

LITERATURE STUDY: WORK RESILIENCE AND PSYCHOLOGICAL WELL-BEING IN EMERGENCY MEDICAL SERVICES (EMS) PERSONNEL

Rubiyanti Rubiyanti^{1*}, Ros Patriani Dewi²

1,2 Psychology Department, Universitas Mercu Buana Yogyakarta, Indonesia

*rubiyantibasuki1104@gmail.com

ABSTRACT

Pre-hospital emergency medical services personnel work in high-pressure environments, facing repeated exposure to critical incidents and rapid, high-stakes decision-making processes. These conditions increase the risk of psychological distress, burnout, and impaired performance, emphasizing the need to identify factors that support mental health in this population. Although resilience and psychological well-being have been studied in general healthcare contexts, evidence specifically addressing pre-hospital personnel remains limited and fragmented, hindering the development of tailored interventions for this group. This article presents a systematic literature review examining the relationship between work resilience and psychological well-being among prehospital healthcare professionals. Peer-reviewed articles, academic books, and other scholarly sources were identified through structured database searches using pre-defined keywords. Studies involving physicians, nurses, midwives, ambulance drivers, and call center operators were included based on the established selection criteria. Data were synthesized using thematic content analysis to identify the recurring concepts and interconnections. The findings showed that work resilience is reinforced through stress-management strategies, social support, positive cognitive and emotional reframing, and maintaining physical and mental health. Psychological well-being is enhanced by interpersonal support, solution-focused coping, emotion regulation, and structured psychological programs. Organizational factors, including ongoing training, optimized workload and shifts, and employee recognition, further promote mental health. The implications of these findings highlight the need for healthcare institutions to embed resilience-building initiatives and comprehensive psychological support systems into workforce policies to reduce burnout risk, strengthen employee capacity, and enhance the effectiveness and sustainability of pre-hospital emergency care delivery.

Keywords: emergency medical services, psychological well-being, work resilience

Introduction

Social, economic, and global health dynamics present significant challenges to the workforce, particularly in the pre-hospital emergency healthcare sector. Pre-hospital medical personnel, or Emergency Medical Services (EMS), such as paramedics, ambulance drivers, emergency nurses, and first responders, serve as the frontline of the healthcare system, responsible for providing initial assistance at the scene before patients are referred to advanced healthcare facilities (Kurniawati & Setiawan, 2022). The nature of EMS work requires high readiness, rapid decision-making, and the ability to operate in critical and unpredictable situations, making this profession highly vulnerable to intense psychological and physical stress (Rahman, 2023).

High work pressure, exposure to traumatic events, long working hours, and significant personal safety risks can potentially lead to prolonged stress and emotional exhaustion (burnout) among EMS personnel. Such conditions not only affect individual psychological well-being but also have implications for reduced work motivation and the quality of patient care (Wijayanti et al., 2023). Previous research has shown that the psychological well-being of medical personnel plays an essential role in maintaining their ability to manage work-related stress and sustain professional performance under pressure (Sari & Prabowo, 2021).

Psychological well-being is understood as a state in which an individual functions optimally across emotional, social, and psychological domains. Ryff (2018) explains that psychological well-being is not merely the absence of mental disorders but encompasses six main dimensions: self-acceptance, positive relationships with others, autonomy, environmental mastery, purpose in life, and personal growth. In the context of EMS personnel, psychological well-being is crucial given the high emotional demands arising from moral responsibilities, critical patient conditions, and uncertainty in the field. If psychological well-being is not maintained, individuals risk experiencing chronic stress, which can disrupt both personal and professional functioning.

Based on the foregoing, although research on work resilience and psychological well-being among pre-hospital medical personnel has been conducted, existing findings remain fragmented, utilize diverse approaches and contexts, and tend to focus on specific professional groups. This situation has resulted in a lack of a comprehensive scientific synthesis regarding how work resilience supports the psychological well-being of all EMS personnel. This study aims to conduct a Systematic Literature Review (SLR) of empirical studies examining work resilience and psychological well-being in pre-hospital medical personnel. Specifically, this SLR aims to:

1. Identify the characteristics and main findings of studies related to work resilience and psychological well-being in EMS personnel;
2. Analyze the relationship between work resilience and psychological well-being in the context of pre-hospital emergency medical services; and
3. Resilience and psychological well-being in EMS personnel.

The results of this systematic review are expected to provide a comprehensive overview of the state-of-the-art research in this field and serve as a scientific basis for developing interventions, organizational policies, and psychological capacity-building programs aimed at enhancing the well-being and sustainable performance of pre-hospital medical personnel.

Method

This study employed a systematic literature review approach to examine research on work resilience and psychological well-being among pre-hospital medical personnel (Emergency Medical Services/EMS). The review process followed a structured procedure consisting of identification, screening, eligibility assessment, and inclusion.

Literature searches were conducted in three electronic databases: Google Scholar, PubMed, and Sinta (Science and Technology Index, Ministry of Education and Culture of Indonesia). The search used combinations of keywords such as: “*work resilience*,”

“psychological well-being,” “emergency medical services,” “pre-hospital medical personnel,” and “paramedics AND resilience.” Boolean operators (AND, OR) were applied to refine the results.

The search was limited to peer-reviewed journal articles published between 2019 and 2024 to ensure up-to-date empirical evidence. However, seminal theoretical works (e.g., Psychological Capital theory) were included to provide conceptual grounding.

Inclusion criteria were:

1. Peer-reviewed national or international journal articles;
2. Studies examining work resilience, psychological well-being, or their relationship;
3. Research involving EMS, paramedics, ambulance personnel, or pre-hospital medical workers;
4. Articles published in English or Indonesian.

Articles unrelated to pre-hospital settings, non-academic publications, and hospital-only studies without EMS relevance were excluded.

The review process involved four stages:

1. Identification: Articles retrieved from database searches were compiled.
2. Screening: Titles and abstracts were reviewed for relevance.
3. Eligibility: Full-text articles were assessed against inclusion criteria.
4. Inclusion: Eligible studies were selected for final analysis.

Selected studies were analyzed using structured content analysis. Key information extracted included research objectives, study population, methodology, theoretical framework, and main findings. The findings were then synthesized thematically to identify patterns and relationships between work resilience and psychological well-being among EMS personnel. This structured process ensured methodological transparency and strengthened the validity of the review findings.

Discussion

To provide a comprehensive overview of previous research on work resilience and psychological well-being among pre-hospital medical personnel (EMS), the following table summarizes key empirical and conceptual studies. It presents the authors and year, research subjects, research focus, main findings, and practical implications. This summary aims to clarify the relationship patterns between work resilience and psychological well-being and to highlight the importance of both individual and organizational factors in maintaining optimal performance and mental health among EMS personnel.

Table 1. Summary of Previous Studies on Work Resilience and Psychological Well-Being among Pre-Hospital Medical Personnel (EMS)

No.	Author(s) & Year	Subject/Population	Research Focus	Main Findings	Implications
1	Rahman (2023)	Emergency medical personnel	Definition and role of work resilience	Resilience enables personnel to remain adaptive, productive, and emotionally stable in crisis situations	Resilience acts as a protective factor against work stress

2	Kurniawati & Setiawan (2022)	Pre-hospital medical personnel	Stress risk and psychological well-being	Exposure to trauma, long working hours, and high responsibility increase well-being risks	Social support and adaptive capacity are essential to maintain well-being
3	Wijayanti et al. (2023)	Medical personnel	Internal and external factors affecting well-being	Emotional regulation, work meaning, intrinsic motivation, and social support influence well-being	Organizations should create fair and supportive work systems
4	Luthans (2002)	Conceptual (Psychological Capital)	Resilience as part of Psychological Capital	Resilience, self-efficacy, hope, and optimism form psychological resources that enhance adaptability	Strengthening Psychological Capital improves work performance
5	Handayani et al. (2022)	Medical personnel during COVID-19	Resilience and burnout	Higher resilience is associated with lower burnout and better psychological balance	Resilience training and work-life balance policies are necessary
6	Kusumaningrum & Nafiah (2024)	PMI volunteers (Pekalongan)	Resilience and psychological well-being	Despite low resilience, well-being remained high due to work meaning and peer support	Social factors strengthen psychological well-being
7	Uysal, Korkmaz, & Toraman (2024)	Ambulance personnel (Turkey)	Resilience, professional commitment, and job anxiety	Resilience positively correlates with commitment and negatively with job anxiety	Organizational policies should reduce job anxiety
8	Mantas-Jiménez et al. (2022)	Out-of-hospital EMS personnel (Spain)	Resilience and job satisfaction	Higher resilience is linked to higher job satisfaction and lower stress	Team collaboration and workplace support enhance well-being
9	Armstrong & Brown (in Suryodadi & Nisa, 2024)	Human resource management context	AMO Model (Ability, Motivation, Opportunity)	Optimal performance occurs when ability, motivation, and opportunity are fulfilled	HR systems should integrate well-being-based policies

Pre-hospital medical personnel operate at the frontline of emergency response, where rapid decision-making, technical precision, and emotional stability are continuously

required. The nature of their work exposes them to unpredictable and high-intensity situations, making psychological resources essential for sustained performance. Within this context, work resilience functions as a critical adaptive capacity that enables personnel to maintain effectiveness despite persistent occupational stressors (Rahman, 2023).

Empirical evidence indicates that pre-hospital personnel are particularly vulnerable to psychological strain due to repeated exposure to traumatic incidents, extended working hours, and the heavy responsibility associated with patient survival (Kurniawati & Setiawan, 2022). Such structural job demands increase the risk of emotional exhaustion and reduced psychological well-being. However, resilience mitigates these risks by strengthening adaptive coping, emotional regulation, and recovery following critical events. Thus, resilience should not be understood merely as endurance, but as a dynamic psychological resource that supports sustained functioning, professionalism, and mental stability in extreme work environments.

Previous research demonstrates that the psychological well-being of medical personnel is shaped by a dynamic interaction between internal and external factors. Internal resources such as emotional regulation, intrinsic motivation, and perceived work meaning strengthen individuals' capacity to manage occupational stress. At the same time, external conditions including collegial support, fair organizational systems, and a safe work environment play a crucial role in reinforcing psychological stability (Wijayanti et al., 2023). These findings indicate that well-being in emergency medical settings cannot be understood solely as an individual outcome, but rather as the product of both personal and contextual influences.

Within this framework, work resilience emerges as a central psychological resource that connects these internal capacities with environmental demands. Rather than merely reflecting the ability to endure hardship, resilience represents an adaptive process that enables EMS personnel to recover, regulate emotions, and sustain professionalism in the face of repeated exposure to trauma, time pressure, and critical patient care responsibilities (Rahman, 2023; Kurniawati & Setiawan, 2022). Personnel with higher resilience tend to demonstrate stronger emotional control, optimism, and consistent performance under extreme conditions, thereby protecting their psychological well-being while maintaining service quality.

Luthans (2002) positions resilience as a core component of Psychological Capital, alongside self-efficacy, hope, and optimism. Within this framework, resilience represents a developable psychological resource that enhances adaptability and sustained performance. In the EMS context, this conceptualization is particularly relevant, as resilience not only buffers stress and burnout but also facilitates perseverance, emotional regulation, and constructive meaning-making in demanding situations. Indicators such as adaptability, self-control, optimism, and perseverance (Wijayanti et al., 2023) reflect the multidimensional nature of resilience as both a coping and growth-oriented mechanism.

The growing scholarly attention to resilience and psychological well-being—especially following the COVID-19 pandemic—further underscores its importance. Handayani et al. (2022) reported that emergency medical personnel experienced significant psychological strain during the pandemic. However, individuals with higher resilience demonstrated lower burnout levels, better emotional balance, and maintained service quality. These findings reinforce resilience as a protective factor under crisis intensification, highlighting its role not only in preventing psychological deterioration but also in sustaining professional

functioning.

Nevertheless, the broader body of research remains fragmented. Many studies focus on specific subgroups—such as ambulance personnel, emergency nurses, or volunteers—without offering an integrated perspective on the pre-hospital EMS workforce as a whole. This fragmentation limits the ability to fully understand how resilience operates across diverse roles and organizational structures. Consequently, a systematic integration of findings is necessary to clarify patterns, mediating mechanisms, and contextual influences that shape psychological well-being in EMS settings.

The empirical studies summarized in Table 1 also reveal important nuances. Kusumaningrum and Nafiah (2024) found that PMI volunteers exhibited relatively high psychological well-being despite low measured resilience, largely due to strong peer support and perceived meaning in humanitarian service. This suggests that resilience does not function independently; its impact is strengthened or compensated by social and contextual resources. Similarly, Uysal, Korkmaz, and Toraman (2024) demonstrated that resilience enhances professional commitment while reducing job anxiety among ambulance personnel. These findings indicate that resilience contributes to both psychological stability and motivational engagement.

In addition, Mantas-Jiménez et al. (2022) identified a positive association between resilience and job satisfaction, with team collaboration further reinforcing this relationship. This emphasizes that workplace relationships and organizational climate play a significant role in translating individual resilience into tangible well-being outcomes. Collectively, these findings suggest that strengthening psychological well-being among EMS personnel requires a dual approach: developing individual resilience capacities while simultaneously fostering supportive organizational environments. Healthcare organizations and rescue agencies including PMI, public health departments, and private ambulance providers should therefore integrate resilience-building initiatives into human resource management systems. Strategies such as emotional regulation training, structured peer support programs, stress management interventions, and continuous professional development can create conditions where resilience is not only cultivated but also sustained over time.

According to Armstrong and Brown (in Suryodadi & Nisa, 2024), effective HR management should consider the AMO model (Ability, Motivation, Opportunity), meaning medical personnel will perform optimally if they have three essential aspects:

1. Ability: skills and competencies to handle emergency situations quickly and accurately;
2. Motivation: psychological drive to provide the best service to patients despite high-risk conditions;
3. Opportunity: organizational support creating a safe, collaborative, and mentally supportive work environment.

Furthermore, according to Handayani et al. (2022), resilience training, strengthening social networks, and work-life balance policies have proven effective in reducing burnout and improving the psychological well-being of EMS personnel during the COVID-19 pandemic. Thus, psychological well-being-based policies should be an integral part of emergency medical workforce management systems.

Pre-hospital medical personnel are a vital element in the healthcare delivery system, and

their well-being directly impacts the quality of services provided to the community. Therefore, organizations need to foster a supportive work culture, build emotional support systems, and provide spaces for personnel to rest and develop. Through these strategies, work resilience can be maintained, and psychological well-being improved, ultimately strengthening national health system resilience.

Conclusion

Based on the literature review conducted, it can be concluded that work resilience plays a crucial role in maintaining the psychological well-being of pre-hospital medical personnel (EMS). Resilience helps medical personnel remain emotionally stable, adapt effectively, and sustain work performance under high-pressure conditions and significant job risks. The synthesis of various studies shows that high resilience positively correlates with job satisfaction, professional commitment, and psychological well-being, whereas low resilience is associated with work-related stress, emotional exhaustion (burnout), and reduced service quality. Factors critical to strengthening the relationship between resilience and psychological well-being include social support, work meaning, and a supportive organizational environment.

In addition to individual factors, organizational support and human resource management policies focusing on mental well-being are essential. Organizations should implement resilience training, emotional support systems, and work-life balance policies to create a safe and productive work environment for pre-hospital medical personnel. Therefore, enhancing work resilience and psychological well-being benefits not only individuals but also improves the overall effectiveness of emergency medical services.

Reference

- Armstrong, M., & Brown, D. (2020). *Strategic human resource management: A guide to action*. Kogan Page Publishers.
- Fareed, M., Noor, W. S. W. M., Isa, M. F. M., & Shahzad, A. (2016). Human resource development practices and organizational performance: The mediating role of employee engagement. *European Journal of Training and Development*, 40(6), 554–572. doi:10.1108/EJTD-08-2015-0061
- Handayani, R., Putra, D. R., & Santoso, Y. (2022). Psychological impact and work stress among emergency medical services personnel during the COVID-19 pandemic: A review. *Journal of Health Psychology Research*, 5(2), 115–124.
- Kurniawati, A., & Setiawan, R. (2022). Job Stress and coping strategies among prehospital emergency medical personnel. *Indonesian Journal of Health Sciences Research and Development*, 14(1), 23–32.
- Kusumaningrum, R., & Nafiah, H. (2024). Overview of characteristics, resilience and psychological well-being in PMI volunteers in Pekalongan. *Indonesian Multidisciplinary Journal*, 3(2), 44–52.
- Luthans, F. (2002). Positive organizational behavior: developing and managing psychological strengths. *Academy of Management Executive*, 16(1), 57–72. doi:10.5465/AME.2002.6640181

- Mantas-Jiménez, S., Lluch-Canut, M. T., Roldán-Merino, J., Reig-Garcia, G., & Juvinyà-Canal, D. (2022). Resilience and job satisfaction among out-of-hospital emergency medical service professionals: A cross-sectional multi-centric study. *Journal of Nursing Management, 30*(2), 1–10. doi:10.1111/jonm.13582
- Perdana, F. (2019). *Generasi milenial dalam dunia kerja dan tantangan era digital*. Pustaka Setia.
- Rahman, F. (2023). Work resilience and burnout among paramedics: A cross-sectional study. *Asian Journal of Occupational Health Psychology, 3*(2), 45–58.
- Ryff, C. D. (2018). Well-being with soul: Science in pursuit of human potential. *Perspectives on Psychological Science, 13*(2), 242–248. doi:10.1177/1745691617699836
- Sari, D. M., & Prabowo, H. (2021). Psychological well-being and coping mechanisms among healthcare workers in emergency settings. *Jurnal Psikologi Klinis dan Kesehatan Mental, 10*(3), 175–186.
- Suryodadi, A., & Nisa, L. (2024). Analisis strategi pengelolaan sumber daya manusia menggunakan model AMO dalam meningkatkan kinerja organisasi. *Jurnal Manajemen dan Inovasi Bisnis, 8*(1), 55–64.
- Uysal, İ., Korkmaz, G., & Toraman, Ç. (2024). The relationship between ambulance team's professional commitment, occupational anxiety, and resilience levels. *BMC Health Services Research, 24*(1), 1–15. doi:10.1186/s12913-024-10727-y
- Wijayanti, N., Wulandari, E., & Prasetyo, A. (2023). The relationship between work stress, resilience, and psychological well-being among emergency medical technicians. *International Journal of Emergency Health Services, 12*(1), 60–71.
- Yuwono, T., Nugraha, R., & Permatasari, F. (2023). Pengelolaan sumber daya manusia untuk meningkatkan kinerja organisasi di era disrupsi. *Jurnal Manajemen dan Organisasi, 14*(2), 98–110. doi:10.21009/jmo.14.2.