

Determinants of Psychological Health among Shipyard Workers: A Literature Review

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Psychological health is an important occupational health issue among shipyard workers, who may be exposed to multiple physical, environmental, psychosocial, and organizational demands. However, evidence regarding the determinants of psychological health in this occupational group remains fragmented. This literature review aimed to identify and synthesize evidence on organizational, psychosocial, environmental, work-related, and individual factors associated with psychological health and related work outcomes among shipyard workers. A literature review was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. Literature searches were performed in Google Scholar, PubMed, and ProQuest in July 2026 using English and Indonesian keywords. Studies published between 2016 and 2026 were screened based on predefined inclusion and exclusion criteria. Eleven original research articles were included and descriptively synthesized. The findings indicated that psychological health among shipyard workers was associated with multiple determinants, including safety climate, supervisor support, organizational roles, career development, workload, psychological demands, social support, work-life balance, noise exposure, job control, environmental risks, time perspective, age, and education. These factors were associated with work stress, burnout, psychological strain, job satisfaction, organizational commitment, absenteeism, presenteeism, and safety performance. In conclusion, psychological health among shipyard workers is multifactorial and requires comprehensive occupational health strategies integrating workplace hazard control, organizational support, improved work design, and psychosocial interventions.

Keywords: burnout; occupational health; occupational stress; psychological health; shipyard workers

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1. Introduction

Psychological health is an essential component of occupational safety and health because it directly contributes to worker well-being, safety performance, and organizational productivity [1], [2]. According to the World Health Organization (WHO), approximately 15% of working-age adults experience a mental health disorder, leading to an estimated global loss of 12 billion working days and US\$1 trillion in lost productivity annually due to depression and anxiety alone [3]. Poor psychological health severely impairs individual well-being and operational functioning, manifesting as increased absenteeism, presenteeism, degraded work performance, and heightened occupational injury risks [4], [5]. Consequently, addressing psychological health has become a critical priority, particularly in high-risk industrial environments [6].

Among high-risk settings, the shipbuilding industry presents a uniquely demanding occupational environment. Although often categorized broadly within the maritime sector, shipyard workers face distinct operational realities compared to seafarers or general maritime personnel. Unlike seafarers who navigate offshore isolation and vessel-bound routines, shipyard workers are shore-based industrial personnel exposed to a severe combination of physical and environmental hazards, including high noise levels, toxic welding fumes, whole-body vibration, extreme heat, and hazardous confined spaces [7], [8], [9].

Concurrently, they operate under intense psychosocial and organizational pressures, such as tight vessel-delivery deadlines, precarious contract arrangements, extended shift work, and high physical workloads [7], [8], [10]. These distinct occupational exposure profiles suggest that evidence derived from seafarers or general maritime populations cannot be directly generalized to shipyard workers. Consequently, a dedicated synthesis focusing specifically on shipyard workers is necessary to better understand the determinants of their psychological health and to support the development of context-specific occupational health interventions.

Despite growing interest in occupational psychological health, the existing body of literature regarding shipyard workers remains fragmented and limited. Most prior reviews have focused predominantly on seafarers or broad maritime cohorts, leaving a critical knowledge gap regarding land-based shipyard populations whose occupational exposure profiles differ fundamentally [7], [8], [11]. As a result, current evidence provides limited guidance for designing comprehensive workplace mental health interventions because interactions among organizational, psychosocial, environmental, work-related, and individual determinants have not yet been systematically synthesized for shipyard workers.

To ensure that the synthesized evidence reflects contemporary occupational conditions, this review includes studies published between 2016 and 2026. This ten-year period captures recent developments in the shipbuilding industry, including increased industrial automation, evolving occupational safety regulations, changing employment patterns, and the significant psychosocial impacts associated with the COVID-19 pandemic. Restricting the review to this timeframe enables the synthesis of evidence that is directly relevant to current shipyard working environments and occupational health practice.

This literature review addresses these gaps by providing an integrated synthesis of the determinants of psychological health among shipyard workers. Unlike previous reviews that primarily focused on broader maritime populations or isolated categories of risk factors, this review integrates organizational, psychosocial, environmental, work-related, and individual determinants to provide a more comprehensive understanding of psychological health in shipyard settings. The findings are expected to inform future research, occupational mental health interventions, and evidence-based policies to improve worker well-being and safety performance.

2. Literature Review and Problem Statement

Psychological health in occupational settings is a multidimensional construct that may be reflected in both negative outcomes, such as work stress, burnout, psychological strain, and mental health distress, and positive or functional outcomes, such as job satisfaction, organizational commitment, and work productivity. In high-risk industrial settings, these outcomes may emerge from the interaction between working conditions, organizational practices, job characteristics, and individual characteristics. Previous research among shipyard workers has demonstrated that psychological health cannot be understood through a single determinant or outcome, as studies have examined different dimensions of the work environment and different indicators of psychological health and work-related functioning [7], [12], [13], [14]. This diversity indicates the complexity of psychological health in the shipyard work environment and suggests that a broader synthesis is needed to understand the patterns emerging across studies.

Nevertheless, the existing evidence presents a problem of fragmentation and heterogeneity. Previous studies have generally focused on specific relationships between selected work or individual factors and particular outcomes, while the broader pattern of determinants across organizational, psychosocial, environmental, work-related, and individual domains has not been clearly integrated. In addition, the outcomes examined across studies vary substantially, ranging from stress and burnout to psychological

strain, job satisfaction, organizational commitment, and work productivity. This variation makes it difficult to determine the range of factors associated with psychological health among shipyard workers as an occupational group. The problem addressed by this review is therefore the absence of an integrated synthesis of the determinants associated with psychological health among shipyard workers. Accordingly, this literature review asks: What organizational, psychosocial, environmental, work-related, and individual factors have been associated with psychological health and related work outcomes among shipyard workers?

3. Method

Study Design

This study employed a systematic literature review following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The review aimed to systematically identify, evaluate, and synthesize evidence regarding the determinants of psychological health among workers in the shipbuilding industry.

Literature Search Strategy

A systematic literature search was conducted in July 2026 using three electronic databases: Google Scholar, PubMed, and ProQuest. The search strategy employed Boolean operators (AND and OR) using English and Indonesian keywords related to shipyard workers, occupational factors, and psychological health.

The English search terms included: ("shipyard workers" OR "shipbuilding industry") AND ("occupational stress"), (shipyard OR shipbuilding) AND burnout, (shipyard OR shipbuilding) AND "mental health", (shipyard OR shipbuilding) AND ("psychological health" OR "mental health" OR "psychological distress" OR burnout), and ("shipyard" OR "shipbuilding industry") AND ("noise" OR "heat" OR "lighting" OR "vibration") AND ("work stress").

The Indonesian search terms included: ("galangan kapal" OR "pembuatan kapal") AND ("stres kerja"), and "iklim kerja panas" AND "kelelahan kerja" AND "galangan kapal".

Inclusion and Exclusion Criteria

Articles were included if they met the following criteria: (1) original research articles; (2) published between 2016 and 2026; (3) available in full text; (4) published in Indonesian or English; (5) involving shipyard workers, shipbuilding industry workers, or ship repair workers; and (6) examining psychological health outcomes, such as work stress, burnout, anxiety, depression, psychological distress, emotional exhaustion, or other relevant psychological health indicators, in relation to occupational factors, including physical environmental exposures such as noise, heat, lighting, and vibration.

Articles were excluded if they were literature reviews, systematic reviews, meta-analyses, book chapters, conference proceedings, undergraduate theses, master's theses, dissertations, unavailable in full text, duplicate publications, or unrelated to the objective of the study.

Article Selection

Records identified through the database search were imported into Mendeley Reference Manager, where duplicate records were identified and removed. The remaining articles were screened sequentially based on publication year, title, abstract, and full-text eligibility according to the predefined inclusion and exclusion criteria. Following the screening and eligibility assessment, 11 studies met the eligibility criteria and were included in the final review. The study selection process is illustrated in the PRISMA 2020 flow diagram (Figure 1).

Quality Assessment

A formal quality assessment or risk-of-bias evaluation was not performed because the primary objective of this literature review was to provide a broad synthesis of the determinants of psychological health among shipyard workers rather than to evaluate the effectiveness of specific interventions. Nevertheless, the selection of studies was conducted systematically using predefined inclusion and exclusion criteria, covering publication period, study type, language, full-text availability, study population, and relevance to the review objective. In addition, the study selection process followed the PRISMA 2020 guidelines to ensure a transparent and systematic identification, screening, eligibility assessment, and inclusion of the relevant literature. However, the absence of a formal methodological quality appraisal should be considered when interpreting the findings and represents a limitation of this review.

Data Synthesis

Data extracted from the included studies were synthesized using a narrative thematic approach. Information on study characteristics, determinants of psychological health, outcomes, and key findings was extracted and compared across studies. The reported determinants were then reviewed and grouped according to similarities in their conceptual meaning and occupational context. Through this thematic categorization process, the determinants were classified into five overarching categories: organizational factors, work-related psychosocial factors, physical and environmental factors, individual factors, and the work-life interface. This approach enabled a structured synthesis of the multidimensional determinants of psychological health among shipyard workers.

4. Results And Discussion

Results

Table 1 summarizes the characteristics of the included studies, including the study design, sample characteristics, determinants examined, psychological health outcomes, and the main findings. The investigated determinants included psychological demands, job control, workload, mental workload, social support, safety climate, organizational role, career development, perceived supervisor safety, noise exposure, perceived environmental risks, work-life balance, time perspective, age, education, and other individual characteristics. The most frequently reported psychological health outcomes were work stress, burnout, psychological strain, job satisfaction, organizational commitment, safety performance, absenteeism, and presenteeism.

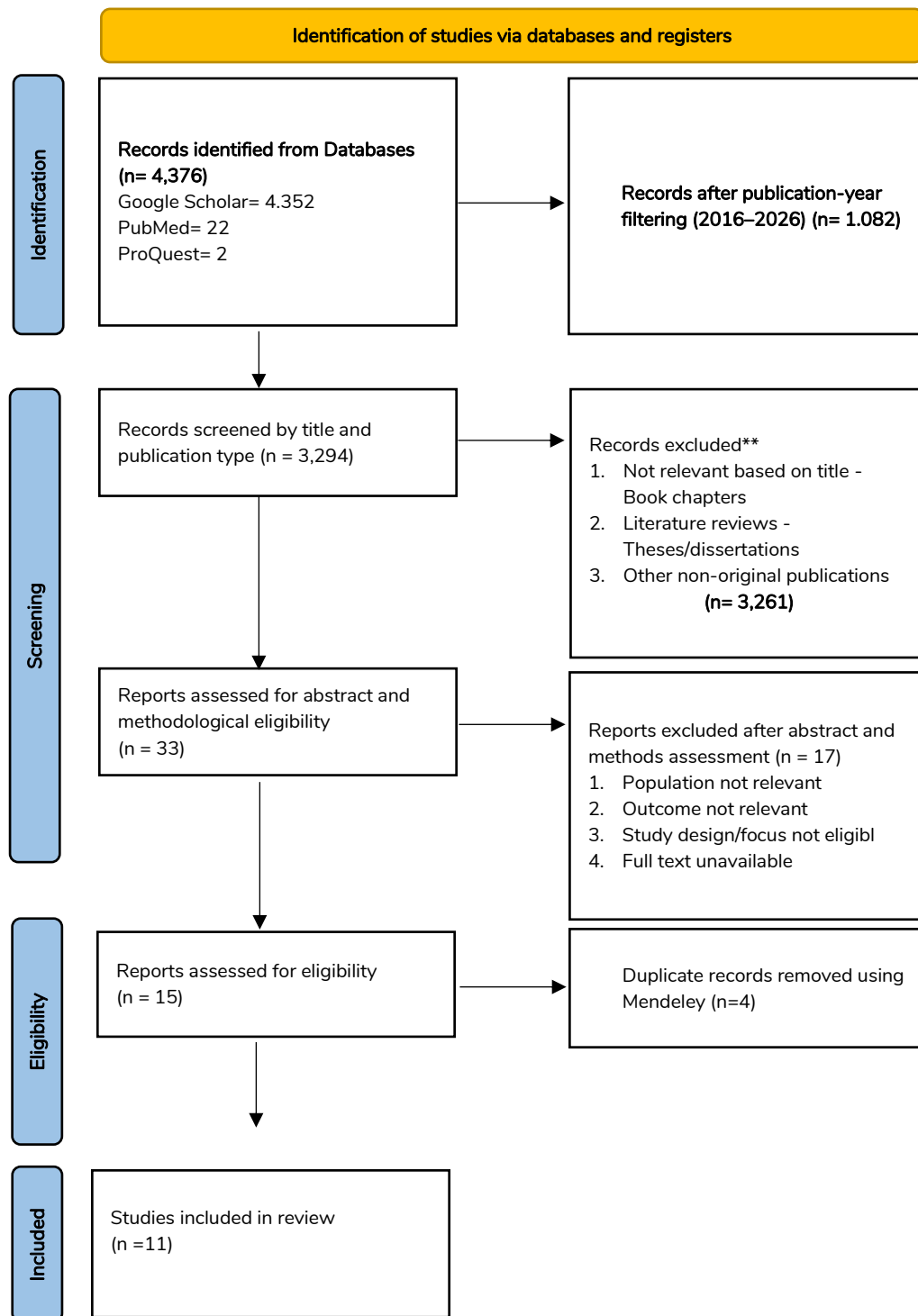


Figure 1. PRISMA 2020 Flow Diagram of the Literature Search and Study Selection Process

Table 1. Characteristics of Included Studies

Author and Year	Study Design and Sample	Factors Examined	Outcomes	Main Findings
da Silva et al. (2016)	Quantitative descriptive cross-sectional study; 114 workers	Psychological demands and job control (Demand-Control model)	Work stress	Higher psychological demands were associated with greater physical and mental exhaustion.

Author and Year	Study Design and Sample	Factors Examined	Outcomes	Main Findings
Anggraeni et al. (2017)	Analytical cross-sectional survey; 47 sandblasting workers	Individual characteristics, workload, blood pressure, and social support	Work stress	Education, blood pressure, workload, and social support were significantly associated with work stress.
Kim et al. (2017)	Field survey with random sampling; 284 direct and subcontracted workers	Job type and history of occupational accidents	Safety climate and work stress	Direct workers in accident-free departments reported the most favorable safety climate, while a history of occupational accidents was associated with higher stress related to the physical work environment and job demands.
Setyowati et al. (2017)	Quantitative cross-sectional study; 124 workers	Organizational role, career development, organizational structure and climate, and mental workload	Work stress	Organizational role, career development, organizational structure and climate, and mental workload were significantly associated with work stress.
Saputra and Diza (2019)	Analytical observational cross-sectional study; 61 workers	Noise exposure	Work stress	Noise exposure was significantly associated with work stress.
Detaille et al. (2020)	Quantitative cross-sectional study; 497 workers	Time perspective (past, present, and future)	Burnout	Negative past and future time perspectives were significantly associated with burnout.
Elotla et al. (2021)	Cross-sectional study with stratified random sampling; 180 male shipyard workers	Mental health distress	Absenteeism and presenteeism	Mental health distress was significantly associated with work productivity, including absenteeism and presenteeism.
Riadianto and Sridadi (2021)	Quantitative census study; 115 employees, including supervisors and active staff	Safety climate, perceived supervisor safety, and psychological strain	Safety performance	Lower safety climate and perceived supervisor safety were associated with poorer safety performance, while higher psychological strain was associated with poorer safety performance.
Reig-botella et al. (2021)	Cross-sectional study; 644 shipyard workers and 223 workers from other sectors	Time perspective and occupational sector	Burnout	Shipyard workers showed a higher risk of burnout than workers in other sectors, associated with negative past, present, and future time perspectives. The authors suggested that this risk may be related to understimulation, monotonous and repetitive work, limited autonomy, and limited social support.

Author and Year	Study Design and Sample	Factors Examined	Outcomes	Main Findings
Reig-botella et al.(2022)	Cross-sectional survey; 567 workers	Individual characteristics and perceived environmental risks	Organizational commitment and job satisfaction	Lower educational attainment and lower perceived environmental risk were associated with higher job satisfaction, while older age was associated with stronger normative organizational commitment.
Nugroho et al. (2023)	Quantitative cross-sectional study; 110 maintenance workers	Employee characteristics and work-life balance	Job satisfaction	Work-life balance was significantly associated with job satisfaction, while age was associated with differences in work-life balance.

Based on Table 2, the determinants of psychological health among shipyard workers were classified into five categories: organizational factors, work-related psychosocial factors, physical and environmental factors, individual factors, and the work–life interface. Overall, the findings indicate that psychological health among shipyard workers is associated with multiple dimensions of working conditions and individual characteristics, with commonly reported outcomes including work stress, burnout, psychological strain, job satisfaction, and work-related functioning.

Table 2. Determinants of Psychological Health among Shipyard Workers

Determinant Category	Specific Determinants	Associated Outcomes	Supporting Studies
Organizational factors	Safety climate, organizational role, career development, organizational structure and climate, perceived supervisor safety	Work stress, psychological strain, job satisfaction, safety performance	Anggraeni et al. (2017); Kim et al. (2017); Setyowati et al. (2017); Riadianto and Sridadi (2021)
Work-related psychosocial factors	Psychological demands, job control, workload, mental workload, social support, accident history	Work stress, physical and mental exhaustion, psychological strain	da Silva et al. (2016); Anggraeni et al. (2017); Kim et al. (2017); Setyowati et al. (2017)
Physical and environmental factors	Noise exposure, perceived environmental risks	Work stress, job satisfaction	Saputra and Diza (2019); Reig-botella et al.(2022)
Individual factors	Time perspective, age, education	Burnout, job satisfaction, organizational commitment	Detaille et al. (2020); Reig-botella et al. (2021,2022); Nugroho et al. (2023)
Work–life interface	Work–life balance	Job satisfaction	Nugroho et al. (2023)

Discussion

This literature review synthesizes evidence showing that psychological health among shipyard workers is associated with multiple and interconnected organizational, psychosocial, environmental, work-related, and individual factors. Rather than being explained by a single determinant, psychological health appears to reflect the interaction between working conditions and individual characteristics within the shipyard

environment. This complexity is particularly relevant in the shipbuilding industry, where physical demands, environmental hazards, and psychosocial pressures often coexist.

Organizational and work-related psychosocial factors were among the most consistently identified determinants across the reviewed studies. Safety climate, organizational roles, career development, perceived supervisor safety, workload, and social support were associated with work stress, psychological strain, safety performance, and other work-related outcomes [15], [16], [17], [19]. An unfavorable safety climate and lower perceptions of supervisor safety may be associated with greater psychological strain and poorer safety-related outcomes, whereas supportive organizational environments may provide psychosocial resources that help workers cope with job demands [22], [23]. These findings are consistent with a systematic review of maritime personnel, which identified high job demands, low social support, negative perceptions of management, and limited autonomy as factors associated with poorer mental health [8]. Although the overall findings consistently emphasize the importance of organizational and psychosocial determinants, the focus of the included studies varied across countries and occupational settings. For example, studies from Indonesia primarily examined organizational management factors, workload, and supervisor support, whereas studies from European settings more frequently explored burnout, time perspective, and organizational commitment.

Work-related psychosocial and environmental factors also emerged as important determinants of psychological health. Higher psychological demands were associated with greater physical and mental exhaustion [12], while noise exposure was associated with work stress [18]. Perceived environmental risks were also associated with job satisfaction [20]. These findings suggest that physical and environmental conditions may contribute to the overall psychological experience of shipyard workers, particularly when occupational demands and environmental exposures occur simultaneously. Therefore, controlling workplace hazards within the framework of occupational safety and health may also be relevant to protecting workers' psychological health [24]. The reviewed studies also differed in how environmental exposures were assessed. While some studies evaluated objectively measured environmental exposures, such as occupational noise, others examined workers' perceptions of environmental risks. These methodological differences may partly explain variations in the reported associations and limit direct comparisons across studies.

Individual characteristics were also associated with differences in psychological health outcomes. Time perspective, age, and education were associated with burnout, job satisfaction, and organizational commitment [7], [13], [20], [21]. In particular, negative perceptions of the past and future were associated with a higher risk of burnout among shipyard workers. Reig-botella *et al.* (2021) further reported that shipyard workers had a higher risk of burnout than workers in other sectors, with this increased risk being associated with negative past, present, and future time perspectives. The authors suggested that understimulation, monotonous and repetitive work, limited autonomy, and limited social support may contribute to this vulnerability. These findings highlight the potential relevance of job design and work organization to psychological health. Jobs characterized by limited task variety or low job control may reduce the psychological resources available to workers for coping with job demands, thereby increasing vulnerability to emotional exhaustion and burnout [25]. Low job control and limited job resources are associated with lower fulfillment of psychological needs at work, which can ultimately undermine workers' psychological resilience [26]. Although individual characteristics are important, they should not be considered independently of workplace conditions, as organizational environments may influence how workers experience and respond to occupational demands [27], [28]. Differences in participant characteristics may also have contributed to variations in the findings. The included studies involved diverse occupational groups, including production workers, maintenance personnel, sandblasting workers, and

direct or subcontracted employees, who were exposed to different job demands and workplace environments. These differences may partly explain why some studies identified organizational factors as the primary determinants of psychological health, whereas others reported stronger associations with individual characteristics or environmental exposures.

The reviewed studies also indicate that psychological health is associated with important organizational outcomes. Mental health distress was associated with absenteeism and presenteeism, indicating reduced work productivity [14]. Psychological strain was also associated with safety performance in the context of safety climate and perceived supervisor safety [19]. These findings suggest that psychological health has implications not only for individual well-being but also for organizational functioning. Workers experiencing psychological distress or strain may experience reduced work effectiveness, increased absenteeism, and poorer safety-related outcomes [14], [29], [30].

Another important finding of this review is the heterogeneity of the available evidence. Although the included studies differed in terms of occupational groups, determinants examined, psychological outcomes, and study settings, organizational factors, work-related psychosocial conditions, and physical environmental exposures were consistently associated with psychological health across several independent studies. The consistency of these findings across studies conducted in different countries and occupational settings strengthens confidence that organizational, psychosocial, and environmental factors are key determinants of psychological health among shipyard workers.

The overall quality of the available evidence should also be interpreted with caution. Nearly all included studies employed cross-sectional designs, limiting the ability to establish causal relationships between occupational determinants and psychological health. In addition, differences in sample characteristics, sample sizes, outcome measures, and assessment instruments may have contributed to variations in the reported findings. Therefore, the findings should be interpreted as evidence of consistent associations rather than causal relationships. Future research should prioritize longitudinal and intervention studies using standardized psychological health measures to strengthen the evidence base and improve the comparability of findings across studies.

Overall, the findings indicate that psychological health among shipyard workers is a multifactorial condition influenced by the interaction of organizational, psychosocial, environmental, work-related, and individual factors. Consequently, promoting psychological health requires comprehensive occupational health strategies that address both workplace conditions and individual resources. Interventions focusing solely on individual-level factors are unlikely to be sufficient unless organizational and environmental working conditions are also addressed [31], [32], [33].

5. Conclusion

This literature review indicates that psychological health among shipyard workers is associated with multiple organizational, psychosocial, environmental, work-related, and individual factors. Safety climate, supervisor support, workload, psychological demands, environmental exposures, time perspective, age, education, and work-life balance were among the factors associated with psychological health and related work outcomes, including work stress, burnout, psychological strain, job satisfaction, absenteeism, presenteeism, and safety performance. These findings highlight the need for a comprehensive approach to occupational health that integrates workplace hazard control with organizational and psychosocial interventions. Efforts to promote psychological health among shipyard workers should therefore address working conditions, organizational support, job demands, work design, and individual needs rather than focusing exclusively on individual-level interventions.

6. References

- [1] A. Susanto and R. Putri, "Risiko psikososial di industri minyak dan gas bumi (MIGAS): Tinjauan literatur naratif," *J. Lentera Kesehat. Masy.*, vol. 4, no. 2, pp. 124–136, 2025, doi: 10.69883/mgh1hq52.
- [2] R. Putri, A. Susanto, and J. Yunita, "Gambaran Kesehatan Mental pada Pekerja Industri Minyak dan Gas (MIGAS) di PT K Indonesia," *J. Keselam. Kesehat. Kerja dan Lingkung.*, vol. 7, no. 1, pp. 60–67, 2026, doi: 10.25077/jk3l.7.1.60-67.2026.
- [3] World Health Organization, "Mental Health at Work," World Health Organization. Accessed: Jul. 14, 2026. [Online]. Available: <https://www.who.int/news-room/fact-sheets/detail/mental-health-at-work>
- [4] C. de Oliveira, M. Saka, L. Bone, and R. Jacobs, "The Role of Mental Health on Workplace Productivity: A Critical Review of the Literature," *Appl. Health Econ. Health Policy*, vol. 21, no. 2, pp. 167–193, 2023, doi: 10.1007/s40258-022-00761-w.
- [5] C. Rai and D. H. S. Kulkarni, "Impact of Mental Health Factors on Workplace Safety and Employee Performance in Secl," *EPRA Int. J. Econ. Bus. Manag. Stud.*, no. May, p. 293, 2026, doi: 10.36713/epra27780.
- [6] N. 'Afifah Hijami, "Kesehatan Mental, Stres Kerja, dan Burnout Sebagai Isu K3 Di Indonesia: Tinjauan Literatur," *Heal. Res. J. Indones.*, vol. 4, no. 5, pp. 634–640, 2026, doi: 10.63004/hrji.v4i5.1095.
- [7] A. Reig-botella, S. Detaille, M. Clemente, L. Jaime, and A. De Lange, "Time Perspective and the Risk of Developing Burnout: An Empirical Study among Different Blue-Collar Workers in Spain," *Sustainability*, vol. 13, no. 3271, pp. 1–11, 2021, doi: 10.3390/su13063271.
- [8] S. K. Brooks and N. Greenberg, "Mental Health and Psychological Well-Being of Maritime Personnel: A Systematic Review," *BMC Psychol.*, vol. 10, no. 1, pp. 1–26, 2022, doi: 10.1186/s40359-022-00850-4.
- [9] Y. Hu, J. Zhang, X. Lyu, C. Ni, and H. Wang, "Welding Fumes in a Chinese Shipyard: Exposure Characteristics and Occupational Health Risk Assessment," *Toxics*, vol. 14, no. 3, pp. 122–123, 2026, doi: 10.3390/toxics14030259.
- [10] R. Hayes-Mejia and M. Stafström, "Psychosocial Work Environment and Mental Health among the Global Workforce of Seafarers in the Wake of the COVID-19 Pandemic," *BMC Public Health*, vol. 23, no. 1, pp. 1–10, 2023, doi: 10.1186/s12889-023-17035-2.
- [11] Y. Hwang, W.-S. Jung, and D. S. Yoo, "A Study on the Necessity to Manage the Psychological States of Workers in Shipyard," in *2022 13th International Conference on Information and Communication Technology Convergence (ICTC)*, 2022, pp. 1959–1962. doi: 10.1109/ICTC55196.2022.9952981.
- [12] J. L. L. da Silva, R. da Silva Soares, E. R. Teixeira, D. V. Daher, J. A. de Almeida, and J. H. A. de Almeida, "Degree of Stress among Shipyard Workers: Cross-Sectional Study," *Online Brazilian J. Nurs.*, vol. 15, no. 1, pp. 61–72, 2016, doi: 10.17665/1676-4285.20165468.
- [13] S. Detaille, A. Reig-Botella, M. Clemente, J. López-Golpe, and A. De Lange, "Burnout and Time Perspective of Blue-Collar Workers at the Shipyard," *Int. J. Environ. Res. Public Health*, vol. 17, no. 18, pp. 1–10, 2020, doi: 10.3390/ijerph17186905.
- [14] S. Elotla, S. Gaafar, A. Ameen, and A. Fouad, "Association Between Mental Health Distress and Work Productivity: A Cross-Sectional Study," *Egypt. J. Occup. Med.*, vol. 45, no. 2, pp. 51–68, 2021, doi: 10.21608/ejom.2020.36674.1204.
- [15] A. D. Anggraeni, Y. Setyaningsih, and Sutoro, "Hubungan antara Karakteristik Individu dan Intrinsik dengan Stres Kerja pada Pekerja Sandblasting," *JKM J. Kesehat. Masy.*, vol. 5, pp. 2356–3346, 2017, [Online]. Available: <http://ejournal-s1.undip.ac.id/index.php/jkm>
- [16] K. W. Kim, S. J. Park, H. S. Lim, and H. H. Cho, "Safety Climate and Occupational Stress According to Occupational Accidents Experience and Employment Type in Shipbuilding Industry of Korea," *Saf. Health Work*, vol. 8, no. 3, pp. 290–295, 2017, doi: 10.1016/j.shaw.2017.08.002.

- [17] A. Setyowati, I. Wahyuni, and Ekawati, "Hubungan Antara Faktor Organisasi Kerja dan Beban Kerja Terhadap Stres Kerja Pada Pekerja Galangan Kapal di PT. X," *J. Kesehat. Masy.*, vol. 5, no. 5, pp. 32–40, 2017, doi: 10.14710/jkm.v5i5.18864.
- [18] A. I. Saputra and M. Diza, "Hubungan Intensitas Kebisingan dengan Tingkat Stres Kerja pada Pekerja Area Workshop PT Bintang Intipersada Shipyard Batam," *Zo. Kedokt.*, vol. 9, no. 3, pp. 75–81, 2019, doi: 10.37776/zked.v9i3.303.
- [19] D. V. Riadianto and A. R. Sridadi, "Pengaruh Safety Climate dan Perceived Supervisor Safety terhadap Safety Performance yang Dimediasi oleh Psychological Strain: Studi pada PT PAL Indonesia (Persero)," *J. Maksipreneur Manajemen, Koperasi, dan Entrep.*, vol. 11, no. 1, p. 105, 2021, doi: 10.30588/jmp.v11i1.746.
- [20] A. Reig-botella, M. Clemente, S. Detaille, A. H. De Lange, and L. Jaime, "Which Personal and Organizational Factors Influence the Organizational Commitment and Job Satisfaction of Shipyard Blue-Collar Workers?," *Int. J. Environ. Res. Public Heal. Artic.*, vol. 19, no. 4849, pp. 1–14, 2022, doi: 10.3390/ijerph19084849.
- [21] S. A. Nugroho, I. Paskarini, and X. I. Pratiwi, "Work-Life Balance and Job Satisfaction of Shipyard Industry Employees in Surabaya," *Int. J. Public Heal. Sci.*, vol. 12, no. 1, pp. 146–154, 2023, doi: 10.11591/ijphs.v12i1.22368.
- [22] O. Siu, D. R. Phillips, and T. Leung, "Safety Climate and Safety Performance Among Construction Workers in Hong Kong: The Role of Psychological Strains as Mediators," *Accid. Anal. Prev.*, vol. 36, no. 3, pp. 359–366, May 2004, doi: 10.1016/S0001-4575(03)00016-2.
- [23] S. Li and Y. Li, "Severing the Health-Impairment Chain: Psychological Distress and Cross-Level Safety Climate Associations With Safety Behavior," *Acta Psychol. (Amst)*, vol. 265, no. April, p. 106773, 2026, doi: 10.1016/j.actpsy.2026.106773.
- [24] R. K. Dong, X. Li, and "Banjo" Roxas Hernan, "Psychological Safety and Psychosocial Safety Climate in the Workplace: A Bibliometric Analysis and Systematic Review Toward a Research Agenda," *J. Safety Res.*, vol. 91, no. August, pp. 1–19, 2024, doi: 10.1016/j.jsr.2024.08.001.
- [25] M. Belloni, L. Carrino, and E. Meschi, "The Impact of Working Conditions on Mental Health: Novel Evidence From the UK," *Labour Econ.*, vol. 76, no. April, p. 102176, 2022, doi: 10.1016/j.labeco.2022.102176.
- [26] Ł. Baka, M. Szulawski, M. Prusik, Ł. Kapica, and A. Najmiec, "Longitudinal Relation between Comprehensive Job Resources and Three Basic Psychological Needs at Work," *Int. J. Environ. Res. Public Health*, vol. 19, no. 10, 2022, doi: 10.3390/ijerph19106302.
- [27] G. Biggio and C. G. Cortese, "Well-Being in the Workplace Through Interaction Between Individual Characteristics and Organizational Context," *Int. J. Qual. Stud. Health Well-being*, vol. 8, no. 1, pp. 1–13, 2013, doi: 10.3402/qhw.v8i0.19823.
- [28] A. Parent-Lamarche, A. Marchand, and S. Saade, "A Multilevel Analysis of the Role Personality Plays Between Work Organization Conditions and Psychological Distress," *BMC Psychol.*, vol. 9, no. 1, pp. 1–15, 2021, doi: 10.1186/s40359-021-00703-6.
- [29] H. Kusumawardana, S. Muhammad, Z. Amardhan, and R. R. Margana, "Manajemen Stres dalam Mencegah Kecelakaan Kerja dan Meningkatkan Kesejahteraan Karyawan," *JUTIN J. Tek. Ind. Terintegrasi*, vol. 8, no. 1, 2025, doi: 10.31004/jutin.v8i1.41510.
- [30] Asla Hanifah Putri, Nadia Rohimah, Amanda Elizafitriani, Amanda Elizafitriani, and Netty Merdiaty, "Model Stres Kerja dan Dampaknya pada Produktivitas: Analisis Literatur," *Obs. J. Publ. Ilmu Psikol.*, vol. 3, no. 1, pp. 266–275, 2024, doi: 10.61132/observasi.v3i1.962.
- [31] T. Yuan *et al.*, "How Does Psychosocial Safety Climate Cross-Level Influence Work Engagement and Job Burnout: The Roles of Organization-Based Self-Esteem and Psychological Detachment," *BMC*

Nurs., vol. 23, no. 1, pp. 1–11, 2024, doi: 10.1186/s12912-024-01935-8.

- [32] T. Ji, M. Y. Loh, J. DE JONGE, M. C. W. Peeters, T. W. Taris, and M. F. Dollard, “Are You Feeling Safe?: An Investigation of Psychosocial Safety Climate in the Relations of Job Characteristics and Employee Exhaustion and Engagement,” *Ind. Health*, vol. 63, no. 1, pp. 3–13, 2025, doi: 10.2486/indhealth.2024-0027.
- [33] S. Juutinen, K. Sjöblom, M. F. Dollard, and A. Mäkikangas, “Psychosocial Safety Climate: Measurement and Relationship With Well-Being in a Four-Wave Longitudinal Study During Remote Work,” *Scand. J. Psychol.*, vol. 64, no. 4, pp. 504–511, 2023, doi: 10.1111/sjop.12917.