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Employee Involvement in Workplace Safety and Health-Seeking Behaviour among Workers in Oil and Gas Dispensing Outfits in Calabar Metropolis, Nigeria

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Abstract

Employee involvement in safety matters has increasingly been recognized as a critical component of organizational safety culture, with potential implications for workers' health behaviours. This study examined the extent of employee involvement in safety matters and its relationship with health-seeking behaviour among workers in oil and gas dispensing outfits in Calabar Metropolis, Nigeria. A cross-sectional mixed-method survey design was adopted, and data were collected from a sample of 212 respondents and 12 key informants using structured questionnaires and key informant interview guide. Frequencies and percentages, Pearson's Correlation, and linear regression) were respectively used to assess the level of employee involvement in safety matters, relationships, and predictive effects. Findings revealed a high level of employee involvement in safety activities, a moderately positive relationship between employee involvement in safety matters and health-seeking behaviour ($r = 0.498$, $p < 0.05$), and a significant predictive effect of employee involvement on health-seeking behaviour ($\beta = 0.498$, $R^2 = 0.248$, $p < 0.05$). These results underscore the importance of participatory safety practices in shaping not only workplace safety outcomes but also individual health-related behaviours. The study concludes that fostering active employee participation in safety management can enhance workers' responsiveness to health needs and promote proactive health-seeking behaviour. It is recommended that organizations strengthen inclusive safety policies, enhance training programs, and create supportive environments that encourage safety compliance and positive health behaviours. The study contributes to the growing body of literature linking safety culture with broader health outcomes, particularly in high-risk occupational settings within developing contexts.

Key words: Employee involvement, Safety culture, Health-seeking behaviour, Occupational health, Workplace safety

Introduction

Workplace safety remains a critical global concern, especially in high-risk sectors where employees are repeatedly exposed to physical, chemical and environmental risks (Liu et al., 2022; Dong et al., 2024; Cheng et al., 2025). Consequently, increasing attention has been directed towards the development of safety culture which emphasizes shared norms, values and practices that prioritize safety within organizations (Gao et al., 2019; Isha & Baarimah, 2025; Shaikh, 2023; Hesgrove et al., 2024; Vel'as et al., 2022; Akintoye et al, 2025). Among the core dimensions of safety culture, employee involvement in safety matters has emerged as a distinct area of organizational safety culture, especially in high-risk sectors such as oil and gas. Some consider it not just as a procedural requirement but as an

ethical imperative (Jonathan & Mbogo, 2016; Ariss, 2003) with maximum benefits (Olokede et al., 2024).

Employee involvement entails the active engagement of employees in safety-related activities, including decision-making (Wachter & Yorio, 2014), hazard identification and reporting (Rout & Sikdar, 2017; Bahn, 2013), risk assessment (Searle, 2023), safety committees (Lu, et al., 2025) and compliance monitoring (Wachter & Yorio, 2014; Santi et al, 2020). It represents a departure from the traditional top-down compliance approach to safety towards a dimension which situates safety as a shared operational responsibility in the work place (Jonathan & Mbogo, 2016; Coghlan & Brydon-Miller, 2014). Modern safety management frameworks emphasize that when employees are engaged in safety processes, they develop a sense of ownership and responsibility toward workplace safety (Jaroenroy et al, 2024). This participatory approach not only promotes adherence to safety protocols but also enhances communication, trust, and collective accountability within the organization (Zara et al., 2023; Kokubun, 2025; Ying & Allaqtta, 2025)

Often conceptualized as safety participation, employee involvement in safety has been widely examined across several intersecting domains in occupational health and safety research. A substantial body of literature links involvement to safety leadership, showing that transformational and safety-specific leadership behaviours significantly enhance employees' participation in safety activities (Zhao et al., 2022). Similarly, studies on safety climate demonstrate that shared perceptions of organizational commitment to safety foster active employee engagement, open communication, and trust (Zhao et al., 2022). Empirical research further establishes a strong association between employee involvement and safety performance outcomes, including improved safety conditions and reduced workplace accidents (Matei, 2024; Bayram, 2019; Clarke & Taylor, 2018). In addition, the distinction between safety compliance and safety participation highlights the proactive and voluntary nature of involvement, linking it to organizational citizenship behaviours and effective safety management systems (Zhao et al., 2022). Other studies situate involvement within the context of training and competence development, emphasizing its role as a product of organizational investment in employee capacity (Bayram, 2019). More recent contributions expand this discussion to communication, trust, and employee engagement, suggesting that participatory safety environments improve information flow, strengthen relational trust, and support shared commitment to safety goals (Zara et al., 2023; Kokubun, 2025; Ying & Allaqtta, 2025). However, much of this body of work largely concentrates on safety-specific outcomes with limited attention to the broader implications of employee involvement outside the workplace.

Health-seeking behaviour has been widely recognized as a strong determinant of individual and population health outcomes (Solomon et al., 2023; Zeb et al., 2025). Health-seeking behaviour refers to the actions individuals take in response to perceived health needs, including seeking medical care, engaging in preventive practices, and adhering to treatment regimens (Khadka et al 2022; Yarney, 2022). This behaviour manifests in multiple dimensions, including reactive care (seeking treatment after illness onset), proactive or preventive practices (such as routine check-ups), delayed or avoidant behaviour, and reliance on informal care options like self-medication or traditional remedies, symptom recognition, reporting of workplace injuries, utilization of healthcare services (Osei Poku et al., 2026; Afolabi et al, 2013). These patterns reflect not only individual decision-making but also the structural and cultural conditions within which workers operate.

Health-seeking behaviour in occupational settings is shaped by a complex interaction of individual, sociocultural, economic, and workplace-related factors. Empirical evidence indicates that workers' decisions to seek care are influenced by knowledge, beliefs, education, job conditions and workplace policy, access to healthcare, and financial constraints, including the cost of treatment and potential loss of wages (Osei Poku et al., 2026; Salifu & Owoyemi, 2024; Obels et al., 2025; Adei et al, 2022; Agarwallar et al, 2024). Evidence further shows that timely health-seeking behaviour has been associated with improved health outcomes, reduced disease severity, enhanced productivity, and lower long-term healthcare costs, preventing minor occupational health issues from developing into severe medical conditions (Osei Poku et al., 2026). However, determinants such as work schedules, job insecurity, and limited safety training further constrain timely health-seeking practices (Osei Poku et al., 2026). In like manner, delayed or inadequate health-seeking is linked to increased morbidity, financial burden, loss of workdays, and heightened psychological stress, particularly in high-risk occupational environments where untreated conditions may exacerbate vulnerability to further health complications (Osei Poku et al., 2026; Obels et al., 2025). Despite these advances, the potential

influence of workplace dynamics, particularly workplace-related practices on health-seeking behaviour remains underexplored

Conceptually, employee involvement in safety may extend beyond immediate safety outcomes to shape broader health-related behaviours. Active participation in safety practices can enhance workers' awareness of occupational risks, strengthen their sense of responsibility toward personal wellbeing, and foster a proactive orientation toward risk management. Using the perspectives of the Health Belief Model (Rosenstock et al., 1988) and Safety Climate theory (Zohar, 1980), it can be argued that increased engagement in safety-related activities may heighten perceived susceptibility to health risks and improve self-efficacy in responding to such risks, thereby influencing health-seeking behaviour. In this sense, employee involvement in safety may function as a behavioural and cognitive mechanism through which workplace experiences shape individual health decisions.

Nevertheless, existing literature has largely overlooked the intersection between employee involvement in safety and health-seeking behaviour. Most studies remain limited to examining safety performance and accident reduction, with little attention to how safety-related participation may influence workers' responses to illness, injury, or health risks. This gap is particularly evident in developing countries, where occupational hazards are often high and access to healthcare may be constrained. In Nigeria, and especially within oil and gas dispensing environments, employees operate under conditions that heighten both safety and health risks, yet empirical evidence linking workplace safety practices to health-related behaviours remains scarce. Against this backdrop, this study examines the relationship between employee involvement in safety matters and health-seeking behaviour among employees in oil and gas dispensing outfits in Calabar Metropolis, Cross River State, Nigeria.

Specifically, the study seeks to: assess the extent of employee involvement in safety issues, determine the relationship between employee involvement in safety matters and health-seeking behaviour, and examine the predictive effect of employee involvement in safety issues on health seeking behaviour of workers in oil and gas dispensing outfits. Ultimately, this study contributes to a more integrated understanding of how workplace practices shape not only safety outcomes but also broader dimensions of employee wellbeing by bridging occupational safety research with health behaviour perspectives.

Methods

Study Design

This study adopted a cross-sectional survey design using a mixed-methods approach. This design was considered appropriate for examining the relationship between employee involvement in safety matters and health-seeking behaviour at a single point in time while also providing qualitative insights from key informants.

Study Area

The study was conducted in oil and gas dispensing outfits in Calabar Metropolis, Cross River State, Nigeria. The area is characterized by a high concentration of petroleum retail outfits with varying levels of safety practices and regulatory oversight.

Study Population

The study population comprised employees working in oil and gas dispensing outfits in Calabar Metropolis, Cross River State, Nigeria. Due to the absence of a comprehensive sampling frame, the population was considered indeterminate. Participants were selected based on predefined inclusion criteria, including a minimum of six months' work experience, active involvement in daily operations, indication of interest and consent to participate in the study.

Sample Size and Sampling Technique

A sample size of 212 respondents was determined using power analysis for Pearson Product Moment Correlation, assuming an effect size of 0.30, a significance level of 0.05, and a statistical power of 0.80. Given the nature of this study, purposive sampling was employed to select dispensing outfits

and participants. This approach was considered appropriate because the study specifically targeted employees directly involved in workplace safety matters, who could provide relevant insights into health-seeking behaviour. The use of probability sampling was impractical due to the absence of a comprehensive sampling frame of such employees across dispensing outfits, coupled with variations in organizational structures and access restrictions. In many cases, access to participants was mediated by organizational gatekeepers, making random selection difficult to implement. Additionally, 12 key informants (comprising safety officers, managers, supervisors, security staff, administrative/clerical staff and dispensing staff) were purposively selected for qualitative interviews based on their knowledge of workplace safety practices.

Data Collection Instruments

Quantitative data were collected using a structured questionnaire comprising 21 items divided into three sections - A, B, and C. Section A contains six categorical items that address socio-demographic characteristics of respondents; section B contains 5 items that measure employee involvement in safety matters; and section C contains ten items that measure health-seeking behaviour. Employee involvement items were measured using a 5-point Likert scale (Never, Rarely, Sometimes, Often and Always) and captured dimensions such as participation in safety decision-making, hazard identification, safety communication, and safety training. Health-seeking behaviour items were also measured in a 5-point Likert scale order (Never, Rarely, Sometimes, Often and Always) and measured using indicators of healthcare utilization and preventive practices. Qualitative data were collected using a semi-structured interview guide with 7 items that address safety culture practices, dimensions of employee involvement in safety matters, employees' health-seeking behaviour, and other issues related to the major themes. The instruments were developed by the researcher with the help of measurement experts, based on relevant literature and theoretical framework such as the Health Belief Model, and Safety Culture Theory.

Validity and Reliability

The questionnaire was subjected to face and content validity by experts in occupational health, medical sociology, and measurement and evaluation. In addition, the constructs were grounded in established theoretical frameworks, and items were carefully developed to reflect key dimensions of employee involvement and health-seeking behaviour. The instrument was pilot-tested among 20 employees from dispensing outfits in Yakuur L.G.A. Cronbach's alpha reliability test yielded 0.881 and 0.859 for items measuring employee involvement in safety matters and health-seeking behaviour respectively. That demonstrated good and acceptable internal consistency among items.

Data Collection Procedure

Quantitative data were collected using a structured questionnaire which were administered at participants' workplaces. Both paper-based and electronic versions of the instrument were utilized to ensure flexibility and improved response rates. Qualitative data were collected through semi-structured interviews. Interviews lasted between 30 – 45 minutes on average, allowing sufficient depth for exploration of general safety culture and specific employee involvement in safety matters and health-related decisions. Interviews with key informants were conducted in settings convenient for participants and audio-recorded with their consent.

Data Analysis

Quantitative data were analysed using descriptive and inferential statistics, including frequencies percentages, Pearson Product Moment Correlation and linear regression, with the aid of SPSS version 20. Prior to inferential analysis, assumptions of normality, linearity, homoscedasticity, and absence of extreme outliers were assessed using histograms/Q-Q plots/scatterplots and standardized residual diagnostics. Qualitative data were analyzed systematically using a deductive thematic analysis approach. First, audio-recorded data were transcribed verbatim into text and read iteratively to ensure familiarization. Second, a codebook was developed that guided the coding of data under predetermined themes. A thematic analysis was conducted following Braun & Clarke's (2006) framework

Ethical Considerations

Participants were informed of their rights including voluntary participation, right to withdraw from participation at any point without penalty, confidentiality and anonymity of responses, right to avoid questions they feel uncomfortable with, right to ask questions. Informed consent was obtained from all participants prior to data collection.

Results

Socio-Demographic Characteristics of Respondents

A total of 212 respondents participated in the study. The demographic distribution as presented in Table 1 shows that the majority were within the age range of 18-27, representing 42.9%. Male respondents constituted 52.4 %, while females accounted for 47.6%. In terms of educational attainment, 33% had secondary education, 61.8% possessed tertiary qualifications, and 5.2% had primary education. Regarding work experience, most respondents (42.9 %) had worked in oil and gas dispensing outfits for 2 - 5years.

Table 1 : Demographic information of respondents

| Variable | Category | Frequency | (%) |
|-------------------|------------------------|------------|------------|
| Gender | Male | 111 | 52.4 |
| | Female | 101 | 47.6 |
| | Total | 212 | 100 |
| Age | 18-27 | 91 | 42.9 |
| | 28-37 | 51 | 24.1 |
| | 38-47 | 50 | 23.6 |
| | 48-57 | 10 | 4.7 |
| | 58 and above | 10 | 4.7 |
| | Total | 212 | 100 |
| Educational level | Primary | 11 | 5.2 |
| | Secondary | 70 | 33.0 |
| | Tertiary | 131 | 61.8 |
| | Total | 212 | 100 |
| No of Year on job | < 2 years | 51 | 24.1 |
| | 2-5 years | 91 | 42.9 |
| | 6-10 years | 70 | 33.0 |
| | 10 years + | 0 | 0 |
| | Total | 212 | 100 |
| Job roles | Management/Supervisory | 11 | 5.2 |
| | Operation/dispensing | 141 | 66.5 |
| | Safety/maintenance | 20 | 9.4 |
| | Security/support | 10 | 4.7 |
| | Admin/Clerical | 30 | 14.2 |
| | Total | 212 | 100 |
| Location | Calabar Municipality | 126 | 59.4 |
| | Calabar South | 86 | 40.6 |
| | Total | 212 | 100 |

Source: Researcher's fieldwork, 2025

Extent of employee involvement in safety matters

The study sought to assess the extent of employee involvement in safety matters in oil and gas dispensing outfits in Calabar Metropolis, Cross River State. This was done using 5 items and 212 respondents responded to these items as seen in table 2. For reporting purposes, response options given as “Never” and “Rarely” were reported as “low involvement”, response option given as “Sometimes” were reported as “moderate involvement”, while response options given as “Often” and “Always” were reported as “high involvement.” From item 1 which sought to find out how often employees are encouraged to suggest safety improvements, less than half, 15.1% and 18.9% reported low and moderate encouragement, respectively, while over half, 66% reported high encouragement. Also, from item 2 which sought to find out how often employees participate in safety-related decision making, less than half, 9.2% and 14.2% reported low and moderate participation, respectively, while over half, 56.6% reported high participation.

Furthermore, from item 3 which sought to find out how safety committees include employee representatives, less than half, 15.1% and 13.2% percent reported low and moderate inclusion, respectively, while over half 71.7% reported high inclusion. Again, from item 4 which sought to find out how often employees take responsibility for safety of team mates, less than half 15.1% and 9.4% reported low and moderate responsibility, respectively, while over half, 75.5% reported high responsibility. Again, from item 5 which sought to find how often leadership involves employees in modelling safe behaviour, less than half, 10.3% and 18.9 reported low and moderate employee involvement, respectively, while over half, 70.8% reported high employee involvement. The result shows that in all five items, majority of respondents, fifty percent and above reported “high involvement” in safety matters, while less than fifty percent reported “moderate to low involvement”. In all, the results show that respondents generally perceive employees’ involvement in safety matters as “high.”

Table 2: Responses on Employees Involvement in Safety matters

| S/n | Question | Response Options | | | | | | | | | | Total | |
|-----|---|------------------|------|--------|-----|---------|------|-------|------|--------|------|-------|-----|
| | | Never | | Rarely | | S/times | | Often | | Always | | F | % |
| | | F | % | F | % | F | % | F | % | F | % | F | % |
| 1 | How often are employees encouraged to suggest safety improvements | 12 | 5.7 | 20 | 9.4 | 40 | 18.9 | 60 | 28.3 | 80 | 37.7 | 212 | 100 |
| 2 | How often do you participate in safety-related decision making? | 42 | 19.8 | 20 | 9.4 | 30 | 14.2 | 20 | 9.4 | 100 | 47.2 | 212 | 100 |
| 3 | How often do safety committees include employee representatives | 11 | 5.2 | 21 | 9.9 | 28 | 13.2 | 90 | 42.5 | 62 | 29.2 | 212 | 100 |
| 4 | How often do you take responsibility for the safety of your team mates? | 12 | 5.7 | 20 | 9.4 | 20 | 9.4 | 40 | 18.9 | 120 | 56.6 | 212 | 100 |
| 5 | How often does leadership involve employees in modelling safe behaviour | 2 | 0.9 | 20 | 9.4 | 40 | 18.9 | 20 | 9.4 | 130 | 61.3 | 212 | 100 |

Source: Researcher’s fieldwork, 2025

Relationship between employee involvement in safety matters and health-seeking behaviour

The study further sought to determine the relationship between employee involvement in safety matters and health-seeking behaviour. Employee involvement in safety matters was operationalized using five items developed by the researcher. The items assessed the extent to which employees actively participate in workplace safety processes. The items included: suggestion of safety improvement, participation in safety decision-making, involvement in safety committees, taking responsibility for safety of team mates, and involvement in safety modelling activities.

Health-seeking behaviour was operationalized using ten items developed by the researcher. They include: engagement in routine check-ups, prompt seeking of medical attention when symptoms are noticed, compliance with medical prescription from health professionals, consistent use of PPE to prevent work-related illness/injury, participation in workplace health screening available, follow up with a healthcare provider after an illness until recover, seeking information from reliable health sources prior to treatment, reporting work-related injury or health concerns promptly to authority, consulting a health professional rather than self-medication when feeling unwell, adoption of lifestyle practices to maintain good health prevent illness.

Generally, responses were measured on a 5-point Likert scale ranging from: Never = 1, Rarely = 2, Sometimes = 3, Often = 4, and Always = 5. All items were positively worded, and higher scores indicated higher levels of employee involvement in safety matters. Higher scores indicated greater involvement. Similarly, a composite score was computed for health-seeking behaviour using the mean of its respective items

To examine the relationship between the study variables, correlation analysis was done with SPSS version 20. Standard deviations, calculated r value, 95% confidence interval, significant p -values and degrees of freedom were determined. The results indicated a moderate positive relationship between employee involvement in safety matters and health-seeking behaviour $r(210) = 0.498$, 95% CI[0.389, 0.596], $p < 0.05$. This suggests that higher levels of employee involvement in safety activities are associated with improved health-seeking behaviour among employees. Furthermore, the 95% confidence interval indicates that the true population correlation is likely to fall between 0.389 and 0.596, confirming that the observed relationship is both meaningful and statistically reliable.

Predictive Role of Employee Involvement in Safety Matters n Health-Seeking Behaviour

The study also sought to determine whether employee involvement in safety matters predicts health-seeking behaviour among employees in oil and gas dispensing outfits. A linear regression analysis was conducted to examine the predictive relationship. To achieve this, multiple Likert items of the study variables were aggregated into composite scales, and the composite scores were treated as approximately continuous. The results indicated that employee involvement was a significant predictor of health-seeking behaviour. Specifically, employee involvement had a positive effect on health-seeking behaviour ($\beta = 0.498$, $B = 0.386$, $SE = 0.046$, 95% CI [0.295, 0.478] $p < .05$). The confidence interval did not include zero, indicating that the relationship was statistically significant. This suggests that higher levels of employee involvement in safety matters are associated with increased health-seeking behaviour among employees.

Furthermore, the intercept (constant) was statistically significant ($\beta = 0.498$, $B = 2.108$, $SE = 0.183$, 95% CI [1.747, 2.469], $p < .05$), indicating that even in the absence of employee involvement, a baseline level of health-seeking behaviour exists. Generally, the relatively narrow confidence interval for employee involvement suggests a precise estimate of the effect, thereby strengthening confidence in the reliability of the findings. The model explained 24.8% of the variance in health-seeking behaviour ($R^2 = 0.248$, $F(1, 210) = 69.188$, $p < 0.05$), suggesting that higher employee involvement in safety matters is associated with better health-seeking behaviour.

Table 3: Responses on health-seeking behaviour

| S/n | Question | Response Options | | | | | | | | | | | |
|-----|---|------------------|------|--------|------|-----------|------|-------|------|--------|------|-------|-----|
| | | Never | | Rarely | | Sometimes | | Often | | Always | | Total | |
| | | F | % | F | % | F | % | F | % | F | % | F | % |
| 1 | I go for routine check-ups even when I am not sick | 61 | 28.8 | 40 | 18.9 | 41 | 19.3 | 40 | 18.9 | 30 | 14.2 | 212 | 100 |
| 2 | I immediately seek medical attention when I notice unusual/persistent symptoms | 41 | 19.3 | 51 | 24.1 | 50 | 23.6 | 70 | 33 | 41 | 19.3 | 212 | 100 |
| 3 | I comply fully with prescribed treatments or medication from health professionals | 21 | 9.9 | 10 | 4.7 | 40 | 18.9 | 60 | 28.3 | 81 | 38.2 | 212 | 100 |
| 4 | I use PPE consistently to prevent work-related illness or injury | 31 | 14.6 | 10 | 4.7 | 50 | 23.6 | 40 | 18.9 | 81 | 38.2 | 212 | 100 |
| 5 | I participate in workplace health screening programmes when they are available | 11 | 5.2 | 30 | 14.2 | 50 | 23.6 | 41 | 19.3 | 80 | 37.7 | 212 | 100 |
| 6 | I follow up with a healthcare provider after an illness until I recover fully | 31 | 14.6 | 20 | 9.4 | 30 | 14.2 | 71 | 33.5 | 60 | 28.3 | 212 | 100 |
| 7 | I seek information from reliable health sources before deciding on treatment | 21 | 9.9 | 10 | 4.7 | 41 | 19.3 | 60 | 28.3 | 80 | 37.7 | 212 | 100 |
| 8 | I report work-related injury or health concerns promptly to authority | 21 | 9.9 | 30 | 14.2 | 41 | 19.3 | 70 | 33 | 50 | 23.6 | 212 | 100 |
| 9 | I consult a health professional rather than self-medication when I feel unwell | 41 | 19.3 | 30 | 14.2 | 60 | 28.3 | 81 | 38.2 | 41 | 19.3 | 212 | 100 |
| 10 | I adopt lifestyle practices to maintain good health and prevent illness | 11 | 5.2 | 20 | 9.4 | 40 | 18.9 | 50 | 23.6 | 91 | 42.9 | 212 | 100 |

Source: Researcher's Fieldwork, 2025.

Table 4: Pearson Product Moment Correlation between employees' involvement in safety matters and health-seeking behaviour

| Variable | N | Mean | SD | r-value | Sig (p-value) |
|---|-----|------|------|---------|---------------|
| Employees' involvement in safety Matters (Mean) | 212 | 3.77 | 1.15 | | |
| Health-seeking behaviour (Mean) | 212 | 3.57 | 0.89 | 0.498 | <0.05 |

Significant at 0.05 level of significant (2-tailed), df = 210
Source: Researcher's Fieldwork, 2025.

Table 5 : Linear regression predicting health-seeking behaviour from employee involvement

| Predictor variable | B (Unstandardized) | SE (B) | Beta (Standardized) | 95% CI Lower | 95%CI Upper | t | p-value |
|----------------------|--------------------|--------|---------------------|--------------|-------------|--------|---------|
| Constant | 2.108 | 0.183 | | 1.747 | 2.469 | 11.511 | <0.05 |
| Employee involvement | 0.386 | 0.046 | 0.498 | .295 | .478 | 8.318 | <0.05 |

Footnote: Employee involvement is a composite variable computed as the mean of 5 items assessing employees' participation in workplace safety

Source: Researcher's Fieldwork, 2025.

Discussion

Extent of Employee Involvement in Safety Matters

The findings revealed a high level of employee involvement in safety matters in the oil and gas dispensing outfits. This suggests that employees in the oil and gas dispensing outfits in the area of study are actively engaged in safety-related decision-making, consultation processes, and implementation of safety practices within their workplaces. This high level of involvement may reflect increasing organizational recognition of participatory safety culture as a critical component of workplace health management (Olokede et al., 2024). In high-risk sectors such as oil and gas, employee engagement in safety matters is often institutionalized through routine safety briefings, hazard reporting systems, and collaborative safety planning. This was corroborated by several key informants, for instance some key informants narrated as follows:

“If you work in this oil and gas station at whatever capacity, you cannot afford to be ignorant of safety because management involves every staff on different safety matters to a very great extent. This is to reduce safety ignorance amongst staff which can endanger a lot of things including people's health and lives.” (KI 3, Male, 32, Calabar Municipality)

Although there's a safety unit in our filling station, the management now involves almost every staff in safety activities. This was not so, but I see it happening now (KI 6, female, 35, Calabar Municipality).

However, while the majority of participants reported high levels of involvement in safety matters, a few key informants expressed skepticism about the inclusiveness of such practices. As one participant noted:

“Yes, they tell us safety concerns everybody, but I think they hardly involve everybody.” (KI 2, female, 28, Calabar South)

The above accounts highlight how deliberate organizational involvement of employees in safety can increase their awareness of safety and its health implications. This finding can be understood within the framework of the Health Belief Model (HBM) and Safety Climate Theory (SCT). Employee involvement in safety matters likely enhances: risk perception (awareness of health hazards) perceived benefits of action (importance of taking and seeking care), self-efficacy (confidence in making proactive safety and health decisions). The finding further aligns with broader literature (Kim et al., 2016; Lu et al., 2025; Naji et al., 2021; Claxton et al., 2022) which emphasizes that organizations with strong safety cultures tend to encourage worker participation as a mechanism for reducing occupational risks and promoting overall wellbeing.

Relationship between Employee Involvement and Health-Seeking Behaviour

The study found a moderately positive relationship between employee involvement in safety matters and health-seeking behaviour. This implies that employees who are more engaged in safety-related activities are also more likely to adopt positive health-seeking behaviours, such as seeking timely medical care, engaging in preventive health practices, and utilizing healthcare services when necessary. Some key informants captured this in the excerpts below:

“We don’t wait for management when it comes to safety in the workplace. Usually, we discuss and attend to safety issues even if management is not present, because safety concerns everybody, links directly with our health, and its errors can result to negative health outcomes” (KI 5, Male, 34, Calabar South)

“As we work here, sometimes they bring people to train us on safety issues to enable us act properly in the face of hazards. They also remind us that our health is tied to the level of our safety practices” (KI 7, Male, 29, Calabar Municipality)

This finding can be understood within the framework of the Health Belief Model (HBM) and Safety Climate Theory (SCT). When workers participate in safety meetings, hazard identification, and safety decision making, they become more knowledgeable about the potential risks and the importance of early intervention. This increased awareness may result to increased utilization of healthcare services when symptoms are perceived. Furthermore, workplace environments that encourage involvement may also foster supportive social norms, where health-conscious behaviour becomes normalized among employees. This finding is consistent with previous studies that show participatory safety environments improve not only safety compliance but also broader health-related behaviours (Osei Poku et al., 2026)

Predictive Effect of Employee Involvement on Health-Seeking Behaviour

The regression analysis showed that employee involvement in safety matters significantly predicts health-seeking behaviour, accounting for 24.8% of the variance ($R^2 = 0.248$, $F(1, 210) = 69.188$, $p < 0.001$). The positive standardized coefficient ($\beta = 0.498$) indicates a moderate and meaningful effect size, suggesting that increases in employee involvement are associated with corresponding increases in health-seeking behaviour. This finding is particularly important because it moves beyond association to demonstrate predictive relationship. It implies that employee involvement is not merely correlated with health-seeking behaviour but is a key determinant of it. In practical terms, this suggests that organizational strategies aimed at increasing employee involvement in safety matters can have broader health implications beyond the workplace, extending to employees’ personal health behaviours. This position was buttressed by key informants in the following narratives:

The oil and gas industry is one that exposes workers to a lot of health risk, but safety training is what helps us to maintain balance. As a supervisor, I don't play with my health and that of my family because I am trained to recognise health and safety risks within and outside the workplace. (KI 8, Male, 35, Calabar South)

“As the owner of this station, I have seen great benefit in involving my staff in safety matters. They are very safety and health conscious. Severally, my staff and I have been the ones saving some sister stations from fire outbreaks” (KI, Male, 62, Calabar Municipality).

The result reinforces the proposition of Safety Climate Theory that a positive safety culture – characterized by shared values, active participation, and collective responsibility – can influence a wide range of employee behaviours, including those related to personal health. The findings underscore the importance of participatory safety culture in shaping not only workplace safety outcomes but also broader health behaviours. It also aligns with previous studies that highlight organizations’ active involvement of employees in safety governance as inadvertently promoting: greater health awareness, early health-seeking behaviour, and reduced delays in accessing healthcare (Hesgrove et al., 2024; Naji et al., 2021; Ali & Nouban, 2024).

Conclusion

This study examined employee involvement in safety matters and health-seeking behaviour among workers in oil and gas dispensing outfits in Calabar Metropolis. The findings reveal a high extent of employee involvement in safety-related activities, alongside a moderately positive relationship between employee involvement and health-seeking behaviour. Furthermore, employee involvement was found to be a significant predictor of health-seeking behaviour, underscoring its critical role in shaping workers’ health-related decisions. These findings emphasize the importance of participatory safety practices as a fundamental element of organizational safety culture. When employees are actively engaged in safety decision-making, hazard identification, and health-related initiatives, they are more likely to adopt proactive attitudes toward their health, including timely and appropriate health-seeking actions. This suggests that safety culture extends beyond accident prevention to incorporate broader health outcomes and behavioural patterns among workers.

The study contributes to existing knowledge by highlighting the interaction between workplace safety engagement and individual health behaviour, particularly within the context of developing economies and high-risk sectors such as oil and gas. It also provides empirical support for theoretical perspectives that emphasize the role of social and organizational environments in influencing health behaviour. In practical terms, the findings suggest that organizations should prioritize inclusive safety management systems that encourage active employee involvement. Strengthening communication channels, promoting safety training, and fostering a supportive organizational climate can enhance both safety outcomes and workers’ health-seeking behaviour. Therefore, enhancing employee involvement in safety matters represents a reasonable pathway for improving not only workplace safety performance but also the general health and well-being of employees.

Recommendations

Based on the findings, certain recommendations are proposed to enhance employee involvement in safety matters and promote positive health-seeking behaviour among workers in oil and gas dispensing outfits.

First, management of oil and gas dispensing facilities should institutionalize participatory safety practices by actively involving employees in safety decision-making processes, hazard identification, and risk assessment. This inclusive approach can strengthen workers’ sense of responsibility and ownership of workplace safety and health outcomes.

Second, regular and comprehensive safety training programs should be implemented to improve employees’ knowledge and awareness of occupational hazards and the importance of timely health-seeking behaviour. Such training should not only focus on accident prevention but also emphasize early detection and response to health issues.

Third, organizations should establish and maintain open communication channels that encourage employees to report safety concerns and health issues without fear of victimization. A supportive organizational climate can significantly influence workers’ willingness to seek appropriate healthcare when needed.

Fourth, policymakers and regulatory agencies should enforce compliance with occupational health and safety standards, particularly in high-risk sectors such as oil and gas. Strengthening monitoring mechanisms and ensuring accountability can further promote a culture of safety and health consciousness among employees.

Finally, workplace health promotion initiatives, such as periodic medical check-ups and health education campaigns, should be integrated into organizational practices to reinforce positive health-seeking behaviour among workers.

Limitations and Future Research

Despite the contributions of this study, certain limitations have been acknowledged. First, the study's sample was selected using non-probability techniques, hence findings cannot be generalized to all oil/gas dispensing workers in Calabar Metropolis or Nigeria without caution. Also, the study relied on self-reported data, which may be subject to response bias, including social desirability and recall bias. Respondents may have overreported their level of involvement in safety matters or their health-seeking behaviour.

Second, the cross-sectional design of the study limits the ability to establish causal relationships between employee involvement in safety matters and health-seeking behaviour. While the findings indicate significant associations and predictive relationships, longitudinal studies would provide stronger evidence of causality.

Third, the study was geographically limited to oil and gas dispensing outfits in Calabar Metropolis. Given that workplace dynamics and safety cultures may differ across contexts, generalizability of this study's findings to other regions or industries may be limited.

Fourth, the study focused primarily on employee involvement as a dimension of safety culture, without examining other relevant factors such as management commitment, safety policies, or organizational resources, which may also influence health-seeking behaviour.

In light of these limitations, future research should consider adopting longitudinal and mixed-method approaches to provide deeper insights into the relationship between other dimensions of safety culture and health behaviour. Furthermore, comparative studies across different sectors and geographical locations would enhance the generalizability of findings and contribute to a more comprehensive understanding of the subject.

References

- Adei, D., Mensah, A. A., Agyemang-Duah, W., & Aboagye-Gyasi, L. (2022). Factors associated with health-seeking behaviour among informal sector workers in the Kumasi metropolis of Ghana. *Cogent Public Health*, 9(1). <https://doi.org/10.1080/27707571.2022.2103932>
- Afolabi, M. O., Daropale, V. O., Irinoye, A. I., & Adegoke, A. A. (2013). Health-seeking behaviour and student perception of health care services in a university community in Nigeria. *Health*, 5(5), 817–824. <https://doi.org/10.4236/health.2013.55108>
- Agarwalla, R., Krishna, S., Chakraborty, S., Zaman, F. A., Bhattacharyya, H., & Jamir, L. (2024). Assessment of health care seeking behaviour and its associated factors amongst the residents of a rural community of Kamrup District in Assam: A mixed method study. *International Journal of Community Medicine and Public Health*, 11(7), 2805–2811. <https://doi.org/10.18203/2394-6040.ijcmph20241842>
- Akintoye, O. A., Ubong, E. H., Etim, A. E. E., Akintoye, T. A., Agbo, Y. N., & Ekumankama, D. C. (2025). Prioritizing engineering designs and safety guidelines over personal safety equipment (PPE) utilization in achieving hazards prevention and occupational safety in Nigeria. *Multi-Disciplinary Journal of Research and Development Perspectives*, 13(1), 322–329.
- Ali, A. M., & Nouban, F. (2024). Analyzing the role of leadership in promoting a positive safety culture in the construction sector. *World Journal of Advanced Research and Reviews*, 21(1), 882–887. <https://doi.org/10.30574/wjarr.2024.21.1.0067>
- Bahn, S. (2013). Workplace hazard identification and management: The case of an underground mining operation. *Safety Science*, 57, 129–137. <https://doi.org/10.1016/j.ssci.2013.01.010>
- Bayram, M. (2019). Safety training and competence, employee participation and involvement, employee satisfaction, and safety performance: An empirical study on occupational health and

- safety management system implementing manufacturing firms. *Alphanumeric Journal*, 7(2), 301–318. <https://doi.org/10.17093/alphanumeric.555154>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Cheng, T. C. (A.), Caponecchia, C., & O'Neill, S. (2022). Workplace safety and future and emerging ways of work: A systematic literature review. *Safety Science*, 155, 105873. <https://doi.org/10.1016/j.ssci.2022.105873>
- Clarke, S., & Taylor, I. (2018). Reducing workplace accidents through the use of leadership interventions: A quasi-experimental field study. *Accident Analysis & Prevention*, 121, 314–320. <https://doi.org/10.1016/j.aap.2018.05.010>
- Claxton, G., Hosie, P., & Sharma, P. (2022). Toward an effective occupational health and safety culture: A multiple stakeholder perspective. *Journal of Safety Research*, 82, 258–267. <https://doi.org/10.1016/j.jsr.2022.04.006>
- Dong, R. K., Li, X., & Hernan, B. R. (2024). Psychological safety and psychosocial safety climate in workplace: A bibliometric analysis and systematic review towards a research agenda. *Journal of Safety Research*, 91, 1–19. <https://doi.org/10.1016/j.jsr.2024.08.001>
- Gao, Y., Fan, Y., Wang, J., & Duan, Z. (2019). Evaluation of governmental safety regulatory functions in preventing major accidents in China. *Safety Science*, 120, 299–311. <https://doi.org/10.1016/j.ssci.2019.07.002>
- Hesgrove, B., Zebrak, K., Yount, N., Sorra, J., & Ginsberg, C. (2024). Associations between patient safety culture and workplace safety culture in hospital settings. *BMC Health Services Research*, 24(1), 568. <https://doi.org/10.1186/s12913-024-10984-3>
- Isha, A. S. N., & Baarimah, A. O. (2025). Trends in safety culture research: A Scopus analysis. *Safety*, 11(2), 33. <https://doi.org/10.3390/safety11020033>
- Jaroenroy, T., Piromsri, S., Haitian, P., Boonkhao, L., & Rattanachaiakunsopon, P. (2024). Employees' perceptions of workplace safety culture: A case study of a polyester company. *Emerging Science Journal*, 8(1), 239-250
- Jonathan, G. K., & Mbogo, R. W. (2016). Maintaining health and safety at workplace: Employee and employer's role in ensuring a safe working environment. *Journal of Education and Practice*, 7(29), 1–7.
- Khadka, S., Shrestha, O., Koirala, G., Acharya, U., & Adhikari, G. (2022). Health seeking behavior and self-medication practice among undergraduate medical students of a teaching hospital: A cross-sectional study. *Annals of Medicine and Surgery* (2012), 78, 103776. <https://doi.org/10.1016/j.amsu.2022.103776>
- Kim, Y., Park, J., & Park, M. (2016). Creating a culture of prevention in occupational safety and health practice. *Safety and Health at Work*, 7(2), 89–96. <https://doi.org/10.1016/j.shaw.2016.02.002>
- Kokubun K. (2025). Workplace Safety Management Practices, Fear, Resources, and Employee Involvement During the COVID-19 Pandemic: A narrative review. *AJPM focus*, 5(2), 100456. <https://doi.org/10.1016/j.focus.2025.100456>
- Liu, S., Wei, Y., Yang, D., & Zhang, J. (2025). A systematic review of antecedents of workers' safety behavior: A grounded theory analysis. *Safety Science*, 185, 106778. <https://doi.org/10.1016/j.ssci.2025.106778>
- Lu, L., Ko, Y. M., Chen, H. Y., Chueh, J. W., Chen, P. Y., & Cooper, C. L. (2025). Patient safety and staff well-being: Organizational culture as a resource. *International Journal of Environmental Research and Public Health*, 19(6), 3722. <https://doi.org/10.3390/ijerph19063722>

- Lu, S., Zhu, W., Zhang, L., & Ahmad, H. (2025). From safety commitment to safety behavior: The mediating role of safety awareness. *PLOS ONE*, 20(12), e0332080. <https://doi.org/10.1371/journal.pone.0332080>
- Matei, D. (2024). *Evaluating the impact of employee engagement on occupational health and safety: A data-driven methodology (SEED-DM)* (Master's thesis, University of Twente). University of Twente, Faculty of Electrical Engineering, Mathematics, and Computer Science. <https://share.google/C3HxUykOxxEwRg9uK>
- Naji, G. M. A., Isha, A. S. N., Mohyaldinn, M. E., Leka, S., Saleem, M. S., Rahman, S. M. N. B. S. A., & Alzoraiki, M. (2021). Impact of Safety Culture on Safety Performance; Mediating Role of Psychosocial Hazard: An Integrated Modelling Approach. *International Journal Of Environmental Research and Public Health*, 18(16), 8568. <https://doi.org/10.3390/ijerph18168568>
- Obels, I., Coleman, H. L. S., Straetemans, M., van Gorp, M., & Lutwama, G. W. (2025). Determinants of health seeking behaviour in South Sudan: A cross-sectional household survey. *BMC Public Health*, 25, 46. <https://doi.org/10.1186/s12889-024-19798-8>
- Olokede, B. A., Monyei, F. E., & Ukpere, W. I. (2024). Impact of personnel safety training on employee involvement and participation in workplace safety management. *Migration Letters*, 21(S14), 459–476. <https://www.migrationletters.com>
- Osei Poku, S., Anim, K., & Poku Saphiel, B. (2026). Health seeking behaviours among construction workers: A systematic review. *BMC Public Health*, 26, 520. <https://doi.org/10.1186/s12889-025-26173-8>
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, 15(2), 175–183. <https://doi.org/10.1177/109019818801500203>
- Rout, B. K., & Sikdar, B. K. (2017). Hazard identification, risk assessment, and control measures as an effective tool of occupational health assessment of hazardous process in an iron ore pelletizing industry. *Indian Journal of Occupational and Environmental Medicine*, 21(2), 56–76. https://doi.org/10.4103/ijjoem.IJOEM_19_16
- Salifu, A. I., & Owoyemi, J. O. (2024). A review of the determinants of health seeking behaviour in Nigeria. *GPH-International Journal of Health Sciences and Nursing*, 7(4), 56-70 <https://doi.org/10.5281/zenodo.11204458>
- Santi, R., Purbudi, W., & Dyah, S. (2020). The effect of safety training and workers involvement on safety compliance with safety knowledge as a mediation variable. *Russian Journal of Agricultural and Socio-Economic Sciences*, 11, Article 28. <https://doi.org/10.18551/rjoas.2020-11.28>
- Searle, D. (2023). The effect of formalising worker involvement in the risk assessment process on the accident rate within UK higher education. *Social Sciences & Humanities Open*, 8(1), 100572. <https://doi.org/10.1016/j.ssaho.2023.100572>
- Shaikh, M. Z. (2023). The influence of safety culture on reducing workplace accidents in industrial settings. *International Journal of Intelligent Systems and Applications in Engineering*, 11(3), 1–10.
- Solomon, O. A., Solomon, O. O., Akinola, Y. O., Olusola, A. E., & Ibirongbe, D. O. (2023). Socio-demographic factors associated with health-seeking behaviour and clinical outcomes among patients attending health insurance facility of a teaching hospital in Southwestern Nigeria. *West African Journal of Medicine*, 40(5), 546–552.
- Veľas, A., Halaj, M., Hofreiter, L., Kampová, K., Zvaková, Z., & Jankura, R. (2022). Research of security and safety culture within an organization: The case study within the Slovak Republic. *Security Journal*, 35(2), 571–599. <https://doi.org/10.1057/s41284-021-00291-5>

- Wachter, J. K., & Yorio, P. L. (2014). A system of safety management practices and worker engagement for reducing and preventing accidents: An empirical and theoretical investigation. *Accident Analysis & Prevention*, 68, 117–130. <https://doi.org/10.1016/j.aap.2013.07.029>
- Yarney, L., Adjei-Mensah, E., Darko, J., & Frempong, A. N. A. (2022). Health-seeking behaviour among Ghanaian urban residents: A quantitative exploratory case study. *Research Journal in Medical and Health Sciences*, 3(1), 12–24. <https://doi.org/10.58256/rjmhs.v3i1.925>
- Ying, M., & Allaqtta, M. A. M. (2025). The impact of safety culture, risk mitigation, and sustainability on business performance: The mediating role of employee engagement in Palestinian small and medium-sized enterprises. *Sustainability*, 17(10), 4361. <https://doi.org/10.3390/su17104361>
- Zara, J., Nordin, S. M., & Isha, A. S. N. (2023). Influence of communication determinants on safety commitment in a high-risk workplace: A systematic literature review of four communication dimensions. *Frontiers in Public Health*, 11, 1225995. <https://doi.org/10.3389/fpubh.2023.1225995>
- Zeb, A., Razzaq, F. A., Zakki, S. A., Haq, I. ul, Nazar, M. S., & Hafeez, U. (2025). Assessment of health-related quality of life and health-seeking behavior in female cardiac patients in rural setting of Pakistan: A comprehensive cross-sectional analysis. *Clinical Epidemiology and Global Health*, 34, 102096. <https://doi.org/10.1016/j.cegh.2025.102096>
- Zhao, L., Yang, D., Liu, S., & Nkrumah, E. N. K. (2022). The effect of safety leadership on safety participation of employee: A meta-analysis. *Frontiers in Psychology*, 13, 827694. <https://doi.org/10.3389/fpsyg.2022.827694>
- Zohar, D. (2010). Thirty years of safety climate research: Reflections and future directions. *Accident Analysis & Prevention*, 42(5), 1517–1522. <https://doi.org/10.1016/j.aap.2009.12.019>