Redefining Emergency Readiness: Integrating Resilience, Work Engagement, and Situational Awareness in Emergency Care

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ABSTRACT

Traditional approaches to emergency department readiness in hospitals generally focus on technical factors and rapid response systems. However, non-technical factors such as physicians' emotional and cognitive readiness in assessing a situation have not received sufficient attention. Therefore, further research is needed on this factor, which also known as situational awareness. This study aims to redefine emergency readiness by examining the role of resilience as a higher-order construct, with medical work engagement and work-life balance. This study deploys a quantitative survey and recruited emergency physicians from private hospitals through purposive sampling, resulting in 213 eligible respondents. Data analysis used a newly disjoint two-stage approach using SEM-PLS due to the measurement of the lower-order construct as the dimensions of resilience that were measured as HOC. The results showed that resilience significantly influenced situational awareness through purpose and direction, and collaborative culture, but not by feeling valued. The strongest influence on situational awareness was found in having a purpose. Work-life balance can significantly strengthen the positive influence of resilience in a collaborative culture. Conversely, work-life balance weakens the influence of situational awarenesson having purpose and direction as well as feeling valued. These findings may have implications for the development of management in emergency care.

Keywords*: Emergency Physician, Resilience, Situational Awareness, Work Engagement.*

INTRODUCTION

In the emergency care practice, physician errors can directly impact patient outcomes, such as delayed treatment, misdiagnosis, or inappropriate interventions (Balhara et al., 2022). The conclusion drawn is that the doctors' performance evaluation is based not solely on their technical competencies but also on their non-technical skills, which include the ability to diagnose accurately, risk awareness, and a feeling of urgency which is all under the umbrella of Situational Awareness (SA) (Al-Moteri, 2023; Weller et al., 2024). One of the main things about situational awareness is that it gives medical personnel the ability to identify threats, perceive the critical situation, and foresee the dangers in a changing workplace, all of which directly influence the standard of healthcare and the security of patients (Levin et al., 2012; Weigl et al., 2020).

Situational Awareness (SA) is a critical determinant of healthcare worker effectiveness and hospital performance, particularly for emergency physicians who must rapidly interpret dynamic information and make accurate decisions (Levin et al., 2012). However, empirical research on SA in hospital settings, especially in Indonesia, remains limited and has largely focused on specific clinical contexts rather than underlying human factors (Weller et al., 2024). Moreover, while professionalism and resilience have been identified as important antecedents of SA, prior studies have predominantly emphasized organizational support, with less attention to internal factors such as work engagement

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and work-life balance. These psychological resourceful are crucial for sustaining motivation, emotional well-being, and commitment, and may therefore play a significant role in enhancing SA among healthcare professionals (Aburn et al., 2016; Barasa et al., 2018).

To address gaps in prior research, this study positions work engagement as both a direct predictor and a mediator between professional resilience and SA. Evidence indicates that resilient healthcare workers exhibit stronger emotional attachment, sense of purpose, and commitment to collaboration, which in turn enhance SA (Andy & Antonio, 2022; Cabrera-Aguilar et al., 2023; Ibrahim & Hussein, 2024). In emergency settings, work engagement, reflected in physicians' energy, dedication, and involvement, contributes to improved situational understanding and decision quality (Kurniawati & Ramli, 2024; Faadhilah et al., 2025; Ismail et al., 2025). As an indicator of internal motivation, work engagement enables physicians to translate psychological resourceful into adaptive performance, thereby strengthening individual readiness and overall emergency department preparedness through heightened SA and effective teamwork.

In addition, work-life balance was considered as a moderating variable since there is new evidence that the balance between personal and professional life can strengthen or weaken the effect of psychological resilience on work engagement (Kim & Windsor, 2015; Sexton et al., 2016; Bernuzzi et al., 2022). In the context of private hospitals with high workloads and complex service demands, the integration of medical work engagement as a mediator and work-life balance as a moderator remains rarely studied (Sánchez-Zaballos & Mosteiro-Díaz, 2021). Although this approach is critical since it can provide a holistic understanding of how internal factors (resilience, work-life balance) and mediating factors (work engagement) simultaneously influence SA. Understanding and improving those approaches can ultimately impact patient safety and care quality, as reflected in the six WHO dimensions of safety, effectiveness, efficiency, accessibility, timeliness, and patient-centeredness.

The objective of this study is to bridge the literature gap and give substantial insight into the SA of healthcare workers in Indonesia. This would mainly be done by investigating the intrinsic and extrinsic factors of sustainable awareness, and also by unveiling the ways in which work engagement and work-life balance augment SA. The research findings are expected to inform more effective healthcare workforce development strategies and strengthen the quality of hospital services. This study aims to examine the effects of professional resilience on key dimensions of medical work engagement (working in a collaborative culture, having purpose and direction, and feeling valued and empowered), to test the moderating role of work-life balance in these relationships, and to analyze how these dimensions subsequently influence SA among emergency physicians.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The Effects of Professional Resilience

Work engagement among physicians is closely linked to the extent to which they perceive their work as meaningful and impactful. In hospital settings, employees tend to show higher engagement when they feel valued, respected, and treated fairly by the organization (Cabrera-Aguilar et al., 2023). Supportive leadership and clear communication from managers are therefore crucial in fostering engagement (Book et al., 2019; Lubis et al., 2021). Moreover, providing opportunities for continuous education, skill development, and career advancement is essential for sustaining the motivation of emergency physicians (Andy & Antonio, 2022). Empirical evidence indicates that higher levels of work engagement among emergency doctors are associated with better situational awareness, enabling them to effectively process critical information, make accurate decisions, and select appropriate actions in high-pressure clinical situations (Price & LaFiandra, 2017). Consequently, strengthening professional engagement in hospital environments is expected to enhance physicians' situational awareness in emergency contexts.

Professional resilience also plays a fundamental role in reinforcing key dimensions of work engagement. Resilient healthcare professionals are more capable of adapting to challenges and collaborating within interprofessional teams, thereby supporting a collaborative work culture characterized by open communication, empathy, and effective information sharing (Wei et al., 2020). In addition, resilience contributes to a stronger sense of purpose and direction by promoting emotional stability, optimism, and self-efficacy, which help sustain motivation and commitment under demanding conditions such as health crises (Cabrera-Aguilar et al., 2023). Resilience further enhances feelings of being valued and empowered, as it supports self-esteem and job satisfaction despite occupational stress and is strengthened within supportive organizational governance (Cooper et al., 2020).

H1: Professional resilience has a positive effect on working in a collaborative culture.
H2: Professional resilience has a positive effect on having purpose and direction.
H3: Professional resilience has a positive effect on feelings of being valued and empowered.

The Moderating Effect of Work-Life Balance

The inclusion of work–life balance in the structural model is expected to strengthen the effect of professional resilience on work engagement among healthcare workers. A balanced integration of personal and professional roles enables individuals to sustain psychological well-being, enhance motivation, and maintain the quality of interpersonal interactions and teamwork in demanding clinical environments (Bernuzzi et al., 2022; Avicenna & Sudiana, 2025). In this context, work–life balance is assumed to moderate the relationship between resilience and a collaborative work culture by helping medical personnel manage stress and emotional exhaustion, thereby supporting cooperative behavior and constructive communication within healthcare teams (Kim & Windsor, 2015; Sexton et al., 2016). Such conditions are essential for reinforcing a climate of mutual support and effective collaboration, which ultimately contributes to the development of a stronger and more cohesive professional culture (Barut & Ercanşahin, 2025).

Furthermore, work–life balance is expected to amplify the influence of resilience on having a clear sense of purpose and direction at work (Marques & Berry, 2021). By allowing healthcare workers to restore energy and maintain focus, a balance between work and personal life helps them cope with occupational stress and sustain long-term commitment to their professional roles. This role is particularly important in supporting continued motivation among female healthcare workers, who often face greater challenges in managing multiple role demands (Kim & Windsor, 2015). In addition, work–life balance is likely to enhance the effect of resilience on feelings of being valued and empowered, as it provides psychological space to meet both work and life responsibilities effectively (Kim et al., 2024). By reducing strain and increasing job satisfaction, a healthy balance fosters a stronger sense of empowerment and personal worth, thereby reinforcing engagement and positive work attitudes (Barut & Ercanşahin, 2025).

H4: Work-life balance moderates the relationship between professional resilience and working in a collaborative culture.
H5: Work-life balance moderates the relationship between professional resilience and having purpose and direction.
H6: Work-life balance moderates the influence of professional resilience on feeling valued and empowered.

Factors Influencing Situational Awareness

Emergency physicians experience working conditions that differ substantially from those of other healthcare professionals. They are routinely exposed to unpredictable workloads, extended working hours, high patient volumes, and continuous emergency

situations, all of which make the attainment of an optimal work–life balance particularly challenging. Empirical evidence suggests that in daily practice, emergency physicians are often required to prioritize professional responsibilities over personal life, which may weaken the role of work–life balance in fostering work engagement when it is not properly managed (Flowerdew et al., 2012; Levin et al., 2012). Nevertheless, recent studies indicate that a certain level of balance can still be maintained, provided that it does not result in burnout or reduced professional performance under high-pressure conditions (Antonio et al., 2024).

A collaborative work culture has been shown to positively influence situational awareness, as interprofessional cooperation and open communication facilitate a shared understanding of rapidly evolving clinical situations (Laurila-Pant et al., 2023). Such shared cognition is essential for accurate and timely clinical decision-making, particularly in emergency contexts (Wei et al., 2020). In addition, having a clear sense of purpose and direction may indirectly enhance situational awareness by guiding teams toward common situational goals and improving their ability to interpret changes in the work environment, even though empirical support for this mechanism remains limited (Jiang, 2021). Feelings of being valued and empowered further contribute to situational awareness by fostering proactivity and engagement among healthcare workers (Schermuly et al., 2022). This effect is reinforced by emotional intelligence, which is closely related to empowerment and enables individuals to process dynamic information effectively and make adaptive decisions in complex and time-critical situations (Chamberlin et al., 2018).

H7: Working in a collaborative culture has a positive effect on situational awareness.
H8: Having purpose and direction has a positive effect on situational awareness.
H9: Feeling valued and empowered has a positive effect on situational awareness

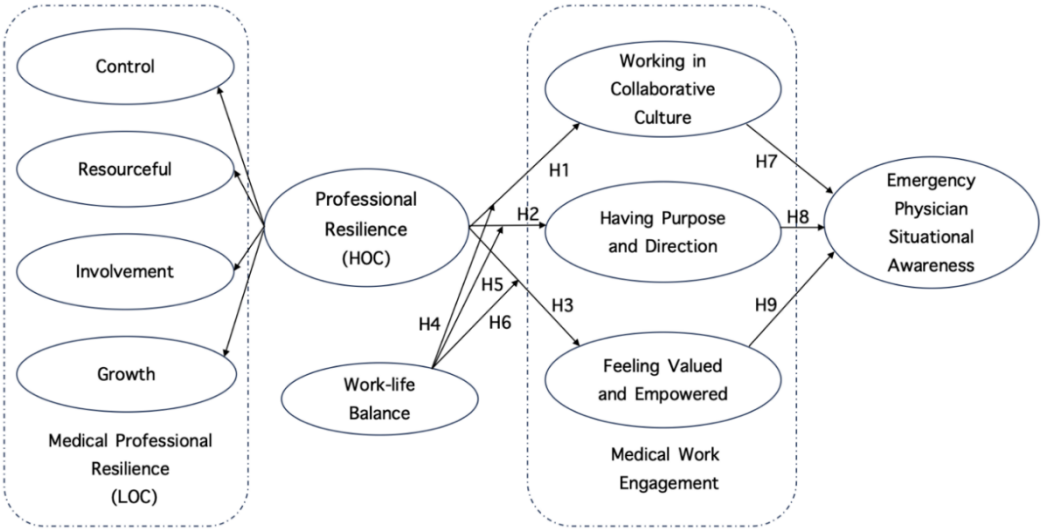

Figure 1. Conceptual Framework

The hypotheses formulated in this study were based on the evidence from previous studies and can be depicted as in Figure 1. The proposed model, which was based on previous research findings showing that professional resilience has a positive influence on medical work engagement, includes aspects of collaboration, having purpose and direction, feeling valued, and empowerment.

RESEARCH METHODS

This study employed a quantitative cross-sectional survey design to investigate the relationships among resilience, work engagement, work–life balance, and situational awareness in the context of emergency preparedness in hospital Emergency Departments (EDs). The target population consisted of general practitioners working in EDs of private

hospitals with bed capacities of 200–400, in accordance with the Regulation of the Minister of Health of the Republic of Indonesia Number 3 of 2020 on hospital classification. The hospitals were located in the Greater Jakarta (Jabodetabek) area.

Participants were selected using purposive sampling based on predefined inclusion criteria to ensure data relevance and quality. Eligible respondents were general practitioners who had worked in the ED for at least three months, had a minimum workload of 40 hours per week in shift-based schedules, held valid Advanced Cardiac Life Support (ACLS) certification, and were not recipients of hospital scholarships. Additional criteria included not holding multiple structural positions, having no formal disciplinary record, and not experiencing diagnosed mental health conditions such as depression. Private hospitals were chosen due to their distinct organizational structures, workloads, and management systems compared to public hospitals, allowing for a more focused assessment of situational awareness and occupational factors among ED physicians.

Data collection was conducted over a two-month period using an online questionnaire distributed through Google Forms to facilitate accessibility and participation. Sample size estimation was performed using power analysis for PLS-SEM, assuming an effect size (f^2) of 0.15, a significance level of 0.05, and statistical power of 0.80, resulting in a minimum requirement of 136 respondents. To enhance robustness and compensate for potential non-response, a larger number of questionnaires was distributed.

Measurement instruments were adapted from established scales. Resilience comprises four dimensions: control, resourceful, involvement, and growth. Work engagement was measured using the Medical Engagement Scale developed by Spurgeon et al. (2015), covering collaborative culture, purpose and direction, feeling valued and empowered, and work satisfaction. Work–life balance was adapted from Fisher et al. (2009) and included workplace support, work interference with personal life, personal life interference with work, satisfaction with work–life balance, and perceived effectiveness at work. Situational awareness was based on Balhara et al. (2022), encompassing perception of environmental elements, comprehension of current conditions, and projection of future status.

The questionnaire was translated into Indonesian by a language expert and reviewed by an expert panel consisting of five academics and practitioners, including an emergency medicine specialist. Face validity and the Indicator Content Validity Index (I-CVI) were assessed, with all items exceeding the 0.80 threshold. A pilot test involving 30 respondents was conducted to evaluate internal consistency, with Cronbach's alpha values above 0.70 indicating acceptable reliability. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The disjoint two-stage approach was applied to estimate the higher-order construct to improve parameter accuracy. Model evaluation followed current guidelines, including assessments of reliability, convergent validity, discriminant validity, and structural relationships (Sarstedt et al., 2019; Becker et al., 2023).

RESULTS

Based on Table 1, the largest group of respondents was the age of 20–29 years (46%), followed by 3–11 months of experience in the ER (41%) and working as a permanent employee (58%). This data shows that most respondents are young doctors who are starting their careers with short experience. The sex composition was balanced (52% male, 48% female), with most working in hospitals with a capacity of 200–400 beds in Jakarta and Tangerang. The majority were single (62%), and still did not have any family responsibilities.

Table 1. Respondent Profile

Demographic Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	111	52
	Female	102	48
Age	20–29 years	98	46
	30–39 years	68	32
	≥ 40 years	47	22
Work Experience in ED	< 1 year	87	41
	1–3 years	70	33
	> 3 years	56	26
Employment Status	Permanent	124	58
	Contract	89	42
Hospital Type	100-200 bed	117	55
	200-400 bed	96	45
Hospital Location	Jakarta	128	60
	Tangerang	85	40
Marital Status	Single	132	62
	Married	81	38

This analysis with SmartPLS4 software was conducted in three stages. The first stage was to evaluate the measurement model with the four Locus of Control (LOC) through reliability and validity tests. Out of all the components in the questionnaire, 27 indicators met the criteria. The reliable and valid indicators can be seen in Table 2, particularly the four dimensions of resilience in the LOC form.

Table 2. Reliability and Validity

Variables	Code	Outer Loading	CA	Rho_A	Rho_C	AVE
Control (LOC of resilience)	CTRL1	0.890	0.794	0.825	0.879	0.709
	CTRL2	0.759				
	CTRL3	0.871				
Resourceful (LOC of resilience)	RSC1	0.938	0.813	0.848	0.913	0.840
	RSC2	0.895				
Involvement (LOC of resilience)	INV1	0.756	0.679	0.720	0.831	0.622
	INV2	0.750				
	INV3	0.855				
Growth (LOC of resilience)	GRW1	0.742	0.770	0.808	0.850	0.589
	GRW2	0.824				
	GRW3	0.654				
	GRW4	0.836				
Work-Life Balance	WLB1	0.715	0.811	0.883	0.884	0.721
	WLB2	0.905				
Having Purpose and Direction	HVPRD1	0.734	0.742	0.748	0.831	0.552
	HVPRD2	0.736				
	HVPRD3	0.756				
	HVPRD4	0.745				
Working in Collaborative Culture	CLBCL1	0.921	0.890	0.902	0.932	0.821
	CLBCL2	0.952				
	CLBCL3	0.842				
Feeling Valued and Empowered	FVEMP1	0.822	0.822	0.850	0.893	0.735
	FVEMP2	0.865				
	FVEMP3	0.884				
Emergency Physician Situational Awareness	SAWR1	0.914	0.620	0.782	0.790	0.566
	SAWR2	0.547				
	SAWR3	0.751				

In testing using the two-stage disjoint method, there are two different stages, where the first stage involves LOC, whose reliability and validity must first be confirmed. Further step, in the second stage, the LOC becomes a reflective indicator for the High-Order Construct (HOC) from the latent variable score data generated in Smart PLS4. In this

second stage, reliability and validity testing were carried out again, where the HOC was included.

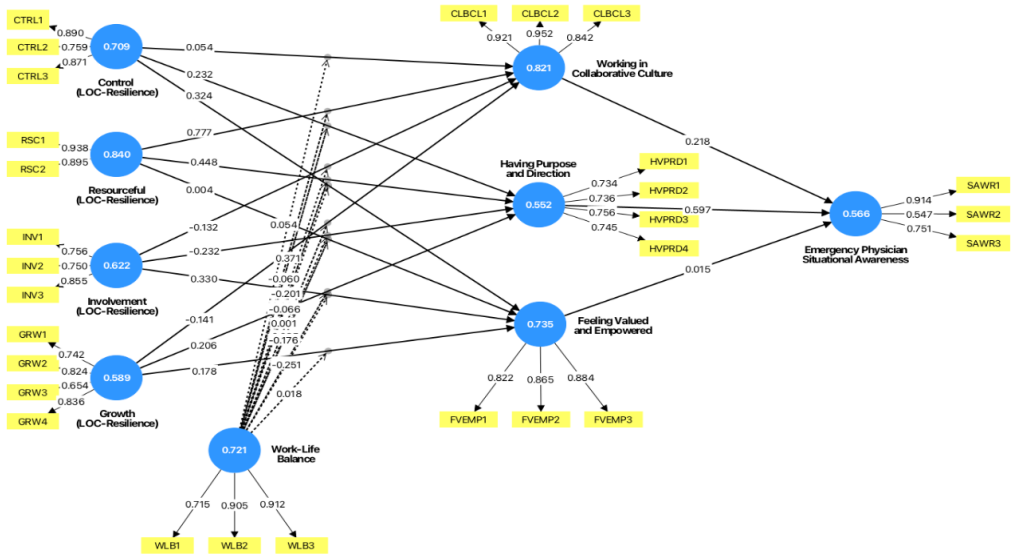

Figure 2. First Stage - Outer Model (with LOC)

The analysis results, as in Figure 2, show that most indicators have outer loadings above 0.708, indicating good reliability. Several indicators with lower values, such as SAWR2 (0.547) and GRW3 (0.654), were still acceptable. Cronbach's Alpha, rho_a, and rho_c values were all above 0.7, except for emergency physician situational awareness (α = 0.620), which still meets the criteria. All the AVE values were found above 0.5, with the highest being resourceful (0.840) and working in a collaborative culture (0.821), indicating that convergent validity was met. The discriminant validity test through HTMT resulted in all the variables below 0.90, proving no issue in discriminant validity, although some construct pairs have high correlations but were still considerably relevant. In summary, the measurement of the first stage model was declared reliable and valid for further structural model analysis.

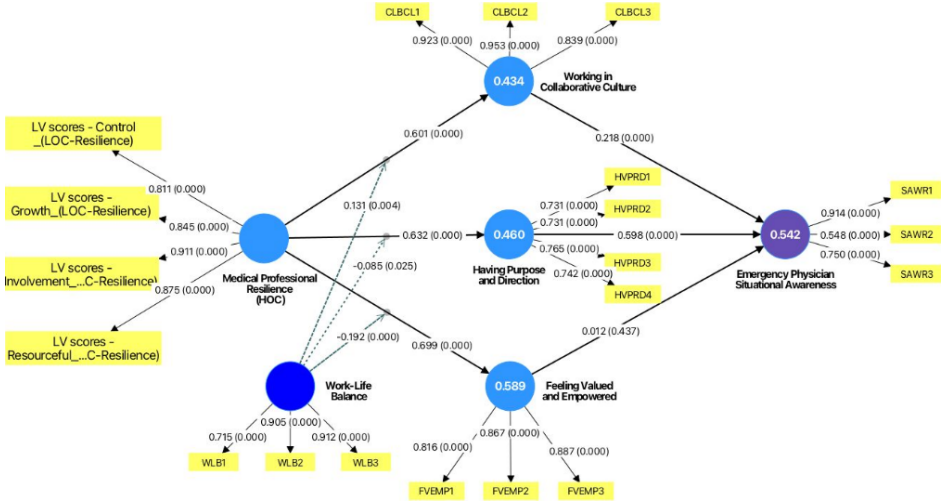

Figure 3. Second Stage Model Analysis

In the second stage model analysis, the resilience construct can be seen as an HOC that has a positive influence on medical engagement, as in Figure 3. This second-stage analysis, using a disjoint two-stage procedure, found that all VIF values were below 3, indicating that the model was free from multicollinearity. This inner VIF result also

indicates that there was no Common Method Bias (CMB) found in the measurement. The quality of the proposed model was then evaluated through the R^2, Q^2, and f^2.

The R^2 values indicated adequate explanatory power for emergency physician situational awareness (0.542), meaning that this variable can explain around 54% of the variance in the model. Meanwhile, feeling valued and empowered (0.589), having purpose and direction (0.460), and working in a collaborative culture (0.434) indicate the adequate explanatory power of the model. On the other side, the Q^2 predicted value of 0.467 indicates the acceptance of predicted relevance. The f^2 for effect size indicated a moderate to large influence of medical professional resilience (HOC) on the three main constructs: feeling valued and empowered (0.566), having purpose and direction (0.352), and working in a collaborative culture (0.304). Moderation analysis showed that WLB significantly strengthened the positive influence of resilience working in a collaborative culture. However, conversely, WLB significantly weakened its influence on having purpose and feeling valued.

Table 3. Hypothesis Testing

Hypothesis	Standardized Path Coefficient	Confidence Interval (5% – 95%)	p-value	Result	f^2
H1. Medical Professional Resilience (HOC) → Working in Collaborative Culture	0.601	0.487 – 0.708	0.000	Supported	0.304
H2. Medical Professional Resilience (HOC) → Having Purpose & Direction	0.632	0.516 – 0.744	0.000	Supported	0.352
H3. Medical Professional Resilience (HOC) → Feeling Valued & Empowered	0.699	0.601 – 0.787	0.000	Supported	0.566
H4. Work-Life Balance × Medical Professional Resilience (HOC) → Working in Collaborative Culture	0.131	0.048 – 0.213	0.004	Supported	0.028
H5. Work-Life Balance × Medical Professional Resilience (HOC) → Having Purpose & Direction	-0.085	-0.154 – -0.012	0.025	Not Supported	0.012
H6. Work-Life Balance × Medical Professional Resilience (HOC) → Feeling Valued & Empowered	-0.192	-0.266 – -0.120	0.000	Not Supported	0.083
H7. Working in Collaborative Culture → Emergency Physician Situational Awareness	0.218	0.123 – 0.316	0.000	Supported	0.081
H8. Having Purpose & Direction → Emergency Physician Situational Awareness	0.598	0.464 – 0.735	0.000	Supported	0.282
H9. Feeling Valued & Empowered → Emergency Physician Situational Awareness	0.012	-0.117 – 0.141	0.437	Not Supported	0.000

The inferential multivariate test was done by bootstrapping with 10,000 re-samplings, one-tailed, and alpha 0.05. Based on Table 3, the result confirmed that six hypotheses were supported. Only one moderation path was found to support a strengthening effect. HOC had a strong effect on feeling valued and empowered ($\beta = 0.699$; $p < 0.001$), having purpose and direction ($\beta = 0.632$; $p < 0.001$), and working in a collaborative culture ($\beta = 0.601$; $p < 0.001$). Meanwhile, having purpose and direction on emergency physician situational awareness was significant ($\beta = 0.598$; $p < 0.001$), while feeling valued and empowered on emergency physician situational awareness was not significant ($p = 0.437$).

The moderating effect of work-life balance shows a different direction: negative on feeling valued and empowered (β = -0.192; p < 0.001) and having purpose and direction (β = -0.085; p = 0.025), but positive as expected on working in a collaborative culture (β = 0.131; p = 0.004). The results of the hypothesis testing indicate that the interaction between work-life balance and medical professional resilience on two dimensions of medical professional well-being, namely having purpose & direction (H5) and feeling valued & empowered (H6), shows a negative coefficient (H5 = -0.085; H6 = -0.192), indicating a weakening effect. This means that the higher the level of medical professional resilience, the positive relationship between work-life balance and the two outcomes actually weakens. This condition reflects that individuals with high resilience can maintain a sense of purpose, direction, and feelings of being valued and empowered, even though their work-life balance is low, so that the effect of work-life balance becomes less influential on their well-being. Thus, HOC acts as a moderator that weakens the relationship between work-life balance and aspects of medical professional well-being.

The results indicate that working in a collaborative culture positively and significantly influences emergency physician situational awareness (β = 0.218, p < 0.001), suggesting that teamwork and cooperative practices contribute to slightly enhancing situational awareness in emergency settings. Having purpose and direction shows an even stronger and significant effect (β = 0.598, p < 0.001), highlighting that clear goals and guidance play a crucial role in improving physicians' situational awareness. In contrast, feeling valued and empowered does not have a significant impact (β = 0.012, p = 0.437), implying that perceived recognition alone is insufficient to enhance situational awareness in this context.

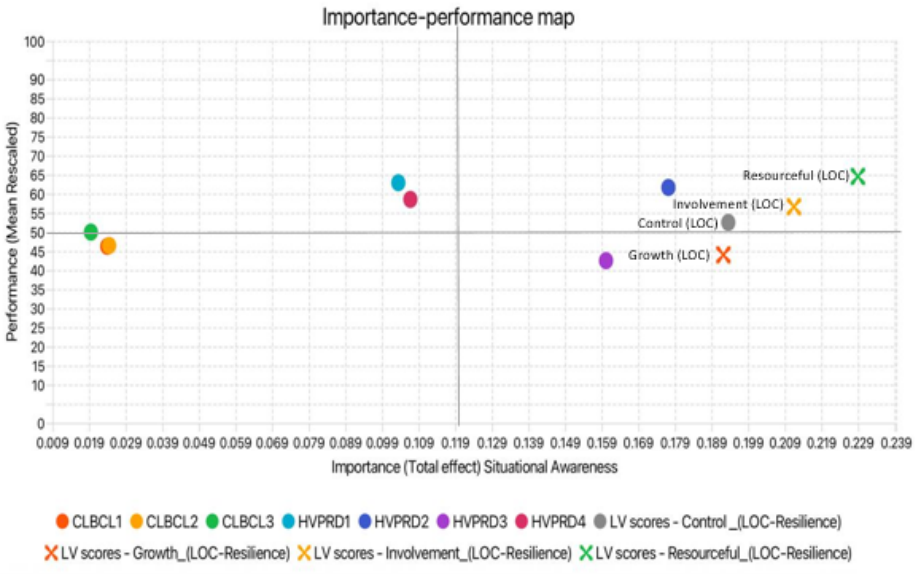

Figure 4. IPMA Analysis

Based on the Importance-Performance Map (IPMA) in Figure 4, resourceful (agility/ability to utilize resources) was the most prominent factor, followed by involvement. Meanwhile, growth was not optimal and therefore needed to be a top priority for development. The IPMA results showed that among the three predictor constructs, medical professional resilience had the greatest influence on emergency physicians' situational awareness, with an importance level of 0.711 and a performance level of 54.945. All four LOCs were in the right quadrant of the IPMA image above, demonstrating the importance of resilience in the eyes of emergency physicians.

This finding confirms that medical professional resilience is a key factor determining physicians' situational preparedness in the emergency department. Furthermore, the

having purpose and direction construct also contributed significantly, with an importance level of 0.406 and a performance level of 56.553. However, in the IPMA image in Figure 4, this variable is in the upper left quadrant, so it was less important than resilience. However, this reflects that clarity of purpose and work direction play a role in enhancing physicians' situational readiness. Meanwhile, working in a collaborative culture aspect deserves attention and future development since.

DISCUSSION

The findings indicate that medical professional resilience in emergency departments has a strong positive effect on collaborative work culture, sense of purpose and direction, and feelings of being valued and empowered among emergency physicians. Purpose and direction emerged as the strongest predictors of situational awareness, followed by collaborative culture, while feeling valued and empowered showed no significant effect, possibly due to case variability and hospital operational constraints. Work–life balance played a mixed moderating role, strengthening the relationship between resilience and collaboration but weakening its links with purpose and empowerment (Gupta & Srivastava, 2021).

The resulting human development strategy emphasizes strengthening medical resilience and purpose and direction, as both demonstrate high importance and strong performance. Although collaborative culture was less influential, it remains a critical concern. Importantly, resilience emerged as the most significant predictor of situational awareness, highlighting its active role in maintaining emergency readiness. These findings support prior studies by Barasa et al. (2018) and Sánchez-Zaballos and Mosteiro-Díaz (2021) while extending the literature by examining the moderating effect of work–life balance.

The present study contradicts prior research that assumed a uniformly positive linear relationship by revealing a moderating effect of work–life balance with mixed outcomes: it negatively affects feelings of being valued and empowered while positively strengthening collaborative work culture. These findings support the argument that work–life balance is not universally applicable across organizational contexts but is highly dependent on structural support and work climate (Kim & Windsor, 2015; Bernuzzi et al., 2022). In environments lacking organizational support, achieving work–life balance may lead staff to feel overlooked, whereas in collaboration-oriented settings it can foster trust, teamwork, and patient safety (Sexton et al., 2016). Furthermore, the structural model shows that purpose and direction are the strongest drivers linking HOC to situational awareness. This reinforces theories of professional motivation in crisis contexts, emphasizing that clarity of role and professional meaning enhance situational awareness and support faster, more accurate clinical decision-making, particularly in emergency care settings (Jiang, 2021; Balhara et al., 2022).

This study expands the theoretical understanding of resilience by framing it not only as an individual attribute (Bui et al., 2023). As a multilevel mechanism influenced by contextual factors like work-life balance and team outcomes, such as collaborative culture (Hartmann et al., 2020; Hillmann & Guenther, 2020). Among emergency physicians, the strongest contributor to situational awareness is having a clear sense of purpose and direction, aligning with previous findings that emphasize self-awareness and autonomy as key factors (Andy & Antonio, 2022). This suggests the importance of fostering goal alignment between doctors and the hospital's mission. Practical strategies include monthly reflective alignment sessions and purpose-driven messaging during morning briefings, which reinforce shared goals, intrinsic motivation, and situational awareness without adding workload or costs. Such consistent, low-resourceful interventions can cultivate a resilient, purpose-oriented emergency care culture even in resource-limited private hospitals.

Practical consequences can be acquired by using the Importance-Performance Map Analysis (IPMA). The findings indicate that most of the dimensions of locus of control of medical professional resilience are placed at the top in terms of importance; nevertheless,

the performance is still below the expected level, especially in the area of growth. This emphasizes the necessity to provide interventions that would enhance resilience, like peer support, training in coping strategies, and setting up support systems within the organization (Foster et al., 2018; Joyce et al., 2018; Forbes & Fikretoglu, 2018; Agarwal et al., 2020). Alike, purpose clarity can be increased indirectly and directly through leadership communication and job designing, which can eventually strengthen situational preparedness (Sherren & Indra, 2025). The results obtained from this study are in line with the recent literature emphasizing the importance of shared situational awareness in emergency services (Cooper et al., 2014; O'Brien et al., 2020). The findings revealed that resilience is important as a buffer against burnout, which is taking place among health workers in Indonesian hospitals with heavy workloads and is often mentioned in the literature (Antonio et al., 2024). Thus, it becomes critical for the readiness of hospital emergency units.

CONCLUSION

The findings of this study indicate that effective emergency preparedness in hospitals relies not solely on technology, but on a combination of psychological, organizational, and situational judgment factors. Professional resilience among emergency physicians emerged as a key determinant of individual situational awareness, with medical work engagement, particularly having a clear sense of purpose and direction, serving as the most critical mediator. Physicians with strong purpose and direction demonstrated greater focus and readiness during emergencies, while resourceful and involvement were identified as the most influential dimensions of professional resilience, enhancing intrinsic motivation, continuous growth, and adaptive decision-making. Additionally, work-life balance was found to moderate the relationship between resilience and collaborative culture, supporting teamwork, although excessively high work-life balance had a limited effect on situational awareness due to the inherent demands and personal sacrifices required in emergency departments. These results emphasize the central role of human factors in fostering a resilient, well-prepared emergency workforce.

Despite these contributions, the study has several limitations. Data heterogeneity arising from differences in hospital policies, shift schedules, and incentive systems may influence the outcomes, and individual value systems such as religiosity and humanitarian commitment were not accounted for, potentially affecting resilience. Consequently, future research should adopt more contextual and longitudinal designs to capture variations across hospitals, shifts, and incentive structures. Incorporating personal value systems, expanding samples to include trauma units and public hospitals, and exploring additional human-centered constructs such as moral distress, psychological safety, and leadership support could provide a more comprehensive understanding of resilience-based preparedness. These approaches would help identify strategies to strengthen professional resilience, engagement, and situational awareness, ultimately enhancing emergency department performance and patient safety in diverse healthcare settings.

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