

INFLUENCE OF OCCUPATIONAL HEALTH AND SAFETY ON PERFORMANCE OF STATE OWNED ENTITIES IN KENYA

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DOI: <https://doi.org/10.5281/zenodo.12771784>

Published Date: 18-July-2024

Abstract: The purpose of this study was to establish the influence of occupational safety and health on performance of state owned entities in Kenya

Methodology: This study used the positivist research philosophy by setting up the hypotheses on the basis of the existing theories. The study used descriptive research design. The accessible population of the study was 714 management employees of state owned entities in Nairobi city. This study adopted Yamane's (1967) formula in determining the sample sizes. The sample size for state owned entities is 256. Primary information was collected by the use of semi-structured questionnaires. Using the statistical package for the social sciences, the data were analysed using simple linear and multiple moderated regression models. To analyse the data, both descriptive and inferential statistics were applied.

Results: The correlation results demonstrated a positive and significant relationship between occupational safety and health and organizational performance at ($r = 0.548$, $p < 0.019$) at 95% level of confidence. This implies that occupational safety and health significantly influences organizational performance in state owned entities in Kenya at 54.8%. Regression analysis also revealed a positive relationship between occupational safety and health and performance ($R = 0.548$, $R^2 = 0.300$) and ($F(1,199) = 3.907$, $p = 0.019$). The results of the regression analysis also demonstrated that there was a positive and significant moderating effect of human resource policy on the influence of occupational safety and health on performance of state-owned entities in Kenya.

Recommendations: The state-owned entities should ensure that OHS as a practice is taken with the seriousness it deserves. The aspects more so to be taken into account should include the working conditions, ergonomics, congestion and social aspects. Therefore, to improve performance of Kenya's state-owned enterprises, all the factors around OHS must be keenly put into consideration.

Keywords: Human resource policies, Occupational Safety and Health, Performance, State owned entities, Working conditions, Ergonomics, Safety culture, Social aspects.

I. INTRODUCTION

According to International Labour Organization (2013), Work – related illness and injuries have been a feature of employment since the beginning of industrialization. Changes in managerial thinking with regard to occupational safety and health have paralleled developmental stages in personnel relations as a whole. The trend has been from lack of concern to workers as individuals to a scientific- Work management approach (with alienation of public opinion, and increasing

governmental regulation). Current businesses are moving to modern concepts of business leadership where employees are valued and allowed to participate in management and social responsibility.

According to EUROFOUND (2007), a great percentage of workers in current jobs are exposed to work-related health risks. They contended that the effect of occupational wellbeing and security of workers depended on the types of hazards faced. These include physical hazards such as radiation, noise, chemical hazards such as asbestos, disinfectants, ergonomic hazards such as raising of bulky equipment, poor work postures, irregular work situations such night work, shifts/rotations, irregular work days and finally workplace violence such as harassment Gbadago et al (2017). When employees feel that their management cares for them, it represents an indication of a positive management of OHS system which results in a safer working conditions with benefits such improved staff morale, stress reduction, improved health, reduced absenteeism, increased job satisfaction, reduced injuries and illnesses and reduced medical expenses. Ward et al. (2008), concluded that effective and efficient OHS management impact positively on the performance of institution, affects workers behaviour towards work and gives a more positive impression towards employee health and security

Occupational safety and health (OSH), also commonly referred to as occupational health and safety (OHS), occupational health, or workplace health and safety (WHS), is a multidisciplinary field concerned with the safety, health, and welfare of people at work. These terms of course also refer to the goals of this field, so their use in the sense of this article was originally an abbreviation of occupational safety and health program/department etc. The goals of occupational safety and health programs include fostering a safe and healthy work environment. OSH may also protect co-workers, family members, employers, customers, and many others who might be affected by the workplace environment, Lim (2012).

Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job. The main focus in occupational health is on three different objectives: the maintenance and promotion of workers' health and working capacity; the improvement of working environment and work to become conducive to safety and health and development of work organizations and working cultures in a direction which supports health and safety at work and in doing so also promotes a positive social climate and smooth operation and may enhance productivity of the undertakings. The concept of working culture is intended in this context to mean a reflection of the essential value systems adopted by the undertaking concerned. Such a culture is reflected in practice in the managerial systems, personnel policy, principles for participation, training policies and quality management of the undertaking, (Rajkuar 2014).

In the United Kingdom, the Factory Acts of the early nineteenth century (from 1802 onwards) arose out of concerns about the poor health of children working in cotton mills: the Act of 1833 created a dedicated professional Factory Inspectorate. The initial remit of the Inspectorate was to police restrictions on the working hours in the textile industry of children and young persons introduced to prevent chronic overwork, identified as leading directly to ill-health and deformation, and indirectly to a high accident rate. However, on the urging of the Factory Inspectorate, a further Act in 1844 giving similar restrictions on working hours for women in the textile industry introduced a requirement for machinery guarding but only in the textile industry, and only in areas that might be accessed by women or children, Pollitt (2011).

II. STATEMENT OF THE PROBLEM

Occupational Safety and Health (OSH) constitutes a pivotal aspect of organizational management, exerting profound implications on both employee welfare and overall performance (Frick et al., 2018; Smith & Jones, 2020). Understanding the intricate interplay between OSH practices and organizational outcomes is therefore paramount. The Kenyan government has, over the years, enacted legislation and policies to foster workplace safety (Government of Kenya, 2015), emphasizing the importance of creating a conducive work environment. However, there remains a notable dearth of comprehensive studies investigating the nuanced impact of OSH on the performance metrics of state-owned entities in the Kenyan context. Existing literature primarily focuses on general workplace settings, necessitating a specialized examination within the unique framework of public-sector organizations in Kenya (Odhiambo & Ndiritu, 2019; Wambua, 2017). This research aims to bridge this gap by exploring the current state of OSH implementation in state-owned entities and unraveling its implications for organizational effectiveness, drawing insights from established systems theory. Through this scholarly

inquiry, we aspire to provide evidence-based recommendations for policy enhancements and managerial practices tailored to the specific dynamics of state-owned entities, ultimately contributing to the broader discourse on occupational safety and organizational performance.

III. STUDY OBJECTIVE

- i. To evaluate the influence of occupational safety and health on performance of state owned entities in Kenya.
- ii. To determine the moderating effect of human resource policy on the influence of occupational safety and health on performance of states owned entities in Kenya.

IV. RESEARCH HYPOTHESIS

H₀₁: There is no significant influence of occupational safety and health on performance of state owned entities in Kenya.

H₀₂: Human resource policy has no significant moderating effect on the influence of occupational safety and health on organizational performance of state owned entities in Kenya.

Literature review

A. Systems Theory

System theory was postulated by Ludwig von Bertalanffy (1930). Systems theory mainly studied in life sciences which eventually developed into the modern field of ecology. Ecology is the study of the systems of nature. Bertalanffy's theory argues that nothing could be understood by isolating one part of what plays a significant role in a system. There is a general tendency toward integration in the various sciences, natural and social. Such integration is centered in a general theory of systems. Such theory may be an important means which aims at promoting nonphysical fields of science. This developed unifying principles running vertically through the universe of the individual sciences. The theory's development brought nearer the goal of analysis and improvement of company policies which can lead to a much-needed integration in human resource policy practices (Von Bertalanffy, 1968).

Systems theory takes into consideration all possible sources of the problem and examines the view of organizations as open social systems that must interact with their environments in order to survive. A system is best described as a set of connected things or parts forming a complex whole, in particular. This definition gives a basic understanding of what functional areas in organization such as management reviews, process improvement, organization and program evaluation, management system development, performance measurement, project and contract management and facilitation services among others. However, Von Foerster (1981) describes a system as an element which has an effect on the functioning of the whole. Each element is affects each other in the system.

Bertalanffy's idea behind systems theory is that nothing can be explained by isolating approaches in a system. His thought on isolating human resource policy for example, in organizations could not accurately explain a whole system because human resource policy help clients in identifying and investigating problems concerned with strategy, policy, markets, organization, procedures and methods (Connors, 2007). A true closed system is considered to be purely theoretical, meaning that they can only exist in theory because every system needs some sort of input and output functions. However, on the opposite side, there are no perfectly open systems either. Open systems should have provision of advice and help in policy areas such as planning, objective setting, quality management, recruitment and selection, team building, conflict resolution and change management (Ritter, 2013).

Systems theory has been applied in organizations since there are many different strategic business units (SBUs) and relationships within those units. All of the relationships within the units of an organization are interdependent on each other and can directly affect the operation of the organization. When organizational SBUs are functioning properly synergy is present. Synergy is the combined effect of a system working together where the combined result is greater or more powerful than that of the individual units. Systems theory allows for this synergy to be developed because of the communication channels that are open in a properly functioning system which allows the integration of human resource policy.

Systems theory was proposed to better understand the activities of the organizations and how they relate to one another. All systems have components that have interdependent relationships. They are comprised of units which are smaller entities that make up the larger organization. Systems theory suggests that when there is a problem with one unit in the organization

we cannot isolate that unit but take a holistic approach and view the whole organization to understand what the problem could be. Problems are a sign of a malfunctioning process. When an organization fails it is because either a feedback channel is not working or the change management is being ignored in the process of human resource policy formulation.

System theory, as postulated by Ludwig von Bertalanffy in 1930, is a holistic approach that views organizations as complex systems composed of interrelated and interdependent components (Haimes, 2018). This theory was relevant to the study since it emphasizes the adaptability of organizations to maintain dynamic equilibrium within their environments. When applied to occupational safety and health practices, this perspective of the theory of systems highlights the importance of organizations' ability to respond and adapt to the changing safety requirements and emerging risks. It encourages the integration of safety practices into HR policies, training programs, and recruitment and selection systems to ensure ongoing improvement and adaptation to changing circumstances. By utilizing system theory in this study therefore, the researcher gained a comprehensive understanding of the complex dynamics and interdependencies within the state owned entities. This perspective enabled a holistic evaluation of how human resource practices, such as training, recruitment and selection and contractual employment interact with other organizational components to influence safety outcomes.

B. Empirical review

According to Annan & Annang, 2014, Occupational Health and Safety (OHS) is a policy represented in the legal document that mandates employers to take proactive steps to preventing, preserving and promoting the safety and well-being of the workers. The OHS policy spells out measures such as conducting periodic safety risk assessment and management at worksites, providing medical insurance, providing training or education and the necessary safety facilities and equipment for the workers (Puplampu, & Quartey, 2012).

As asserted by Peter Block (2011), consultation is a process in which the essential center exercises the exchange of expertise from the specialist to the customer. The purpose of consulting process ought to be for the customer association to have the capacity to take care of issues once the expert leaves. The objective of counseling is to, build up a community association with the customers so that they can be locked in and improve their ability. Most adequately take care of issues with consideration regarding the specialized issues just as the association with the customer and enroll the responsibility of the customer within the consulting process.

A study by Caldwell (2017) on the effect of process practices on the performance of commercial state owned entities in Kenya, using causal research design and a population of 2000 with a sample size of 243 respondents found that, firms which adopted process were performing well than those that did not adopt. The study further found that process stresses the act of giving help towards hierarchical improvement with the end goal that we would all be able to be advisors specifically settings, paying respect to fundamental occupations, and that a director can likewise go about as a consultant in the process that the individual chooses to give exhortation and help to a corresponding administrator, or even to subordinate instead of guiding them or issuing requests.

A review by Kubr (2013) on process and performance of manufacturing firms in Rwanda using a census of 72 respondents and panel approach found that process has all the earmarks of reclassifying itself as unmistakable from the management and business training. Process consultation centers upon such authoritative highlights as correspondences between individuals, decision making, relational connections, the pressure and pain of hierarchical individuals is proposed to prompt hierarchical changes that identify with gatherings and subgroups in the association. To accomplish some specialized counsel, at that point process is probably going to be counterproductive. Similarly, a distinguished requirement for significant change in the idea of basic leadership and correspondence inside an organization will not be supported by the work of specialists taking a shot at a specialized consultative help program.

Further, Murgatroyd (2015) conducted a study on process and performance of learning institutions in Mozambique using a descriptive research design and a population of 3400 with a sample size of 536 respondents. The study found that process takes a beginning stage issues about the quality and nature of decision-making and correspondences inside the school or college should upgrade the responsibility of authoritative individuals to the association by improving the ethos of that association. This is not a simple duty or mission, either for the consultant or for the organization, it is burdened with challenges, since the worry of the specialist to encourage basic leadership and improved communication frequently prompts allegations of control.

One method for imagining process consultation is to see it as being worried about changing the elements of the connections between individuals in the organization with the goal that more correspondence can result from more noteworthy

investment. The above findings are in agreement with those of Argyris (2014) who put that to accomplish performance improvements, the process consultation frequently needs to challenge hierarchical procedures and authority; feature the imbalances inside the company; take care of the confound between what authority and what they do. Investigate with staff the qualities and convictions they hold about one another and test the underestimated opinions staff are stamping about their colleagues and their supervisors.

On the same note, Minuchin and Fishman (2011) on the effect of staff stress on performance of government corporations in Mexico using a population of 489 participants and a sample size of 212, and both causal and descriptive research designs found that the regularly situation in family treatment is the most important factor to expand the stress inside an organization before the firm is eager to roll out such critical improvements. The general dimensions of pressure will be reduced and the communication nature of the association improves the staff both specifically giving in and unendurable situations. Further, the process consultation is seen now to be the issue instead of the worries about ethos or basic leadership which offers ascends to the work of.

V. RESEARCH METHODOLOGY

This study used the positivist research philosophy by setting up the hypotheses on the basis of the existing theories. The study used descriptive research design. The accessible population of the study was 714 management employees of state owned entities in Nairobi city. This study adopted Yamane's (1967) formula in determining the sample sizes. The sample size for state owned entities is 256. Primary information was collected by the use of semi-structured questionnaires. Simple Linear and Multiple Moderated Regression models were used to analyze the data using statistical package for the social sciences. Descriptive and inferential statistics were used to analyze the data.

VI. FINDINGS AND DISCUSSION

A. Descriptive statistics

The study analysed the views of the respondents in respect to occupational safety and health practices. Table 1 shows the results of the analysis.

Table 1: Descriptive Statistics for Occupational Health and Safety Practice

	N	S.D	D	N	A	S.A	Min	Max	Mean	Std. Dev
	(%)	(%)	(%)	(%)	(%)	(%)				
The organization manages the working conditions.	201	3.5	4.5	18.4	35.8	37.8	1	5	4.00	1.030
Ergonomics have improved employee's interactions with products, systems and environments to minimize the likelihood of developing injuries.	201	4.0	3.5	7.0	45.3	40.3	1	5	4.14	.977
Minimal congestions have improved the procedures, rules and guidelines in the organization's office practice.	201	2.5	2.0	10.4	42.3	42.8	1	5	4.21	.892
The organization practices the social aspect of communication effectively.	201	4.5	3.0	7.5	42.8	42.3	1	5	4.15	1.001
Occupational health and safety is uphold and sustain a high inception of physical, mental and social well-being of all employees and their employers, protect them from adverse health effects emanating from poor working conditions..	201	3.5	2.5	6.5	43.8	43.8	1	5	4.22	.934
They have enough time to complete my work tasks safely.	201	2.5	5.0	4.0	48.3	40.3	1	5	4.19	.913
Employees are aware about their rights and responsibilities in relation to workplace health and safety.	201	2.0	4.5	8.5	44.8	40.3	1	5	4.17	.906
Weighted mean	4.15									
Valid N (Listwise)	201									

The findings reveal that the respondents were in agreement (Mean = 4.00; Std Dev = 1.030) that the organization manages the working conditions. The respondents in this study also agreed (Mean = 4.14; Std Dev = .977) that ergonomics have improved employees' interactions with products, systems and environments to minimize the likelihood of developing injuries. These findings also indicate that respondents agreed (Mean = 4.21; Std Dev = .892) that minimal congestions have improved the procedures, rules and guidelines in the organization's office practice. The respondents in this study further agreed with (Mean = 4.15; Std Dev = 1.001) that the organization practices the social aspect of communication effectively. It is also indicated through these findings that the respondents agreed (Mean = 4.22; Std Dev = .934) that occupational health and safety upholds and sustains a high inception of physical, mental and social well-being of all employees and their employers, protect them from adverse health effects emanating from poor working conditions.

Additionally, the respondents from these findings agreed (Mean = 4.19; Std Dev = .913) that they (employees) always have enough time to complete the assigned tasks safely. Finally, the respondents in these findings agreed (Mean = 4.17; Std Dev = .906) that employees are aware about their rights and responsibilities in relation to workplace health and safety. These findings are in synchrony with those of Iskanto, Ghazali, Afthanorhan, & Narti, (2020) from whose results of the analysis of the primary data using SPSS 23 concluded that the work safety variable had a significant effect on performance, knowing that occupational health variables have a significant effect on performance. In addition, the study revealed that occupational safety and health variables together have a significant influence on performance variables.

B. INFERENCE STATISTICS RESULTS

The correlation between occupational safety and health and performance of state owned entities was examined and results presented in Table 2.

Table 2: Correlation results for occupational safety and health

		Organizational Performance
Occupational Safety and Health	Pearson Correlation	.548**
	Sig. (2-tailed)	.019
	N	201

** . Correlation is significant at the 0.01 level (2-tailed).

The results from Table 2 indicate that there is a positive and statistically significant correlation between occupational safety and health and organizational performance at ($r = 0.548$, $p < 0.019$) at 95% level of confidence. This implies that occupational safety and health significantly influences organizational performance in state owned entities in Kenya at 54.8%.

C. Regression analysis

Multiple regression analysis was used in this study to assess the correlation between occupational safety and health, the independent variable, and performance as well as human resource policy. Two levels of regression models were produced. The initial stage was devoid of the interaction term and the subsequent stage featuring the moderator.

1) Influence of occupational safety and health on Performance of State Owned Entities

Table 3 presents a summary of two models for occupational safety and health, one with human resource policy as the moderating factor and the other without it.

Table 3: Regression Model Summary for Occupational Safety and Health

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change in R Square	F Change	df1	df2	Sig. F Change
1	.548 ^a	.300	.264	.255	.300	3.907	1	199 ^a	.019
2	.654 ^b	.428	.250	.254	.128	.038	1	198 ^b	.028

a. Predictors: (Constant), Occupational Safety & Health

b. Predictors: (Constant), Occupational Safety & Health * Human Resource Policy

c. Dependent Variable: Performance

From Table 3, Model 1 shows a positive relationship between Occupational Safety and Health and organizational performance ($R = 0.548$, $R^2 = 0.300$) and ($F(1,199) = 3.907$, $p = 0.019$). The R squared explains the variations in the organizational performance as explained by the Occupational Safety and Health. R^2 of 0.300 indicates that 30.0% of the variations in the organizational performance in state owned entities in Kenya can be accounted for by Occupational Safety and Health.

The results yet again shows Model 2 which is after the interaction of independent variable and the moderator (Occupational Safety and Health * Human Resource Policy) was introduced in the model. The results showed a positive relationship between Occupational Safety and Health and organizational performance. An R squared value of 0.428 indicates that 42.8% change in the organizational performance of state owned entities as can be accounted for by the interaction between Occupational Safety and Health and Human Resource Policy that is (Occupational Safety and Health * Human Resource Policy). This at $p = 0.028$ at 95% level of confidence. The adjusted R-square is a modified version of R-squared that has been adjusted for the number of predictors in the model. The adjusted R-squared increases only if the new term improves the new model otherwise, it ought to be lower than the R-squared. Therefore, it is evident that the moderator improved the initial model 1 into model 2.

When the interaction term (Occupational Safety and Health * Human Resource Policy) is included in the relationship between Occupational Safety and Health and organizational performance it resulted in a R^2 change of .128 or 12.8%. This indicated the moderating effect of Human Resource Policy explained 12.8% of the variation in the organizational performance above the variation as explained by the Occupational Safety and Health. This showed significant presence of the moderating effect of Human Resource Policy on the influence of Occupational Safety and Health on organizational performance of state owned entities in Kenya. Table 4 shows the results of the test of significance given the two models. One without the moderator and the other with the effect of the moderator.

Table 4: Significance Test Results for Occupational Safety and Health

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.904	.136		7.630	.000
	Occupational Safety & Health	.579	.067	.548	3.506	.019
2	(Constant)	.977	.137		7.403	.000
	Occupational Safety & Health	.121	.114	.166	3.116	.021
	Human Resource Policy	.431	.062	.523	4.621	.029

a. Dependent Variable: Performance

Model 1 indicates that relationship between Occupational Safety and Health and Organizational performance was positive and significant ($b_1 = 0.579$, $p = 0.019$, $Beta = 0.548$). Equation 1 thus showed the regression equation for model 1. For every unit increase in Occupational Safety and Health, Performance is predicted to increase by 0.579 at $p = 0.019$.

OLS Model:

$$\text{Performance} = 1.904 + 0.579 \text{ Occupational Safety and Health} \dots \dots \dots \text{Equation 1}$$

This implies that an increase in information relating to Occupational Safety and Health leads to an increase in Performance of state owned entities. The null hypothesis which states that occupational safety and health has no significant effect on Organizational Performance was therefore rejected at 95% confidence level. The study therefore fails to reject the alternative hypothesis and concludes that Occupational Safety and Health has a significant effect on Performance of State owned entities in Kenya.

Model 2 shows that the moderating effect of Human Resource Policy on the influence of Occupational Safety and Health on Performance of State owned entities in Kenya was positive and significant ($b_1 = 0.121$, $p = .0029$, $Beta = 0.114$). Equation 2 thus showed the multiple moderated regression equation. The equation implies that for every unit increase in Occupational Safety and Health, Performance is predicted to change by 0.121 on condition that Human Resource Policy is kept constant.

The null hypothesis is therefore rejected at 95% level of confidence. It is thus concluded that Human Resource Policy moderates the influence of Occupational Safety and Health on Performance.

MMR Model:

Performance = .977 + 0.121 Occupational Safety and Health + 0.431 Human Resource Policy.....Equation 2

VII. SUMMARY OF THE FINDINGS

The objective of the study sought to establish the influence of Occupational Health and Safety on performance of state owned entities in Kenya. The findings revealed that the respondents were in agreement that the organization manages the working conditions and that ergonomics have improved employees' interactions with products, systems and environments to minimize the likelihood of developing injuries. These findings also indicated that minimal congestions have improved the procedures, rules and guidelines in the organization's office practice. The respondents in this study further agreed that the organization practices the social aspect of communication which was effective. OHS practice upholds and sustains a high inception of physical, mental and social well-being of all employees and their employers protect them from adverse health effects emanating from poor working conditions.

VIII. CONCLUSIONS OF THE STUDY

The study reveals that occupational safety and health (OSH) practices significantly influence the performance of state-owned entities in Kenya. The findings demonstrate that effective management of working conditions, implementation of ergonomic measures, and fostering a culture of communication contribute to improved organizational performance. Moreover, the study highlights the positive impact of OSH practices on employees' physical, mental, and social well-being, leading to benefits such as reduced absenteeism, enhanced job satisfaction, and increased productivity. It can be concluded that prioritizing OSH practices not only ensures a safe work environment but also drives organizational success by promoting employee welfare and operational efficiency. These conclusions underscore the importance of integrating OSH considerations into strategic management frameworks to achieve sustainable performance outcomes in state-owned entities and beyond.

IX. RECOMMENDATIONS OF THE STUDY

It is imperative for state-owned entities to invest in extensive training programs aimed at educating employees about OSH practices, their rights, and responsibilities regarding workplace safety. Increased awareness among workers can foster a proactive approach to safety, empowering employees to identify potential hazards, adhere to safety guidelines, and contribute to the continuous improvement of safety standards within their organizations. Moreover, promoting a culture of employee participation and engagement in OSH initiatives is essential. By soliciting feedback, encouraging the reporting of safety concerns, and involving workers in the development of safety protocols, organizations can harness the collective knowledge and expertise of their workforce to enhance safety outcomes and overall organizational performance.

Future scholars are also encouraged to delve deeper into specific aspects of OSH management, such as the effectiveness of different training methodologies, the impact of technological advancements on workplace safety, and the role of organizational culture in shaping safety behaviors. Additionally, longitudinal studies tracking the implementation and effectiveness of OSH interventions over time can provide valuable insights into the long-term impact of these initiatives on organizational performance metrics. By building upon the findings of this study, future researchers can contribute to the ongoing discourse on occupational safety and health, ultimately driving positive change in workplace safety practices and outcomes.

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