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Determinants of the Chances of Generation Z Workers to Obtain a Safe and Healthy Working Environment in Indonesia

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Abstract: A safe and healthy work environment is an essential factor in supporting the well-being and productivity of Generation Z workers in Indonesia amid increasingly complex labor market dynamics. This study aims to analyze the economic and sociodemographic factors influencing the likelihood of Generation Z workers obtaining a safe and healthy work environment. The study employed logistic regression and marginal effects analysis using data from the August 2024 National Labor Force Survey. The results indicate that longer working hours and formal employment status have a significant negative effect on the likelihood of obtaining a safe and healthy work environment, while workers in the service sector are more likely to work in such environments than those in other sectors. In addition, male workers are less likely than female workers to obtain a safe and healthy work environment. Gender-based analysis further reveals that the effects of working hours, education, and area of residence are more pronounced among male workers. These findings suggest that economic and sociodemographic factors play an important role in determining Generation Z workers' access to safe and healthy work environments. Therefore, strengthening occupational safety and health policies is necessary to enhance protection for young workers.

Keyword: Generation Z, Occupational Safety and Health, Safe and Healthy Work Environment, Logistic Regression.

Indonesian Abstract: Lingkungan kerja yang aman dan sehat merupakan faktor penting dalam mendukung kesejahteraan dan produktivitas pekerja Generasi Z di Indonesia di tengah dinamika pasar kerja yang semakin kompleks. Penelitian ini bertujuan untuk menganalisis faktor-faktor ekonomi dan sosiodemografi yang memengaruhi probabilitas pekerja Generasi Z mendapatkan lingkungan kerja yang aman dan sehat. Penelitian ini menggunakan regresi logistik dan analisis efek marginal dengan memanfaatkan data Survei Angkatan Kerja Nasional (Sakernas) Agustus 2024. Hasil penelitian menunjukkan bahwa jam kerja yang lebih panjang dan status pekerjaan formal berpengaruh negatif secara signifikan terhadap probabilitas mendapatkan lingkungan kerja yang aman dan sehat, sementara pekerja di sektor jasa lebih cenderung bekerja di lingkungan tersebut dibandingkan dengan pekerja di sektor lainnya. Selain itu, pekerja laki-laki memiliki probabilitas yang lebih rendah dibandingkan pekerja perempuan untuk mendapatkan lingkungan kerja yang aman dan sehat. Analisis

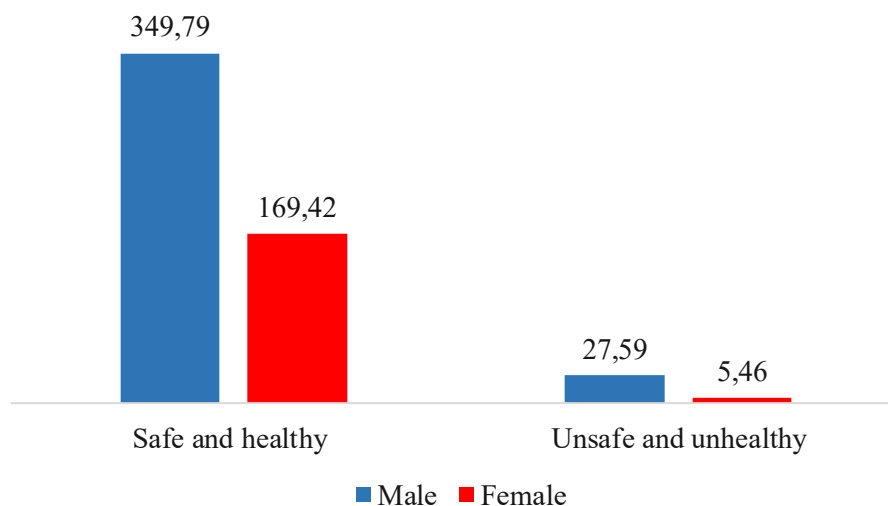
berbasis gender lebih lanjut mengungkapkan bahwa pengaruh jam kerja, tingkat pendidikan, dan wilayah tempat tinggal berdampak lebih signifikan pada pekerja laki-laki. Temuan ini menunjukkan bahwa faktor ekonomi dan sosiodemografi memainkan peran penting dalam menentukan akses pekerja Generasi Z terhadap lingkungan kerja yang aman dan sehat. Oleh karena itu, penguatan kebijakan keselamatan dan kesehatan kerja (K3) sangat diperlukan untuk meningkatkan perlindungan bagi pekerja muda.

Keywords: Generasi Z, Keselamatan dan Kesehatan Kerja (K3), Lingkungan Kerja yang Aman dan Sehat, Regresi Logistik

INTRODUCTION

Decent work, as defined by the International Labour Organization (ILO), refers to opportunities for all individuals to obtain productive employment under fair, safe, and dignified working conditions, including adequate wages, social protection, a safe and healthy working environment, and opportunities for personal development (ILO, 1999). A safe and healthy working environment has been recognized by the ILO as a fundamental principle and right at work since 2022 (ILO, 2022). Such working conditions contribute significantly to workers' well-being, productivity, and quality of life, but it is also an important factor in mitigating the risks of occupational accidents and work-related diseases worldwide (Kavouras et al., 2022; Lu, 2022).

The condition of Generation Z (Gen Z) workers in Indonesia reflects both progress and remaining challenges in achieving decent work. Figure 1 shows that the majority of Gen Z workers have worked in safe and healthy working environments. However, a number of workers, particularly males, are still employed in unsafe and unhealthy working conditions. This finding indicates that although Occupational Health and Safety (OHS) protection has improved, equal access to safe working environments has not yet been fully achieved.

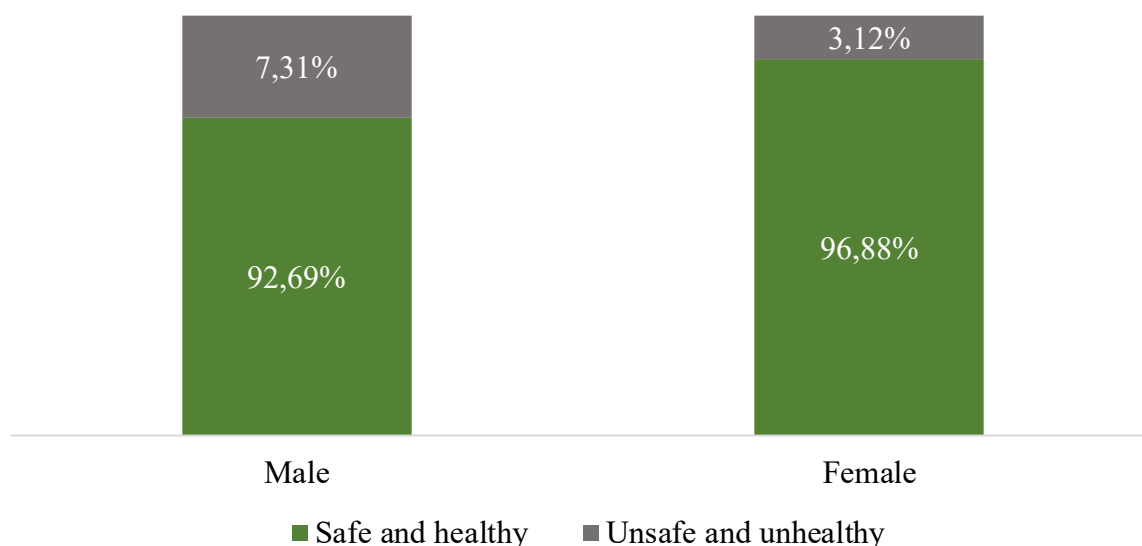


Source: Sakernas, August 2024 (processed)

Figure 1. Number of Gen Z workers by gender and safe and healthy work environment status (thousands)

A clearer picture is presented in Figure 2, which illustrates the proportion of Gen Z workers by sex. Female Gen Z workers have a higher proportion of employment in safe and healthy working environments (96.88%) than male workers (92.69%). Conversely, the

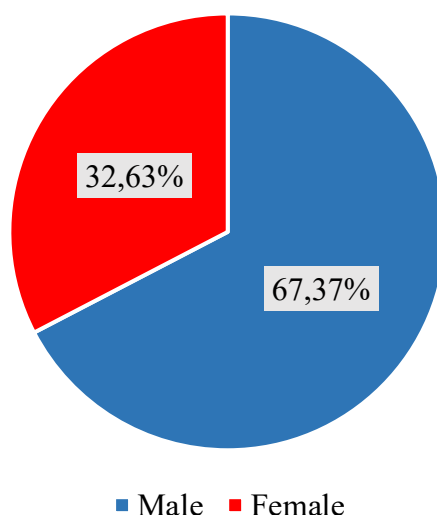
proportion of workers employed in unsafe and unhealthy environments is higher among males than females. These findings suggest that female Gen Z workers have a greater likelihood of obtaining safe and healthy working conditions.



Source: Sakernas, August 2024 (processed)

Figure 2. Proportion of Gen Z workers by gender and safe and healthy work environment status

Meanwhile, Figure 3 presents the composition of Gen Z workers who have already obtained safe and healthy working environments based on sex. Although female workers have a higher proportion of working in safe environments, male workers account for the larger share of workers in safe and healthy workplaces because they constitute a larger proportion of the labor force. This indicates that ensuring equitable access to a safe and healthy work environment remains a challenge for young workers in Indonesia.



Source: Sakernas, August 2024 (processed)

Figure 3. Proportion of Gen Z workers having a safe and healthy work environment by gender

The analytical framework of this study is theoretically sustained by the integration of four core perspectives, namely the Domino Theory, which positions unsafe workplace conditions as the final outcome of a linear chain of interconnected factors, including individual

and socioeconomic profiles, alongside the Swiss Cheese Model, which emphasizes that safety failures manifest when multiple latent hazards such as poorly regulated working hours align to breach systemic Occupational Health and Safety (OHS) defenses. Furthermore, this framework incorporates the Human Capital Theory, linking individuals' productive capacities through educational attainment and skill certifications to their ability to access higher-quality, safer job positions, which is then reinforced by the Labor Market Segmentation Theory to map how young cohorts are predominantly segregated into secondary labor markets such as informal or flexible work that inherently offer weaker protections and lower safety standards compared to primary segments.

Previous studies have shown that young workers are more vulnerable to occupational safety and health risks due to temporary employment, limited work experience, and inadequate access to OHS training (Wondimneh et al., 2022). In addition, precarious employment also increases health risks and inequalities in working conditions (Moortel et al., 2025). However, studies specifically examining the likelihood of Indonesian Gen Z workers obtaining safe and healthy working environments remain limited. Most previous studies have focused on occupational injuries or career preferences among Gen Z rather than the factors influencing their opportunity to work in safe and healthy environments.

Therefore, this study aims to analyze the factors affecting the likelihood of Gen Z workers in Indonesia obtaining a safe and healthy working environment using a logistic regression approach. The findings are expected to provide empirical evidence for developing employment policies and occupational safety and health programs that better protect young workers and promote decent work in Indonesia.

Empirical research related to OHS has been widely conducted to identify factors influencing occupational accidents across various sectors. Alkan and Gültekin (2021) analyzed occupational accidents in Turkey for the 2008–2016 period using a cross-sectional design based on the Turkey Health Survey with binary logistic regression. The results showed that males, workers with lower education levels, and those in risky occupations had a higher probability of experiencing occupational accidents, while the risk tended to decrease in older age groups. Additionally, health factors, psychosocial conditions, and alcohol consumption significantly influenced the occurrence of occupational accidents.

Roszko-Wójtowicz et al. (2023) analyzed social and demographic factors influencing the perception of work as a source of risk using data from the European Working Conditions Survey 2021 through binary logistic regression. The results showed that longer tenure consistently increased risk perception. Workers in small and medium-sized enterprises, the health sector, and the 25–55 age group tended to view work as a higher source of risk, with the highest risk observed among skilled agricultural/forestry/fishery workers as well as craft and related trades workers.

On a more macro scale, Andersen et al. (2025) examined factors associated with fatal occupational accidents in Brazil using a retrospective case-control approach based on national secondary data (SINAN) from 2023. Multivariate logistic regression results showed that fatality risk was higher for male workers, older age groups (60–65 years), informal workers, tenure of over 20 years, and accidents occurring during the night shift. Conversely, higher education acted as a protective factor, while workers residing in the North, Northeast, and Central-West regions showed a greater risk of mortality.

In the high-risk plantation sector, Kusuhearto and Nasri (2022) studied factors affecting the severity of occupational accidents in Lampung Province using a cross-sectional design based on BPJS Ketenagakerjaan accident report data for the 2018–2020 period. Logistic regression analysis showed that work shifts and accident locations were significantly associated with accident severity, where accidents during the day shift and inside the workplace tended to be more severe, while age and wages did not show a significant relationship.

Highlighting pre-hospital care workers, Awini et al. (2023) examined the prevalence and determinants of occupational injuries among Emergency Medical Technicians (EMTs) in Ghana using a cross-sectional design. The analysis showed an injury prevalence of 38.6 percent, with bruises and sprains/strains as the dominant injury types. Multivariately, male gender, the absence of an OHS committee, the absence of an OHS policy, and dissatisfaction with OHS measures were significantly associated with an increased risk of occupational injuries.

In the context of hospital support services, Leong et al. (2024) researched the epidemiology of occupational injuries, musculoskeletal disorders, and dermatitis among hospital food service workers in sterile settings in Singapore using a cross-sectional design. The results showed an occupational injury prevalence of 35 percent and musculoskeletal symptoms at 53 percent, with cuts, muscle strains, and burns as the most common injuries. Workers involved in cooking and food preparation had a higher risk of injury, while a higher BMI was significantly associated with increased musculoskeletal symptoms.

Alkan et al. (2022) analyzed the determinants of verbal and psychological violence against women in Turkey using data from the National Research on Domestic Violence from 2008 and 2014. The results showed that the risk in 2014 was higher than in 2008. Age 25–34, secondary–higher education, poor health conditions, having 2 or more children, and a history of core family violence significantly increased the risk. From the partner's side, alcohol consumption, gambling, infidelity, and exposure to economic, physical, and sexual violence were also significantly associated with increased risk.

As part of the study on violence in the healthcare sector, Bhusal et al. (2023) utilized a cross-sectional design on healthcare workers in a Kathmandu tertiary hospital. The results showed that violence was experienced more by nurses than doctors, especially in verbal and physical forms. Physical violence was significantly associated with less than 5 years of work experience, placement in the ICU/HDU, and an intensive night shift frequency. Verbal violence was significant among unmarried respondents, rotational shift systems, and specific unit placements. The primary perpetrators of physical/verbal violence were patients and their families, while bullying and sexual violence also involved internal staff.

In general, these various empirical studies demonstrate that occupational accidents and risks are not caused by a single factor, but rather by a combination of individual factors, type of work, work environment conditions, as well as safety policies and culture in the workplace. Age, education, tenure, business sector, workload, and the presence of proper training and OHS systems are proven to affect both the level of risk and workers' perceptions of hazards. Beyond physical risks, psychosocial factors such as violence and job pressure are also crucial parts of OHS issues. Preventing occupational risks must be carried out comprehensively through social, organizational, and policy protections that support worker safety.

METHOD

This study utilizes a quantitative approach focusing on two primary analytical methods: descriptive analysis and inferential analysis using binary logistic regression. This approach is applied to identify general characteristics and analyze the factors influencing the probability of Gen Z workers in Indonesia obtaining a safe and healthy work environment. The population in this study consists of all Gen Z workers in Indonesia. The research sample was selected using a purposive sampling method based on secondary microdata from the August 2024 National Labor Force Survey (Sakernas), released by BPS-Statistics Indonesia. The sample criteria include productive-age individuals born between 1997 and 2012 who were actively employed at the time of the survey. The total sample meeting these criteria and used in this analysis is 2,076 respondents.

Data

This study employs a quantitative approach utilizing secondary microdata (raw data) obtained from the August 2024 National Labor Force Survey (Sakernas) published by BPS-Statistics Indonesia. The data utilized in this analysis are cross-sectional in nature. The unit of analysis strictly focuses on individuals classified as Gen Z workers, defined as those born between 1997 and 2012 (aged 12–27 years at the time of the survey) who hold an active employment status in the Indonesian labor market.

The dependent variable in this study is the occupational safety and health condition of Gen Z workers, represented as a dichotomous (binary) categorical variable, namely Safe and Healthy Work Environment status. This variable is coded as 1 if the worker is in a safe and healthy work environment (has not been exposed to hazardous conditions, unhealthy environments, or workplace violence over the past 12 months), and coded as 0 if the work environment is unsafe and unhealthy.

The independent variables include economic and sociodemographic determinants that are theoretically associated with the probability of obtaining a decent work environment. Economic factors comprise living wage status (DWAGE), weekly working hours (HOUR), employment status formal versus informal (JOBS), type of employing institution (INST), and economic sector (SCTR). Meanwhile, sociodemographic factors include gender (GNDR), marital status (MARS), educational attainment (EDUC), skill certification level (SKILL), and region of residence (REG). The operational framework of these variables along with the data-cleaning steps that yield the final sample of 2.076 respondents are visually mapped out in Table 1.

Table 1. Research Variables

Variable	Definition	Measurement / Category
<i>OHS</i>	Safe and Healthy Work Environment status	1 = Safe and healthy 0 = Unsafe and unhealthy
<i>DWAGE</i>	Living wage status	1 = Wage $\geq$ PMW (Decent) 0 = Wage $\leq$ PMW (Indacent)
<i>HOUR</i>	Weekly working hours	≤ 20 hours (reference); 21–40 hours; > 40 hours
<i>JOBS</i>	Employment status	1 = Formal 0 = Informal (reference)
<i>INST</i>	Type of employing institution	Government; Non-profit organization; For-profit organization; Sole proprietorship; household; Others (reference)
<i>SCTR</i>	Economic sector	Agriculture (reference); Industry; Services
<i>GNDR</i>	Gender	1 = Male 0 = Female (reference)
<i>MARS</i>	Marital status	1 = Married 0 = Others (reference)
<i>EDUC</i>	Educational attainment	Primary ($\leq$ Junior High School) (reference); Secondary
<i>SKILL</i>	Skill level	1 = Skilled 0 = Unskilled (reference)
<i>REG</i>	Area of residence	1 = Urban 0 = Rural (reference)

Source: Research data

Data Analysis Techniques

Data processing was performed independently using Stata software through two analytical stages:

1. **Descriptive Analysis:** This analysis is used to provide a general overview of the sociodemographic characteristics and employment conditions of the Gen Z respondents. The data is presented in the form of frequency distribution tables, percentages, and charts to facilitate the interpretation of the proportion of workers in safe versus unsafe work environments.

2. Binary Logistic Regression Analysis: Since the dependent variable has a dichotomous (two-category) scale of measurement, binary logistic regression is the most appropriate inferential method. This method is employed to estimate the odds ratio of a Gen Z worker obtaining a safe work environment based on the independent variables examined. The logistic function model in this study is formulated as follows:

$$\ln \left(\frac{P(OHS_{ipt}=1)}{1-P(OHS_{ipt}=1)} \right) = \beta_0 + \beta_1 DWAGE_{\{ipt\}} + \beta_2 HOUR_{\{ipt\}} + \beta_3 JOBS_{\{ipt\}} + \beta_4 INST_{\{ipt\}} + \beta_5 SCTR_{\{ipt\}} + \beta_6 GNDR_{\{ipt\}} + \beta_7 MARS_{\{ipt\}} + \beta_8 EDUC_{\{ipt\}} + \beta_9 SKILL_{\{ipt\}} + \beta_{11} REG_{\{ipt\}} + \delta_p + \varepsilon_{\{ipt\}} \quad (1)$$

Where $P(OHS_{ipt} = 1)$ represents the probability of an individual Gen Z worker i in province p at time t obtaining a safe and healthy work environment (decent occupational health and safety status). The term $\left(\frac{P}{1-P}\right)$ represents the log-odds ratio of the dependent variable. The coefficient β_0 indicates the constant intercept, while β_0 to β_{11} denote the regression coefficients for each economic and sociodemographic explanatory variable examined. Furthermore, δ_p captures the province fixed effects to control for regional-level unobserved variations, and $\varepsilon_{\{ipt\}}$ signifies the stochastic error term. Since the raw logistic regression coefficients do not directly reflect absolute changes, this analysis incorporates the calculation of marginal effects to accurately measure the magnitude of changes in probability values.

RESULTS AND DISCUSSION

The descriptive statistics in Table 2 provide an initial overview of the sample distribution of Gen Z workers based on work environment status alongside economic and sociodemographic factors prior to the binary logistic regression analysis. The data reveal that over 90 percent of Gen Z workers operate in a safe and healthy environment, although a small segment of workers still lacks equitable access to OHS facilities. In terms of economic and job characteristics, the proportion of a safe and healthy work environment is relatively similar between workers earning below and above the Provincial Minimum Wage (PMW), indicating that wage levels do not fully reflect work environment quality. Conversely, workers with longer working hours exhibit a lower proportion of a safe and healthy work environment due to higher work intensity and risk exposure. Furthermore, formal sector workers show a slightly lower proportion of a safe and healthy work environment compared to informal sector workers, while those in the services sector record a higher proportion than their counterparts in agriculture and industry. Based on sociodemographic factors, the proportion of a safe and healthy work environment is higher among female workers, highly educated workers, skilled workers, and urban residents compared to their respective reference groups.

Table 2. Sample Descriptive Statistics

Variable	Total Samples		Gender			
			Male		Female	
	Amount (thousands)	Percentage (%)	Amount (thousands)	Percentage (%)	Amount (thousands)	Percentage (%)
Safe and healthy work environment						
Secure	1.92	92.58	1.36	90.97	0.56	96.73
Unsafe/Unhealthy	0.15	7.42	0.14	9.03	0.02	3.27
Wage status (based on PMW)						
Decent wages	1.94	93.55	0.10	6.89	0.03	5.34
Indecent wage	0.13	6.45	1.39	93.11	0.55	94.66

Variable	Total Samples		Gender			
	Amount (thousands)	Percentage (%)	Male		Female	
			Amount (thousands)	Percentage (%)	Amount (thousands)	Percentage (%)
Working hours						
≤ 20 hours	0.54	26.11	0.39	26.09	0.15	26.16
21 - 40 hours	0.55	26.54	0.41	27.69	0.14	23.58
> 40 hours	0.98	47.35	0.69	46.22	0.29	50.26
Employment status						
Formal	1.16	55.73	0.79	52.91	0.37	62.99
Informal	0.92	44.27	0.70	47.09	0.22	37.01
Instances						
Government / Public sector	0.02	1.16	0.02	1.14	0.01	1.20
Non-profit organization	0.02	0.72	0.01	0.40	0.01	1.55
For-profit organization	0.16	0.72	0.10	6.76	0.06	10.67
Sole proprietorship	1.74	83.72	1.29	85.95	0.45	77.97
Household	0.10	4.77	0.06	3.81	0.04	7.23
Others	0.04	1.78	0.03	1.94	0.01	1.38
Employment sector						
Agriculture	0.62	29.91	0.54	36.39	0.08	13.25
Industry	0.50	24.18	0.41	27.22	0.10	16.35
Services	0.95	45.91	0.54	36.39	0.41	70.40
Gender						
Male	1.50	72.01	-	-	-	-
Female	0.58	27.99	-	-	-	-
Marital status						
Married	0.05	2.55	0.03	2.21	0.02	3.44
Others	2.02	97.45	1.46	97.79	0.56	96.56
Education level						
Primary	1.75	84.20	1.33	88.76	0.42	72.46
Secondary	0.33	15.80	0.17	11.24	0.16	27.54
Skills						
Skilled	0.63	30.54	0.55	36.45	0.09	15.32
Unskilled	1.44	69.46	0.95	63.55	0.49	84.68
Region						
Rural	1.19	57.37	0.90	60.27	0.29	49.91
Urban	0.89	57.37	0.59	39.73	0.29	50.09

Source: Sakernas, August 2024 (processed)

Complementing the sample distribution profile, the correlation matrix among independent variables in Table 3 is utilized to identify inter-variable relationships and detect potential multicollinearity prior to the binary logistic regression analysis. The results indicate that the correlation coefficients between independent variables are relatively low and remain below the critical threshold, demonstrating no information redundancy or excessively strong relationships among the explanatory variables. This indicates that each economic variable (such as wage status, working hours, employment status, type of institution, and employment sector) and sociodemographic variable (such as gender, marital status, education level, skills, and region of residence) possesses unique characteristics and contributes distinct information. The absence of multicollinearity issues ensures that the model satisfies a crucial assumption in inferential analysis, thereby allowing the resulting coefficients and marginal effects to be reliably interpreted in explaining the effect of each factor on the probability of Gen Z workers obtaining a safe and healthy work environment.

Table 3. Correlation Matrix of Independent Variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Wage status (1)	1.00									
Working hours (2)	0.15	1.00								
Employment status (3)	0.03	0.33	1.00							
Instances (4)	-0.10	-0.06	-0.20	1.00						
Economic sector (5)	-0.02	0.12	0.33	-0.05	1.00					
Gender (6)	0.03	-0.02	-0.09	0.03	-0.30	1.00				
Marital status (7)	0.02	0.05	-0.02	-0.00	-0.03	-0.04	1.00			
Education level (8)	0.06	0.20	0.16	-0.15	0.16	-0.20	-0.05	1.00		
Skills (9)	-0.05	-0.21	-0.31	0.02	-0.80	0.21	-0.02	-0.09	1.00	
Region (10)	0.03	0.07	0.19	-0.04	0.29	-0.09	-0.04	0.08	-0.27	1.00

Source: research data

After ensuring that the logistic regression model is free from multicollinearity issues, the estimated marginal effects are utilized to analyze the variance in probabilities resulting from changes in the economic and sociodemographic characteristics of Gen Z workers in obtaining OHS in Indonesia. The details of the regression coefficients and their significance levels can be observed in Table 4. These empirical results further reveal how each specific independent variable uniquely influences the likelihood of Gen Z securing a safe working environment.

Table 4. Marginal Effects of safe and healthy working environment on Gen Z workers

Independent Variables	Total Samples	Gender	
		Male	Female
Economic Factors			
Decent wage	-0.0008 (0.0228)	0.0092 (0.0276)	-0.0285 (0.0384)
21-40 hours	-0.0248* (0.0150)	-0.0383* (0.0187)	0.0159 (0.0332)
> 40 hours	-0.0287* (0.0147)	-0.0442** (0.0181)	0.0171 (0.0350)
Formal	-0.0243* (0.0132)	-0.0287* (0.0170)	-0.0165 (0.0205)
Government / Public sector	0.0075 (0.0777)	-0.0168 (0.0992)	—
Non-profit organization	-0.0179 (0.1100)	-0.1127 (0.1833)	—
For-profit organization	0.0356 (0.0516)	0.0293 (0.0627)	0.0889 (0.1111)
Sole proprietorship	0.0280 (0.0472)	0.0149 (0.0556)	0.0853 (0.1125)
Household	0.0319 (0.0546)	0.0343 (0.0650)	0.0429 (0.1147)
Industrial sector	0.0423 (0.0417)	0.0446 (0.0516)	0.0492 (0.0615)
Service sector	0.0722* (0.0380)	0.0738 (0.0466)	0.0725 (0.0530)
Factor Sociodemographics			
Male	-0.0434*** (0.0121)		
Married	0.0061 (0.0342)	-0.0093 (0.0500)	—
Secondary education	0.0234 (0.0146)	0.0433** (0.0182)	-0.0210 (0.0261)
Skilled	0.0271 (0.0282)	0.0353 (0.0389)	-0.0066 (0.0211)
Urban	0.0211 (0.0129)	0.0303* (0.0169)	-0.0018 (0.0176)
Provincial fixed effects	Ya	Ya	Ya
Wald chi²	41.55	29.36	29.19
Prob > chi²	0.0008	0.0216	0.0061
Pseudo R²	0.0483	0.0353	0.0621
AIC	1080.422	908.691	182.6297
BIC	1181.91	998.959	242.8407
AUC	0.6763	0.6450	0.7028
Number of observations	2.076	1.495	545

Note: The column (Safe and Healthy Work Environment) shows the marginal effects on the probability of Gen Z female workers working in a safe and healthy work environment. Numbers in parentheses represent standard errors. All estimations control for province fixed effects. The symbols ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively. The dash symbol (—) indicates that the variable is not estimable in the model.

Source: research data

Based on the data processing results in Table 4, the sociodemographic characteristic of male gender is found to have a significant negative effect. Male workers exhibit a 0.0434 point lower probability of obtaining an ideal working environment compared to female workers. This disparity is influenced by gender-based occupational segmentation, where male workers tend to be more heavily absorbed into field-based jobs that require heavy physical activity, machinery usage, and direct exposure to hazards. This finding is confirmed by Alkan and

Gültekin (2021) and Andersen et al. (2025), who state that male workers globally face a higher risk of occupational accidents and fatalities due to their concentration in physically high-risk labor. To mitigate this, the recommended policy intervention is to mandate companies in high-risk, labor-intensive sectors to establish active internal OHS committees. This step is crucial given the findings of Awini et al. (2023), which assert that the absence of OHS committees and clear safety policies in the workplace directly correlates with an increased risk of worker injuries.

Other occupational characteristics also demonstrate a strong influence on the fulfillment of OHS rights. Paradoxically, formal employment status shows a significant negative effect, reducing the probability of OHS by 0.0243 points. Even though the formal sector has stricter regulations, formal Gen Z workers on the ground still face high risks due to workload, productivity demands, and the complexity of work activities. This indicates that administrative regulations in the formal sector do not guarantee real conditions on the ground, in line with the study by Roszko-Wójtowicz et al. (2023), which found that workers within formal organizational structures often experience higher risk perceptions due to complex targets and heavy workloads. Conversely, the service sector is the only variable that exerts a significant positive effect (+0.0722 points) compared to the agriculture sector. This is because the operational characteristics of the service sector are generally situated in more controlled environments with relatively lower physical hazard exposure. Responding to this contrast, governments and organizational management are advised to shift the policy focus from mere compliance with administrative formalities toward a comprehensive approach that integrates physical environment improvements with the management of young workers' psychosocial risks.

Furthermore, working hour duration becomes the next vital determinant that significantly diminishes the probability of a safe working environment. Compared to those who work a maximum of 20 hours per week, workers with working hours of 21–40 hours and more than 40 hours per week exhibit a lower probability by 0.0248 and 0.0287 points, respectively. Longer working durations increase the intensity of exposure to physical risks, fatigue, and psychological pressure. This pattern supports the Swiss Cheese Model, where the longer the exposure to a risk lasts, the greater the likelihood of a breakdown in the safety protection system if each layer of control does not function optimally. The negative impact of this working time dimension is reinforced by the research of Kusuharto and Nasri (2022) and Andersen et al. (2025), which proves that intensive working hours (such as night shifts or overtime) are closely associated with an increase in the severity of occupational accidents driven by physical and mental exhaustion. Therefore, strict policy enforcement regarding compliance with working hour standards by labor authorities is absolutely necessary to mitigate burnout and accident risks among the younger generation.

In contrast to the previous variables, financial welfare factors and other individual characteristics exhibit a phenomenon of decoupling, as they do not show statistically significant effects. The decent wage above the PMW variable is proven to be non-significant, confirming that the wage level does not always reflect the quality of OHS implementation in the workplace. Wages and the working environment are two dimensions of job quality that develop independently, in line with the Quality of Work Life concept, which places compensation and occupational safety as separate components. This outcome is empirically supported by Kusuharto and Nasri (2022), who found that wage levels do not have a linear relationship with workplace safety; OHS quality is proven to be more determined by real safety commitments at the workplace rather than the nominal salary received.

Similar non-significant results are found across variables such as institutional type, marital status, urban residency, education level (secondary and higher), and skilled worker status. These findings indicate that these individual characteristics do not directly determine

the quality of the working environment, meaning that the variance in OHS opportunities among Gen Z is primarily driven by the type of work they pursue rather than their demographic profiles. Regarding this, Alkan and Gültekin (2021) and Andersen et al. (2025) remind that educational backgrounds or skills can only act as protective factors if balanced with specific risk mitigation in the workplace. On that basis, future OHS policies must be designed to be more adaptive to modern work patterns by actively involving Gen Z workers in formulating contextual safety procedures.

CONCLUSION

This study successfully fulfills its primary objective of analyzing the economic and sociodemographic factors that influence the probability of Gen Z workers in Indonesia obtaining a safe and healthy work environment. Utilizing a quantitative approach through a binary logistic regression model, the core conclusion of this research demonstrates that job-specific characteristics and labor market structures exert a far more dominant and critical influence on determining access to a safe work environment compared to the baseline sociodemographic traits of the workers themselves. Specifically, the findings prove that excessive working hours significantly reduce the probability of young workers operating within safe and healthy conditions due to cumulative physical fatigue and psychological stress. Furthermore, formal employment status unexpectedly decreases the likelihood of obtaining a safe work environment compared to informal sector employment, indicating that formal structural frameworks for young workers are still heavily saturated with rigid performance targets and psychosocial pressures that existing regulations have failed to mitigate optimally. Conversely, employment within the services sector yields a substantially higher probability of workplace safety compared to the agricultural sector, which remains structurally tied to severe physical hazards and low institutional compliance with safety protocols. From the sociodemographic dimension, male Gen Z workers face greater vulnerability and hold a significantly lower probability of securing a safe and healthy workplace than female workers due to their structural concentration in high-risk, labor-intensive industries.

Theoretically and practically, this research delivers a significant advancement and refinement to the broader literature of labor economics and OHS sciences. It expands the scope of labor studies by shifting away from a reactive focus on industrial accident statistics toward a predictive, scientifically mapped framework that views access to a safe workplace as an expected outcome driven by macroeconomic determinants and individual traits. Additionally, this study updates perspectives in labor science regarding the traditional dichotomy between formal and informal sectors by providing empirical evidence that formal employment frameworks do not automatically guarantee a holistically safe environment for the younger workforce, particularly regarding mental health and workload strains. This scientific contribution establishes a modern foundation for proactive OHS policy designs, highlighting that future labor inspections must transcend administrative compliance and actively enforce substantial structural interventions, such as strict working hour limitations, workplace burnout prevention, and gender-responsive safety standards within high-risk sectors to successfully advance the decent work agenda for Indonesia's youth labor force.

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