

The Influence of Occupational Safety and Health Culture on Workforce Sustainability through Employee Engagement

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ARTICLE INFO

DOI: [10.32832/jmuiika.v17i2.22886](https://doi.org/10.32832/jmuiika.v17i2.22886)

Article history:

Received:

10 Februari 2026

Accepted:

12 Maret 2026

Available online:

05 Juni 2026

Keywords:

Occupational safety and health culture, employee engagement, workforce sustainability

ABSTRACT

This study examines the effect of occupational safety and health (OSH) culture on workforce sustainability, with employee involvement as a mediating variable at SPPBE Adam Pramudya. Preliminary findings indicate the presence of occupational risks and varying levels of employee involvement that may affect workforce sustainability, highlighting the need for an OSH culture that encourages active employee participation. This research adopts a quantitative approach using a survey of 100 employees. Data were collected through a structured questionnaire that met validity and reliability requirements and were analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0. The results show that OSH culture has a positive and significant effect on employee involvement and workforce sustainability. Employee involvement also significantly influences workforce sustainability and mediates the relationship between OSH culture and workforce sustainability. These findings emphasize the importance of strengthening OSH culture through enhanced employee involvement to ensure sustainable workforce management.

INTRODUCTION

In recent years, attention to occupational safety and health issues has increased along with the increasing complexity of production processes, the use of high-risk technologies, and the demands for sustainable human resources in the industrial sector (Amalia & Salmira, 2025). Data from the International Labour Organization (ILO) shows that each year, more than 2.7 million workers worldwide die from occupational accidents and diseases, while hundreds of millions more suffer work-related injuries, impacting productivity and workforce sustainability. An international study by Kabiesz & Tutak (2024) confirmed that a strong safety culture not only reduces workplace accident rates but also directly contributes to occupational health and organizational sustainability. However, in Indonesia, particularly in the energy and gas distribution industry, research examining the link between safety culture and workforce sustainability is still relatively limited and has not been comprehensively integrated with employee behavioral factors.

Occupational safety and health culture is understood as a system of shared values, beliefs, norms, and practices that shape how individuals and groups within an organization perceive and manage occupational safety risks. Research by Tarigan & Susilawati (2023) on multinational manufacturing companies shows that a well-internalized safety culture can enhance workforce sustainability by improving employee health, satisfaction, and loyalty. However, a safety culture cannot stand alone as a formal, top-down policy; it requires active employee involvement to ensure safety values are truly implemented in daily work behavior (Dzakwan et al., 2025; Soni et al., 2025). Without employee involvement, a safety culture risks remaining merely an administrative symbol with little impact on real-world practice. Therefore, understanding the mechanisms that bridge safety culture and workforce sustainability is crucial.

Employee involvement/engagement has been widely recognized as a key factor in the successful implementation of organizational policies, including in the area of occupational safety. A study by Rahman et al. (2024) found that employee engagement plays a significant role in shaping safety behavior and strengthening safety culture in the manufacturing sector. Actively engaged employees tend to have higher risk awareness, better adherence to safety procedures, and are more proactive in reporting unsafe conditions (Saks, 2023). This suggests that employee engagement is not merely complementary but a strategic component of an occupational safety system (Gupta & Sharma, 2023). Thus, employee engagement has the potential to be a mediating variable explaining how safety culture influences workforce sustainability (Pratiwi & Nugroho, 2025).

Workforce sustainability is a crucial concept in modern human resource management, emphasizing an organization's ability to maintain a healthy, productive, and competent workforce over the long term (Cahyadi et al., 2025). Yulistria et al. (2025) emphasized that workforce sustainability is significantly influenced by safe working conditions that support employees' physical and psychological well-being. In this context, occupational safety and

health are viewed not merely as regulatory obligations but as strategic organizational investments (Madero-Gómez et al., 2023). When employees feel safe and are involved in safety-related decision-making, their level of commitment and loyalty to the organization tends to increase (Al-Oun, 2025; Widiyati et al., 2025). Therefore, workforce sustainability needs to be analyzed as a result of the interaction between safety systems and employee behavior.

Although various international studies have addressed the relationship between safety culture, employee engagement, and organizational performance, most studies still focus on the direct impact of safety culture on performance or safety. Waruwu et al. (2025) showed that employee behavior and engagement are often positioned solely as independent variables, rather than as mediating mechanisms. On the other hand, research in Indonesia tends to examine the influence of OHS on employee performance or productivity without conceptually linking it to workforce sustainability. Mushtaq & Akhtar (2024) also noted that the role of employee engagement in bridging safety policies and long-term organizational outcomes remains rarely studied. This situation indicates a research gap, both theoretically and empirically.

The research gap becomes even more apparent when considering the context of high-risk industries such as energy and gas distribution. The LPG Bulk Filling and Transportation Station (SPPBE) industry has a high potential for hazards, ranging from fires to explosions, thus demanding the implementation of a consistent and participatory safety culture. Research by Andriany et al. (2025) shows that safety system failures in the oil and gas industry are often caused not by a lack of procedures, but rather by weak internalization of safety culture and low employee engagement. The productivity and sustainability of the workforce in high-risk sectors are highly dependent on employee safety behavior. However, empirical studies specifically examining the role of employee engagement as a mediating variable in the context of SPPBE are still very limited.

Furthermore, national research shows that many OHS programs are not running optimally due to a lack of employee participation in occupational safety planning and evaluation. The gap between safety policies and field practices is a major cause of low OHS effectiveness. This situation emphasizes that a structural approach alone is insufficient without the support of employee behavior and engagement. Therefore, research is needed that not only assesses the existence of a safety culture but also explains how this culture works through employee engagement to support workforce sustainability. This approach is crucial for generating more applicable and contextual policy recommendations.

Based on this description, this research makes significant scientific and practical contributions. Theoretically, this research is expected to enrich the development of occupational safety culture theory and employee engagement theory by positioning engagement as a mediating variable in the relationship between safety culture and workforce sustainability. Practically, the results of this study are expected to provide a basis for SPPBE Adam Pramudya management in designing occupational safety strategies that are oriented not only towards procedural compliance but also towards increasing employee engagement. Thus, this research is expected to be able to provide

a real contribution in creating a safe, sustainable and welfare-oriented work environment for the workforce.

RESEARCH METHODS

This study used an associative quantitative approach to analyze the relationship between occupational safety and health culture as the independent variable, employee engagement as the mediating variable, and workforce sustainability as the dependent variable. The study was conducted at SPPBE Adam Pramudya, involving 100 employees involved in operational and supporting activities of LPG distribution. A quantitative approach was chosen because it allows for testing causal relationships between variables through structured measurement and objective statistical analysis (Creswell, 2022). Primary data were collected using a closed-ended questionnaire structured based on the research variable indicators. A five-point Likert scale was used to measure respondents' perceptions of all constructs studied.

Data analysis was performed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software version 4.0. This method was chosen because it can simultaneously test relationships between latent variables despite a relatively limited sample size. PLS-SEM is considered suitable for research on predictive model development and mediation analysis in an organizational context (Hair et al., 2021). The analysis stages include testing the measurement model through validity and reliability tests, testing the structural model, and testing the hypotheses. The results of the analysis are used to explain the influence of OHS culture on workforce sustainability through employee engagement.

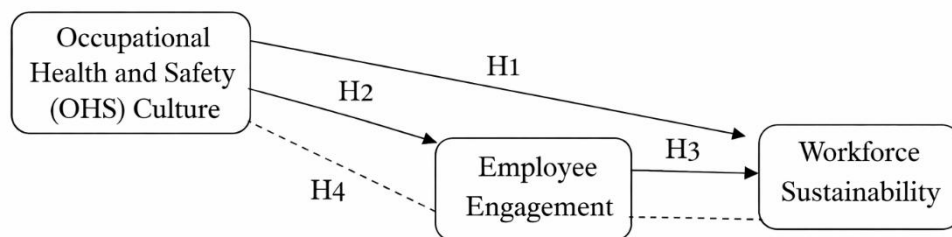


Figure 1. Research Design

RESULTS & DISCUSSION

Research Data Description. Descriptive analysis of respondents aims to describe the tendency of respondents' answers to each statement item in the research variables. Descriptive statistics used include the minimum, maximum, mean, and standard deviation values from 100 respondents. This presentation is intended to provide an initial overview of employee perceptions of Occupational Safety and Health Culture, Employee Engagement, and Workforce

Sustainability. Descriptive statistics of the occupational safety and health culture variable are presented in Table 1:

Table 1. Descriptive Statistics of Occupational Safety and Health Culture Variables (X)

| Indicator | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|------|----------------|
| Management commitment to safety | 100 | 2 | 5 | 4,21 | 0,61 |
| Occupational safety communication and training | 100 | 3 | 5 | 4,18 | 0,58 |
| Compliance with OHS procedures | 100 | 2 | 5 | 4,25 | 0,63 |
| Employee involvement in implementing occupational safety | 100 | 3 | 5 | 4,12 | 0,59 |

Source: Research Data (processed), 2025

Based on Table 1, it is known that the mean value of all indicators of Occupational Safety and Health Culture is above 4.00. This shows that respondents have a very good perception of the implementation of OHD culture at SPPBE Adam Pramudya. A relatively small standard deviation value (<1) indicates that respondents' answers tend to be homogeneous and consistent. Descriptive statistics of labor sustainability variables are presented in Table 2.

Table 2. Descriptive Statistics of Labor Sustainability Variables (Y)

| Indicator | N | Minimum | Maximum | Mean | Std. Deviation |
|---|-----|---------|---------|------|----------------|
| Employee desire to stay in the organization | 100 | 2 | 5 | 4,14 | 0,66 |
| Long-term occupational health and safety conditions | 100 | 3 | 5 | 4,21 | 0,60 |
| Balance between work and employee well-being | 100 | 2 | 5 | 4,18 | 0,62 |
| Sustainable stability of work performance | 100 | 3 | 5 | 4,25 | 0,58 |

Source: Research Data (processed), 2025

Based on Table 2, all indicators in the Labor Sustainability variable have a mean value above 4.00. This shows that employees have a positive perception of work sustainability and the intention to continue working at SPPBE Adam Pramudya in the long term. Descriptive statistics of employee engagement variables are presented in Table 3.

Table 3. Descriptive Statistics of Employee Engagement Variables (Z)

| Indicator | N | Minimum | Maximum | Mean | Std. Deviation |
|---|-----|---------|---------|------|----------------|
| Level of enthusiasm for work | 100 | 2 | 5 | 4,15 | 0,64 |
| Dedication to work and the organization | 100 | 3 | 5 | 4,22 | 0,60 |
| Focused attention at work | 100 | 2 | 5 | 4,18 | 0,62 |
| Active participation in work activities and decision-making | 100 | 3 | 5 | 4,26 | 0,58 |

Source: Research Data (processed), 2025

The results of descriptive statistics in Table 3 show that the Employee Engagement variable has a high mean value in all indicators. This condition indicates that SPPBE Adam Pramudya employees have a high level of work involvement, both cognitively, emotionally, and behaviorally. Overall, the results of the descriptive analysis show that the three research variables are in the high category. These findings provide a strong empirical basis for continuing the analysis at the testing stage of measurement models and structural models.

Validity and Reliability Test Results. Construct validity and reliability testing is performed to ensure that each indicator is able to accurately and consistently represent latent constructs. Convergent validity was evaluated through outer loading and Average Variance Extracted (AVE) values. The indicator is declared valid if it has an outer loading value of ≥ 0.70 , while the construct is declared to meet the convergent validity if the AVE value ≥ 0.50 . The results of the convergent validity test of the cultural, occupational safety and health variables are presented in Table 4.

Table 4. Results of the Convergent Validity Test of Variables of Occupational Safety and Health Culture

| Indicator | Outer Loading | Information |
|--|---------------|-------------|
| Management commitment to safety | 0,812 | Valid |
| Occupational safety communication and training | 0,785 | Valid |
| Compliance with OHS procedures | 0,831 | Valid |
| Employee involvement in implementing occupational safety | 0,774 | Valid |

Source: Research Data (processed), 2025

Based on Table 4, all indicators of the Occupational Safety and Health Culture variable have an outer loading value above 0.70. This shows that all indicators are able to reflect the OHS Cultural construct validly and are suitable for use in advanced analysis. The results of the convergent validity test of the labor sustainability variable are presented in Table 5.

Table 5. Results of the Convergent Validity Test of the Labor Sustainability Variable (Y)

| Indicator | Outer Loading | Information |
|---|---------------|-------------|
| Employee desire to stay in the organization | 0,794 | Valid |
| Long-term occupational health and safety conditions | 0,821 | Valid |
| Balance between work and employee well-being | 0,806 | Valid |
| Sustainable stability of work performance | 0,839 | Valid |

Source: Research Data (processed), 2025

Based on Table 5, all indicators in the Labor Sustainability variable have an outer loading value above 0.70, so it can be concluded that all indicators are valid in representing the labor sustainability construct. The results of the convergent validity test of the employee engagement variables are presented in Table 6.

Table 6. Results of the Convergent Validity Test of Employee Engagement Variables (Z)

| Indicator | Outer Loading | Information |
|---|---------------|-------------|
| Level of enthusiasm for work | 0,801 | Valid |
| Dedication to work and the organization | 0,826 | Valid |
| Focused attention at work | 0,793 | Valid |
| Active participation in work activities and decision-making | 0,842 | Valid |

Source: Research Data (processed), 2025

Table 6 shows that all Employee Engagement indicators have an outer loading value of ≥ 0.70 . Thus, these indicators are declared valid in measuring the construct of Employee Engagement. The average variance extracted (AVE) value is presented in Table 7.

Table 7. Average Variance Extracted (AVE) Value

| Variable | AVE |
|--|-------|
| Occupational Safety and Health Culture (X) | 0,654 |
| Employee Engagement (Z) | 0,667 |
| Workforce Sustainability (Y) | 0,661 |

Source: Research Data (processed), 2025

Table 8. Cronbach's Alpha and Composite Reliability Values

| Variable | Cronbach's Alpha | Composite Reliability | Information |
|--|------------------|-----------------------|-------------|
| Occupational Safety and Health Culture (X) | 0,941 | 0,949 | Reliable |
| Employee Engagement (Z) | 0,936 | 0,945 | Reliable |
| Workforce Sustainability (Y) | 0,939 | 0,947 | Reliable |

Source: Research Data (processed), 2025

Based on Table 8, all research variables had Cronbach's Alpha and Composite Reliability values greater than 0.70. This indicates that the research instrument has an excellent level of internal consistency, making it reliable and suitable for use in structural model testing.

Overall, the results of the construct validity and reliability tests indicate that all indicators and constructs in this study met the statistical criteria required for PLS-SEM analysis, allowing for further testing of the structural model (inner model).

Results of the Structural Model Test (Inner Model). The structural model test (inner model) was conducted to determine the causal relationships between latent variables and the model's ability to explain endogenous variables. The inner model evaluation in this study included testing the R-squared (R^2) value, path coefficient, and Goodness of Fit (GoF). The analysis was conducted using SmartPLS 4.0 using the bootstrapping method. The R-squared values are presented in Table 9.

Table 9. Cronbach's Alpha and Composite Reliability Values

| Endogenous Variables | R-Square | Category |
|------------------------------|----------|----------|
| Employee Engagement (Z) | 0,612 | Medium |
| Workforce Sustainability (Y) | 0,684 | Strong |

Source: Research Data (processed), 2025

Based on Table 9, the R-square value for the Employee Engagement variable of 0.612 indicates that Occupational Safety and Health Culture is able to explain 61.2% of the variation in employee engagement, while the rest is influenced by other factors outside the model. The R-square value for the Workforce Sustainability variable of 0.684 indicates that the combination of OHS Culture and Employee Engagement is able to explain 68.4% of the variation in workforce sustainability, so it is included in the strong category. The path coefficient value of the Square structural model is presented in Table 10.

Table 10. Value of Structural Model Path Coefficient

| Relationships Between Variables | Path Coefficient |
|--|------------------|
| OHS Culture → Employee Engagement | 0,782 |
| OHS Culture → Workforce Sustainability | 0,364 |
| Employee Engagement → Workforce Sustainability | 0,471 |

Source: Research Data (processed), 2025

Table 10 shows that all path coefficients are positive. The influence of Occupational Safety and Health Culture on Employee Engagement has the highest coefficient, indicating that improving OHS culture significantly drives increased employee engagement. Furthermore, Employee Engagement also has a greater influence on Workforce Sustainability than the direct influence of OHS Culture. The results of the goodness of fit model are presented in Table 11.

Table 11. Goodness of Fit Model Results

| Indicator | Value | Criteria | Description |
|---|-------|----------|-------------|
| Standardized Root Mean Square Residual (SRMR) | 0,062 | < 0,08 | Good |
| Normed Fit Index (NFI) | 0,91 | > 0,90 | Good |
| Comparative Fit Index (CFI) | 0,93 | > 0,90 | Good |

Source: Research Data (processed), 2025

Based on Table 11, the Standardized Root Mean Square Residual (SRMR) value of 0.062 is below the maximum limit of 0.08, indicating a low residual error rate for the model. The Normed Fit Index (NFI) of 0.91 and the Comparative Fit Index (CFI) of 0.93 are both above the minimum criterion of 0.90, indicating a good fit between the models. Therefore, the overall structural model in this study meets the Goodness of Fit criteria and is suitable for further hypothesis testing.

Overall, the results of the structural model test indicate that the research model has good predictive power, and the relationships between variables align with the formulated conceptual

framework. Therefore, testing can proceed to the hypothesis testing stage and mediation effect analysis.

Hypothesis Test Results: Hypothesis testing was conducted to determine the significance of the influence between latent variables in the research model. This testing was conducted using the bootstrapping technique in SmartPLS 4.0. The hypothesis acceptance criteria were determined based on a t-statistic value > 1.96 and a p-value < 0.05 at a 5% significance level. The results of the hypothesis test are presented in Table 12.

Table 12. Results of the Direct Effect Hypothesis Test

| Hypothesis | Relationship Between Variables | t-statistic | p-value | Decision |
|------------|---|-------------|---------|----------|
| H1 | Occupational Health and Safety Culture → Employee Engagement | 12,436 | 0,000 | Accepted |
| H2 | Occupational Health and Safety Culture → Workforce Sustainability | 3,215 | 0,001 | Accepted |
| H3 | Employee Engagement → Workforce Sustainability | 4,892 | 0,000 | Accepted |

Source: Research Data (processed), 2025

Based on Table 12, all direct effects between variables showed t-statistics greater than 1.96 and p-values less than 0.05. Therefore, hypotheses H1, H2, and H3 were accepted. These results indicate that Occupational Safety and Health Culture has a positive and significant effect on Employee Engagement and Workforce Sustainability, and that Employee Engagement also has a significant effect on Workforce Sustainability.

Based on the results of the indirect effect hypothesis test (mediation), the indirect effect of Occupational Safety and Health Culture on Workforce Sustainability through Employee Engagement had a t-statistic of 4.127 (>1.96) and a p-value of 0.000 (<0.05). Therefore, hypothesis H4 was accepted, indicating that Employee Engagement significantly mediates the relationship between Occupational Safety and Health Culture and Workforce Sustainability.

Based on the results of the direct and indirect effect tests, it can be concluded that all hypotheses proposed in this study were accepted. Employee Engagement acts as a partial mediating variable, as the direct effect of OHS Culture on Workforce Sustainability remains significant despite being mediated by Employee Engagement. This finding underscores the importance of strengthening an occupational safety and health culture in increasing employee engagement and supporting workforce sustainability at SPPBE Adam Pramudya.

The Influence of Occupational Safety and Health Culture on Employee Engagement at SPPBE Adam Pramudya. Occupational safety and health (OHS) culture is viewed as a strategic organizational factor that influences employee attitudes and engagement in carrying out their work (Soni et al., 2025). Consistent implementation of safety values creates a sense of security and employee trust in the organization. This fosters emotional and cognitive engagement in daily work activities. Employees become more focused, enthusiastic, and willing to contribute optimally. Thus, a strong OHS culture has been shown to play a role in

increasing employee engagement at SPPBE Adam Pramudya.

OHS culture also reflects the organization's concern for employee welfare, which influences the quality of work relationships (Kabiesz & Tutak, 2024). Positive perceptions of organizational concern foster a sense of belonging and work commitment. When employees feel protected, they tend to demonstrate higher levels of engagement in their work. This engagement is reflected in active participation and a willingness to exert extra effort. Therefore, OHS culture serves as a managerial instrument to strengthen employee engagement.

Empirical research shows that organizations with a strong safety culture have higher levels of employee engagement than those with a weak one (Handayani, 2023). A positive safety climate encourages open communication and employee participation. This makes employees feel valued and cared for by management. A similar situation is reflected in SPPBE Adam Pramudya, which systematically implements safety procedures. Thus, an OHS culture is a key determinant of employee engagement.

Management commitment to OHS implementation strengthens the positive relationship between safety culture and employee engagement (Claxton et al., 2022). This commitment is demonstrated through the provision of personal protective equipment, safety training, and ongoing supervision. These practices build perceptions of fairness and organizational concern. These positive perceptions encourage employees to be more engaged in their work. Therefore, strengthening an OHS culture is a strategic step in increasing employee engagement.

The Influence of Occupational Safety and Health Culture on Workforce Sustainability at SPPBE Adam Pramudya. Occupational safety and health culture plays a crucial role in maintaining workforce sustainability, particularly in industries with high occupational risks (Astuti et al., 2025). A safe work environment reduces the risk of accidents and occupational health problems. This condition increases employees' sense of security and job security. Workforce sustainability is reflected in lower turnover intentions and increased employee loyalty. The findings of this study indicate that an OHS culture positively contributes to workforce sustainability at SPPBE Adam Pramudya.

From a human resource sustainability perspective, occupational safety is a key prerequisite for long-term employee retention (Pradana et al., 2025). Organizations that fail to ensure occupational safety are likely to experience high turnover rates. Conversely, implementing a strong OHS culture increases employee retention. Employees tend to choose organizations that provide protection and job security. Therefore, an OHS culture is a crucial foundation for workforce sustainability.

Recent research shows that consistent occupational safety practices significantly influence employee retention intentions (Tarigan & Susilawati, 2023). Safety is perceived as part of a quality work environment. This positive perception increases satisfaction and organizational commitment. This aligns with conditions at SPPBE Adam Pramudya, which demonstrates a high level of workforce sustainability. Therefore, an OHS culture plays a strategic role in

maintaining workforce stability.

Overall, the results of this study confirm that an OHS culture is not merely regulatory (Ismail et al., 2024), but also a strategic investment for the organization. Sustainable OHS implementation creates a healthy and safe work environment. This environment encourages long-term employee retention. Therefore, an OHS culture is a key factor in supporting workforce sustainability.

The Influence of Employee Engagement on Workforce Sustainability at SPPBE Adam Pramudya. Employee engagement is a key determinant of workforce sustainability in modern organizations (Mushtaq & Akhtar, 2024). Employees who are emotionally and cognitively engaged demonstrate higher levels of commitment. This condition results in reduced intentions to leave the organization. Workforce sustainability is reflected in employees' willingness to stay and grow with the organization. The results of this study indicate that employee engagement significantly influences workforce sustainability at SPPBE Adam Pramudya.

Work engagement creates a psychological bond that strengthens the relationship between employees and the organization (Buulolo et al., 2025). This bond increases loyalty and a sense of belonging. Empirical research has shown that employee engagement is negatively related to turnover intention. Engaged employees tend to be more motivated to retain their jobs. Therefore, employee engagement is a key factor in workforce sustainability.

In the context of SPPBE Adam Pramudya, employee engagement is reflected through active participation and high work commitment (Mushtaq & Akhtar, 2024). Employees who feel valued demonstrate stronger loyalty. This condition supports the sustainability of company operations. This finding aligns with research emphasizing the role of engagement in improving employee retention. Thus, employee engagement directly contributes to workforce sustainability.

The positive relationship between employee engagement and workforce sustainability underscores the importance of engagement-oriented management strategies. These strategies create meaningful work experiences. Positive experiences encourage employees to stay with the organization. Therefore, increasing employee engagement is a strategic step in maintaining workforce sustainability.

The Role of Employee Engagement in Mediating the Effect of Occupational Safety and Health Culture on Workforce Sustainability at Adam Pramudya's SPPBE. Employee engagement acts as a mediating mechanism linking OHS culture and workforce sustainability (Pratiwi & Nugroho, 2025). OHS culture creates a sense of security that increases employee engagement. This engagement encourages employees to remain with the organization. This finding aligns with the behavioral safety approach, which emphasizes the role of psychological factors. Thus, employee engagement is a crucial link between OHS culture and workforce sustainability.

Recent research shows that employee engagement often mediates the relationship between organizational practices and employee outcomes (Widodo & Handoko, 2026). Good safety practices increase perceptions of organizational support. This perception strengthens employee engagement. Engaged employees are less likely to leave the organization, supporting the partial mediation findings in this study.

In the context of workforce sustainability, employee engagement serves as an internal mechanism linking a safe work environment to the decision to remain (Suryani & Wibowo, 2025). OHS culture creates healthy working conditions. These conditions increase work engagement and commitment. These findings confirm that workforce sustainability is not solely determined by structural factors. Therefore, employee engagement is a key variable in the research model.

Overall, the results of this study strengthen empirical evidence that employee engagement is a significant mediator in the relationship between OHS culture and workforce sustainability (Kim et al., 2024). Partial mediation indicates that the influence of OHS culture is strengthened through employee engagement. These findings provide practical implications for management in integrating safety strategies and work engagement. Therefore, strengthening OHS culture integrated with increased employee engagement will be more effective in maintaining workforce sustainability.

CONCLUSION & SUGGESTION

The results of the study indicate that occupational safety and health culture has a positive and significant impact on employee engagement at SPPBE Adam Pramudya. This finding indicates that consistent implementation of occupational safety values and practices can increase employee engagement in carrying out their duties. Furthermore, occupational safety and health culture has also been shown to positively impact workforce sustainability. Employee engagement directly contributes to increased commitment and long-term sustainability of employment relationships. Furthermore, employee engagement acts as a mediating variable, strengthening the influence of occupational safety and health culture on workforce sustainability.

SPPBE Adam Pramudya's management is advised to continue strengthening its occupational safety and health culture sustainably across all operational activities. These efforts need to be integrated with a strategy to increase employee engagement through open communication and active participation in work activities. Future research is recommended to expand the research model by adding other variables or using different methodological approaches to gain a more comprehensive understanding.

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