Exploring The Impact of Principals' Safety Management on Safety Performance: A Case Study of the Private Education Sector

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Abstract: The aim of this paper is to analyze the effect of safety management practices on safety performance of staff working at private schools in education sector in Erbil city of Kurdistan region, Iraq. This research is unique as it contributes to the literature on safety management in schools. It is one of the earliest research projects on occupational safety conducted in the Kurdistan region. The research methodology used a quantitative approach, utilizing a survey questionnaire to collect data from a sample of 200 staff members. A total of 172 completed questionnaires were returned and analyzed using SPSS ver. 25. The results of the study showed a positive effect of management commitment and safety training on safety performance. However, the study also concluded that there is no statistically significant effect of safety policy, safety communication, and safety incentive on safety performance, the results also showed that male staff are more prone to experience incidents and injuries during work compared to female staff. This study recommends the leadership of schools to pay utmost attention to commitment to the implementation of measures and procedures of safety and continuously provide training programs to keep staff aware of safety measures and procedures.

Keywords: Safety Management, Safety Performance, Occupational Safety, Education, Private Schools

1. Introduction

The last three decades, the importance of safety management systems and secure environment has gained increasing attention by researchers and the underlying factor of incidents at work (Jazayeri and Dadi, 2017). Leaders at organizations have an important responsibility to ensure and secure the safety of employees while working. According to Srichai (2015) school's safety management is critical to the success of the school but it is rarely managed effectively and fully adopt safety management measures (Díaz-Vicario and Sallán, 2017). The present study investigates the relationship between Principals' Safety Management practices and the resulting Safety Performance of educators within the private school sector, focusing on the context of education.

Through a comprehensive case study approach, this research seeks to assess the impact of safety management practices on the safety performance of educators within private schools located in Erbil city, situated in the Kurdistan region of Iraq.

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While prior modifications provide specific insights into this connection, few research has been conducted to explore this relationship within the context of the Education sector and this research makes this research unique contribution to the literature. The outcome of this research will be an important contribution for the literature of Safety Management as Part of occupational health, Human resources management and the Management of Schools to understand role of Safety Management and awareness in enhancing safe. According to research by Naji et al. (2022) safety performance is considered as one of the important dimensions of overall performance of employees and therefore it needs to be considered by school management.

The objective of this research is to shed light on the extent to which safety management practices impact the safety performance and behaviors of staff (teaching, Administrative and technical) in the private school context and investigate which safety management practices are perceived useful by the sample of the study.

2. Literature Review

2.1 Safety Management

Safety management is a vital component of organization and community governance. According to to International Civil Aviation Organization (ICAO), Safety Management is defined as “a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies, and procedures" (Conklin, 2013, p. 4). Moreover, according to Hale and Royle (2005, p. 3) Safety Management is”An Integrated approach to safety management systems. “It can also refer to activities and procedures management take to ensure a safe and comfortable environment for its employees. Furthermore, Safety management within an organization involves establishing a secure environment for its operations, and to recognize safety as a top priority through active involvement, surveillance, and ongoing enhancement (Stolzer, et al. 2008).

Similarly, the ability of management to persuade staff members to focus on safety performance and have a passion for safe performance without scrutiny is another aspect of Safety Management (Ali, et al, 2020). Moreover, in empirical research conducted by Srichai et al. (2015), have recognized safety, time to focus on safety measures, stakeholder understanding, and involvement as dimensions of safety management. Thus, they consider the role of parents, students, admin staff, and teachers as additional dimensions of measuring safety management.

Therefore, the primary goal of a safety management system is to provide a methodical strategy to managing safety risks in operations such illness, accident and injuries. It also seeks to increase safety by enhancing current procedures, exhibiting corporate due diligence, and bolstering the overall safety culture. Consequently, maintaining and expanding a firm requires effective safety management, particularly in high-risk sectors like aviation, energy, maritime, and construction.

2.1.1 Dimensions of Safety Management

The dimensions of Safety Management according to research by Zhang et al. (2022) consists of Management commitment, Safety Communication, Safety Policy, Safety Incentive, Safety Training.

Management commitment- One particular and important aspect of safety climate is management commitment to safety, which is defined as employees' views of how much their managers appreciate and promote safe working practices and are committed to their well-being (McGonagle et al., 2016).

- Safety Communication- Basically, safety communication is the practice of informing every individual in a workplace about various dangers and hazards. Since employees are aware of the dangers they incur while performing their duties, the intention is to lower the likelihood of accidents (Curcuruto & Griffin, 2023).
- Safety Policy- An employer's written commitment to safeguarding the public's health and safety as well as the health and safety of its workforce is expressed in the safety policy. It is a management-endorsed pledge to protect the health and safety of its staff (Gursansky & Harvey, 2020).
- Formal workplace safety initiatives that focus on rewarding safe performance are referred to as safety incentives or rewards. The major objective is to encourage staff members to create and uphold a safe workplace and to inform them of safety regulations that they should not only fulfill but also surpass (Magrabi et al., 2013).
- The term "safety training" describes educational initiatives aimed at educating staff members about preventive measures that can be taken to reduce risk or the possibility of an accident or fatality at work. One type of compliance training that is provided to safeguard the company and its employees is safety training (Casey et al., 2021).

2.2 Safety Performance

Safety performance refers to a risk-free working environment for employees by installing safe systems and implementation of safety practices in the job (Ibitoye, 2018). According to Kiikkilä (2021) it is defined as the measurement of how well an organization maintains the mechanism and procedures to ensure an intact and secure workstation. Safety performance is considered as one of the important factors that effects employees' commitment and productivity (Gray et al., 2023; Hartnell et al., 2023). Thus, lack of commitment and productivity causes lags in the achievement of tactical and strategic goals of organization. Therefore, this led to many organizations modifying their rules and regulations as well as precautions and procedures of safety measures to enhance safety performance (Yap and Lee, 2020). This is to ensure that the well-being of employees' physical and mental condition is protected. Employees and Management collaboration in implementation of safety performance is also essential to determine the requirements of safety performance (Koeslag-Kreunen et al., 2018).

According to Zhang et al., (2022), Safety Performance can be measured with two dimensions namely safety compliance and safety participation. Safety Compliance means the extent to which employees comply with the established standards and procedures decided by the administration of the organization to be followed meticulously by the employees to keep them out of danger (Wang, Wang, and Xia 2018) and comply with safety measures when performing jobs and collectively increasing awareness (Hu, Yeo, and Griffin, 2020). Safety Participation is being part of safety measures using safe methods and procedures, which are usually written steps that show how to do a job well while making sure it is not risky for employees (Koeslag-Kreunen et al., 2018).

It was argued that employee's involvement in safety participation is correlated with quality of work (Li, et al., 2020). Moreover, lack of safety performance, employee involvement and compliance with safety measures results in occupational accidents and injuries (Clarke, 2006). Furthermore, other studies suggest that safety culture and safety climate positively affect safety performance and reduce injuries caused at work (Kalteh, et al., 2021). However, a longitudinal study that evaluate how incentives can improve safety performance shows that for effective safety performance, employees need to be rewarded for safety performance and therefore organizations need to develop an incentive system to encourage and provide safety initiatives and spend money to improve safety performance (Hoonakker, 2005).

Further empirical investigation undertaken in Saudi Arabia by Alolah et al. (2014), encompassing teachers and administrative executives within schools, showed that safety management has a significant effect on safety learning and safety performance. In another study sampling 13 offshore oil and gas companies, results showed that there is a positive correlation between safety management practices and safety performance, the safety management is related to the number of accident rates at work (Mearn, Whitaker, and Flin, 2003). Moreover, in case of Malaysian Manufacturing companies, results showed positive association between safety leadership and management with safety performance (Lun and Wahab, 2011) and similar results was found in the case of four universities in Taiwan (Wu, Chen, Li, 2008).

3. Methods

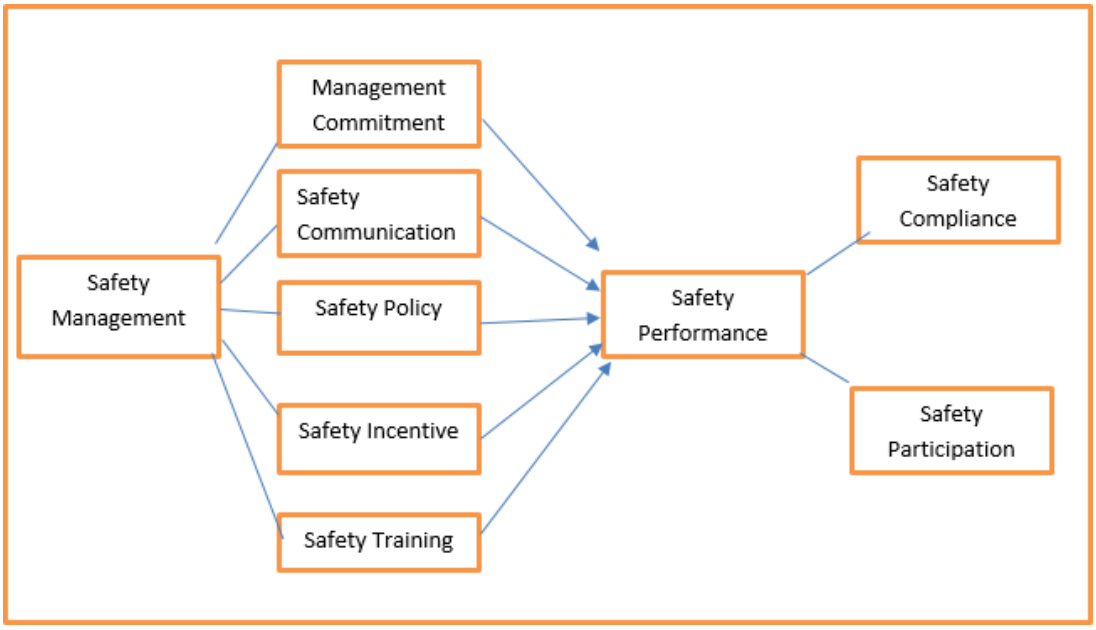
The methodological approach to this study is purely quantitative as survey strategy has been used to collect data. A validated self-administered questionnaire has adopted to investigate the role of independent variable that is safety management in enhancing dependent variable, safety performance. The study focuses on private schools situated in Erbil city. The sampling technique for this study involved the random sampling, whereby four private schools were selected as the target organizations. Questionnaires were distributed amongst staff within these schools, ensuring an equal opportunity for staff to participate in the survey. To maintain consistency, each school received 50 copies of the questionnaire. In total, the study encompassed 200 staff; of this sample, 172 were fully completed and returned to complete dataset for analysis and fulfilment of sample size.

3.1 Measures

The study employed a standardized five-point Likert scale to assess both the independent and dependent variables these are safety management and safety performance. The questionnaire included demographic inquiries relating to age, gender, and work experience. For the quantification of safety management and safety performance, the researcher utilized a well-established scale as created and validated by Zhang et al. (2022). The safety management scale comprises 24 items distributed across its dimensions, namely Management Commitment, Safety Communication, Safety Policy, Safety Incentive, and Safety Training. Safety performance was evaluated using a five-item scale consisting of the dimensions of Safety Compliance and Safety Participation.

Figure 1- shows the model of the research, the aim of the research is to investigate how the dimensions of safety management effect safety performance.

Research Model



4. Data Analysis and Findings

The statistical techniques used in this study are descriptive analysis of demographic questions, reliability analysis using Cronbach's Alpha, correlation, and linear regression to investigate the causal effect of safety management on safety performance and run the analysis needed, the author used SPSS Ver. 25.

4.1 Descriptive Analysis

The fully responded questionnaires numbered (n=172) in the sampled private schools. The gender distribution of the sample that responded to the questionnaire was 53% male and 47% female. Among the staff, 54% were married, while 46% were single. The majority of respondents were below 45 years old. Additionally, most of the sampled staff held bachelor's degrees, while 21% held higher degrees such as master's or PhD degrees. The majority (86%) of them had less than 10 years of experience in the Education sector. Unexpectedly, 59% of them reported having experienced an incident during their job.

4.2 Reliability Analysis

The scales adopted were validated by authors who developed the scales, because of the very distinct and different cultures of different languages, educational backgrounds, and values. The researcher wanted to make sure the items used are fit and appropriate in the context the researcher is conducting the study, Therefore, the researcher has re-evaluated the reliability of the scale to ensure if it is still reliable in the context of the current population or not. To evaluate the reliability of the scale used and internal consistency, the author used Cronbach's Alpha for both Safety Management and Safety Performance scales.

Scale	Items	Cronbach's Alpha	Outcome
Safety Management	24	.958	Accepted
Safety Performance	7	.883	Accepted

Figure 2: The reliability analysis of Safety Management and Safety Performance Scale

The analysis of reliability of scales of Safety Management and Safety Performance according to Figure 2 shows safety management with 24 items has internal consistency with Cronbach's Alpha=.958 and safety performance with 7 items, Cronbach's Alpha=.883, both scales are considered reliable as they are more than .7 (Nunnally and Bernstein, 1994; Cortina, 1993).

4.3 Regression Analysis

The researcher has used regression analysis to assess the impact of independent variables (Management commitment, safety communication, safety policy, safety incentive, and safety training) on dependent variable (Safety performance) using linear regression analysis.

R	R^2	Sig.
.781	.610	.000

Figure 3: Model summary of regression analysis

The model summary of the regression analysis shows the R=781 indicates a moderate relationship between the variables of the study and the R2=.610 which means the independent variables can explain 61% variance of the dependent variable.

Predictor	B	SE	Beta	t	Sig.
Management Commitment	.259	.113	.257	2.291	.023
Safety Communication	-.093	.092	-.097	-1.011	.314
Safety Policy	.186	.115	.179	1.621	.107
Safety Training	.511	.104	.460	4.926	.000
Safety Incentive	.034	.117	.032	.293	.770

Dependent Variable: Safety Performance

Figure 4: Coefficients

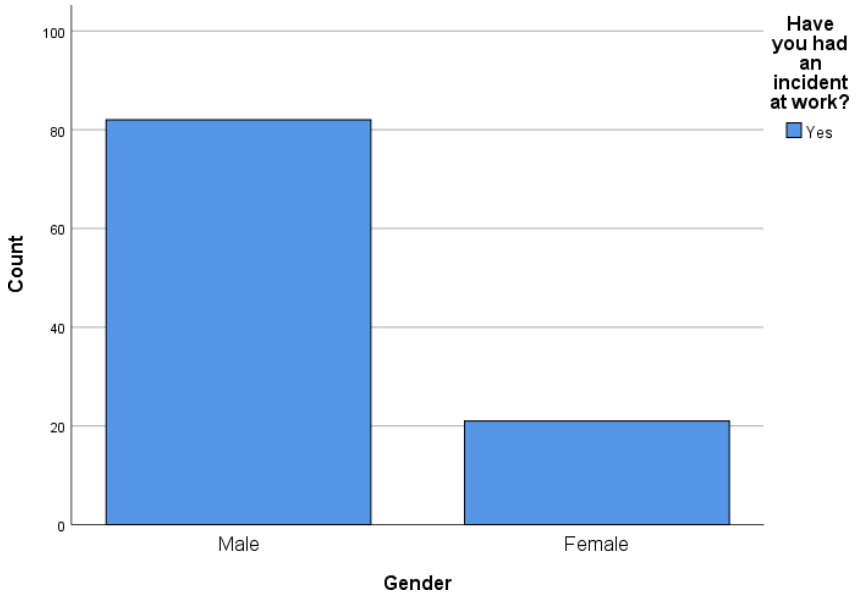
According to Figure 4, the coefficients reveal that Management Commitment and Safety Training have a statistically significant positive impact on safety performance, with respective values of (B=.259, P=.023<.05) and (B=.511, P=.000<.05). However, the other three dimensions of safety management—Safety Communication (B=-.093, P=.314>.05), Safety Policy (B=.186, P=.107>.05), and Safety Incentive (B=.034, P=.770>.05)—do not exhibit a statistically significant impact on the independent variable of safety performance, as their p-values are greater than .05.

4.4 Comparative Analysis

Variable	F	Sig.	Result
Management Commitment	.250	.618	Insignificant
Safety Communication	.080	.778	Insignificant
Safety Policy	.038	.846	Insignificant
Safety incentive	.496	.482	Insignificant
Safety Training	.702	.403	Insignificant

Figure 5: One-Way ANOVA of Comparison of Gender on Safety Management Practices

The researcher used One-way ANOVA to investigate if male and females perceive safety management practices differently, however according to Figure 5, results show that there is no statistically significant difference or variance between male and female in perceiving the safety management practices.



Graph 1: Bar graph of comparison between Gender on incidents at work

In addition, to investigate which gender is more prone to accidents, the staff who did not have an incident have been filtered in the dataset and Graph 1 reveals that male staff experience more incidents or injuries during their work compared to female staff.

5. Conclusion

The study concludes that management commitment enhances safety performance which means that school management's commitment to safety measures and procedures is important to ensure safety performance. Moreover, it was established that Safety training stimulates safety performance which infers that provision of training programs for the staff of school about safety measures and procedures are important for the learning of staff and hands off experience of safety performance. However, it was concluded that safety

communication, safety policy, and safety incentive do not influence safety performance. Specifically, Moreover, it was established that in the comparison of gender with the number of incidents occurred male staff are more prone to experience incidents and injures during work. This study therefore recommends that private school management should place substantial emphasis on their commitment to safety measures and procedures. Additionally, it is suggested that a hands-on training program for staff members should be implemented to improve safety performance. This approach aims to prevent unwanted and hazardous incidents and injuries while performing their tasks.

Finally, this study could be used by policymakers and regulators in reforming or reviewing organizations' safety management procures and also ensure compliance of laws. Organizations can also use the findings of this study to ensure safer working environment which in turn will enhance safety performance that could be beneficial to the employees and the society at large.

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