International Journal of Preventive, Curative & Community Medicine
Volume 10, Issue 3&4 - 2024, Pg. No. 7-10
Peer Reviewed & Open Access Journal

Research Article

Gendered Perspectives on Occupational Health and Safety: An Analysis from Bhutanese Workplaces

Phuntsho Dendup[1], Tshering Norbu[2], Pelden Wangchuk[3], Tshering Yangden[4]

[1]Department of Labour, Ministry of Industry, Commerce and Employment, Thimphu, Bhutan.
[2]Physiotherapy, Department of physiotherapy, Jigme Dorji Wangchuk National Referral Hospital, Ministry of Health, Thimphu, Bhutan.
[3]Audiology, Department of Otorhinolaryngology, Jigme Dorji Wangchuk National Referral Hospital, Ministry of Health, Thimphu, Bhutan.
[4]Department of Public Health, Ministry of Health, Thimphu, Bhutan.
DOI: https://doi.org/10.24321/2454.325X.202410

I N F O

Corresponding Author:
Phuntsho Dendup, Department of Labour, Ministry of Industry, Commerce and Employment, Thimphu, Bhutan.
E-mail Id:
phuntshodendup@gmail.com
Orcid Id:
https://orcid.org/0000-0001-5867-7389
How to cite this article:
Dendup P, Norbu T, Wangchuk P, Yangden T. Gendered Perspectives on Occupational Health and Safety: An Analysis from Bhutanese Workplaces. Int J Preven Curat Comm Med. 2024;10(3&4):7-10.
Date of Submission: 2024-11-18
Date of Acceptance: 2024-12-22

A B S T R A C T

Background: This mixed-methods study investigates gendered perspectives on occupational health and safety (OHS) in Bhutanese workplaces, addressing the limited research on gender disparities in this context.

Methods: Employing a cross-sectional design, quantitative data were collected from a sample of 356 employees of private, corporate, government, international organisations, and NGOs via online and in-person surveys. The data were analysed using descriptive and inferential statistics including chi-square tests and t tests.

Results: The findings on the gender-based harm, the majority of workers reported experiencing discrimination (9.6%) compared to other harms. Notably, women experienced harassment at a higher rate (63.6%), while men faced discrimination more frequently (61.8%). Analysis of organisational commitment to OHS indicated lower commitment levels in government organisations compared to corporate entities and NGOs. Women reported higher exposure to chemical hazards (28.0%) and physical violence (31.6%), while men faced greater exposure to dust (84.0%), noise (70.3%), and ergonomic hazards (80.0%). Additionally, sexual harassment was reported at a higher rate among women (66.7%), underscoring the influence of gender on workplace hazards. Analysis of musculoskeletal disorders (MSDs) showed a higher prevalence among men. The most common MSDs experienced were back pain (25%), foot pain (15%), and shoulder pain (13%). About 37.5% of workers perceive MSDs as job-related.

Conclusion: The study concludes that gender disparities in OHS experiences are prevalent in Bhutanese workplaces, necessitating the development of gender-sensitive OHS frameworks, improved reporting mechanisms, and targeted interventions to address sector-specific challenges. Limitations include potential response bias and gender imbalance in the sample.

Keywords: Gender, OHS, Gender-Based Harm, MSDS, Gender and Vulnerability, Workplace Incident, Safety Climate

Introduction

Occupational Health and Safety (OHS) remains a paramount concern in contemporary workplaces globally, with a staggering number of workers suffering injuries or fatalities each year. A particularly alarming aspect of this issue is the gender-based disparity in OHS outcomes. Women in the workforce frequently encounter unique hazards and challenges related to their OHS, as underscored by the International Labour Organization.[1] According to research, in developing countries, 57% of working women are in vulnerable employment, compared to 48% of men.[2,3] While globally recognised, it is essential to contextualise these issues within Bhutan, where limited research has begun shedding light on gender disparities in OHS outcomes.

Extensive evidence from the International Labour Organization underscores the prevalence of gender disparities in OHS outcomes. Women encounter a higher likelihood of experiencing workplace sexual violence, and harassment, which is 8.2% compared to 5.0% for men.[4–7] Furthermore, women face increased exposure to ergonomic hazards compared to male workers.[6,8–10] A study of general employees in Taiwan found that the prevalence of MSDs among female workers is 63% compared to 57.9% in males.[9] Higher rates of upper limb disorders were found among women workers compared to men, mainly due to women doing highly repetitive work carried out by women such as 'light' assembly.[11] Consequently, women are more susceptible to OHS-related injuries and illnesses, often struggling with longer recovery periods.[1,10,12,13]

Several factors contribute to these gender disparities. One prominent factor is the gendered division of labour, wherein women are disproportionately represented in low-wage, hazardous occupations, such as service work and manufacturing.[12] This occupational imbalance exposes them to harmful chemicals and toxins while often depriving them of access to adequate Personal Protective Equipment.[5] Such employment settings frequently lack sufficient OHS protections and resources.[11] In contrast, a study on the Gender gap in working conditions illustrated that the gender gap varies substantially across the different dimensions of job quality. However, women workforce are enjoying better conditions in terms of the physical environment, working intensity, and working time quality.[14]

Another crucial factor is the lack of gender-responsive OHS policies and practices. Many OHS policies and practices are formulated without considering views, experiences, knowledge and skills, and the unique needs of female workers, resulting in the exclusion of women from OHS training and resources. This omission hampers women's ability to report and address OHS hazards effectively.[11]

In Bhutan, while strides have been made in promoting gender equality, women continue to face challenges in the workplace, including OHS concerns. According to the report on Gender equality, diversity, and inclusion in the Private Sector by the National Commission for Women and Child (NCWC), it highlighted that there is no disparity in terms of pay between men and women.[15] Nevertheless, a study on gender equality in Bhutan found that the majority of women are more involved in low-productivity activities within the informal sector including the agriculture sector.[16] Globally, OHS standards in informal sectors are generally poor, leaving workers in these sectors highly vulnerable to workplace hazards and risks.[17,18] Similarly, the informal sector in Bhutan reflects this global trend, with workers facing comparable challenges. Furthermore, an article on female workers in Bhutan's liquor industry highlights issues such as harsh working conditions, including poor working environments, shedding light on the need for better OHS measures and improved working conditions.[19]

Thus, this study explores the gendered perspectives on OHS within Bhutanese workplaces by investigating the unique challenges faced by female workers and the systemic factors contributing to these issues. Key areas of focus will include the prevalence of gender-specific hazards, the analysis of existing OHS policies and their responsiveness to female workers' needs, and sectoral disparities in safety outcomes. The findings aim to offer evidence-based recommendations for improving OHS practices in Bhutan, ultimately promoting safer and more equitable working environments for all workers.

Study Design and Methods

Research Design and Sample Size

This is a cross-sectional study using a mixed-method approach, incorporating both quantitative and qualitative data collection techniques to explore the gender perspective of OHS in the workplace. The research design included an online survey and physical (in-person) survey administration, targeting employees across various sectors and industries. The study was conducted in 2024 over a period of one year.

A sample size of 356 was chosen from an infinite population, considering a margin of error (e) of 5.2% at a 95% confidence level and a standard deviation of 50% (d = 0.5). Participants were selected from diverse sectors, including manufacturing, healthcare, education, construction, and information technology, to ensure a comprehensive understanding of OHS perspectives across different industries. The inclusion criterion required the participants to be currently employed. Participation was voluntary, and informed consent was obtained from all respondents.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Data Collection Methods

A structured questionnaire was used as a primary tool to collect data. The questionnaire included both closed-ended and open-ended questions to allow for quantitative analysis and qualitative insights.

The online survey was distributed through email and social media platforms to reach a broad audience. An online survey tool Google Forms was used to facilitate data collection ensuring anonymity and convenience for participants. At the same time, a physical survey was administered in person at various workplaces, and data were collected.

Data Analysis

Quantitative data from closed-ended questions were analysed using statistical software SPSS version 24. Descriptive statistics, such as frequencies, percentages, means, and standard deviations, were calculated to summarise the demographic characteristics and OHS perspectives of the respondents.

Inferential statistics, including chi-square tests and t tests, were used to examine the relationships and differences between gender and OHS perspectives. A significance level of 0.05 was set for all statistical tests.

Responses to open-ended questions were analysed using thematic analysis. Qualitative data were coded and categorised into themes and sub-themes to identify common patterns and unique insights regarding gender-specific OHS experiences and concerns.

Results & Discussion

Demography

The majority of the respondents in this study were male, comprising 63.48%, while females accounted for 36.24% (Table 1). Regarding marital status, most respondents were married, representing 58.71% and the second-largest group was single individuals, making up 37.64%, followed by those who were divorced, accounting for 3.65%.

Regarding age distribution, the largest age group was 25–34 years, representing 50.56%, followed by the 35–44 age group, accounting for 22.19%. Younger respondents aged 18–24 made up 21.63%, while those in the older age groups (45–54 and 55–64) represented smaller proportions of the respondents, at 4.5% and 1.1% respectively.

The employment sector distribution revealed that the majority of respondents were employed in the private sector, comprising 64.6%. This was followed by the corporate sector, which represented 21.35%, followed by government employees (12.1%), international organisations (1.12%), and NGOs (0.84%), respectively. These figures suggest a strong dominance of private-sector employment among the respondents, with a lower representation from the public sector and international or non-governmental organisations.

Table 1.Demographic Characteristics

N = 356

Characteristics	Number	Percentage
Gender		
Female	129	36.24
Male	226	63.48
Others	1	0.28
Marital status		
Divorce	13	3.65
Married	209	58.71
Single	134	37.64
Age group in years		
18–24	77	21.63
25–34	180	50.56
35–44	79	22.19
45–54	16	4.49
55–64	4	1.12
Sector of employment		
Corporate	76	21.35
Government	43	12.08
International organisation	4	1.12
NGOs	3	0.84
Private	230	64.61

Gender-Based Harm

The examination of gender-based harm in workplace environments revealed significant disparities in experiences across different genders. Assault was reported by only 0.6% of respondents, with an equal distribution between genders, highlighting that gender-based violence can affect individuals regardless of gender (Table 2). Discrimination emerged as a more prevalent issue, reported by 9.6% of respondents, with 38.2% identifying as female and 61.76% as male. This challenges the conventional narrative that associates gender discrimination predominantly with women, suggesting that men also face significant levels of gender bias. Harassment was reported by 3.1% of respondents, with a higher incidence among females (63.6%) compared to males (36.4%), reinforcing the perception that women are more vulnerable to workplace harassment.

Sector-specific disparities were also evident, with the corporate sector reporting 7.9% discrimination and 2.6% harassment, while the government sector showed 14.0% experiencing discrimination. International organisations reported a striking 50% experiencing discrimination and 25% facing sexual harassment. The private sector presented challenges as well, with 8.7% reporting discrimination and

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

3.5% reporting harassment, whereas NGOs reported no negative experiences, suggesting either a positive work environment or potential underreporting. However, a chi-square test showed a p value of 0.66, indicating no statistically significant relationship between the sector-specific disparities.

Employer Commitment to OHS

Table 3 reflects the perceptions of employees regarding their employer's commitment to the safety and health of all workers, regardless of gender. Overall, a substantial majority (75.8%) expressed a positive view, indicating that they believe their employer is committed to safety and health. However, a notable minority remains uncertain (15.7% responded "Maybe") or unconvinced (8.4% responded "No") indicating room for improvement. This could reflect a gap between policies and practices, where safety and health initiatives may exist on paper but are not fully implemented or enforced in practice. Alternatively, this scepticism may reflect a lack of communication or transparency from employers regarding their gender equality initiatives.

When examining the responses by sector, the corporate sector showed that 79% of respondents felt positively about their employer's commitment, with only 5.3% expressing a negative view. However, 15.8% were uncertain, indicating a slight level of scepticism among some employees. In contrast, the government sector had a lower percentage of positive responses (53.5%), with a significant 37.2% of respondents indicating uncertainty. This suggests that there may be some concerns regarding safety and health commitments in this sector that warrant further studies. International organisations and NGOs reported a unanimous belief in their employers' commitment, with 100% of respondents in both sectors affirming this view. This could reflect a strong organisational culture prioritising employee well-being in these sectors. The private sector also showed a high level of confidence, with 78.3% of respondents believing in their employer's commitment, although 12.2% were uncertain, and 9.6% expressed doubts.

In terms of statistical analysis, a chi-square test using Pearson chi-square was conducted to assess the relationship between sector and perceptions of employer commitment to safety and health. The results yielded significance with a p value of 0.007. This indicates a statistically significant relationship between the sector and employees' perceptions, suggesting that the sector in which an employee works does influence their views on employer commitment to safety and health. Furthermore, the likelihood ratio was also significant at 19.810 with a p value of 0.011.

While a significant majority of employees across various sectors believe their employers are committed to safety and health, there are notable differences in perceptions by sector and gender. These insights highlight the need for organisations to actively communicate and demonstrate their commitment to employee safety and health to build trust and address any concerns among their workforce.

Table 2.Gender-based harm

Gender-Based Harm	Sample Size (N = 356) n (%)	Female (N = 129) n (%)	Male (N = 226) n (%)	Others (N = 1) n (%)
Assault	2 (0.6)	1 (50.0)	1 (50.0)	0 (0.0)
Discrimination	34 (9.6)	13 (38.2)	21 (61.8)	0 (0.0)
Harassment	11 (3.1)	7 (63.6)	4 (36.4)	0 (0.0)
Sexual harassment	1 (0.3)	0 (0.0)	1 (100.0)	0 (0.0)
None of above	308 (86.5)	108 (35.1)	199 (64.6)	1 (0.32)

Table 3.Employer Commitment to OHS

Items	Sample Size N = 356 n (%)	Maybe N = 56 n (%)	No N = 30 n (%)	Yes N = 270 n (%)
Sector				
Corporate	76 (21.4)	12 (15.8)	4 (5.3)	60 (79.0)
Government	43 (12.1)	16 (37.2)	4 (9.3)	23 (53.5)
International organisation	4 (1.1)	0 (0.0)	0 (0.0)	4 (100.0)
NGOs	3 (0.8)	0 (0.0)	0 (0.0)	3 (100.0)
Private	230 (64.6)	28 (12.2)	22 (9.6)	180 (78.3)
Gender				
Female	129 (36.2)	22 (39.3)	10 (33.3)	97 (35.9)
Male	226 (63.5)	34 (60.7)	20 (66.6)	172 (63.7)
Others	1 (0.3)	0 (0.00)	0 (0.0)	1 (0.4)

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Gender and Vulnerability at the Workplace

It is observed that 28.6% of women indicated that their gender made them more vulnerable to safety risks, while a significant 71.4% of men shared this view (Table 4). Conversely, a larger proportion of men (59.2%) responded "No" to the vulnerability question compared to 40.8% of women. Additionally, uncertainty regarding vulnerability was more prevalent among men, with 60.8% of those answering "Maybe" identifying as male, while only 37.3% were female. Despite these patterns, statistical analyses indicate no significant association between gender and perceptions of workplace vulnerability, as evidenced by a p value of 0.092 and a likelihood ratio chi-square statistic of 8.867, both suggesting a lack of significant relationship.

Hazards Exposure

The analysis of hazard exposure by gender reveals significant disparities, with a pattern suggesting that men are overrepresented in occupations involving manual labour, construction, or industrial work, which typically have higher risks of physical hazard exposure. Among those exposed to chemical hazards, 18.8% of respondents reported such exposure, with females accounting for 28.0% and males 72.0% (Table 5). While fewer women are exposed to chemical hazards, their exposure is proportionately higher relative to their smaller representation in the workforce. Dust exposure was reported by 23.1% of participants, with only 16.0% being female and 84.0% male. This stark gender gap suggests that males, more frequently employed in physically demanding roles like construction or industrial labour, are disproportionately affected by dust-related hazards.

Noise exposure was reported by 30.3% of respondents, with 29.7% of those exposed being female and 70.3% male. Although males remain the larger group affected, the closer ratio between female and male exposure to noise is notable and could indicate that noise hazards are present in a broader range of occupations. Ergonomic hazards were reported by 5.3% of the sample, with females making up 20.0% of the affected group and males 80.0%, again likely reflecting the manual nature of many male-dominated jobs that require repetitive physical tasks.

Exposure to physical violence was reported by 3.3% of participants, where females accounted for 31.6% and males 68.4%. While males reported more violence, the high percentage of female victims points to significant risk, possibly in professions where interpersonal interactions are frequent. Sexual harassment, though only reported by 0.5% of respondents, showed a pronounced gender disparity: 66.7% of victims were female, while 33.3% were male. This underlines the particular vulnerability of women to harassment in the workplace, an issue likely unrelated to the physical nature of the work but to gender dynamics within various job roles.

Toxin exposure affected 7.4% of individuals, with females representing 19.0% and males 81.0%. Like other hazards, the higher male exposure likely stems from their concentration in high-risk industrial sectors. Vibration hazards, reported by 11.3% of participants, followed a similar trend, with 18.8% of those exposed being female and 81.3% male, further highlighting the gendered division of labour, where men are more likely to engage in physically demanding work that entails risks like vibration exposure.

The overall, data highlights that while males are more frequently exposed to physical hazards, this is likely due to their overrepresentation in occupations with higher physical demands and associated risks. Meanwhile, females, despite lower absolute numbers, still face significant risks relative to their smaller workforce representation, particularly in areas such as chemical exposure, violence, and harassment.

Table 4.Gender and Vulnerability at the Workplace

Gender and Vulnerability	Sample Size N = 354 n (%)	Female N = 128 n (%)	Male N = 225 n (%)	Others N = 1 n (%)
Maybe	51 (14.4)	19 (37.3)	31 (60.8)	1 (2.0)
No	184 (52.0)	75 (40.8)	109 (59.2)	0 (0.0)
Yes	119 (33.6)	34 (28.6)	85 (71.4)	0 (0.0)

Table 5.Exposure Harm

Hazards	Sample Size N = 568 n (%)	Female N = 136 n (%)	Male N = 432 n (%)
Chemical	107 (18.8)	30 (28.0)	77 (72.0)
Dust	131 (23.1)	21 (16.0)	110 (84.0)
Noise	172 (30.3)	51 (29.7)	121 (70.3)

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Ergonomic hazards	30 (5.3)	6 (20.0)	24 (80.0)
Physical violence	19 (3.3)	6 (31.6)	13 (68.4)
Sexual harassment	3 (0.5)	2 (66.7)	1 (33.3)
Toxin	42 (7.4)	8 (19.0)	34 (81.0)
Vibration	64 (11.3)	12 (18.8)	52 (81.3)

Note: N will be a double count where a single person will be exposed to multiple hazards specified above

Musculoskeletal Disorders (MSDs)

Back pain is the most common disorder, affecting 25.0% of respondents, with men experiencing a higher incidence (61.5%) than women (38.5%) (Table 6). This trend extends to other forms of pain, including elbow pain (4.3%), hand pain (10.5%), knee pain (12.3%), foot pain (15.2%), shoulder pain (13.6%), neck pain (12.1%), and wrist pain (7.0%). Across all categories, men consistently reported a higher percentage of MSDs than women, suggesting that men may be more exposed to or affected by occupational hazards that contribute to these disorders, for instance, male respondents accounted for 65.8% of all elbow pain cases, while hand and wrist pain also show a male predominance at 57.0% and 56.5%, respectively. Foot pain was similarly dominated by male respondents, who made up 59.0% of cases, compared to 41.0% among women. These patterns may reflect the physical demands of male-dominated industries or specific job tasks, highlighting a need to consider occupational factors from a gender perspective.

Despite men reporting higher overall rates of MSDs, women still experience substantial levels of discomfort, particularly in areas like shoulder pain (45.8% women versus 54.2% men) and neck pain (44.9% women versus 55.1% men). This indicates that both biological and socio-cultural factors may contribute to these gender disparities, for instance, when assessing perceptions of job-related MSDs, it was observed that 39.4% of women believed that their conditions were related to their jobs compared to 60.6% of men. Conversely, 31.2% of women and 68% of men did not believe their MSDs are work-related, while a notable percentage remains uncertain, with 37.9% of women and 62.1% of men in this category. These findings suggest that women may face unique challenges in their reporting and experience of MSDs, including possible underreporting or misattribution due to societal norms regarding pain expression and help-seeking behaviours. This further emphasises the importance of gender-sensitive approaches in occupational health strategies, focusing on both male and female-specific issues to enhance workplace safety and health outcomes.

A Pearson chi-square test indicated a statistically significant association between gender and the types of MSDs reported, with a p value of 0.0001. This highlights the importance of addressing gender-specific occupational health concerns to develop tailored prevention and intervention strategies aimed at reducing MSD risks and improving worker well-being for both men and women.

Analysis of musculoskeletal disorders (MSDs) across various sectors reveals significant disparities in prevalence, indicating that certain sectors may be more hazardous than others. The private sector showed the highest incidence of MSDs, with back pain affecting 124 individuals (55.9%) and foot pain reported by 95 individuals (70.4%) (Table 7). In comparison, the corporate sector reported a 21.8% prevalence of MSDs, of which back pain was 24.3% and shoulder pain was 24.2%. The government sector had lower overall incidence rates for most MSDs (18.7%), with back pain affecting only 38 individuals (17.1%) and elbow pain reported by 9 individuals (23.7%). Similarly, NGOs and international organisations reported minimal cases of MSDs with 1.1% and 1.2% respectively across categories, suggesting that these sectors may involve less physical strain or better ergonomic practices.

The chi-square test results indicated a statistically significant association between the type of MSD and the sector of employment, with a Pearson chi-square value of 455.173 and a p value of 0.001, suggesting that the distribution of MSDs is not uniform across different employment sectors.

The study indicates that the private sector is the most hazardous regarding musculoskeletal disorders, particularly back and foot pain. The corporate sector also faces significant challenges but generally reports lower rates than the private sector. Government and NGO sectors appear less affected by MSDs, possibly due to better working conditions or less physically demanding roles. This finding emphasises the need for targeted interventions and preventive measures tailored to specific occupational environments to address the unique risks faced by workers in each sector.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Table 6.Gender-wise distribution of responses for Musculoskeletal Disorders (MSDs)

MSDs	Total N=884 (%)	Female n=366 (%)	Male n=516 (%)	Others n=2 (%)
Back Pain	221 (25.0)	85 (38.5)	136(61.5)	0(0.0)
Elbow Pain	38 (4.3)	12 (31.6)	25 (65.8)	1(2.6)
Hand Pain	93 (10.5)	39 (41.9)	53 (57.0)	1(1.1)
Knee pain	109 (12.3)	45 (41.3)	64 (58.7)	0(0.0)
Foot pain	134(15.2)	55 (41.0)	79 (59.0)	0(0.0)
Shoulder pain	120 (13.6)	55 (45.8)	65(54.2)	0(0.0)
Neck pain	107 (12.1)	48 (44.9)	59(55.1)	0(0.0)
Wrist Pain	62 (7.0)	27(43.5)	35(56.5)	0(0.0)
Perception of MSDs as job-related (N)	352(100)	127(30.1)	224(63.6)	1(0.3)
Maybe	95(27.0)	36(37.9)	59 (62.1)	0(0.0)
No	125 (35.5)	39(31.2)	85 (68.0)	1(0.8)
Yes	132 (37.5)	52(39.4)	80 (60.6)	0(0.0)

Note: N will be a double count where a single person will be exposed to multiple hazards specified above

Table 7.Distribution of Responses for MSDs by Types of Employers

MSDs	Sample Size	Corporate	Government	International Organisation	NGOs	Private
N	886 (100)	193 (21.8)	166 (18.7)	11 (1.2)	10(1.1)	506(57.1)
Back Pain	222 (25.1)	54 (24.3)	38 (17.1)	3(1.4)	3(1.4)	124(55.9)
Elbow Pain	38 (4.3)	6(15.8)	9 (23.7)	0(0.0)	0(0.0)	23(60.5)
Hand Pain	93 (10.5)	16(17.2)	17 (18.3)	0(0.0)	1(1.1)	59(63.4)
Knee pain	109(12.3)	25(22.9)	20(18.3)	3(2.8)	1(0.9)	60(55.0)
Foot pain	135(15.2)	22(16.3)	17(12.6)	0(0.0)	1(0.7)	95(70.4)
Shoulder pain	120(13.5)	29(24.2)	28(23.3)	0(0.0)	3(2.5)	60(50.0)
Neck pain	107(12.1)	28(26.2)	22(20.6)	4(3.7)	0(0.0)	53(49.5)
Wrist Pain	62(7.0)	13(21.0)	15(24.2)	1(1.6)	1(1.6)	32(51.6)

Workplace Safety Incidents and Gender

In terms of the prevalence of workplace safety incidents, 42.7% of respondents indicated they had experienced at least one incident, and 57.3%, reported no incidents (Table 8). Among those who experienced incidents, a higher proportion were male (76.2%) compared to females (23.8%). This suggests that males may be more likely to report incidents or that they may experience more incidents in the workplace, highlighting the need for further investigation into the factors contributing to this disparity.

The nature of the incidents reported reveals that the most common type was minor incidents (49.5%), followed by those requiring first aid (33.0%). Notably, days of absence from work accounted for only 10.6% of the reported incidents, suggesting that many incidents did not lead to significant time away from work. Furthermore, males were more likely to report needing first aid (7.4%) and hospitalisation (61.5%) compared to females, indicating potential differences in exposure to risks or responses to injuries.

Regarding the impact on social activities, a majority of respondents (70.8%) reported no impact due to work-related injuries or illnesses; however, about 12.7% indicated that their injuries significantly affected their social activities. The data shows that males reported a higher percentage of impact on social activities as compared to females, suggesting that workplace injuries may have differing social repercussions based on gender.

When examining the impact on family and friends, most participants (83.7%) reported no withdrawal from family and friends due to work-related issues. A smaller percentage indicated some level of withdrawal (9.8% somewhat; 6.5%

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

yes), with males again showing a higher tendency to report such impacts. This highlights the potential emotional and relational toll that workplace injuries can take on male workers compared to their female counterparts.

In terms of caregiving responsibilities, a total of 63.2% reported no need to take time off work to care for an injured family member; however, 22.2% indicated they did have to take time off for this reason, with a notable skew towards males needing time off (56 out of the total). This finding reflects traditional gender roles where men may be more likely to take on caregiving responsibilities when family members are injured.

The analysis also examined potential lifestyle changes resulting from work-related injuries, with a majority (68.2%) reporting no changes; however, 31.8% did make adjustments, with changes being more prevalent among males (67.9%). This suggests that male workers may face different pressures or responses when adjusting their lifestyles post-injury.

Finally, regarding reporting behaviour, approximately 55.6% of respondents reported their incidents to supervisors or HR departments; however, females were less likely to report incidents compared to males, with only 27.8% of females reporting versus 72.2% of males. This disparity raises concerns about the barriers women face in reporting incidents and highlights the need for organisations to create supportive environments that encourage all employees to report safety concerns without fear of repercussions.

The chi-square test results show a significant association between gender and workplace accidents. A Pearson chi-square p value of 0.001 and a likelihood ratio of 19.567 provide strong evidence that gender plays a key role in the occurrence of such incidents. These findings suggest the need to consider gender-specific factors in OHS policies.

The data provides valuable insights into workplace safety incidents and their repercussions among employees, revealing a notable gender disparity in reporting and experiencing these incidents, with males generally reporting higher rates across most categories. While many individuals did not experience significant impacts on their social life or family relationships due to workplace injuries, a substantial minority reported negative effects. Additionally, although the majority did not take time off for caregiving responsibilities related to work injuries, a significant number still do so. The relatively high percentage of individuals who did not report incidents raises concerns about workplace safety culture and suggests a need for improved reporting mechanisms and support systems within organisations. This analysis can inform organisational policies aimed at enhancing workplace safety and support for employees affected by such incidents while addressing gender-specific needs in OHS practices.

Table 8.Workplace Incidents by Gender

Items	Sample Size n (%)	Female n (%)	Male n (%)	Others n (%)
Workplace safety incidents	344 (100.0)	122 (35.5)	221 (64.2)	1 (0.3)
No	197 (57.3)	87 (44.2)	109 (55.3)	1 (0.5)
Yes	147 (42.7)	35 (23.8)	112 (76.2)	0 (0.0)
Nature of incidents	188 (100.0)	56 (29.8)	132 (70.2)	0 (0.0)
Days of absence from work	20 (10.6)	5 (25.0)	15 (75.0)	0 (0.0)
First aid required	62 (33.0)	14 (22.6)	48 (77.4)	0 (0.0)
Hospitalised	13 (6.9)	5 (38.5)	8 (61.5)	0 (0.0)
Minor incident	93 (49.5)	32 (34.4)	61 (65.6)	0 (0.0)
Impact on social activities	339 (100.0)	117 (34.5)	221 (65.2)	1 (0.3)
No	240 (70.8)	85 (35.4)	154 (64.2)	1 (0.4)
Somewhat	56 (16.5)	20 (35.7)	36 (64.3)	0 (0.0)
Yes	43 (12.7)	12 (27.9)	31 (72.1)	0 (0.0)
Impact on family and friends	337 (100.0)	117 (34.7)	219 (65.0)	1 (0.3)
No	282 (83.7)	95 (33.7)	186 (66.0)	1 (0.4)
Somewhat	33 (9.8)	14 (42.4)	19 (57.6)	0 (0.0)
Yes	22 (6.5)	8 (36.4)	14 (63.6)	0 (0.0)
Time off for family members	342 (100.0)	121 (35.4)	220 (64.3)	1 (0.3)
No	216 (63.2)	85 (39.4)	130 (60.2)	1 (0.5)
Somewhat	50 (14.6)	16 (32.0)	34 (68.0)	0 (0.0)
Yes	76 (22.2)	20 (26.3)	56 (73.7)	0 (0.0)
Lifestyle changes	343 (100.0)	119 (34.7)	223 (65.0)	1 (0.3)
No	234 (68.2)	84 (35.9)	149 (63.7)	1 (0.4)
Yes	109 (31.8)	35 (32.1)	74 (67.9)	0 (0.0)

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Reporting incidents	356 (100.0)	129 (36.2)	226 (63.5)	1 (0.3)
No	158 (44.4)	74 (46.8)	83 (52.5)	1 (0.6)
Yes	198 (55.6)	55 (27.8)	143 (72.2)	0 (0.0)

Safety Climate and Gender

Considering the mean values of the responses for questions on the 5 Likert scale, they revealed several key insights regarding perceptions of OHS. For the question on the importance of OHS, the analysis yielded a p value of 0.072, indicating no significant difference in perceptions between the groups (Table 9). Similarly, the employer's commitment to safety also showed a t value of -1.807 and a p value of 0.072, suggesting a lack of significant difference in views on employer commitment to safety. The perception of injury or illness risk had a t value of -0.32 and a p value of 0.75, further confirming that there were no significant differences in risk perceptions. However, the question regarding specific OHS measures for gender safety concerns revealed a t value of -1.96 and a p value of 0.051, indicating a marginally significant difference in beliefs about the adequacy of OHS measures tailored for different genders. In terms of adequate resources and support systems, the t value was -2.239 with a p value of 0.026, highlighting a statistically significant difference in perceptions regarding the sufficiency of resources and support systems for safety and health needs. Additionally, satisfaction with OHS practices and policies showed a t value of -2.194 and a p value of 0.029, indicating a significant difference in satisfaction levels with existing OHS practices.

Overall, the findings suggest that while perceptions of OHS are largely similar across groups, significant concerns exist regarding the adequacy of resources and satisfaction with safety practices. The marginally significant difference in beliefs about gender-specific OHS measures points to an area that warrants further investigation. To enhance the overall safety climate in the workplace, addressing these concerns is essential, and conducting qualitative research could provide deeper insights into the reasons behind these perceptions and identify specific improvements needed in OHS practices.

This study provides a nuanced understanding of gender perspectives on OHS within Bhutanese workplaces, revealing significant disparities in experiences and perceptions between male and female employees. Through a mixed-methods approach, we examined a diverse sample of 359 respondents across various sectors, unveiling critical insights into the prevalence of gender-based harm, discrimination, harassment, and exposure to occupational hazards.

The findings indicate that while the absolute rates of reported assault are low, gender discrimination remains a pervasive issue, affecting both men and women, albeit in different contexts. The data suggest that men are not immune to gender-based discrimination, challenging the conventional narrative that often centres on women's experiences. Notably, 9.6% of respondents reported discrimination, with a significant proportion of this group being male, challenging the prevailing narrative that gender discrimination predominantly affects women. Furthermore, the examination of harassment incidents corroborates existing literature, highlighting women's increased vulnerability in workplace settings. However, the study also corroborates existing literature that highlights women's heightened vulnerability to harassment in the workplace, particularly in the corporate and international sectors. The stark differences in reported experiences of harassment and discrimination across sectors underscore the need for tailored interventions that consider the unique dynamics of each workplace environment.

Moreover, the analysis of musculoskeletal disorders (MSDs) revealed significant gender disparities, with men reporting higher rates of various physical ailments, likely linked to their overrepresentation in physically demanding jobs. Conversely, women, despite lower overall exposure, experience substantial discomfort, which may be exacerbated by societal norms regarding pain and help-seeking behaviours. This emphasises the importance of implementing gender-sensitive approaches in OHS policies that recognise and address the distinct challenges faced by both genders.

The study also highlights the critical role of organisational culture and employer commitment to safety and health. Perceptions of employer commitment varied significantly by sector, indicating that organisations must actively engage in transparent communication and demonstrate genuine commitment to fostering a safe work environment. The significant association between sector and perceptions of employer commitment suggests that sector-specific strategies may be necessary to enhance employee confidence in OHS practices.

In light of these findings, it is imperative for policymakers and organisational leaders to prioritise the development of comprehensive OHS frameworks that incorporate gender-sensitive measures. Future research should aim to explore the underlying causes of gender disparities in workplace experiences, particularly focusing on qualitative methodologies to gain deeper insights into the lived experiences of employees. Additionally, longitudinal studies could provide valuable data on the long-term impacts of workplace safety initiatives on employee well-being across genders.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

Table 9.Safety Climate and Gender

Overall Safety Climate	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	P-Value	95% CI	
						Lower	Upper
Importance of OHS	0.97	0.33	-1.81	353	0.07	-0.34	0.01
Employer's Commitment to Safety	0.97	0.33	-1.81	353	0.07	-0.34	0.01
Perception of Injury or Illness Risk	0.00	0.96	-0.32	353	0.75	-0.27	0.20
Specific OHS Measures for Gender Safety Concerns	0.90	0.34	-1.96	353	0.05	-0.41	0.00
Adequate Resources and Support Systems	0.01	0.95	-2.24	353	0.03	-0.43	-0.03
Satisfaction with OHS Practices and Policies	0.09	0.77	-2.19	353	0.03	-0.40	-0.02

Limitations

The study acknowledges potential limitations, including response bias, as participation was voluntary and might have attracted individuals with strong opinions on OHS. Additionally, the use of self-reported data may introduce bias related to personal perceptions and experiences. The mixed-methods approach, however, aimed to mitigate these limitations by providing a more comprehensive understanding of the research topic.

Furthermore, a notable limitation is the gender imbalance in responses, with a significantly higher number of male participants as compared to female participants. This disparity may bias the findings and interpretations, potentially overlooking the unique experiences and challenges faced by women in OHS. However, women's perspectives were given significant weight in the analysis, even if their representation was numerically smaller compared to male respondents.

Conclusion

In conclusion, this research underscores the importance of recognising and addressing gender dynamics in OHS. By fostering an inclusive and supportive work environment, organisations can enhance employee safety, satisfaction, and overall well-being, ultimately contributing to more equitable workplaces in Bhutan and beyond.

Acknowledgements

We would like to acknowledge Mr Sonam Geley Dorji for helping to disseminate the survey questionnaire to the participants. Our thanks also go to all the individuals who have participated in this study.

Source of Funding: None

Conflict of Interest: None

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process:

AI probably used only to improve readability and language of the work and not for any other purpose including drawing conclusion of the findings.

References

1. Nunes JP, Niu S, Halim GM, Papandrea D, Hoibl A. Safe and healthy working environments for all. ILO introductory report: 23rd World Congress on Safety and health at work, 27–30 November 2023. International Labour Organization; 2023.
2. Bue MC, Le TT, Silva MS, Sen K. Why women are made to rely on vulnerable work. Development Matters; 2022 Jan 14.
3. Bue MC, Le TT, Silva MS, Sen K. Gender and vulnerable employment in the developing world: evidence from global microdata. World Dev. 2022;159:106010. [Google Scholar - https://scholar.google.com/scholar?hl=en&assdt=0%2C5&q=Maria+C.+Lo+Bue+TTNL%2C+Manuel+Santos+Silva%2C+and%2C+Sen+K.+Gender+and+vulnerable+employment+in+the+developing+world%3A+evidence+from+global+microdata&btnG=]
4. Agbaje OS, Arua CK, Umeifekwem JE, Umoke PC, Igbokwe CC, Iwuagwu TE, Iweama CN, Ozoemena EL, Obande-Ogbuinya EN. Workplace gender-based violence and associated factors among university women in Enugu, South-East Nigeria: an institutional-based cross-sectional study. BMC Womens Health. 2021;21(1):124. [PubMed] [Google Scholar]
5. Biswas A, Harbin S, Irvin E, Johnston H, Begum M, Tiong M, Apedaile D, Koehoorn M, Smith P. Sex and gender differences in occupational hazard exposures: a scoping review of the recent literature. Curr Environ Health Rep. 2021;8(4):267-80. [PubMed] [Google Scholar]

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410

6. Bolghanabadi S, Haghighi A, Jahangiri M. Insights into women's occupational health and safety: a decade in review of primary data studies. Safety. 2024;10(2):47. [Google Scholar]
7. International Labour Organization (ILO). Experiences of violence and harassment at work: a global first survey. ILO; 2022.
8. Berecki-Gisolf J, Smith PM, Collie A, McClure RJ. Gender differences in occupational injury incidence. Am J Ind Med. 2015;58(3):299-307. [PubMed] [Google Scholar]
9. [Liu HC, Cheng Y, Ho JJ. Associations of ergonomic and psychosocial work hazards with musculoskeletal disorders of specific body parts: a study of general employees in Taiwan. Int J Ind Ergon. 2020;76:102935. [Google Scholar]
10. Santoro P, Borrelli I, Gualano MR, Amantea C, Tumminello A, Daniele A, Rossi MF, Moscato U. Occupational hazards and gender differences: a narrative review. Ital J Gend Specif Med. 2022;8(3):154-62. [Google Scholar]
11. European Agency for Safety and Health at Work. Mainstreaming gender into occupational safety and health. European Agency for Safety and Health at Work; 2024.
12. Campos-Serna J, Ronda-Pérez E, Artazcoz L, Moen BE, Benavides FG. Gender inequalities in occupational health related to the unequal distribution of working and employment conditions: a systematic review. Int J Equity Health. 2013;12:57. [PubMed] [Google Scholar]
13. International Labour Organization (ILO). Safe and healthy working environments free from violence and harassment. ILO; 2019.
14. Antón JI, Grande R, Muñoz de Bustillo R, Pinto F. Gender gaps in working conditions. Soc Indic Res. 2023;166(1):53-83. [Google Scholar]
15. National Commission for Women & Children (NCWC). Sustainable development service programme: gender equality, diversity, and inclusion in the private sector. NCWC; 2022.
16. [National Commission for Women & Children (NCWC). Gender equality in Bhutan – a situational analysis. NCWC; 2019.
17. Loewenson R. Occupational hazards in the informal sector—a global perspective. In: Isaksson K, Hogstedt C, Eriksson C, Theorell T, editors. Health effects of the new labour market. Boston, MA: Springer; 2002. p. 329-42. [Google Scholar]
18. Nag A, Vyas H, Nag P. Occupational health scenario of Indian informal sector. Ind Health. 2016;54(4):377-85. [PubMed] [Google Scholar]
19. Rai S, Wouters JJ. Female migrant workers in Bhutan's liquor industry: for Bhutanese women, work in the liquor industry involves a trade-off between economic and gendered vulnerabilities. The Diplomat; 2024 Jul 20.

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202410