced a low level of psychosocial risk. In the very high mental workload category, all respondents (100.0%) experienced a moderate level of psychosocial risk. The correlation coefficient ($r = 0.218$) indicated a weak positive relationship, suggesting that teachers with higher psychosocial risk tended to report higher levels of mental workload. These findings imply that psychosocial risk contributes to teachers mental workload; however, other factors may also influence the perceived workload.

Table 3

Relationship between Psychosocial Risk at Mental Workload and Work Stress among Junior High School Teachers

Psychoso- cial Risk	Mental Workload Low (%)	Moderate (%)	High (%)	Very High (%)	Work Stress Very Low (%)	Low (%)	Moderat e (%)	High (%)	Very High (%)	Total (%)
Low	0 (0.0)	0 (0.0)	2 (3.1)	0 (0.0)	1 (3.0)	0 (0.0)	1 (4.5)	0 (0.0)	0 (0.0)	2 (1.6)
Moderate	1 (100.0)	20 (95.2)	63 (96.9)	36 (100.0)	31 (93.9)	28 (100.0)	21 (95.5)	31 (100.0)	9 (100.0)	120 (97.6)
High	0 (0.0)	1 (4.8)	0 (0.0)	0 (0.0)	1 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.8)
Total	1 (100.0)	21 (100.0)	65 (100.0)	36 (100.0)	33 (100.0)	28 (100.0)	22 (100.0)	31 (100.0)	9 (100.0)	123 (100.0)

Note: Spearman's rank correlation test: Psychosocial risk–mental workload: $r = 0.218$; $p = 0.016$. Psychosocial risk–work stress: $r = 0.546$; $p < 0.001$.

According to [Table 3](#), Spearman's rank correlation analysis demonstrated a statistically significant relationship between psychosocial risk and work stress among junior high school teachers at SMPN 23 and SMPN 19 Makassar ($p < 0.001$). Among respondents with very low work stress, 31 teachers (93.9%) experienced a moderate level of psychosocial risk, while 1 teacher (3.0%) experienced a low level and 1 teacher (3.0%) experienced a high level of psychosocial risk. All respondents with low, high, and very high levels of work stress experienced a moderate level of psychosocial risk (100.0%). Among respondents with moderate work stress, 21 teachers (95.5%) experienced a moderate level of psychosocial risk, while 1 teacher (4.5%) experienced a low level of psychosocial risk. The correlation coefficient ($r = 0.546$) indicated a moderate positive relationship, suggesting that teachers with higher psychosocial risk tended to experience higher levels of work stress. These findings indicate that psychosocial risk is significantly associated with work stress among junior high school teachers.

The present study found a statistically significant positive relationship between psychosocial risk and mental workload among junior high school teachers ($p = 0.016$; $r = 0.218$). Although the correlation was weak, the findings indicate that teachers with higher psychosocial risk tended to experience higher levels of mental workload. Psychosocial risks, including high job demands, limited job control, inadequate social support, and role ambiguity, may increase the cognitive and emotional effort required to complete teaching responsibilities. Consequently, teachers perceive their work as more mentally demanding, particularly when they are required to balance instructional activities with administrative responsibilities Hart & Staveland (1988). This finding is supported by Safitri (2020), who reported that increasing workload is associated with higher levels of work stress. Although the study primarily examined work stress, excessive workload similarly reflects increased psychological demands that may contribute to greater mental workload.

These findings can be explained using the Job Demands–Resources (JD-R) Model, which states that excessive job demands combined with limited job resources increase psychological strain and perceived workload Priyono et al. (2022). Teachers are expected to prepare lesson plans, conduct classroom instruction, assess students, complete administrative tasks, and participate in various school activities within limited time. When these demands are not supported by adequate job resources, such as social support, role clarity, and work autonomy, teachers are more likely to perceive their workload as mentally demanding. The relatively weak correlation found in this study also suggests that mental workload is influenced by other factors, including organizational culture, task complexity, work experience, and individual coping abilities Tarwaka & Sudiajeng (2015). Similar evidence has been reported by Habibi & others (2018), who found that psychosocial hazards in the workplace are associated with increased occupational stress. Poor psychosocial conditions may increase cognitive and emotional demands, which subsequently affect workers' mental well-being.

The findings are consistent with those reported by Khairunnisa (2021) and Sari et al. (2021), who found that psychosocial working conditions significantly influence teachers' mental workload. Similar findings have also been reported by Pratama & Susilowati (2024), who emphasized that increasing job demands without adequate organizational support negatively affects teachers' well-being. However, the weak correlation observed in this study indicates that psychosocial risk is only one of several factors contributing to teachers' mental workload, and its influence may vary depending on the characteristics of the workplace and the availability of job resources.

Furthermore, this study demonstrated a statistically significant positive relationship between psychosocial risk and work stress ($p < 0.001$; $r = 0.546$). The correlation coefficient indicates a moderate relationship, suggesting that teachers experiencing higher psychosocial risk were more likely to report higher levels of work stress. This finding implies that unfavorable psychosocial working conditions contribute substantially to psychological strain among teachers. Similar findings were reported by Ibrahim et al. (2016), who found that psychosocial conditions, excessive workload, and organizational factors significantly contributed to work stress among factory workers. Although conducted in a different occupational setting, the findings support the role of psychosocial risk in increasing occupational stress. High job demands, insufficient control over work, poor interpersonal relationships,

and limited organizational support may increase emotional exhaustion and reduce teachers' ability to cope with occupational challenges Beehr & Newman (1978).

The association between psychosocial risk and work stress is also supported by the Job Demands–Resources (JD-R) Model, which proposes that occupational stress develops when job demands exceed available job resources (Karasek & Theorell, 1990; Priyono et al., 2022). Teachers frequently encounter multiple responsibilities, including teaching, student assessment, curriculum implementation, extracurricular supervision, and administrative duties. Without sufficient support from school management and colleagues, these demands may accumulate and lead to psychological stress. This finding is consistent with reports from the International Labour Organization (2021) and the World Health Organization (2022), which identify psychosocial hazards as important determinants of occupational stress and mental health problems among workers. Likewise, Baitis (2021) identified psychosocial factors, workload, and job characteristics as important predictors of occupational stress, indicating that psychosocial risks consistently affect workers across different occupational sectors.

The present findings are in agreement with previous studies conducted by Lubis (2022), Sari et al. (2021) and Pratama & Susilowati (2024), all of which reported that psychosocial factors, particularly high job demands, inadequate social support, and role conflict, significantly contribute to work stress among teachers. Purnama et al. (2017) also demonstrated that unfavorable psychosocial conditions in the workplace may negatively affect employee performance, indicating that psychosocial risks influence not only workers' mental health but also their productivity and overall work outcomes. International evidence also supports these findings, demonstrating that prolonged exposure to psychosocial risks increases the likelihood of burnout, emotional exhaustion, and reduced work performance (Agyapong et al. (2022), and Erber et al. (2023)). Similarly, Fiorilli et al. (2020) reported that prolonged occupational stress among teachers may lead to burnout, depressive symptoms, and lower work engagement, emphasizing the importance of preventing psychosocial risks in educational settings. Therefore, schools should strengthen psychosocial risk management by improving workload distribution, clarifying teachers' roles and responsibilities, enhancing communication and social support, and creating a supportive work environment. These measures are expected to reduce teachers' mental workload and work stress while promoting their psychological well-being and overall educational performance.

CONCLUSION

Psychosocial risk was significantly associated with both mental workload and work stress among junior high school teachers at SMPN 23 and SMPN 19 Makassar. A weak positive correlation was observed between psychosocial risk and mental workload, indicating that higher psychosocial risk tended to be accompanied by greater perceived mental workload. Psychosocial risk also showed a moderate positive correlation with work stress, suggesting that unfavorable working conditions may contribute substantially to teachers' psychological strain. These findings confirm that job demands, job control, social support, and role clarity are important occupational health determinants of teachers' well-being. Schools should therefore strengthen psychosocial risk management through balanced workload distribution, clearer roles, improved communication, greater job control, and stronger social support. Periodic assessment of psychosocial conditions and teachers' mental health is also recommended. Future studies should include broader samples and examine coping strategies, organizational climate, work motivation, and work-life balance to provide a more comprehensive understanding of teachers' occupational mental health.

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AUTHORS' CONTRIBUTION

Alisyah Yurah conceived the study, contributed to data collection and analysis, and drafted the original manuscript. Hasbi Ibrahim contributed to the study design and critically reviewed the manuscript. Andi Syamsiah Adha contributed to data interpretation and manuscript revision. Fatmawaty Mallapiang contributed to the methodological development and critical review of the manuscript. All authors read and approved the final version of the manuscript.

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The author(s) declare no potential conflict of interest with respect to the research, authorship, or publication

REFERENCES

- Agyapong, B., Obuobi-Donkor, G., Burbach, L., & Wei, Y. (2022). Stress, burnout, anxiety and depression among teachers: A scoping review. *International Journal of Environmental Research and Public Health*, 19(17), 10706.
- Anwar, A. (2022). Stres kerja guru dalam menghadapi perubahan sistem pembelajaran digital pasca pandemi. *Jurnal Psikologi Pendidikan*, 14(2), 101–112.
- Baitis, N. K. (2021). Faktor-Faktor yang Berhubungan dengan Stres Kerja pada Pekerja Satuan Pengamatan PT. X Tahun 2021. *Skripsi. Universitas Islam Negeri Syarif Hidayatullah Jakarta*.
- Beehr, T. A., & Newman, J. E. (1978). Job stress, employee health, and organizational effectiveness: A facet analysis, model, and literature review 1. *Personnel Psychology*, 31(4), 665–699.
- Erber, A., Pauli, C., & Reusser, K. (2023). Teacher burnout and occupational stress: A meta-analysis after the COVID-19 pandemic. *Teaching and Teacher Education*, 119, 103875.
- Fiorilli, C., De Stasio, S., Di Chiacchio, C., Pepe, A., & Salmela-Aro, K. (2020). School burnout, depressive symptoms, and engagement: Their combined effect on teacher well-being. *Frontiers in Psychology*, 11(136).
- Habibi, J., & others. (2018). Analisis Faktor Risiko Stres Kerja Pada Pekerja Di Unit Produksi Pt. Borneo Melintang Buana Export. *Journal of Nursing and Public Health*, 6(2), 50–59.
- Hart, S. G., & Staveland, L. E. (1988). Development of NASA-TLX (Task Load Index): Results of empirical and theoretical research. In *Advances in psychology* (Vol. 52, pp. 139–183). Elsevier.
- Ibrahim, H., Amansyah, M., & Yahya, G. N. (2016). Faktor-faktor yang berhubungan dengan stres kerja pada pekerja factory 2 pt. maruki internasional indonesia makassar tahun 2016. *Al-Sihah: The Public Health Science Journal*.
- International Labour Organization. (2021). *Managing work-related psychosocial risks during the COVID-19 pandemic*.
- Khairunnisa, N. (2021). Analisis beban kerja mental guru menggunakan metode NASA-TLX. *Jurnal Kesehatan Dan Keselamatan Kerja*, 5(2), 77–85.
- Lubis, S. R. H. (2022). Pengukuran Faktor Psikososial terhadap Stres Kerja Pada Penjahit Konveksi Home Industry. *Jurnal Ilmu Kesehatan Masyarakat*, 11(02), 101–110. <https://doi.org/10.33221/jikm.v11i02.1084>
- Mallapiang, F., & others. (n.d.). PENGARUH PERAN GANDA TERHADAP KEJADIAN STRES KERJA PADA GURU WANITA SELAMA MASA PANDEMI COVID 19. *JURNAL SIPAKALEBBI*, 6(1), 38–51.
- Pratama, M. R., & Susilowati, I. H. (2024). Analisis Faktor Psikososial Terhadap Kejadian Stres Kerja pada Karyawan Perusahaan Jasa Pertambangan di PT X Tahun 2024. *Media Publikasi Promosi Kesehatan Indonesia (MPPKI)*, 7(6), 1474–1487. <https://doi.org/10.56338/mparki.v7i6.5219>
- Priyono, H. A., Irawanto, D. W., & Suryadi, N. (2022). Job demands-resources, work engagement, and organizational commitment: Study among employees in a state-owned enterprise. *International Journal of Research in Business and Social Science*, 11(1), 117–129.
- Purnama, D. A., Satrianegara, M. F., & Mallapiang, F. (2017). Gambaran Faktor Psikososial Terhadap Kinerja Pada Petugas Kesehatan di Puskesmas Kassi-Kassi Kota Makassar. *HIGIENE: Jurnal Kesehatan Lingkungan*, 3(2), 106–113.
- Safitri, H. U. (2020). Hubungan beban kerja dengan stres kerja. *Psikoborneo: Jurnal Ilmiah Psikologi*, 8(2), 174.
- Sari, D. R., Akbar, K. A., & Nafikadini, I. (2021). PERBEDAAN BEBAN KERJA MENTAL DAN STRES KERJA GURU SDN DENGAN GURU SLBN. *Journal of Industrial Hygiene and Occupational Health*, 5(2), 83. <https://doi.org/10.21111/jihoh.v5i2.5181>
- Tarwaka, S. S., & Sudijeng, L. (2015). Ergonomi Industri. *Dasar-Dasar Pengetahuan Ergonomi Dan Aplikasi Di Tempat Kerja*.
- Wahyuni, S. (2019). Stres kerja pada guru sekolah menengah di Indonesia. *Jurnal Psikologi*, 16(2), 98–107.
- World Health Organization. (2022). *Mental health at work*.