

LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

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Abstract

This study examines how work-life balance and organizational support influence employee performance through safety culture at the Samarinda Class I Harbormaster and Port Authority Office. This study departs from the theoretical debate on how individual resources and institutional support translate into performance in high-risk organizations. Using a quantitative explanatory approach with partial least squares structural equation modeling analysis on 97 employees, this study found that work-life balance and organizational support significantly influenced safety culture and employee performance. Safety culture partially mediated this relationship, functioning as a collective mechanism that converts role balance and institutional support into operational performance. The main contribution of this study is the affirmation of safety culture as an organizational capability that integrates individual well-being and organizational support to improve performance in the context of port regulation.

Keywords: Work Life Balance, Organizational Support, Safety Culture, Employee Performance, High-Risk Organizations

Introduction

Employee performance in high-risk public organizations is a strategic concern in global governance because operational failures in the maritime transportation sector are heavily influenced by human factors and organizational conditions. International maritime safety reports indicate that work pressure, weak institutional support, and an immature safety culture contribute to the declining oversight quality and operational performance. Recent safety literature confirms that in high-reliability organizations, performance cannot be explained solely by individual competencies but by the configuration of organizational systems that regulate the balance of psychological resources and collective safety norms (Bai et al., 2021; Zhang et al., 2024). Simultaneously, human resource management research indicates that work-life balance and organizational support shape work energy and reciprocal behaviors that impact sustainable performance (Kim & Beehr, 2022; Wang et al., 2023). However, the integration of work-life balance and safety culture constructs to explain employee performance in maritime regulatory institutions remains limited. Contemporary debate positions work-life balance as a strategic resource influencing psychological stability and performance capacity. An imbalance between work and personal roles has been shown to increase burnout and decrease task focus, while maintaining balance strengthens cognitive readiness and commitment to work (Lu et al., 2022; Talukder et al., 2023). From the perspective of conservation of resources theory, this balance maintains the psychological energy reserves needed to maintain performance. However, the empirical findings are inconsistent. Some studies have found a strong direct effect on performance, while others suggest that the relationship is contingent on organizational climate and specific collective mechanisms (Haar et al., 2022). This inconsistency indicates that the intermediary mechanisms linking work-life balance and performance have not been adequately elucidated.

Organizational support is also considered the foundation of reciprocal relationships between employees and institutions. According to social exchange theory, the perception that an organization values employee contributions fosters a sense of moral obligation to reciprocate through improved performance (Kurtessis et al., 2022). A recent meta-analysis confirmed that organizational support is positively related to performance; however, the strength of this relationship varies across sectors with high levels of risk and regulation (Caesens & Stinglhamber, 2023). This variation suggests that the safety context may serve as a transformational mechanism that translates support into concrete-performance behaviors.

Safety culture emerges as a collective mechanism with the potential to bridge the gap between individual factors and organizational performance. The safety literature explains that shared values and norms related to safety shape compliance, vigilance, and incident reporting, ultimately affecting organizational effectiveness (Al Ma'aitah et al., 2023; Lu & Yang, 2022). However, most studies position safety culture as an outcome of leadership or management systems rather than as a mediating variable linking employee well-being and institutional support to performance. This conceptual gap indicates a lack of integration of human resource management and organizational safety perspectives within a single causal framework.

There are three main gaps in this literature. First, few models simultaneously integrate work-life balance, organizational support, and safety culture to explain performance in public maritime regulatory agencies. Second, research has predominantly been conducted on private shipping companies, while regulatory agencies such as Harbormaster Offices and Port Authorities are rarely studied as contexts for theory testing. Third, the relationships between variables are often assumed to be linear, without considering the collective processes that transform individual resources into organizational performance. This gap calls for the development of models that position safety culture as a strategically mediating mechanism.

Based on this background, the research question posed is: How do work-life balance and organizational support influence employee performance through safety culture at the Samarinda Class I Harbormaster and Port Authority Office? This question requires a theoretical explanation of whether safety culture functions as a resource conversion mechanism that links psychological conditions and institutional relations to performance outcomes. The primary theoretical contribution of this study lies in the integration of the social exchange perspective and safety culture literature to explain performance in high-risk organizations. This study extends the scope of social exchange theory by demonstrating that reciprocity processes are not limited to the individual level but are mediated by collective safety norms that guide work behavior. Methodologically, the use of structural equation modeling allows for the simultaneous testing of direct and indirect relationships between latent constructs, providing stronger evidence of mediating mechanisms. Contextually, the model's testing within a maritime regulatory agency in Indonesia provides a boundary-spanning test of theories that have been widely developed in Western corporate organizations.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Work Life Balance and Employee Performance

Work-life balance is understood as an individual's ability to manage the demands of work and personal life to avoid role conflict that drains psychological resources. From a resource-based perspective, employees' psychological capacity is a valuable intangible resource because it supports consistent and quality performance. When organizations can maintain this balance, they essentially preserve the cognitive and emotional energy reserves that form the foundation of sustainable productivity. The conservation of resources theory perspective also explains that individuals who achieve role balance tend to maintain a more stable focus and work engagement, which directly impacts performance (Aloulou et al., 2023).

Empirical findings from the past three years indicate that work-life balance is positively related to performance through increased job satisfaction, engagement, and psychological stability. Cross-sector research shows that role balance reduces burnout and improves task performance quality, particularly in high-demand organizations (Borgia et al., 2022; Talukder et al., 2023). In the context of high-risk public organizations, role balance becomes even more critical because operational pressures and public accountability can increase the potential for burnout, leading to work-related errors. Causally, work-life balance maintains individual resources, which translates into more consistent task performance.

Based on the theoretical arguments and empirical evidence, the following hypothesis is formulated.

H1: Work-life balance has a positive effect on employee performance.

Organizational Support and Employee Performance

Organizational support, known in the literature as perceived organizational support, refers to the perception that an organization values employee contributions and cares about their well-being. Social exchange theory explains that when employees perceive such support, norms of reciprocity are formed that encourage increased effort and loyalty among employees. This reciprocity is not symbolic but translates into more responsible and results-oriented work behavior (Kim & Beehr, 2022). Recent meta-analyses have shown that organizational support is positively correlated with individual and work unit performance, although the strength of this relationship varies across organizational contexts (Caesens and Stinglhamber, 2023). In high-risk sectors such as port surveillance, organizational support can strengthen psychological safety and trust in the system, enabling employees to focus more on achieving the operational standards. Longitudinal evidence also suggests that a climate of organizational support is related to the well-being and sustainable performance of public service units (Larsman et al., 2024). Logically, organizational support creates the relational conditions that foster improved performance.

Thus, the following hypothesis is proposed:

H2: Organizational support positively affects employee performance.

Work Life Balance and Safety Culture

Safety culture represents the collective values and norms that prioritize safety in every decision and action. Within the dynamic capability framework, safety culture can be understood as an organizational capability that directs collective attention and shapes consistent behavioral patterns toward risk. The formation of this culture is inseparable from an individual's psychological state. Employees with balanced roles tend to have greater emotional stability and work focus, making it easier to internalize the organization's safety values. Recent studies have shown that well-being-supportive working conditions contribute to the formation of positive safety climate and culture (Bautista Bernal et al., 2024). When role stress decreases, individuals are more responsive to safety procedures and more active in risk-reporting practices. Thus, work-life balance can be understood as an individual antecedent that strengthens the internalization of a safety culture.

Therefore, the following hypothesis is proposed:

H3: Work-life balance has a positive effect on safety culture.

Organizational Support and Safety Culture

Organizational support serves as an institutional signal of the organization's value priorities. From a social exchange perspective, when an organization demonstrates concern for its employees, employees are more likely to adapt their behavior to the values the organization promotes, including safety. Support for training, risk communication, and incident reporting reinforces the perception that safety is not merely a rule but a collective commitment. Safety literature indicates that management commitment and organizational support are strong predictors of safety culture (Al Ma'aitah et al., 2023). Empirical findings in the transportation sector indicate that perceived organizational support increases compliance with safety standards and strengthens collective values related to risk prevention (Zhang et al., 2024). Organizational support creates a climate that facilitates the internalization of safety norms.

Based on this, the following hypothesis is proposed:

H4: Organizational support positively affects the safety culture.

Safety Culture and Employee Performance

Safety culture influences performance by establishing collective norms and strengthening the discipline of work. Within the resource-based view, safety culture is an intangible resource that is difficult to imitate because it is embedded in shared values. This culture increases the consistency of action, reduces errors, and maintains service quality. Recent research shows that safety culture is associated not only with reduced incidents but also with increased organizational effectiveness and operational performance (Bautista Bernal et al., 2024; Zhang et al., 2024). In port regulatory organizations, adherence to procedures and risk awareness are the core components of performance. Therefore, safety culture serves as a mechanism for translating collective values into measurable work outcomes.

Based on these arguments, the following hypothesis is proposed:

H5: Safety culture positively affects employee performance.

The Mediating Role of Safety Culture

Integratively, work-life balance and organizational support provide individual and relational resources for employees. However, in high-risk organizations, these resources do not automatically translate into performance, without collective mechanisms guiding behavior. Safety culture serves as a conversion mechanism that transforms psychological conditions and institutional relationships into safe and productive actions. From a dynamic capability perspective, safety culture absorbs inputs in the form of well-being and support and then transforms them into consistent operational routines. Recent empirical findings indicate that safety initiatives and organizational support strengthen the safety culture, which then impacts performance (Bautista Bernal et al., 2024). Thus, safety culture bridges the relationship between individual antecedents and their performance outcomes.

Therefore, the following mediation hypothesis is proposed:

H6: Safety culture mediates the effect of work-life balance on employee performance.

H7: Safety culture mediates the effect of organizational support on employee performance.

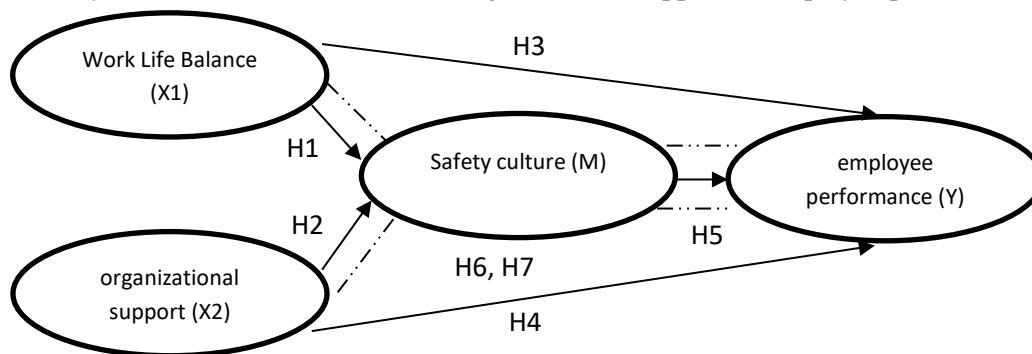


Figure 2. Conceptual Framework of the Research

RESEARCH METHOD

Research Design and Theoretical Justification

This study used a quantitative explanatory design to examine the causal relationship between work-life balance, organizational support, safety culture, and employee performance. The explanatory design was chosen because the research objective was not limited to identifying correlational relationships but rather required testing explanatory mechanisms through a mediation model. Within the framework of the resource-based view and social exchange theory, testing structural relationships is necessary to ensure that psychological and relational resources are truly translated into performance through structured collective mechanisms. The analysis was conducted using partial least squares structural equation modeling (PLS-SEM). This approach is suitable for predictive models containing mediating variables and latent constructs with reflective indicators. Methodological literature confirms that PLS-SEM is effective in testing complex models in organizational contexts with limited population sizes and is oriented towards strengthening the model's predictive capabilities (Hair et al., 2019; Hair & Alamer, 2022).

Population, Sampling Techniques, and Sample Size

The study population comprised all 97 employees of the Samarinda Class I Harbormaster and Port Authority Office. The census was used as the sampling technique; thus, the entire population was selected as respondents. The census was chosen based on the methodological rationale of the relatively small and heterogeneous population in terms of work function, thus minimizing the potential for selection bias and increasing the accuracy of the structural parameter estimates. In PLS-SEM, the appropriateness of the sample size is not solely determined by the number of respondents but also by the complexity of the model and its predictive orientation. Methodological guidelines indicate that PLS-SEM remains stable at moderate sample sizes as long as the indicators meet the measurement quality and the model structure is not excessive (Hair et al., 2019). Therefore, using a census of 97 employees is considered statistically and substantively adequate.

Measurement Instruments and Adaptation Process

The research instrument used a five-point Likert scale questionnaire with a reflective model. Employee performance was measured using indicators of work quality, output quantity, timeliness, initiative, cooperation, and procedural compliance. These indicators align with the individual performance measurement framework developed in the Individual Work Performance Questionnaire (Koopmans et al., 2014). Work-life balance is measured using indicators such as time balance, engagement balance, satisfaction with role proportions, minimal work interference with personal life, and perceived improvement in quality of life. This framework is consistent with modern measures of role balance, which emphasize subjective evaluations of work-life harmony (Brough et al., 2014).

Organizational support is measured based on the dimensions of appreciation for contributions, concern for well-being, consistency of fair policies, resource support, and support from immediate supervisors. This construct refers to the concept of perceived organizational support, which emphasizes employee perceptions of organizational commitment (Eisenberger et al., 1986). Safety culture is measured through indicators of management commitment to safety, open risk communication, participation in safety activities, a non-intimidating incident-reporting system, and continuous safety learning. These indicators align with the safety culture framework in the literature on occupational safety and high-risk organizations (Neal et al., 2000). The instrument adaptation process was carried out through translation, adjustment to the port context, and limited trials to ensure the equivalence of meaning and relevance of indicators to port supervision and service tasks.

Validity and Reliability Test

Convergent validity was evaluated through outer loadings with a minimum threshold of 0.70 and an average variance extracted value of > 0.50 . All indicators met this threshold, with outer loading values ranging from 0.873 to 0.938, indicating the consistency of the indicators in reflecting the latent construct. Internal reliability was measured using Cronbach's alpha and composite reliability, with values above 0.70. All constructs demonstrated very strong reliability, with composite reliability values above 0.94 and average variance extracted (AVE) values above 0.78. These results indicate high internal consistency and measurement quality (Hair et al., 2019). Discriminant validity was tested using the Fornell-Larcker criterion and the heterotrait-monotrait ratio (HTMT). The square root of the AVE of each construct was higher than the correlation between the constructs. The HTMT value was below the 0.85 threshold, indicating that the constructs could be empirically distinguished (Henseler et al., 2015).

Structural Model Evaluation

The model's explanatory power was assessed using R-squared. Safety culture had an R-squared value of 0.851, indicating that work-life balance and organizational support explained 85.1 percent of the variation in safety culture. Employee performance had an R-squared of 0.916, indicating that the combination of the three variables explained 91.6 percent of the variation in performance. These values indicate the model's strong explanatory power. Effect sizes were assessed using the Fisher's f-squared test. The influence of work-life balance on safety culture and organizational support on safety culture demonstrated large effect sizes. The influence of safety culture on performance demonstrated a substantial effect size. This strengthens the position of safety culture as the primary mediating mechanism in the model. Predictive relevance is assessed using the Q square with values above zero for endogenous variables, which indicates that the model has good predictive ability. Path coefficients were tested using a bootstrapping procedure with 5,000 resampling. All main paths showed positive and significant coefficients, with t-values above 1.96 and p-values below 0.05. The indirect effects of work-life balance and organizational support on performance through safety culture were also significant, indicating partial mediation effects.

Data Analysis Procedures and Software

Data analysis was conducted using the latest version of SmartPLS through two evaluation stages: measurement and structural model evaluations. The first stage ensured construct quality through reliability and validity testing. The second stage tests causal and mediation relationships through path estimation and bootstrap-based significance testing. This approach complies with the PLS SEM reporting guidelines of internationally reputable journals (Hair et al., 2019).

Research Ethics and Bias Control

This study applied the principles of informed consent, confidentiality of respondent identities, and data use solely for academic purposes. All respondents were given an explanation of the research's purpose and their right to withdraw from participation at any time. The potential for common method bias was controlled through a questionnaire design that conceptually separated constructs and a full collinearity evaluation using VIF values. The literature suggests that a VIF below the threshold of 3.3 indicates no strong indication of common method bias in PLS-SEM (Kock, 2015). With this approach, the research methodology not only meets statistical standards but also ensures the scientific integrity and reliability of the resulting causal inferences.

RESULTS AND DISCUSSION

Respondent Demographic Profile

The number of respondents in this study was 97 employees of the Samarinda Class I KSOP. The composition of the respondents reflected variations in age, education, length of service, and work unit, making it representative enough to test a structural model involving individual and organizational variables in a high-risk work context.

Table 1. Demographic Profile of Respondents (n = 97)

Category	Classification	Amount	Percentage
Gender	Man	68	70.1%
	Woman	29	29.9%
Age	< 30 years	11	11.3%
	30–39 years	28	28.9%
	40–49 years	36	37.1%
	≥ 50 years	22	22.7%
Education	High School/Vocational School	9	9.3%
	Diploma	17	17.5%
	Bachelor	54	55.7%
	Postgraduate	17	17.5%
Years of service	< 5 years	8	8.2%
	5–10 years	21	21.6%
	11–15 years	24	24.7%
	> 15 years	44	45.4%
Work unit	Legal Status and Certification of Ships	31	32.0%
	Sailing Safety and Patrol	28	28.9%
	Traffic and Port Business	22	22.7%
	Administration	16	16.5%

Most respondents had more than 15 years of service, indicating a high level of work experience. In the context of port oversight organizations, experience is a crucial asset in shaping procedural compliance and safety orientation, making it relevant to examine the role of safety culture as a performance mediator in this study.

Evaluation of Measurement Model

The measurement model evaluation aims to ensure that latent constructs are measured reliably and validly before testing causal relationships. The evaluation criteria follow *the PLS SEM reporting guidelines*, which include *outer loading*, AVE, Cronbach's alpha, and *composite reliability* (Hair et al., 2019).

Convergent Validity and Internal Reliability

All indicators showed *outer loadings* above 0.70, indicating a strong contribution to the latent constructs. The AVE values for all variables were above 0.50, meaning that more than 50 percent of the indicator's variance was explained by the construct.

LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

Sopiansyah et al

Table 2. Summary of Convergent Validity and Reliability

Construct	Outer Loading Range	Cronbach Alpha	Composite Reliability	AVE
Work-life balance	0.873–0.906	0.933	0.949	0.789
Organizational support	0.881–0.896	0.933	0.949	0.789
Safety culture	0.907–0.930	0.953	0.964	0.842
Employee performance	0.891–0.938	0.963	0.970	0.843

Very high reliability values indicate a strong internal consistency. This is important because the model positions safety culture as a mediator, making measurement stability a prerequisite for the validity of the causal inferences.

Discriminant Validity

Discriminant validity was evaluated using the Fornell–Larcker criteria and HTMT values, as recommended by Henseler et al. (2015). The square root of the AVE of each construct was higher than the correlation between constructs; therefore, each variable had sufficient empirical uniqueness.

Table 3. Fornell Larcker Criterion

Construct	Safety culture	Work-life balance	Organizational support	Employee performance
Safety culture	0.918			
Work-life balance	0.835	0.888		
Organizational support	0.813	0.596	0.888	
Employee performance	0.942	0.843	0.826	0.918

Although the correlation between safety culture and performance is quite strong, the two remain conceptually and empirically distinct. This aligns with the theory that safety culture is an antecedent of performance behavior, not a performance indicator.

Structural Model Evaluation

Coefficient of Determination

Table 4. R Square Value

Endogenous Variables	R ²	R ² Adjusted
Safety culture	0.851	0.849
Employee performance	0.916	0.915

The model explained 84.9 percent of the variation in safety culture and 91.5 percent of the variation in employee performance. These values indicate the model’s strong explanatory power, especially in organizations with safety procedure-based work systems.

Effect Size

Table 5. f-squared value

Path Relationship	f ²
Work life balance → Safety culture	1,276
Organizational support → Safety culture	1,036
Safety culture → Employee performance	0.522
Work life balance → Employee performance	0.211
Organizational support → Employee performance	0.215

The largest effect size was observed in the pathway to safety culture. This strengthens the theoretical argument that safety culture is a key mechanism that transforms individual resources and organizational support into performance.

LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

Sopiansyah et al

Predictive Relevance

The Q² value for safety culture was 0.712, and for employee performance, it was 0.767. These values indicate an excellent predictive ability of the model.

Path Coefficients and Hypothesis Testing

Table 6. Hypothesis Test Results

Relationship Path	Coefficient	t Value	p Value	Decision
Work life balance → Safety culture	0.543	14,292	0,000	Accepted
Organizational support → Safety culture	0.489	12,028	0,000	Accepted
Safety culture → Employee performance	0.541	7,243	0,000	Accepted
Work life balance → Employee performance	0.249	5,493	0,000	Accepted
Organizational support → Employee performance	0.238	4,585	0,000	Accepted
Work life balance → Performance through Safety Culture	0.294	7,103	0,000	Significant mediation
Organizational support → Performance through Safety Culture	0.265	5,577	0,000	Significant mediation

Work-life balance significantly impacts safety culture. This implies that role balance enhances focus and psychological stability, facilitating employees' internalization of safety norms. Organizational support significantly influences the safety culture. Policy support and management attention reinforce the perception that safety is an institutional priority for the organization. Safety culture significantly impacts employee performance. Procedural compliance and risk awareness are key components of work performance in port oversight organizations.

Work-life balance and organizational support also directly impact performance. However, the large indirect effect of safety culture suggests that some of their influences strengthen collective safety norms.

Thus, safety culture is a partial mediator that explains how individual resources and institutional support translate into high work performance in high-risk organizations.

DISCUSSION

Employee performance in port regulatory organizations is determined by the organizational system's ability to manage risk, maintain consistent procedural compliance, and maintain employee work capacity to meet regulatory demands. The findings of this study demonstrate a clear causal pattern: work-life balance and organizational support enhance safety culture, which in turn enhances employee performance. This pattern demonstrates that psychological and relational resources do not operate in isolation but are converted into performance through a collective mechanism: a safety culture. These findings align with the Job Demands-Resources (JD-R) integration framework and *the conservation of resources*, which emphasize the balance of demands and resources as a prerequisite for adaptive work behavior and sustainable performance (Demerouti, 2025).

The influence of work-life balance on safety culture reinforces the argument that role balance is not just a well-being issue but also a psychological infrastructure that shapes compliance and risk awareness. According to resource theory, employees who maintain role balance tend to have sufficient cognitive and emotional reserves to maintain attention to procedures, conduct checks and respond to operational anomalies in a disciplined manner. Recent evidence suggests that family friendly policies and workplace support have positive effects on work outcomes and work-family outcomes, although the magnitude of the effects varies depending on the context and characteristics of family demands (Blom et al., 2025). The findings of this study add further weight to this debate by demonstrating that in high-risk environments, the contribution of work-life balance can be particularly strong when the pathway is directed through a safety culture that regulates collective behavior. These results also extend the work-life balance literature, which often positions performance as a direct, individual outcome. Recent literature emphasizes the importance of contextual resources to support work-life balance and guide the utilization of these resources in work practices, particularly in flexible or remote work arrangements (Pensar et al., 2023). This study demonstrates an alternative form of this mechanism: work-life balance enhances psychological readiness to internalize safety values, which then become collective rules of thumb that maintain the quality of task execution. This means that work-life balance operates not

LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

Sopiansyah et al

only through job satisfaction or engagement but also through safety norms as a behavioral control system in high-risk organizations. The influence of organizational support on safety culture reinforces the explanations of *organizational support theory* and *social exchange theory*, which argue that institutional support creates reciprocal obligations and strengthens orientation toward organizational goals. A recent meta-analysis of the organizational support literature shows that organizational support is strongly associated with various attitudinal and behavioral outcomes, including performance, and that this relationship is influenced by national cultural factors and methodological aspects (Yan et al., 2024). The findings of this study enrich this perspective by positioning safety culture as a mechanistic pathway that explains why organizational support becomes more meaningful in institutions that demand procedural discipline. In KSOP, tangible organizational support, such as resource availability, policy fairness, and superior support, serves as a signal of institutional priority. These signals accelerate the internalization of safety values, so that safe behavior becomes habitual rather than merely formal compliance.

The role of safety culture as a predictor of employee performance aligns with the safety literature, which positions safety culture as a driver of safety performance and organizational effectiveness. A longitudinal study in Safety Science showed that a comprehensive safety culture improves safety performance and subsequently impacts broader organizational performance, including financial performance, through reduced injury rates and strengthened safety management systems (Bautista Bernal et al., 2024). Although this study measured employee performance and not safety or financial performance, the logic is consistent. Safety culture improves the quality of decision-making and the accuracy and consistency of work processes. In port oversight units, these qualities are the core dimensions of performance because they are directly related to the integrity of public services and risk prevention.

The strong relationship between safety culture and high performance can also be interpreted as evidence that in high-risk organizations, safety culture functions as an organizational capability that integrates routines, learning, and coordination. This aligns with the *dynamic capability view*, which emphasizes an organization's ability to absorb information, learn from deviations, and transform practices to maintain reliability. Recent maritime literature also indicates that safety culture shapes safety behaviors among shipping personnel, emphasizing its significance in work environments that bear high risks and rely on procedural compliance (Xi et al., 2025). Therefore, the findings of this study are best understood as strengthen the argument that safety culture is not merely a normative attribute but a behavioral engine that maintains operational performance.

The mediation findings of safety culture highlight the key theoretical contributions of this study. Many studies have identified work-life balance and organizational support as direct predictors of performance and explained the mechanism through affective variables such as job satisfaction or engagement. This study extends the mechanistic pathway by demonstrating that in high-risk organizations, collective safety norms become a more relevant conversion channel for safety motivation. This extends *social exchange theory* from the individual level of exchange to the institutional level, as reciprocity for organizational support takes the form of increased individual effort and adherence to and participation in collectively endorsed safety practices. The Safety Science and Sustainability study also supports the logic that safety culture and safety climate influence safety performance through psychological mechanisms and work behaviors such as engagement, indicating that safety culture can act as a transmission device from organizational conditions to work outcomes (Abeje & Luo, 2023).

The next conceptual contribution lies in affirming the position of safety culture as an organizational capability that connects individual and relational resources to achieve safety goals. This finding extends the resource approach, which often emphasizes HR practices as performance inputs, by positioning the safety culture as an internal process that organizes inputs into consistent routines. In the language of *resource orchestration*, work-life balance and organizational support provide the raw materials for resources, whereas safety culture governs how these resources are activated in daily work behaviors. Recent studies have emphasized the importance of understanding safety and human factors in port environments, as ports are hazardous workspaces with a combination of physical risks, time pressures, and multi-party coordination (Corrigan et al., 2020). This research contributes to this field by positioning role balance and organizational support as factors that shape safety culture, which ultimately relates to employee performance.

The managerial implications of KSOP are straightforward and can be derived from the identified causal relationship structure. First, work-life balance programs should be treated as safety and performance strategies rather than perks. Work schedule design, task load structuring, overtime management, and clarity of work time boundaries should aim to reduce fatigue and maintain adherence to procedures. A meta-analysis of family friendly policies and workplace support suggests that informal workplace support often has a stronger effect than formal policies alone,

LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

Sopiansyah et al

making the supervisor's role in scheduling flexibility and resolving role conflicts key (Blom et al., 2025). In units with surveillance and patrol operations, equitable rotation and fatigue recovery mechanisms should be the indicators of managerial performance.

Second, organizational support must be manifested through visible resources and procedures. Effective support in this context includes clear work standards, access to safety training, availability of work tools, and a psychologically safe and accessible incident reporting system. A meta-analysis of organizational support emphasizes that the effects of organizational support are influenced by the cultural context and measurement design; therefore, consistency of implementation and credibility of support are crucial to avoid symbolic interpretation (Yan et al., 2024). In the KSOP, credible organizational support means that safety and HR policies move in tandem and are not mutually exclusive.

Third, because safety culture is a key performance lever, safety culture strengthening programs must focus on four mutually reinforcing levers. The first lever is leadership commitment, which is demonstrated through resource allocation decisions and the consistent enforcement of standards. The second lever is regular, two-way safety communication to ensure that risk information does not remain in documents. The third lever is a reporting and learning system that protects whistle-blowers, ensuring that errors become learning opportunities rather than punishments. The fourth lever is binding audits and feedback, which ensure that learning translates into process improvements. Longitudinal studies of safety culture confirm that a comprehensive package of safety initiatives is more effective than a single intervention, as culture is shaped by systemic consistency rather than slogans (Bautista Bernal et al., 2024).

The context of the KSOP as a public regulatory institution provides an important theoretical boundary-spanning value. Much research on organizational support and work-life balance originates in the corporate context, with greater policy flexibility. In regulatory institutions, bureaucratic structures, personnel rules, and public accountability pressures can limit flexibility; however, the findings of this study indicate that social exchange mechanisms and safety culture mechanisms remain robust. This strengthens the theory by demonstrating the robustness of these mechanisms in organizations with less discretionary space. Simultaneously, this context also challenges the literature that overemphasizes individual motivation as the center of performance; in high-risk jobs, collective safety norms appear to be a more dominant channel for transforming resources into performance.

Policy implications can be directed toward integrating HR and safety policies into a single governance architecture. HR policies that promote work-life balance must be linked to safety culture targets, such as fatigue indicators, procedural compliance, and safety participation. Organizational support policies must also be translated into minimum safety support standards, such as periodic training, workload evaluations, and safety reporting mechanisms. This step aligns with the argument that safety is an organizational investment that impacts outcomes, including broader performance (Bautista Bernal et al., 2024).

CONCLUSIONS

This study shows that employee performance in port surveillance organizations is not solely determined by individual factors or direct institutional support but rather by how these two factors are converted into collective norms through a safety culture. Work-life balance has been shown to act as a psychological foundation that maintains the stability of employees' energy, focus, and self-regulation capacity. Organizational support serves as an institutional signal that strengthens perceptions of concern and the legitimacy of safety values. However, the most substantive finding lies in the position of safety culture as a transmission mechanism that integrates role balance and organizational support into disciplined, vigilant, and consistent work behavior, ultimately improving the employee performance.

The primary theoretical contribution of this research is the extension of the social exchange theory and resource-based view frameworks to the context of high-risk organizations by positioning safety culture as a collective capability that orchestrates individual and relational resources to achieve safety goals. This study emphasizes that resources do not automatically produce performance without a system of values and norms that guide behavior. Thus, safety culture is no longer positioned as an additional contextual variable but as a strategic capability that links employee well-being and organizational support to operational performance.

The methodological contribution of this study lies in the simultaneous testing of a mediation model using a PLS SEM approach on the full population of high-risk public organizations, thus providing a comprehensive structural picture with a minimal selection bias. This approach strengthens the validity of causal inferences in a context that is structurally different from that of typical corporate organizations.

The contextual contribution of this research is significant because it was conducted in a port regulatory agency operating within a public bureaucracy and a high accountability framework. The results show that social exchange mechanisms and resource management remain relevant, even within a relatively rigid organizational structure. This context tests the limits of theory by demonstrating that in high-risk jobs, collective safety norms are the dominant channel for transforming role balance and organizational support into improved performance. Thus, this study enriches the public management and occupational safety literature with an integrative model explaining how high-risk organizational performance is shaped through the interaction of individual well-being, institutional support, and safety culture as a collective capability.

Research Limitations and Agenda

This study has several limitations that require careful reflection to ensure that the theoretical interpretations do not extend beyond the scope of the data. First, the study design was cross-sectional, meaning that the causal relationships tested represent structural patterns at a single point in time. Although the mediation model was tested using a predictively robust PLS SEM approach, this design does not allow for the exploration of temporal dynamics, particularly how changes in organizational support policies or workloads influence the evolution of safety culture over time. In the safety and dynamic capability literature, the formation of culture and collective capabilities is understood as a cumulative process that evolves through continuous learning and adjustment. Therefore, longitudinal studies or panel designs would be better able to capture the process of safety culture formation and transformation as a non-static mechanism.

Second, the data were obtained from a single source based on employee perceptions. Although statistical procedures were used to minimize potential common method bias, the use of perceptual measures still has limitations in representing objective performance or actual safety indicators, such as operational incidents, safety audits, or procedural compliance data. In this study, employee performance was measured at the individual behavioral level, not unit performance or incident-based safety indicators. The future integration of objective data would strengthen causal claims and expand the model's practical relevance.

Third, the study was conducted within a single port regulatory agency with specific public bureaucratic characteristics and operational risk. This context strengthens the internal validity due to the homogeneity of the work system but also limits cross-sector generalization. Public organizations with low risks or private organizations with high flexibility may exhibit different mediation patterns. Therefore, the generalization of the findings requires caution, considering the structural characteristics, risk levels, and task complexity.

Fourth, the research model focused on safety culture as the sole mediating mechanism. While the results suggest a strong role, this approach does not examine the possibility of other psychological mechanisms, such as work engagement, organizational trust, or emotional exhaustion, which may also mediate the relationship between role balance, organizational support, and performance. Therefore, the resulting model is still partial in explaining the full spectrum of the possible causal pathways.

Based on these limitations, further research should be directed toward several broader theoretical and methodological developments. First, longitudinal research or time-lagged designs are needed to test whether safety culture acts as a dynamic capability that evolves over time. This approach would broaden the integration between the resource-based view and dynamic capability by demonstrating how psychological resources and institutional support are orchestrated into stable safety routines for the construction industry.

Second, future research could explore multiple mediation mechanisms or chain mediation. For example, work-life balance and organizational support might first influence work engagement or trust in management, then influence safety culture, and finally impact performance. Such a multi-layered model would enhance our understanding of how individual resources translate into collective norms before influencing performance outcomes.

Third, further research could test the role of moderating variables to identify the boundary conditions of the theory. Job risk level, task complexity, safety leadership, and national culture can serve as moderators that strengthen or weaken the mediation pathway. In low-risk organizations, safety culture may not be the dominant mechanism, making the direct pathway between work and life balance and performance stronger than the pathway through safety culture. This moderation test would help determine the conditions under which the proposed model has optimal explanatory power.

Fourth, cross-sector comparative studies, for example, between regulatory agencies, port operators, and private logistics companies, will allow testing whether public bureaucratic structures strengthen or limit the role of organizational support and safety culture in the maritime industry. Cross-national analyses are also relevant for examining the influence of national culture on social exchange mechanisms and internalization of safety norms.

Fifth, the methodological agenda can be expanded using a mixed-method approach that combines quantitative surveys and in-depth interviews. A qualitative approach would help explain how employees interpret organizational support and how the internalization of safety culture occurs in practice. This integration enriches the theoretical understanding of resource orchestration and collective norm formation.

A further research agenda aims to expand the model from a single mediating structure to a multilevel longitudinal model capable of capturing the dynamics of safety culture formation as an organizational capability. Thus, theory development goes beyond confirming relationships between variables and toward a deeper understanding of how high-risk organizations transform individual well-being and institutional support into sustainable performance.

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LINKING WORK LIFE BALANCE AND ORGANIZATIONAL SUPPORT TO EMPLOYEE PERFORMANCE THROUGH SAFETY CULTURE: EVIDENCE FROM A MARITIME REGULATORY AGENCY

Sopiansyah et al

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