Exploring the Impact of Organizational Initiatives on Work Environment Safety and Health for Public Health

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ABSTRACT
Workplace safety and health efforts in public health are organizational endeavours that include practices, policies, and interventions intended to reduce hazards, enhance well-being, and guarantee adherence to health and safety laws.We provide the findings from a phone conversation and in-person interviews with 286 manufacturing companies.We carried out a cross-sectional study of the attitudes, behaviours, and policies related to health and safety at work. All company types were subjected to analyses using data from the Lost Time Injury frequency rate (LTIFR). Paternalistic efforts, the documentation of occupational safety and public health (OSPH) measures, more worker participation in making decisions, and enhancing managerial perspectives about the importance of OSPH were all linked to very low LTIFR. The results show the advantages of a proactive strategy for developing a culture of wellness and security in public health contexts and emphasize the crucial role that organizational commitment plays in establishing safer and healthier workplaces.In conclusion, safer workplaces are characterized by worker and management engagement in OSPH activities. Additionally, there is a correlation between reduced injury rates and management's overall concern for OSPH, as demonstrated by both attitudes and practical actions.

1. Introduction

1. Introduction

It is important to prioritize staff safety and health practices for several reasons. By giving these precautions top priority, management not only saves lives but also increases productivity and lowers medical expenses related to illness or injuries[1].Workplace safety rules state that secure conditions of employment cannot materially impair an employee's ability to perform their job, and attitudes they need to perform their jobs effectively and without risk of damage [2]. It is clear that safe workplaces have an impact on workers' actions, which therefore have an impact on output. It suggests that employees who perform their duties in a safe environment are probably going to do things that won't hurt them [11].It is necessary to educate employees and adopting a health and safety philosophy is necessary to ensure a safe and healthy work environment [3]. Such mindedness isn't usually linked to the development of knowledge or skills related to using machinery[4]. Employees must act in a way that promotes health and safety at work, even if employers are required to supply and maintain these conditions, which safeguards the health of other employees [5]. Workplace safety and health have a direct influence on employee productivity and well-being, making them essential elements of public health [14]. Having procedures and regulations in place that reduce the possibility of accidents, diseases, and fatalities is necessary to guarantee a safe and healthy workplace [12]. This research examines manufacturing workplace safety initiatives, examining attitudes, actions, and regulations to lower risks and improve workers' well-being.

Related work

Managerial and field staff members from different divisions across Malaysia's six provinces were selected by Saleem et al. [7]. The results showed that psychological capital has a favourable and significant impact on employees' work engagement. Also, a significant influence on the safety performance results of both workers was work engagement. Self-efficacy and justice in the workplaces were used as variables by Sofiyan et al. [8] to investigate the link between employee performance and engagement. The relationship between employee engagement and performance was tested using an SEM technique using partial least squares (PLS), and organizational fairness and self-efficacy were employed as predictors [6]. Using psychological safety as a mediating factor, Vakira et al. [13]

evaluatedthe connection between staff involvement and diverse management in the hospitality sector. Furthermore, the results indicated that the indirect coefficient was slightly significant, indicating that psychological safety has a limited influence on employee involvement in the setting of inclusive leadership. The effect of competency and the surroundings on motivation in addition to how they have an effect on employee overall performance was coveredby Parashakti et al. [10]. With the usage of a Likert scale measuring instrument, the study employed a quantitative descriptive-analytic method [9]. Finally, an assessment of the dependent variable, which was the performance variable, evaluated the significance of responsibility, initiative, teamwork, and excellence.

2. Methodology

286 responses were gathered from direct interviews and phone call interviews with senior managers. A cross-sectional study was carried out of the attitudes, behaviours, and policies related to health and safety at work. All company types were subjected to analyses using data from the LTIFR.

Data acquisition process

Random samples of respondents were used for telephone interviews. Two management surveys were the source of a condensed set of questions that the interviewers used. These interviews were done effectively by trained interviewers, who made sure that no manager's interview time exceeded 15 minutes. This technique made it possible to collect data quickly and to avoid schedule disruptions for participants, which made it possible to obtain crucial information from top management in businesses in an efficient manner.

Participants

There were 560 manufacturing workplaces that remained open, based on data that was recently obtained from the specific workplaces. It discovered that although some (n = 32) were closed, others no longer satisfied our minimal requirements for a particular amount of equivalent full-time (EFT) employees (n = 14), and some did not have up-to-date physical addresses or LTIFR data (n = 30). The number of workplaces in our eligible sample was thus decreased to 484. Out of the 484 qualified companies, 286 (59%) sent at least one completed questionnaire. Response rates varied somewhat, but not much, for the very low, low, medium, high, and very high LTIFR groups (p =.05): 39%, 50%, and 49%, respectively. 34% of the 286 respondents completed all questionnaires, 44% answered two or more management questions, and 82% answered at least one worker question.

To estimate variations in distribution, responses from senior managers who responded to 25 questions through mail and phone (n=80) were compared. The majority of effect sizes were modest (16/20), suggesting very slight differences. Five questions had significant impact sizes (>0.4), and the remaining five had medium effect sizes (0.1-0.4). Small differences were shown in the majority of variables, confirming the validity of cross-category comparisons. Rating a company's efficacy was a common question with medium to large effect sizes, phone replies tended to reflect a greater effectiveness than direct interviews. This implies that replies in phone interviews tend to be more favourable.

Analysis of data

Tables of contingencies were created by cross-tabulating results against the LTIFR group (very low, low, medium, high, or very high) to analyse discrete information. In this case of discrete ordinal statistics, significant variations between the five LTIFR groups were determined using the test of a linear pattern. When the data were non-ordinal or the linear analysis was not significant, the Pearson chi-square statistics was employed. One-way ANOVA was used to analyze continuous data, which were obtained as replies on a 5-point Likert scale or as flexible numerical responses. We employed a nominal statistically significant level of 0.05 for each test.

3. Results and discussion

OSPH documentation that is effective, worker engagement in making choices that are enhanced,

corporate paternalism and management prioritizing of OSPH are all linked to reduce LTIFR rates, according to the analysis of 286 manufacturing businesses.

Corporate paternalism

According to Table 1, businesses with low injury rates frequently displayed company paternalism, which is demonstrated by encouraging long-term commitment and providing disability coverage. Supervisors and professional workers were more inclined to support long-term career commitment in these companies, with a trend observed for sales staff. The association between LTIFR and promoting long-term commitment was not clear-cut; however, medium LTIFR workplaces exhibited lower levels of encouragement than very high or very lowLTIFR.

The LTIFR categories and the use of temporary disability coverage were correlated; industrial facilities with very low accident rates were more likely to make use of these plans than sites with medium, low, very high, or high injury rates, particularly in non-unionized labor. Since extended disability coverage was offered by the majority of employees, the percentages did not differ much by the LTIFR category. Plans for share ownership were uncommon, which made it difficult to examine how they related toLTIFR.

Table 1 Corporate paternalism for LTIFR

Variables – N (%)	**LTIFR**					**P**
Sales team – 144 (50.35)	4.0	4.6	4.8	4.6	4.3	0.05
Professional workers – 135 (47.2)	4.1	4.7	4.7	4.6	4.6	0.04
Entry level workers - 144 (50.35)	4.5	4.1	4.3	4.4	4.3	0.19
Extended disability coverage - 144 (50.35)	70	78	81	84	88	0.20
Temporary disability coverage – 146 (51.05)	65	73	76	79	83	0.07
Non-unionized – 80 (27.97)	62	70	72	75	78	0.01
Unionized – 69 (24.12)	77	85	87	90	92	0.55
Supervisors - 144 (50.35)	4.2	4.8	4.8	4.5	4.2	0.03
Note: Light colour – very low, Dark Colour – Very High						

In Table 2, management commitment took the shape of both official initiatives like safety recognition and audits as well as informal ones like recognizing safety behaviours on the spontaneity of the moment. Employee safety recognition program utilization was more common in very low injury sites than in medium, low, or high workplaces. Additionally, they performed questionnaires on safety perception, particularly in unionized workplaces (p=0.01). Safety behaviours were more often observed by supervisors at very low-injury unionized sites. In comparison to very high LTIFR sites, monitoring of lost time injury data and attendance data was more prevalent in manufacturing sites with medium injury rates. Medium sites had much greater attendance data (p=0.01). Between LTIFR categories, there was no discernible variation in the close-call incident reports.

Table 2 Measurements of OSPH by LTIFR

Items – N (%)	**LTIFR**					**P**
LT injury statistics – 145 (50.7)	70	80	89	96	98	0.01
Workplace medical treatment records – 145 (50.7)	50	60	74	80	85	0.95
Close-call incident reports – 145 (50.7)	25	30	36	40	45	0.77
Attendance data – 145 (50.7)	30	40	52	72	75	0.1*
Implementation time for safety recommendation – 145 (50.7)	5	7	24	30	35	0.04
Safety recognition program utilization – 145 (50.7)	10	17	48	65	70	0.001
Non-unionized – 112 (39.2)	1.5	2.1	2.7	3.1	4.0	0.11
Unionized – 116 (40.7)	1.0	2.1	2.5	2.8	3.9	0.04
Note: Light colour – very low, Dark Colour – Very High						

Workplace features

Approximately 30% of the workplaces had up to 150 EFT employees, compared to 23% with 151–300 employees. Of these, 47% had more than 300 EFT employees. There was an equal distribution of non-unionized and unionized workplaces. Comparatively, 7% of businesses reported turnover exceeding 26%, and around 67% of businesses indicated low turnover (below 7%). At least 89% of the workforce was made up of EFT in nearly all of the organizations (98%) that were examined. Employees ranged in age from 26 to 50 on average, and a comparable proportion had worked there for more than seven years.

Managerial perspectives and dedication to OSPH

We posed the following question to senior managers: "Do you think that safety and public health issues are more, equally, or less important to management at this workplace than the problems listed below?"It is important that a greater percentage of OSPH was considered less significant by senior managers at sites with extremely few injuries as opposed to those with medium or high injuries,as all the other issues we asked about. The differences were substantial for the following issues: Market position, pay scale, career stability, quality assurance, and financial gains (Table 3).In contrast, when we questioned worker co-chairs to share how the workforce saw OSPH about other company-related concerns, there were no significant variations between LTIFR categories.

Table 3 Non-OSPH factors by LTIFR

Items – N (%)	**LTIFR**					**P**
Market position – 154 (53.84)	20	40	50	60	70	0.05
Pay scale – 154 (53.84)	18	40	52	60	68	0.14
Career stability – 154 (53.84)	15	30	58	70	75	0.01
Quality assurance – 153 (53.49)	10	30	43	55	65	0.03
Financial gains – 154 (53.84)	12	25	46	58	60	0.02
Note: Light colour – very low, Dark Colour – Very High						

The majority of workplaces had more than five years of service and a very low turnover rate of 5% or less; neither attribute was substantially correlated with LTIFR. There was no significant variation in the average percentages of working hours allocated to different forms of shift employment by LTIFR. However, compared to medium or high-injury sites, low-injury sites had a larger percentage of workers working overtime shifts (scale from $1 = 0\% \; to \; 5 \geq 50\%, w = 2.8; 2.6 \; and \; 2.3, p = 0.6$), these differences were only statistically significant in unionized workplaces (p=0.04). Significant differences were observed in the number of workers per supervisor based on LTIFR, with higher injury sites exhibiting a greater number of employees per supervisor than low or medium injury sites $(3.8, 3.1, and \; 3.2, p = o, 04)$.

Sites with extremely low injury rates frequently had lower rates of complaints, job rejections, and Ministry of Labor (MOL) orders (Table 4). Very low injury locations had significantly lower work refusal percentages per 100 employees. Compared to medium or high-injury sites, unionized extremely low-injury sites had substantially lower grievance rates, according to supervisors. Employee involvement in matters about new equipment, such as proposing particular features and reviewing operational instructions, was higher in extremely low-injury sites.

Table 4 Managements respondents by LTIFR

Items – N (%)	**LTIFR**					**P**
Employee work refusal rate – 160 (55.94)	0.1	0.3	0.6	1.0	1.4	0.03
MOL orders rate – 150 (52.44)	0.2	0.4	0.7	1.2	1.8	0.14
Grievance incidence rate – 60 (20.97)	3.0	5.0	12.0	14.0	16.0	0.19
Perceived grievance rate over the past 2 years – 51 (17.83)	4.0	3.0	2.0	2.0	2.5	0.30
Involvement in new equipment features						
Proposal for specific features – 117 (40.9)	85	80	70	55	45	0.02

Development of operation procedures – 114 (39.86)	90	85	68	60	55	0.04
Note: Light colour – very low, Dark Colour – Very High						

4. Conclusion and future scope

Public health initiatives about workplace safety and health comprise procedures, guidelines, and actions designed to lower risks, improve health, and ensure compliance with health and safety regulations. We provide the results of the phone interviews and in-person interviews with 286 manufacturers. Cross-sectional research of policies, practices, and attitudes about health and safety in the workplace was conducted. Data from the LTIFR was used to analyze all sorts of companies. Very low LTIFR was shown to be associated with paternalistic efforts;the documenting of OSPH regulates more worker participation in making decisions, and improved managerial perspectives about the significance of OSPH. The findings highlight the benefits of a proactive approach to creating a security and well-being culture in public health settings and highlight the critical role that organizational commitment performs in creating safer and better work environments. One of the limitations of the study is that longitudinal data are required to evaluate long-term benefits. To improve generalizability and applicability, future research could concentrate on comparison studies across various organizational sizes and industries.

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