JTUS, Vol. 02, No. 5 May, 2024
E-ISSN: 2984-7435, P-ISSN: 2984-7427
DOI: https://doi.org/10.58631/jtus.v2i5.103

Journal Transnational Universal Studies

Analysis of the Role of Safety Leadership and the Establishment of a Safety Climate Affecting Safety Performance in the Agribusiness Industry PT. XXX in 2024

Arinanda Utomo[1*], Zulkifli Djunaidi[2]
[1,2]Universitas Indonesia, Depok, West Java, Indonesia
Email: Arinandalmahyra@gmail.com[1*], zulkiflidj59@gmail.com[2]

Abstract
The agricultural and plantation industry (agribusiness) is a vital pillar in global food supply, yet it exhibits high statistics of occupational accidents. In Indonesia, this sector contributed to 17.4% of all occupational accidents during the period 2019-2021. This study aims to analyze the role of safety leadership and safety climate affecting safety performance in the palm oil plantation sector of PT. XXX. The research aims to assist the company in gradually and systematically improving its safety performance by identifying factors affecting safety performance based on the analysis of relationships among variables in safety leadership and safety climate. This research utilized a cross-sectional study design with a quantitative approach, involving 1332 respondents selected through random stratified sampling. Findings indicate that the majority of workers rated safety leadership and safety climate in the workplace as very good, though areas for improvement were identified. Univariate analysis revealed that safety leadership was rated high, safety climate was also rated high, and safety performance was optimal. Furthermore, bivariate analysis showed significant relationships between Safety Coaching (P = 0.001), Safety Caring (P = 0.011), Safety Controlling (P = 0.037), Commitment to Safety (P = 0.007), and Perceived Risk (P = 0.035) with Safety Performance. However, Emergency Response did not show a significant relationship (P = 0.244). Further multivariate analysis identified Safety Coaching as the most influential variable on safety performance. Thus, enhancing safety coaching programs is crucial to improving occupational safety. This emphasizes the importance of coaching activities to enhance competence, improve understanding, and increase awareness in effective risk management, thereby creating a work process and environment that synergizes with occupational safety and health aspects.

Keywords: Agribusiness, Occupational Accidents, Safety Leadership, Safety Climate, Safety Performance, Risk Management.

INTRODUCTION

Industrial developments have provided convenience in human life, but challenges remain, especially in the context of worker welfare which can be affected by the relationship between workers, the work environment, and equipment (Chan & Li, 2022; Peker et al., 2022). The agricultural and plantation industries play a crucial role in the global food supply. Indiana,

as a major manufacturer in the US, contributes significantly but also faces a high risk of accidents, including the use of heavy machinery and pesticides (Nag et al., 2020).

Statistics show an astonishing rate of accidents in the agricultural sector, both nationally and globally. In the US, 60-70 out of every 100,000 farmers die each year, with 33% suffering from nonfatal injuries and 3% permanent disability (Nag et al., 2020). In Indonesia, the agriculture and plantation sectors account for 17.3% of occupational accidents and occupational diseases, with the main challenge being a lack of awareness of OSH (Ministry of Manpower, 2022).

The use of heavy equipment and pesticides in Indonesian agriculture and plantations also carries the risk of accidents, despite K3 regulations such as Government Regulation No. 7 of 1973 and Ministerial Regulation No. 3 of 1986. However, special regulations are still needed for agricultural tools and machinery (Ministry of Manpower, 2022). Indonesia is an agrarian country, so the implementation of the K3 education and training program is very important before ratifying ILO Convention No. 184 (BPJS Ketenagakerjaan, 2023).

Research shows that good leadership plays an important role in occupational safety. Leaders who support OSH can improve the safety climate and safety performance in the workplace (Kim & Gausdal, 2017; Mangkunegara & Hasibuan, 2000; Neamat, 2019). Leadership also has an effect on reducing emotional fatigue, improving the team's work climate, and decreasing the intention to leave work (Tawfik et al., 2023). The role of leaders in the implementation of safety programs is very significant because most accidents occur due to human error (Him et al., 2023; Martínez-Córcoles et al., 2011).

Leadership style influences worker behavior and safety awareness. Management and project manager support is essential for proactivity in occupational safety (Gächter & Renner, 2018). Transformational leadership contributes positively to the safety climate and employee safety (Azzahra et al., 2024; Lembinen, 2023; Mulyatiningsih & Sasyari, 2021).

Research shows that effective safety leadership can improve safety performance through worker support, communication, and participation (Burke et al., 2002). Perception of the safety climate, safety knowledge, and motivation greatly affect occupational safety (Griffin & Neal, 2000).

Transformational leadership has a significant impact on the safety climate compared to transactional leadership (Xu et al., 2022). Leaders as role models can increase OSH awareness and safety performance (Awad et al., 2023; Lee et al., 2019; Vinodkumar & Bhasi, 2010). The implementation of the occupational safety and health management system (SMK3) in palm oil companies can improve the safety climate and worker safety performance even though there are still obstacles in its implementation.

Based on secondary data, PT XXX faces serious challenges related to the incidence of work accidents, which tend to increase from 2021 to 2023. The frequency of work accidents, which predominantly occurs in Semester 1 every year, reaches more than 50%. In addition, there was an upward trend in Lost Time Injury (LTI) accidents during the period. Efforts in controlling accidents, with accident control activities have not been maximized with an achievement of 87% in Semester 1. This data provides an overview that while the challenges

of occupational accidents are being faced, control efforts have also been made, and ongoing evaluations are needed to ensure more effective preventive measures. Seeing these conditions, in the Agribusiness or plantation industry, which involves various activities in locations with access (remote areas) and involving thousands of workers, shows the complexity that requires special attention to the role of leaders in shaping a safety climate that is expected to improve good, effective and sustainable safety performance. This situation indicates that the role of leaders has a great influence on the safety climate of workers and has a direct impact on their work safety performance. Therefore, this study aims to analyze the role of safety leadership and the formation of a safety climate that affects the performance of safety performance in the Agribusiness industry of PT. XXX in 2024.

The purpose of this study is to analyze the role of safety leadership and the formation of a safety climate that affects the performance of safety performance in the Agribusiness industry of PT. XXX in 2024. Specifically, this study aims to analyze the level of safety leadership, the level of safety climate, and the level of safety performance performance in the industry. In addition, this study also aims to analyze the influence of safety climate on safety performance performance, as well as the influence of safety leadership on safety performance performance. Finally, this study will analyze the influence of safety leadership factors and safety climate together on the performance of safety performance in the Agribusiness industry of PT. XXX.

RESEARCH METHODS

This study uses a descriptive-analytical method with a cross-sectional study design at PT XXX in 2024, utilizing primary data from questionnaires and interviews as well as secondary data from company documents. The purpose of the research is to develop models, theories, and hypotheses related to the phenomenon being studied and determine the relationship between variables. The object of the research is workers in the agribusiness industry of PT. XXX in Sumatra, Kalimantan, and Sulawesi, was conducted from March to May 2024 with a population of 33,216 people from various positions. The sample was taken using the random sampling stratification method based on the characteristics of the worker's position, resulting in a minimum of 395 samples with cooperative inclusion criteria.

Primary data is collected through observations, questionnaires, and interviews, while secondary data is obtained from company documents related to safety systems. Literature studies are used for safety performance parameters. Data processing was carried out manually and with computer software, including validity and reliability tests using Cronbach's r-calculated and α values. Data analysis includes univariate analysis to describe one variable, bivariate analysis to understand the relationship between two variables, and multivariate analysis to see the relationship between several independent variables and one dependent variable, as well as removing disruptive variables in the analysis of the relationship between leadership and safety climate with safety performance.

RESULTS AND DISCUSSION

Bivariate Analysis of the Relationship Between Safety Leadership and Safety Performance

The Relationship between Safety Coaching and Safety Performance

Table 1. Safety Coaching vs Safety Performance

Safety Leadership		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Safety Coaching	Tall	511	46,8%	582	53,2 %	1093	1,583(1,193 - 2,101)	0,001
	Low	139	58,2%	100	41,8 %	239		

The results of this study show that of the 1093 respondents who received high safety coaching, 582 respondents (53.2%) had optimal safety performance, while 511 respondents (46.8%) had less than optimal safety performance. Then, of the 239 respondents who had low Safety Coaching, 139 respondents (58.2%) had Less than Optimal Safety Performance, and 100 people (41.8%) had Optimal Safety Performance.

Statistical analysis shows that there is a significant relationship between better Safety Coaching and more optimal Safety Performance, with an Odd Ratio (OR) value of 1.583 (95% CI: 1.193 - 2.101), and a very significant P-value, which is 0.001. This shows that the Safety Coaching factor in Safety Leadership significantly influences work safety performance or Safety Performance.

The Relationship between Safety Caring and Safety Performance

Table 2. Safety Caring vs Safety Performance

Safety Leadership		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Safety Caring	Tall	478	46,9%	542	53,1%	1020	1,393(1,080 - 1,797)	0,011
	Low	172	55,1%	140	44,9%	312		

This study's results show a significant relationship between Safety Leadership and Safety Performance in the context of Safety Caring. Of the 1020 respondents who had high safety care, 542 respondents (53.1%) had optimal safety performance, while 478 respondents (46.9%) had less than optimal safety performance. On the other hand, of the 312 respondents who had low Safety Caring, 172 respondents (55.1%) had Less

than Optimal Safety Performance, and 140 respondents (44.9%) had Optimal Safety Performance.

Statistical analysis shows an Odds Ratio (OR) value of 1.393 (95% CI: 1.080 - 1.797) with a p-value of 0.011. A p-value of less than 0.05 indicates that a significant relationship between Safety Leadership and a high level of Safety Caring will impact more optimal Safety Performance. These results indicate that leadership's level of attention and concern for safety significantly affects work safety performance. Therefore, leadership that shows a high level of concern for safety tends to be associated with improved optimal safety performance.

The Relationship between Safety Controlling and Safety Performance

Table 3. Safety Controlling vs Safety Performance

Safety Leadership		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Safety Controlling	Tall	464	47,1%	521	52,9%	985	1,297(1,015 - 1,658)	0,037
	Low	186	53,6%	161	46,4%	347		

The results of this study reveal a significant relationship between Safety Leadership and Safety Performance in the context of Safety Controlling. Of the 985 respondents who had high safety control, 521 respondents (52.9%) had optimal safety performance, while 464 respondents (47.1%) had less than optimal safety performance. On the other hand, of the 347 respondents who had a Low level of Safety control, 186 respondents (53.6%) had Less than Optimal Safety Performance, and 161 respondents (46.4%) had Optimal Safety Performance.

Table 4. Commitment to Safety vs Safety Performance

Safety Climate		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Commitment to Safety	Tall	505	48,0 %	548	52,0 %	1053	1,174(0,902 - 1,529)	0,007
	Low	145	52,0 %	134	48,0 %	279		

Statistical analysis showed an Odds Ratio (OR) value of 1.297 (95% CI: 1.015 - 1.658) with a p-value of 0.037. A p-value of less than 0.05 indicates that there is a significant relationship between Safety Leadership which shows a higher level of Safety Controlling and more optimal Safety Performance. This confirms that the aspect of safety supervision or Safety control in leadership significantly impacts work safety performance. Thus, leadership that implements good safety supervision controls tends to correlate with improved optimal safety performance.

Bivariate Analysis of the Relationship Between Safety Climate and Safety Performance

The Relationship between Commitment to Safety and Safety Performance

This study's results show a significant relationship between Safety Climate and Safety Performance in the context of Commitment to Safety. Of the 1053 respondents with a high Commitment to Safety, 548 respondents (52.0%) had Optimal Safety Performance, while 505 respondents (48.0%) had Less than Optimal Safety Performance. On the other hand, of the 279 respondents with a Low Commitment to Safety level, 145 respondents (52.0%) had Less than Optimal Safety Performance, and 134 respondents (48.0%) had Optimal Safety Performance.

Statistical analysis shows an Odds Ratio (OR) value of 1.174 (95% CI: 0.902 - 1.529) with a p-value of 0.007. A p-value of less than 0.05 indicates that there is a significant relationship between Safety Climate which shows a higher level of Commitment to Safety and more optimal Safety Performance. This confirms that commitment to safety significantly impacts occupational safety performance. Thus, leadership that shows a high commitment to safety tends to correlate with improved optimal safety performance.

The Relationship between Perceived Risk and Safety Performance

Table 5. Perceived Risk vs Safety Performance

Safety Climate		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Perceived Risk	Tall	501	49,4%	514	50,6%	1015	1,191(0,885 - 1,603)	0,035
	Low	149	47,0%	168	53,0%	317		

This study's results show a significant relationship between Safety Climate and Safety Performance in the context of Perceived Risk. Of the 1015 respondents with high Perceived Risk, 514 respondents (50.6%) had Optimal Safety Performance, while 501 respondents (49.4%) had Less than Optimal Safety Performance. On the other

hand, of the 317 respondents who had a low Perceived Risk, 149 respondents (47.0%) had a Less than Optimal Safety Performance, and 168 respondents (53.0%) had an Optimal Safety Performance.

Statistical analysis shows an Odds Ratio (OR) value of 1.191 (95% CI: 0.885 - 1.603) with a p-value of 0.035. A p-value of less than 0.05 indicates that there is a significant relationship between Safety Climate which shows a high level of Perceived Risk and more optimal Safety Performance. This indicates that the perception of risk in the occupational safety climate significantly impacts occupational safety performance. Thus, leadership that understands and manages risk perceptions well tends to correlate with improved optimal safety performance.

The Relationship between Emergency Response and Safety Performance

Table 6. Emergency Response vs Safety Performance

Safety Climate		Safety Performance				N Total	OR (95%-CI)	P-Value
		Less than Optimal		Optimal				
		n	%	n	%			
Emergency Response	Tall	512	49,7%	519	50,3%	1031	0,858(0,663 - 1,110)	0,244
	Low	138	45,8%	163	54,2%	301		

The results of this study evaluate the relationship between Safety Climate and Safety Performance in the context of Emergency Response. Of the 1031 respondents with a high Emergency Response, 519 respondents (50.3%) had Optimal Safety Performance, while 512 respondents (49.7%) had Less than Optimal Safety Performance. On the other hand, of the 301 respondents who had a low Emergency Response, 138 respondents (45.8%) had Less than Optimal Safety Performance, and 163 respondents (54.2%) had Optimal Safety Performance.

Statistical analysis shows an Odds Ratio (OR) value of 0.858 (95% CI: 0.663 - 1.110) with a p-value of 0.244. A p-value greater than 0.05 indicates that there is no significant relationship between Emergency Response and Safety Performance at a significance level of 5%. This indicates that the Emergency Response variable in the occupational safety climate does not significantly impact occupational safety performance. Other factors may influence these results, so the effect of Emergency Response on Safety Performance is not significant in the agribusiness industry.

Multivariate Analysis of the Relationship Between Safety Leadership and Safety Climate on Safety Performance

Selection of Multivariate Modeling of Safety Leadership and Safety Climate

In multivariate analysis, the process of selecting the most relevant or significant variables from a set of potential variables is carried out. Data consists of many variables, and not all of these variables, when analyzed make a meaningful and significant contribution. In candidate selection, the variables included in the multivariate analysis are those that have a significance value or P-value of <0.05 in the bivariate analysis or substantially have an influence on safety performance. The following are the variables that are researched based on the selection of candidates from the existing variables

Table 7. Variable Candidate Multivariate Analysis

It	Variable	P-Value
1	Safety Coaching	0,001
2	Safety Caring	0,011
3	Safety Controlling	0,037
4	Commitment to Safety	0,007
5	Perceived Risk	0,035
6	Emergency Response	0,244

Based on the above, it can be known that the variables that have a value of P<0.05 in the bivariate analysis are Safety Coaching, Safety Caring, Safety Controlling, Commitment to Safety, and Perceived Risk. Therefore, the above variables will be included in the multivariate modelling analysis. Then the Emergency Response variable is removed from the candidate.

Selection of Variables Affects Safety Performance

After the selection, the variables that enter or pass are processed in a full multivariate analysis model. The condition for selecting retained or excluded variables will be issued gradually, starting from the variable with the largest P-value.

Table 8. Influencing Variables Step 1

Variable	P-Value	95% C.I.
Safety Coaching	0,049	1,002-2,276
Safety Caring	0,695	0,739-1,574
Safety Controlling	0,465	0,782-1,714
Commitment to Safety	0,283	0,886-1,512
Perceived Risk	0,032	0,527-0,971

Based on the results of the analysis above, the largest variable is Safety Caring with a P-Value of 0.695, and then the variable is issued first. This process is carried out until a P-value of <0.05 is obtained.

Table 9. Influential Variables Step 2

Variable	P-Value	95% C.I.
Safety Coaching	0,018	1,080-2,266
Safety Controlling	0,339	0,831-1,713
Commitment to Safety	0,274	0,889-1,515
Perceived Risk	0,029	0,525-0,966

Based on the results of the analysis above, the largest variable is Safety Controlling with a P-value of 0.339; then this variable is removed, and this process is carried out to get a P-value of <0.05

Table 10. Influential Variables Step 3

Variable	P-Value	95% C.I.
Safety Coaching	0,000	1,284-2,351
Commitment to Safety	0,261	0,893-1,521
Perceived Risk	0,049	0,580-0,999

Based on the results of the analysis above, the largest variable is Commitment to Safety with a P-value of 0.261; then this variable is removed, and this process is carried out to get a P-value of <0.05

1)

Table 11. Influential Variables Step 4

Variable	P-Value	95% C.I.
Safety Coaching	0,000	1,284-2,351
Perceived Risk	0,057	0,586-1,008

Based on the results of the analysis above, the largest variable is Perceived Risk with a P-Value of 0.057; then the variable is removed; this process is carried out to get a P-Value of <0.05

Table 12. Influential Variables Step 5

Variable	P-Value	95% C.I.
Safety Coaching	0,001	1,193-2,101

Thus, the results of this analysis confirm that Safety Coaching is an important factor that affects safety performance. Effective implementation of safety leadership strategies in the context of safety coaching can play a key role in improving safety standards in the workplace.

CONCLUSION

The research results indicate that the importance of Safety Leadership in improving workplace safety performance has been empirically proven, affirming that an integrative strategy that includes aspects of coaching, caring, and controlling in safety leadership can have a significant positive impact on safety performance. High-quality safety leadership contributes to better workplace safety performance because effective safety leaders tend to set and enforce high safety standards and motivate workers to follow safety procedures properly.

Furthermore, the relationship between Safety Climate and Safety Performance can be complex and varies depending on various factors. Safety Climate can be likened to the weather at work; when the weather is clear, workers are more likely to feel happy and productive, resulting in good safety performance. However, with unpredictable factors on a clear day, unforeseen elements that affect safety performance outcomes can occur, so the research also found that the impact of safety climate on safety performance can sometimes be insignificant. Nevertheless, a positive safety climate, where most workers feel their work environment supports safety, plays an important role in achieving optimal safety performance.

To achieve optimal safety performance, the influence of safety leadership is crucial for short-term intervention. However, for sustainability, a good safety climate needs to be established to maintain long-term workplace safety performance. Thus, improving the quality of safety leadership and fostering a positive safety climate can correlate with enhanced workplace safety performance, demonstrating that both factors play a role in achieving and maintaining high safety performance standards in the workplace.

This study also shows that the age distribution, length of service, positions, departments, and operational areas of the respondents are quite diverse, reflecting a broad representation of workers from three major islands in Indonesia. The study provides a comprehensive overview of the demographic characteristics, positions, and departmental distribution as well as the operational areas of workers on these islands. The balanced distribution of respondents from various regions indicates that the study successfully encompasses views and experiences from different operational areas. The research results show that the majority of workers rate leadership and the safety climate at the workplace as very good, although there are areas that need improvement in terms of safety performance.

This study identifies the relationship between aspects of Safety Leadership and Safety Climate with Safety Performance at the workplace. The results indicate that Safety Coaching, Safety Caring, Safety Controlling, Commitment to Safety, and Perceived Risk have a significant relationship with safety performance. The study conducted bivariate analysis between Safety Coaching, Safety Caring, Safety Controlling, Commitment to Safety, Perceived Risk, and Emergency Response with Safety Performance at the workplace. The analysis results show

several significant relationships between these variables and Safety Performance. Specifically and in-depth, Safety Coaching positively correlates with Safety Performance, making it the most influential variable on safety performance.

Safety Coaching, as part of safety leadership, was found to have a significant positive effect on safety performance. This analysis confirms that Safety Coaching is an important factor influencing safety performance. The implementation of effective strategies in safety leadership, particularly in safety coaching, plays a key role in raising workplace safety standards. Enhancing coaching activities can help workers understand and implement better safety practices, thus reducing the risk of workplace accidents. This research reveals the importance of serious and systematic safety coaching programs and risk management from potential hazards in the agribusiness industry as efforts to improve workplace safety in synergy with production operations to enhance optimal and sustainable productivity.

BIBLIOGRAPHY

Awad, S., Amon, K., Baillie, A., Loveday, T., & Baysari, M. T. (2023). Human factors and safety analysis methods used in the design and redesign of electronic medication management systems: A systematic review. *International Journal of Medical Informatics*, *172*, 105017.

Azzahra, A., Savandha, S. D., & Syarif, A. N. (2024). Assessing Leadership Styles' Influence on Organizational Performance: A Case Study of Service-Oriented Companies. *OPSearch: American Journal of Open Research*, *3*(3), 928–936. https://doi.org/10.58811/opsearch.v3i3.112

Burke, M. J., Sarpy, S. A., Tesluk, P. E., & Smith-crowe, K. (2002). General safety performance: A test of a grounded theoretical model. *Personnel Psychology*, *55*(2), 429–457.

Chan, W. T.-K., & Li, W.-C. (2022). Investigating professional values among pilots, cabin crew, ground staff, and managers to develop aviation safety management systems. *International Journal of Industrial Ergonomics*, *92*, 103370.

Dang, V. T., Nguyen, H. V., Hoang, T. H., Nguyen, T. H., Tran, V. T., Nguyen, Q. H., & Nguyen, N. (2022). Gyms' indoor environmental quality and customer emotion: the mediating roles of perceived service quality and perceived psychological safety. *Leisure Studies*, *41*(2), 263–280.

Gächter, S., & Renner, E. (2018). Leaders as role models and 'belief managers' in social dilemmas. *Journal of Economic Behavior & Organization*, *154*, 321–334.

Griffin, M. A., & Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, *5*(3), 347.

Him, N. F. N., Ismail, W. N. A. T., & Abdullah, T. N. Z. T. (2023). Assessment of safety management attitude practices toward the safety culture of the construction sector. *Planning Malaysia*, *21*.

Kim, T., & Gausdal, A. H. (2017). Leading for safety: A weighted safety leadership model in shipping. *Reliability Engineering & System Safety*, *165*, 458–466.

Lee, Y.-H., Lu, T.-E., Yang, C. C., & Chang, G. (2019). A multilevel approach on empowering leadership and safety behavior in the medical industry: The mediating effects of knowledge sharing and safety climate. *Safety Science*, *117*, 1–9.

Lembinen, L. (2023). Academic libraries' leaders' decision-making during the COVID-19 crisis. *The Journal of Academic Librarianship*, *49*(3), 102709.

Mangkunegara, M. A. P., & Hasibuan, M. M. S. P. (2000). *2.2 MANAJEMEN SUMBER DAYA MANUSIA*.

Martínez-Córcoles, M., Gracia, F., Tomás, I., & Peiró, J. M. (2011). Leadership and employees' perceived safety behaviours in a nuclear power plant: A structural equation model. *Safety Science*, *49*(8–9), 1118–1129. https://doi.org/10.1016/j.ssci.2011.03.002

Mulyatiningsih, S., & Sasyari, U. (2021). Gaya Kepemimpinan yang Efektif dalam Meningkatkan Keselamatan Pasien. *Healthcare Nursing Journal*, *3*(1), 59–64.

Nag, P. K., Gite, L. P., Nag, P. K., & Gite, L. P. (2020). Farm Accidents and Injuries. *Human-Centered Agriculture: Ergonomics and Human Factors Applied*, 175–204.

Neamat, S. D. S. (2019). A comparative study of safety leading and lagging indicators measuring project safety performance. *Indicators*, *1*, 29.

Peker, M., Doğru, O. C., & Meşe, G. (2022). Role of supervisor behavioral integrity for safety in the relationship between top-management safety climate, safety motivation, and safety performance. *Safety and Health at Work*, *13*(2), 192–200.

Tawfik, D. S., Adair, K. C., Palassof, S., Sexton, J. B., Levoy, E., Frankel, A., Leonard, M., Proulx, J., & Profit, J. (2023). Leadership behavior associations with domains of safety culture, engagement, and health care worker well-being. *The Joint Commission Journal on Quality and Patient Safety*, *49*(3), 156–165.

Vinodkumar, M. N., & Bhasi, M. (2010). Safety management practices and safety behaviour: Assessing the mediating role of safety knowledge and motivation. *Accident Analysis & Prevention*, *42*(6), 2082–2093.

Xu, G., Zeng, J., Wang, H., Qian, C., & Gu, X. (2022). How transformational leadership motivates employee involvement: The roles of psychological safety and traditionality. *Sage Open*, *12*(1), 21582440211069970.