

LITERATURE REVIEW : RELATIONSHIP BETWEEN WORKERS KNOWLEDGE WITH UNSAFE ACTION

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ABSTRAK

Kesehatan dan Keselamatan Kerja (K3) sebagai protokol dan kebijakan keselamatan formal dipengaruhi oleh beberapa faktor yang menyebabkan kecelakaan, cedera, dan kematian. Peningkatan K3 tidak hanya mengakuinya sebagai teori tetapi juga secara praktis, dalam implementasinya. Penelitian ini akan meneliti berbagai tingkat pengetahuan diantara pekerja dengan frekuensi dan jenis tindakan tidak aman yang dilakukan oleh pekerja. Penelitian ini dilakukan dengan menggunakan metode studi literatur yang dalam pencarian literatur dibatasi 5 tahun terakhir, berbahasa Indonesia maupun Inggris, dan populasi berasal dari pekerja yang berisiko terhadap tindakan tidak aman. Hasil penelitian menunjukkan bahwa 5 penelitian tentang hubungan antara tingkat pengetahuan pekerja dan kejadian tindakan tidak aman, menunjukkan bahwa penelitian memiliki pengaruh yang cukup erat antara pengetahuan dan tindakan tidak aman dengan tingkat pengetahuan yang buruk, pengetahuan yang baik dengan tingkat tindakan tidak aman yang rendah dan responden lainnya memiliki pengetahuan yang buruk dengan tingkat tindakan tidak aman yang tinggi, tingkat pengetahuan yang baik tanpa ada hubungan antara pengetahuan dan tindakan tidak aman, dan terakhir pengetahuan yang baik tentang K3 dengan hubungan antara pengetahuan K3 dan kejadian tindakan tidak aman. Kesimpulan penelitian ini adalah semakin tinggi pengetahuan pekerja, semakin rendah tingkat tindakan tidak aman yang terjadi di lingkungan kerja. Meskipun sebuah penelitian menunjukkan bahwa tingkat pengetahuan seseorang tidak dapat menjamin tindakan atau perilaku yang akan dilakukan seseorang di lingkungan kerja.

Kata kunci : OHS, pengetahuan, tindakan tidak aman

ABSTRACT

Occupational Health and Safety (OHS) as a formal safety protocol and policy is influenced by several factors that cause accidents, injuries, and deaths. The improvement of OHS not only acknowledges it as a theory but also practically, in its implementation. This study will examine the various levels of knowledge among workers with the frequency and type of unsafe acts carried out by workers. This study was conducted using a literature study method which in the literature search was limited to the last 5 years, in Indonesian and English, and the population came from workers who were at risk of unsafe acts. The results of the study showed that 5 studies on the relationship between the level of worker knowledge and the occurrence of unsafe acts, showed that the study had a fairly close influence between knowledge and unsafe acts with a poor level of knowledge, good knowledge with a low level of unsafe acts and other respondents had poor knowledge with a high level of unsafe acts, a good level of knowledge without any relationship between knowledge and unsafe acts, and finally good knowledge of OHS with a relationship between OHS knowledge and the occurrence of unsafe acts. The conclusion of this study is that the higher the knowledge of workers, the lower the level of unsafe acts that occur in the work environment. Although a study shows that a person's level of knowledge cannot guarantee the actions or behavior that a person will take in the work environment.

Keywords : knowledge, OHS, unsafe action

INTRODUCTION

Occupational Health and Safety (OHS), commonly referred to in Indonesia as Keselamatan dan Kesehatan Kerja (K3), is a fundamental aspect of workforce management

that serves not only as a legal obligation but as a strategic imperative to ensure productivity, employee well-being, and organizational resilience. The relevance of OHS has intensified over the past decades in parallel with rapid industrialization, technological advancements, and the increasing complexity of work environments. Despite the presence of formal safety protocols and policies, workplace accidents remain prevalent, with human error particularly unsafe actions—identified as a leading contributor to occupational injuries and fatalities. In this regard, the depth and breadth of workers' knowledge about OHS principles have been recognized as critical factors influencing behavior, safety compliance, and ultimately, workplace outcomes. This research seeks to explore the intricate relationship between OHS knowledge and the incidence of unsafe actions, examining how education, awareness, and organizational culture contribute to shaping safe or unsafe behaviors in the workplace (Pratama, 2015).

Understanding the role of unsafe actions is essential in diagnosing the root causes of occupational accidents. Unlike unsafe conditions, which refer to hazardous physical or environmental factors, unsafe actions are directly tied to individual behaviors such as neglecting personal protective equipment (PPE), bypassing safety protocols, operating machinery without proper authorization, or engaging in risky shortcuts to increase productivity. These behaviors are often manifestations of either a lack of knowledge, low safety motivation, or cultural norms that trivialize the importance of safety adherence. Unsafe actions are particularly challenging to address because they are human-centric and influenced by multiple psychological, social, and organizational variables. While technological interventions can mitigate unsafe conditions, reducing unsafe actions requires a comprehensive approach that includes education, behavior modification, leadership commitment, and a strong safety culture (Kumar & Bhattacharjee, 2023).

A central component in the prevention of unsafe actions is the worker's knowledge about occupational health and safety. Knowledge encompasses not only an understanding of procedures, hazards, and regulations but also the capacity to assess risks, make informed decisions under pressure, and act responsibly in potentially dangerous scenarios. It is widely acknowledged in safety literature that knowledge acts as the foundation upon which safe behavior is built. Workers who are informed about the consequences of unsafe practices are more likely to avoid risk-taking and to influence others in their environment to adhere to safety standards. Moreover, knowledge supports situational awareness, hazard recognition, and proper use of safety tools and systems. However knowledge is not static it must be continuously updated through training, mentoring, and reinforcement mechanisms to keep pace with evolving work environments and emerging risks (Desmayanny & Wahyuni, 2020).

The relationship between knowledge and behavior has long been a subject of interest in occupational psychology and safety science. Theories such as the Theory of Planned Behavior (Ajzen, 1991) and the Health Belief Model emphasize that knowledge alone is insufficient to produce behavioral change unless accompanied by appropriate attitudes, perceived control, and reinforcement structures. Therefore, improving OHS outcomes requires an understanding not just of what workers know, but how that knowledge translates into real-world decisions and actions. In many cases, the gap between knowledge and practice referred to as the knowledge-action gap presents a significant barrier. Workers may be aware of safety rules but choose to ignore them due to production pressure, peer influence, or lack of supervision. This phenomenon highlights the importance of integrating cognitive, emotional, and environmental factors in designing interventions aimed at reducing unsafe behavior (Larasatie et al., 2022).

Empirical studies across various industries construction, mining, manufacturing, and healthcare have demonstrated a strong correlation between safety knowledge and behavioral compliance. For example, organizations that invest in safety training programs, safety

communication strategies, and on-the-job coaching often report lower incident rates and higher levels of worker engagement in safety practices. In contrast workplaces that neglect knowledge dissemination tend to exhibit higher levels of unsafe acts, near misses, and serious accidents. Additionally, a safety climate a shared perception among employees that safety is a priority has been found to mediate the relationship between knowledge and behavior. When workers believe that their organization values their well-being, they are more likely to internalize safety norms and resist peer pressure to engage in unsafe actions (Pratama, 2015).

Beyond formal training experiential learning plays a crucial role in shaping safety-related behavior. Workers who have previously encountered accidents, either personally or vicariously through colleagues, tend to demonstrate heightened awareness and compliance. This suggests that practical, real-life exposure to the consequences of unsafe actions can be more impactful than abstract knowledge. As such, safety programs that incorporate storytelling, case studies, simulations, and hands-on practice are more effective than those relying solely on lectures or written materials. Furthermore, leadership behavior significantly influences knowledge acquisition and application. Supervisors and managers who demonstrate visible commitment to safety by conducting inspections, engaging in safety dialogues, and enforcing rules fairly create an environment where knowledge is respected and applied (Kumar & Bhattacharjee, 2023).

At the organizational level the institutionalization of OHS knowledge must be integrated into standard operating procedures, performance evaluations, and reward systems. Knowledge should not be perceived as an individual responsibility alone, but as a collective organizational asset. This necessitates collaboration across departments human resources, operations, health and safety officers to ensure consistency and continuity in safety messaging. Also, continuous learning mechanisms such as refresher training, toolbox talks, digital modules, and feedback systems must be implemented to keep knowledge relevant and top-of-mind. Technological innovations, including e-learning platforms, mobile apps, and data analytics, can support knowledge retention and provide real-time guidance to workers in dynamic environments (Desmayanny & Wahyuni, 2020).

This research is particularly relevant in the Indonesian context, where industrial growth has outpaced the development of occupational safety systems in many sectors. Despite regulatory frameworks such as the Indonesian Manpower Act No. 13/2003 and related Ministerial Decrees, implementation remains inconsistent, especially among small and medium enterprises (SMEs). Many workplaces still lack comprehensive training programs, risk assessments, and safety committees. Moreover, cultural factors such as respect for hierarchy, reluctance to speak up, and fatalistic attitudes can hinder safety communication and learning. Thus, this study aims to contribute to the growing body of knowledge by identifying gaps, evaluating interventions, and proposing strategies that can strengthen the role of OHS knowledge in preventing unsafe actions (Larasatie et al., 2022). In conclusion this introduction has outlined the importance of OHS knowledge in mitigating unsafe actions and improving workplace safety. It has highlighted the theoretical underpinnings, empirical evidence, and practical implications of the knowledge-behavior relationship in occupational settings. The proposed research will investigate how different levels of safety knowledge among workers correlate with the frequency and type of unsafe actions they engage in.

By doing so, the study hopes to offer actionable insights for employers, policymakers, and educators in designing more effective safety programs that move beyond compliance to foster a culture of learning, accountability, and proactive risk management.

METHOD

This research uses a literature study method conducted through Google Scholar, ScienceDirect, Directory of Open Access Journal (DOAJ) and other online media. The

literature search was conducted using keywords that are in accordance with the research topic and limited to the last five years, starting from 2020 to 2025. This aims to keep the information obtained actual and in accordance with the latest developments. In addition, the selection of articles was also carried out with the criteria that the articles were in Indonesian and English and had a population and research sample that only involved workers with a high risk of committing unsafe acts. After that, the literature that has been obtained will be analyzed and re-selected to obtain literature that is more relevant to the research topic.

RESULT

Table 1. Research Result Literature Review

No	Author	Year	Title	Method	Result
1	Clara Bota Ayu Kedang, Noorce Ch. Berek & Johny A. R. Salmun	2023	The Relationship between Knowledge, Attitudes, and Motivation with Unsafe Actions on Harper Hotel Construction Workers in Kupang City	This study used a cross-sectional method with a research sample of 35 workers determined through simple random sampling. Data collection was done through interviews and observations.	Based on the results of the study, it is known that the proportion of workers with unsafe actions is higher in workers with less knowledge than workers with good knowledge. The results of the analysis show that there is a significant relationship between knowledge and unsafe acts.
2	Usaha Satria, P, T., <i>et al.</i>	2023	Factors That Influence Unsafe Actions On Workers At Pt. Prima Abadi Jaya Medan In 2023	This study used the cross-sectional method with a sample of 54 workers of PT Prima Abadi Jaya Medan.	Test suggests that there's a reasonably near affect b between knowledge and unsafe actions with a p-value of zero.001. Based at the results of research completed to perform an evaluation of things influencing unsafe actions amongst employees at PT Prima Abadi Jaya Medan in 2023, several conclusions can be drawn, namely that there is a significant impact among people know-how of unsafe actions in PT Prima Abadi Jaya Medan.
3	Putri Ridha Romadho na, Sujangi, Lilis Prihastini & Budi Yulianto	2024	The Relationship Between Employee Characteristics and Unsafe Actions in Sukosari Workshop Employees at PT Rekaindo Global Jasa Madiun 2024	This study used a cross sectional method with a sample of 54 employees of Sukosari Workshop. The method of data collection used is to use a	The results of statistical tests on bivariate analysis between knowledge and unsafe actions using the Chi-Square test obtained a p-value = $0.001 < \alpha$ (0.05), it can be concluded that there is a significant relationship

				questionnaire instrument.	between knowledge and unsafe actions. Although based on the Contingency Coefficient test stated that the relationship between knowledge and unsafe action is weak.
4	Beti Setiyaningsih & Wartini	2025	Relationship Between Knowledge and Attitude with Unsafe Action of Veneer Setting Workers at PT Abhirama Kresna : A Cross Sectional Study	This study used a cross sectional study design method with a research sample of 97 workers in the veneer setting section. Data collection was carried out using an instrument in the form of a questionnaire via Google form.	Test results <i>Chi Square</i> shows that H_0 is accepted and H_a is rejected, meaning there is no relationship between knowledge and unsafe action. This relationship is proven by value $p\text{ value } 0.985 > 0.05$. Based on the results of data analysis, this research proves the hypothesis which states that there is no significant relationship between the knowledge variable and the unsafe action variable.
5	Ayu Sekar Pawening & Tri Martiana	2023	Correlation Between OHS Knowledge, Motivation, Work Stress, and Unsafe Action (Study on Production Section Workers at PT Mandiri Java Food Semarang, Indonesia): A Cross-Sectional Study	The method used in this study was cross-sectional with a study population of 37 production workers. Data collection was carried out using questionnaire sheets, observation sheets, company profiles, and reports.	Suggests the results that there may be a correlation between OHS knowledge and unsafe action in the production people of PT Mandiri Java food Semarang with a value of $p\text{-value} = 0.033$ in which the value is less than the alpha value (<0.05). There may be a significant correlation with a value of $r = -0.351$ this means that a strong-weak correlation among the OHS knowledge and unsafe action. There's a vulnerable correlation and negative correlation value (-) with OHS knowledge.

DISCUSSION

The results of research conducted by Clara Bota *et al.* (2023) showed a significant relationship between the level of knowledge of workers and the incidence of unsafe acts in the workplace. Of the 35 respondents, it was found that 20 people (57.1%) had a poor level

of knowledge and contributed to the high incidence of unsafe acts. The higher the knowledge respondents about unsafe acts, the smaller the work accident. The main factor behind this is the education level of the respondents, the majority of whom only graduated from elementary school or did not even complete formal education. Lack of understanding of work safety procedures, hazards, and the importance of compliance with applicable rules is a consequence of this low level of education.

According to (Usaha Satria and Gerry Silaban, 2023) it was shown that there is a fairly close influence between knowledge and unsafe actions with a p-value of 0.001. Of the 51 respondents, 36 (70.6%) respondents had a poor level of knowledge. This indicates that the level of knowledge of workers has a crucial role in minimizing unsafe acts in the workplace. Workers with a high level of knowledge tend to be able to identify and understand the hazards around them, and carry out work according to established procedures. Awareness of the risks faced encourages them to avoid potentially dangerous actions. Conversely, workers with low levels of knowledge tend to ignore hazards and are more prone to unsafe actions due to a lack of understanding of the risks that may arise. Therefore, increasing workers knowledge level through effective training and education is an important factor in reducing unsafe acts and creating a safer work environment.

Based on research conducted by Putri Ridha, *et al.* (2024) it is known that out of 54 respondents, 28 people (93.3%) have good knowledge with a low level of unsafe actions while 11 people (45.8%) other respondents have poor knowledge with a high level of unsafe actions. This shows that the higher a person's knowledge, the higher the safe actions he takes and from the test results that have been carried out it is known that knowledge has a significant relationship with unsafe actions. A study by (Beti Setiyaningsih & Wartini, 2025) found that the majority of respondents had a good level of knowledge with a total of 80 people (82.5%). The results of the cross tabulation showed that there was no relationship between knowledge and unsafe actions with a p-value of 0.985 or greater than 0.05. This is due to the fact that one's level of knowledge cannot guarantee that one will always take good actions or behaviors.

Research conducted (Ayu Sekar P & Tri Martiana, 2023) found that out of 37 respondents, 20 respondents (54.1%) had a good level of knowledge so that they had good knowledge about OHS. Based on the cross tabulation conducted, the results show that there is a relationship between OHS knowledge and the incidence of unsafe acts with a p-value of 0.033, which means that the value is more than the alpha value. Not only that, it is known that there is a negative correlation value which means that the correlation is in the opposite direction, so that the better the level of knowledge of workers, the lower the unsafe acts committed. In addition, the level of knowledge of workers also affects the actions that will be taken or carried out by workers at work. Based on various studies that have been conducted, it can be seen that a person's knowledge is one of the factors that encourage unsafe actions in the work environment, because someone who has a high level of knowledge will be able to easily recognize the dangers around him and work according to existing procedures (Alivia Ananda, *et al.*, 2023).

CONCLUSION

From the results of the study, it can be concluded that a person's level of knowledge has a significant relationship with the occurrence of unsafe acts committed by workers. A person's knowledge can influence a person in acting. The higher the worker's knowledge, the lower the level of unsafe acts that occur in the work environment. Although one study showed that a person's level of knowledge cannot guarantee the actions or behavior that a person will do in the work environment.

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