

Study of OSH Awareness and Attitudes among PSMZA Staff and Students: A Post-Event Study

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Abstract

Occupational Safety and Health (OSH) plays a vital role in maintaining a safe, healthy, and productive environment in higher education institutions. However, differences in awareness and attitudes toward OSH among institutional communities remain a challenge. This study aimed to evaluate the level of OSH awareness and attitudes within the community of Sultan Mizan Zainal Abidin Polytechnic (PSMZA), particularly after the implementation of the OSH Awareness Day. A total of 499 respondents, including lecturers, students, industry workers, and others, participated in the survey. The study examined aspects such as demographic factors, safety training, emergency preparedness, complaint handling, and safety behaviors. Data were collected using a structured questionnaire with high internal reliability and analyzed through descriptive and inferential methods. Overall, the findings revealed a high level of OSH awareness across the institution, with lecturers showing notably greater awareness compared to other groups. These differences suggest that roles, work exposure, and prior safety training significantly shape OSH awareness and attitudes. The results underline the effectiveness of initiatives like OSH Awareness Day in enhancing safety consciousness among diverse institutional members. It is recommended that such programs be continued and further strengthened through structured, engaging approaches to foster a sustained culture of safety within PSMZA.

Keywords: Occupational Safety and Health (OSH), Level of Awareness, Safety Behavior, OSH Awareness Day, Sultan Mizan Zainal Abidin Polytechnic (PSMZA), T-Test.

1.0 Introduction

1.1 Importance of OSH Awareness

Occupational Safety and Health (OSH) is essential for ensuring the well-being of employees and students in educational environments. A strong safety culture relies on individual awareness and commitment to safety practices, which in turn shapes compliance with established guidelines (Cooper, 2000). In Malaysia, compliance with the Occupational Safety and Health Act 1994 places responsibility on institutions like PSMZA to cultivate a high level of OSH awareness to prevent accidents and uphold legal obligations.

1.2 Previous Studies on Safety Awareness and Behavior

Past studies have consistently highlighted that awareness of OSH significantly reduces the risk of occupational injuries and illnesses (Ancita et al., 2013; Kadir et al., 2020). Research by Kadir & Norfadillah (2020) and Siti Nakiah et al. (2015) shows that both employers and workers play critical roles in maintaining safe work environments. Organizational safety awareness is also linked to compliance with safety standards and reduced accident rates (Mardziah, 2002; Mohammad Lui & Kadir, 2020).

Specific findings by Mohd Hakimi et al. (2014) revealed that low levels of safety awareness among employees are closely tied to higher accident rates, emphasizing the need to instill safety values throughout the workforce. Recognizing hazards and proactively addressing them is essential to fostering safe work behaviors (Safe Work Australia, 2018). Other researchers (Amirul et al., 2019; Kadir et al., 2017; Mohd Azhar et al., 2019) stressed the shared responsibility of employers and workers in prioritizing OSH to ensure workplace well-being.

1.3 Factors Influencing Safety Practices and PPE Use

Several studies have examined the factors that influence OSH awareness and safety practices. Anuar et al. (2009) and Mohd Hafiidz et al. (2017) noted the importance of assessing worker comprehension of OSH issues to determine the effectiveness of safety programs. Kadir et al. (2016) and Nik Raihan et al. (2019) pointed out that safety awareness can be evaluated through compliance with regulations, policy implementation, committee activity, training, emergency preparedness, and complaint investigations. Mohd Fairuz (2014) further demonstrated in a study on Hong Kong that organizational safety is shaped by policies, safety committees, accident investigations, emergency procedures, and availability of PPE.

Additionally, research has established that demographic and organizational factors such as management commitment, years of experience, and safety climate significantly influence safety behaviors and PPE use (Vinodkumar & Bhasi, 2010; Wong et al., 2018). Yet much of this research has centered on industrial settings.

1.4 Contribution of This Study

While extensive studies exist on OSH awareness in industrial sectors and general workplace safety compliance, limited research has been conducted within technical education institutions that simultaneously involve lecturers, students, and support staff. There is also a lack of empirical data on how demographic factors such as work experience and gender distinctly impact safety attitudes and the consistency of PPE use in a polytechnic context.

This study extends existing knowledge by systematically evaluating the levels of OSH awareness and attitudes among diverse groups at PSMZA including lecturers, students, and industry-linked staff. It also explores the influence of demographic variables on safety perceptions and PPE practices, thereby filling a critical gap in the literature on occupational safety within higher technical education environments. The insights gained are expected to inform targeted interventions and strengthen the culture of safety within the institution.

2.0 Research Methodology

This study involves staff and students at Politeknik Sultan Mizan Zainal Abidin (PSMZA) to assess their level of awareness and attitudes toward occupational safety and health (OSH). The study adopts a quantitative approach and employs statistical analysis to evaluate the level of awareness based on sociodemographic factors.

A questionnaire is used as the primary data collection instrument and is distributed to 499 respondents, comprising lecturers, support staff, and students. The respondents were selected using a purposive sampling technique, focusing on individuals who participated in the OSH Awareness Day program at PSMZA. This ensures that data is collected from those directly exposed to OSH-related initiatives, making them suitable for achieving the study objectives.

The questionnaire is designed in a Likert scale format, ranging from one to five, allowing respondents to indicate their level of agreement with each statement presented. To ensure content validity, the questionnaire items were reviewed by experts in occupational safety and health as well as academic staff with experience in OSH research. This process helped verify that the items adequately covered the key dimensions intended for measurement, such as policy awareness, safety committees, training, emergency preparedness, and safety behaviors.

A reliability test was conducted on 40 selected respondents. Analysis using the Statistical Package for the Social Sciences (SPSS) software showed a Cronbach's Alpha reliability coefficient of 0.928, indicating a high level of internal consistency.

The level of safety and health awareness in the workplace is assessed based on respondents' perceptions of safety and health policies, committees, procedures, training, emergency preparedness, complaint and accident investigations, and safety commitment and behavior. Data is analyzed using SPSS software with descriptive analysis methods such as frequency, percentage, and mean to explain the study findings. Additionally, the Independent Samples T-Test is used to identify differences in OSH awareness levels among different respondent groups, particularly between lecturers and support staff. This helps determine whether there is a statistically significant difference in awareness levels based on roles within the institution.

Ethical considerations were rigorously observed throughout the study. Participation was entirely voluntary, and informed consent was obtained from all respondents before they completed the questionnaire. Participants were clearly informed of the study's purpose, their right to withdraw at any time, and how the data would be used. To protect privacy and confidentiality, responses were collected anonymously without any identifying information, and data were stored securely with access limited to the research team. These measures ensured that the study adhered to ethical standards for research involving human participants.

3.0 Results and Discussion

3.1 Statistic Descriptives Demographic

Based on the descriptive analysis presented in Table 1, the distribution of respondents by gender shows that a majority were male. Out of a total of 499 respondents, 318 were male, representing 63.7% of the total sample. Meanwhile, 181 respondents were female, comprising 36.3%. This indicates a significant gender imbalance among the respondents, with male participants making up nearly two-thirds of the total sample. The cumulative percentage shows that by the time female responses are added, the total reaches 100%, confirming that gender data was completely recorded for all respondents with no missing values.

Table 1: Gender Respondent

	FREQUENCY	PERCENT	VALID PERCENT	CUMULATIVE PERCENT
VALID L	318	63.7	63.7	63.7
P	181	36.3	36.3	100.0
Total	499	100.0	100.0	

This gender distribution may reflect the actual gender composition within the institution or industry context being studied, particularly in technical or vocational education environments where male dominance is often more prevalent. Understanding gender distribution is crucial as it may influence perceptions, awareness, and attitudes towards occupational safety and health (OSH), which are explored in the subsequent sections of this study.

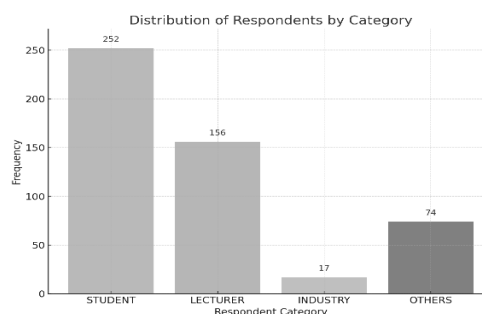


Figure 1: Respondent Category

Figure 1 presents the distribution of respondents based on their respective categories. The findings show that most respondents are PSMZA students, accounting for 252 individuals or 50.5% of the total sample. This suggests that students form the largest portion of the study population, reflecting their key role in the institutional environment where the study was conducted.

The second largest group consists of PSMZA lecturers, with 156 respondents representing 31.3% of the total. This group is also critical as they contribute to the implementation and enforcement of occupational safety and health (OSH) practices in the academic setting. In addition, 17 respondents (3.4%) are from industry sectors, providing valuable insights into the application and effectiveness of OSH awareness in real-world work environments. Meanwhile, 74 respondents (14.8%) fall under the “others” category, which may include administrative staff, technical support personnel, or other relevant stakeholders within the institution or related environments.

The cumulative percentage reaches 100%, indicating that all responses were valid and there were no missing data entries for this variable. This broad distribution across categories enhances the comprehensiveness of the study by incorporating perspectives from various roles and responsibilities related to OSH.

3.2 Level of OSH Awareness Based on Respondent Categories

Table 2 illustrates the level of occupational safety and health (OSH) awareness according to different respondent categories. The overall mean OSH awareness score across all 499 respondents is 4.5143, with a standard deviation of 0.56044, indicating a generally high level of awareness with moderate variation among individuals. This overall result directly addresses the study’s first objective, which is to assess the level of OSH awareness among the community at Sultan Mizan Zainal Abidin Polytechnic (PSMZA).

Table 2: Presents the Level of OSH Awareness Based on Respondent Categories

RESPONDENT CATEGORY	NUMBER (N)	MEAN OSH AWARENESS	STD.DEVIATION
LECTURERS	156	4.6553	0.58038
INDUSTRY	17	4.6863	0.44137
STUDENTS	252	4.4312	0.58038
OTHERS	74	4.4597	0.54506
TOTAL	499	4.5143	0.56044

Among the four groups, industry respondents recorded the highest mean OSH awareness score at 4.6863. This aligns with existing literature that suggests workers in industrial environments often undergo more rigorous and frequent safety training and are consistently exposed to real-world hazards that reinforce the importance of OSH practices. Lecturers closely followed with a mean score of 4.6553, reflecting a strong awareness level likely driven by their professional responsibility to uphold and supervise safety practices within workshops, laboratories, and other hands-on learning environments.

Respondents categorized as “others,” which may include administrative or technical staff, showed a mean awareness score of 4.4597. While slightly lower, this still represents a solid level of awareness, suggesting that institutional safety policies and general workplace culture have successfully permeated across different job functions.

Students reported the lowest mean score at 4.4312. Although still relatively high, this highlights a potential gap, emphasizing the need to strengthen OSH awareness initiatives specifically targeted at students. Given that students are the future workforce, ensuring they

fully internalize OSH principles is crucial. This finding also informs the study's objective to identify areas and groups where more intensive safety education may be required.

In summary, the data supports the objective of evaluating OSH awareness across various categories. It reveals generally commendable levels of awareness but also points to disparities likely influenced by differing roles, levels of practical exposure, and formal training in OSH.

3.3 T-Test Analysis

Table 3 presents the results of an Independent Samples T-Test conducted to examine whether there is a statistically significant difference in OSH awareness levels between lecturers and students at PSMZA. This analysis directly ties to the study's second objective, which seeks to determine if awareness differs across key demographic and role-based groups.

Table 3: T-Test Analysis

CATEGORY	MEAN (M)	STANDARD DEVIATION (SD)	T- VALUE	P- VALUE
LECTURERS	4.6553	0.5735	3.947	0.009
STUDENTS	4.4312	0.58038		

The findings indicate that lecturers have a higher mean OSH awareness score (4.6553) compared to students (4.4312), with relatively low variability within each group. The T-Test yielded a t-value of 3.947 and a p-value of 0.009, which is statistically significant at the 0.01 level. This confirms that the difference observed is unlikely due to chance and reflects a genuine disparity in awareness between these two groups.

These results align with the research objective of assessing how professional roles and responsibilities impact OSH awareness. Lecturers, tasked with overseeing student activities in workshops and labs, naturally require and receive more extensive safety training. Their elevated awareness is indicative of this responsibility. Conversely, students, while introduced to safety protocols, may not yet fully appreciate or internalize OSH concepts due to limited hands-on experience or a weaker perception of personal accountability.

Overall, this analysis underlines the need, as highlighted in the study objectives, to implement more targeted and engaging OSH training programs for students. Bridging this gap is essential for fostering a robust, long-term safety culture, not only within the institution but also as these students transition into the broader workforce (Zohar, 1980; Kadir et al., 2020).

4.0 Discussion

The findings of this study provide important insights into the level of occupational safety and health (OSH) awareness and attitudes among various categories at Sultan Mizan Zainal Abidin Polytechnic (PSMZA). Overall, the data indicates a generally high level of OSH awareness across the institution. This broadly aligns with previous studies by Ancita et al. (2013) and Kadir et al. (2020), who highlighted that strong safety awareness is essential for reducing work-related injuries and maintaining health standards.

Among the groups surveyed, industry respondents and lecturers reported the highest levels of OSH awareness. This pattern is consistent with Zohar's (1980) foundational research on safety climate, which emphasized that structured training and regular exposure to real

occupational hazards significantly reinforce safety attitudes and compliance. Lecturers at PSMZA, by virtue of their roles in supervising labs and workshops, are routinely accountable for enforcing safety protocols. Their elevated awareness levels support findings by Kadir & Norfadillah (2020) and Mardziah (2002), which showed that job responsibility and direct engagement with safety enforcement are key drivers of heightened OSH awareness.

In contrast, students recorded the lowest mean awareness scores among the groups, although still reflecting a reasonably good level overall. This discrepancy can be attributed to several factors tied to their educational stage. Primarily, students typically have ****limited exposure to sustained, real-world safety challenges****. Their engagement with OSH concepts often occurs through briefings or instructional sessions without the depth of repetitive, hands-on practice that builds ingrained safety behaviors. Additionally, students may perceive lower personal accountability for enforcing or overseeing safety measures, which reduces the internalization of safety practices compared to their instructors. This observation is in line with Mohd Hakimi et al. (2014), who found that individuals with less work experience often exhibit weaker safety awareness, potentially increasing vulnerability to risks. The statistically significant difference revealed by the T-Test between lecturers and students further confirms that ****experience, responsibility, and direct training exposure play crucial roles in shaping OSH awareness****.

These findings also echo Safe Work Australia (2018), which noted that recognition of tangible safety risks enhances proactive safety behavior. Meanwhile, the moderate yet consistent awareness levels observed among administrative or support staff (the “others” category) suggest that PSMZA’s institutional safety policies and culture are successfully disseminated beyond purely technical or instructional roles. This supports conclusions by Mohammad Lui & Kadir (2020) that a well-developed organizational safety culture influences all employees, regardless of their direct involvement with hazardous tasks.

The study’s findings carry important implications for OSH policy at PSMZA. While the overall awareness levels are encouraging, the lower scores among students highlight the need for more robust, tailored interventions. This suggests that PSMZA’s OSH policy should place ****greater emphasis on embedding practical, scenario-based training modules into student curricula****, ensuring that theoretical knowledge is consistently reinforced through realistic safety drills and supervised practical work. Moreover, periodic refreshers and active involvement of students in OSH committees could cultivate a stronger sense of ownership over safety practices.

Additionally, the data supports strengthening mechanisms for continuous monitoring and feedback, enabling both students and staff to voice concerns and participate in proactive improvements. By integrating structured mentorship programs where lecturers explicitly model and reinforce OSH best practices, PSMZA can bridge the awareness and attitude gaps identified. These policy enhancements would align with the broader goal of nurturing a safety culture that extends from classrooms and workshops into future workplaces, ultimately contributing to long-term reductions in occupational accidents and health risks.

Thus, the study not only validates many trends identified in prior research focused on industrial settings (Kadir et al., 2016; Mohd Fairuz, 2014), but also provides targeted, evidence-based insights for shaping OSH policies within a technical education environment—addressing the specific needs of both emerging student cohorts and experienced staff.

5.0 Conclusion

This study has demonstrated that overall occupational safety and health (OSH) awareness among the community at Sultan Mizan Zainal Abidin Polytechnic (PSMZA) is high, reflecting the institution’s existing efforts to promote a strong safety culture. Notably, awareness levels

varied by respondent group, with lecturers and industry participants exhibiting greater familiarity and commitment to OSH principles than students. This disparity highlights the influence of role responsibilities, direct exposure to hazards, and frequency of structured safety training on shaping safety attitudes and behaviors.

The findings point to important directions for enhancing OSH practices at PSMZA. Specifically, there is a clear need to strengthen and tailor safety education for students, who represent the future workforce. It is recommended that the institution increase the frequency and depth of OSH training sessions targeted at students, moving beyond general briefings to include more hands-on safety drills and real-world case simulations. Additionally, integrating OSH principles directly into the technical curriculum will ensure that safety becomes a foundational element of students' academic and professional formation.

Further, establishing structured mentorship or peer-learning initiatives, where lecturers actively demonstrate and reinforce safety practices, could help bridge the awareness gap. Encouraging student participation in safety committees and regular feedback mechanisms will also promote a deeper sense of ownership and accountability toward maintaining a safe learning and working environment.

By implementing these measures, PSMZA can continue to advance its commitment to occupational safety and health, fostering a culture where safe practices are internalized and consistently upheld by all members of the institution.

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