
The Effect of Work Safety Climate and Safety Knowledge on Safety Behavior in Production Employees of PT. Sumber Abadi Bersama

Bemby Andrian Rahmadhan, Titiek Ambarwati, Siti Nurhasanah
Management Department, University of Muhammadiyah Malang
Email: bembyandree@gmail.com

Abstract

The purpose of this study is to determine safety behavior, safety climate and knowledge of safety, the effect of work safety climate on employee safety behavior, safety knowledge on employee safety behavior, the effect of work safety climate and safety knowledge on safety behavior, and which of these variables have the most influence on behavior. This type of research is explanatory research and data collection using questionnaires. The population in this study were all employees in the production section at PT. Sumber Abadi Bersama with a sample size of 40 employees. The results of the analysis show that work safety behavior is in a good category. Safety behavior and safety climate have a significant effect on employee safety behavior.

Keywords: *work safety climate, safety knowledge, safety behavior*

Abstrak

Tujuan dari penelitian ini adalah untuk mengetahui perilaku keselamatan, iklim keselamatan dan pengetahuan keselamatan, pengaruh iklim keselamatan kerja terhadap perilaku keselamatan karyawan, pengetahuan keselamatan terhadap perilaku keselamatan karyawan, pengaruh iklim keselamatan kerja dan pengetahuan keselamatan terhadap perilaku keselamatan, dan mana dari variabel-variabel ini yang paling berpengaruh terhadap perilaku keselamatan karyawan. Jenis penelitian ini adalah penelitian explanatory dan pengumpulan data menggunakan kuesioner. Populasi dalam penelitian ini adalah seluruh karyawan bagian produksi di PT. Sumber Abadi Bersama dengan jumlah sampel 40 karyawan. Hasil analisis menunjukkan bahwa perilaku keselamatan kerja berada pada kategori baik. Perilaku keselamatan dan iklim keselamatan berpengaruh signifikan terhadap perilaku keselamatan karyawan.

Kata Kunci: *iklim keselamatan kerja, pengetahuan keselamatan, perilaku keselamatan*

Article info

Received (20/06/2021)

Revised (27/06/2021)

Accepted (29/06/2021)

Corresponding_ author: bembyandree@gmail.com

INTRODUCTION

Occupational Health and Safety (OHS) is an effort to protect workers so that employees are always in a healthy and safe condition while doing work in the workplace, as well as sources and production processes can be used safely and efficiently. Employees are a very determining factor for the company and also a production factor that has an important role in the company's activities. If a company has a problem regarding employees, this can adversely affect the company's activities, so that the company needs readiness in the field of occupational health and safety (OHS). Data obtained from the Ministry of Manpower (Kemnaker), It is noted that the rate of work accidents in all company units in Indonesia from year to year is at the level of awareness of the importance of safety behavior at work. The following is data on accidents at work in the last five years, starting from 2015-2019:

Table 1. Production Section Employee Accident Data for 2015 – 2019

No.	Year	Work Accident Cases	The victim died
1	2015	105,383 cases	± 2,375 inhabitants
2	2016	110,285 cases	± 2,308 inhabitants
3	2017	101,367 cases	± 2,382 inhabitants
4	2018	123,000 cases	± 2,850 inhabitants
5	2019	110,923 cases	± 2,439 inhabitants

Source: BPJS Ketenagakerjaan

Even though in 2015 to 2019 the number of work accidents has fluctuated and fluctuated, the accident cases in Indonesia are quite high when compared to workers in Europe, even the number of work accidents in Indonesia ranks the highest for the Southeast Asia region. Safety behavior is assertive behavior, namely the obedience and participation of individuals in work safety maintenance activities, which means that employees are involved in work safety maintenance activities in the company. The involvement of company employees, allows employees to be involved in the preparation of the OHS program. However, many employees were not involved in the preparation of the OHS program, because employees gave up and entrusted the preparation of the OHS program entirely to the company.

PT. Sumber Abadi Bersama is a company engaged in manufacturing, namely producing plywood (plywood) which was established in 2013 in Malang. The total number of employees who work is 100 employees who are divided into 2 parts, namely production workers with the latest junior high and high school education levels, while the non-production workers at the final level of education are S1. This company is fairly well-known by the people around Malang in the south because almost all employees who work in the production section are indigenous people. However, most of the workers in the production section have junior high and high school education levels. The following is data on accidents that occurred at PT. Sumber Abadi Bersama 2015-2019:

Table 2. Work accident data of production employees of PT. SAB

No.	Year	Number of Accidents
1	2015	20 Cases
2	2016	17 Cases
3	2017	16 Cases
4	2018	19 Cases
5	2019	20 Cases

Source: PT. Sumber Abadi Bersama

Based on the increasing number of accidents in the company, it shows that the problems that occur areas the researchers showed earlier that many employees were not involved in the preparation of the OHS program because the employees gave up and submitted all the preparation of the OHS program to the company so that the employees were not involved in the preparation of OHS. As a result, many employees do not practice safety at work, such as not wearing the PPE provided by the company, as a result, many accidents occur in the workplace. They prefer not to use security tools while working because they are used to not using security tools that have been provided by the company.

In the knowledge of employee safety, the company involves employees in the preparation of OHS programs, one of the company's OHS programs, which is to hold a safety seminar which is mandatory for all employees of PT. Sumber Abadi Bersama especially employees in the production department, but the preparation of the OHS program many employees were not involved, as a result, many employees were not serious about carrying out the company's OHS program, one of which was a safety seminar, many employees chatted on their own and joked on their own, so many employees who do not understand the materials that have been submitted by management and as a result, this has a negative impact on employee behavior and application at work, many employees do not wear PPE and as a result, there are many accidents at work

LITERATURE REVIEW

Wardani (2013) entitled *The Effect of Work Safety Knowledge and Work Safety Climate on Work Safety Behavior in Production Employees of PT. Semen Indonesia (PERSERO) Tbk.* Based on the results of the analysis and discussion, it can be stated that there is a positive and significant influence on the safety knowledge variable and there is no positive and significant influence on the work safety climate variable on safety behavior. Based on the results of the analysis and discussion, it can be concluded that there is a positive and significant influence on the safety climate variable on safety behavior. Elva Susanti (2019) entitled *The Effect of Safety Climate and Occupational Health knowledge on Safe Work Behavior in Batam Shipyard Workers.* Based on the results of the analysis and discussion, it can be concluded that there is a positive and significant influence between the safety climate and occupational health knowledge on the safe work behavior of shipyard workers in Batam city.

The work safety climate is defined as employees' perceptions of policies, procedures, and practices. Meanwhile, according to Eagly and Chaiken (2011), knowledge of work safety in science and its application is to prevent the possibility of accidents or diseases caused by work and the work environment. Borman (2013) Safety behavior is assertive behavior, namely the obedience and participation of individuals in safety maintenance activities in the workplace. Based on the problems described above, a frame of mind can be drawn which can be seen in Figure 1 below:

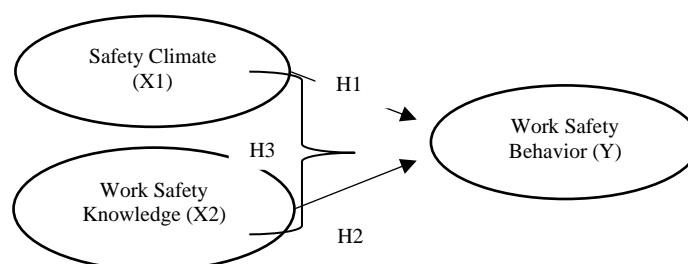


Figure 1. Research Framework

RESEARCH METHOD

This type of research uses explanatory research, which is a type of research that is a comparison between the relationship between variables using numerical analysis (numbers) with data collection methods in the form of surveys, researchers collect respondent information by making questionnaires. In this study, using multiple regression analysis models and using two variables, including the independent variable, namely work safety climate and knowledge of work safety, and the dependent variable, employee safety behavior. The population in this study were all employees in the production section at PT. Sumber Abadi Bersama, amounting to 40 people. Following are the parts and the total number of employees of PT. Sumber Abadi Bersama. The sampling technique in this study was total sampling, namely taking the entire population. Total sampling is a sampling technique where the number of samples is the same as the population (Sugiyono, 2015). The data analysis tool technique used is the range of scales used to measure safety behavior, safety knowledge, and work safety climate. To test the hypothesis, multiple linear regression statistical models will be used. Multiple linear regression analysis is an analysis used to measure the relationship between two or more variables, it also shows the direction of the relationship between the independent variable and the dependent variable (Sugiyono, 2018). In this study, the independent variable consists of two variables, namely work safety climate (X1) and knowledge of safety (X2), while the dependent variable is work safety behavior (Y).

RESULT AND DISCUSSION

Based on the results of the calculation of the average variable score range, it is obtained many 147 or located at an interval 136 -167 means that the work safety climate variable is included in the good category. Based on the results of the calculation of the average variable score, the figure is 149 or is in an interval 136 -167 which means that the work safety knowledge variable is in a good category. Work safety behavior is based on indicators of commitment, communication, and employee involvement. Based on the results of the calculation of the average variable score range, it is obtained some 146 or at an interval 136 -167 which means that occupational safety behavior has been included in good criteria. The results of the multiple linear regression analysis that have been carried out to determine the coefficient of each variable can be presented in the following table:

Table 1. Multiple regression Analysis

Variables	B	Standard Error	Standardized Coefficients	t	Significance
(Constant)	9.557	1.472		6.407	0.000
Safety Climate	0.521	0.094	3.206	2.507	0.014
Work Safety Knowledge	0.607	0.202	0.461	3.007	0.005

Source: Primary Data Processed (2021)

Based on the results of the regression analysis, a multiple regression equation can be formulated as follows:

$$Y = 9,557 + 0,521X_1 + 0,607 X_2 + e \quad (1)$$

The results of the calculation of multiple linear regression analysis that has been carried out, it shows that the influence of the independent variable on the dependent variable is quite large. This can be seen in the

coefficient of determination (R²) which is equal to 0.536 which is close to 1, to prove this result it can be presented in Table 2 below:

Table 2. Results of the Value of the Coefficient of Determination (R²)

Model	R	R-Square	Adjusted R-Square	Standard Error	Durbin Watson
1	0.804	0.647	0.627	1.259	1.730

Based on the results of this analysis, it can be interpreted that work safety behavior can be influenced by 64.7% by the safety climate and knowledge of work safety. While the remaining 35.3% is explained by other variables not included in this research model. The results of testing the research hypothesis using the F test can be presented in the following table:

Table 3. F-test Result

Variables	Alpha Coefficient	d	Mean Square	F	Sig
Regression	107.267	2	53.634		0.000
Residual	58.633	37	1.585		
Total	165.900	39			

From the results of the F test (ANOVA) using $Df_1 = 2$ and $Df_2 = 37$, the F table is 3.252. Meanwhile, the calculated F is 33.845 so that from the above calculations it can be seen that H_0 is rejected and H_a is accepted. Thus, it shows that the independent variables, namely the variables of work safety climate and knowledge of work safety, have a significant influence on work safety behavior. In other words, the proposed hypothesis is accepted. To determine the effect of each independent variable, namely the work safety climate variable and knowledge of work safety have a significant effect on safety behavior, a two-way (two-side or 1-tail) t-test (t-test) is used by comparing the t-test value. with t-table in table 1, with 95% degree of freedom ($\alpha = 5\%$) obtained t-table of 2.02439. The results of the comparison between the t and t table above shows that the variables of work safety climate and knowledge of work safety have a significant effect on work safety behavior.

As for finding out which variables have a dominant influence on work safety behavior, a comparison of the coefficients of the two research variables can be done, which is presented in full in the following table: with the assumption used that other variables are constant. As for finding out which variables have a dominant influence on work safety behavior, a comparison of the coefficients of the two research variables can be done, which is presented in full in the following table: with the assumption used that other variables are constant. As for finding out which variables have a dominant influence on work safety behavior, a comparison of the coefficients of the two research variables can be done, which is presented in full in the following table:

Table 4. Regression Coefficient Results

No.	Variable	Coefficient
1.	Work Safety Climate	0.394
2.	Work Safety Knowledge	0.461

Source: Primary Data Processed (2021)

Based on the results of the regression coefficient for each variable, it can be seen that knowledge of work safety has a dominant influence on work safety behavior.

The results of this study can be seen that there is a significant influence between the climate of work safety on safety behavior, meaning that with a change in the climate of work safety, work safety behavior will also change. Borman (2013) safety behavior is assertive behavior, namely the obedience and participation of individuals in safety maintenance activities in the workplace and this can be formed due to the work safety climate in the company. The work safety climate is defined as employees' perceptions of policies, procedures, and practices. Policies and procedures are guidelines that are established to ensure safe behavior, and practice as the implementation of policies and procedures as well as employees' perceptions of the importance of safe behavior at work (Zohar & Luria, 2004). The results of this study support previous research conducted by Elva Susanti (2019) which shows positive results from the work safety climate on employee safety behavior.

The findings of this study show that there is a substantial relationship between the environment of work safety and safety behavior, implying that as the climate of work safety changes, so will work safety behavior. Borman (2013) defines safety behavior as assertive conduct, defined as individuals' adherence and engagement in workplace safety maintenance activities, which can be shaped by the company's work safety atmosphere. Employee perceptions of policies, procedures, and practices are referred to as the work safety climate.

The findings of this study show that the safety climate and understanding of workplace safety have a favorable impact on workplace safety behavior. This suggests that when the work environment and awareness of work safety improves, so will work safety behavior. The findings of this study back up previous research by Elva Susanti (2019), which found that the workplace safety climate and safety awareness have a favorable impact on employee safety behavior. Based on the regression coefficients for each variable, the results of this study show that knowledge of work safety has a major influence on work safety behavior. These findings suggest that the existence of a safety knowledge procedure with the firm having annual seminars, the company's safety training, and the company's safety laws will have a bigger impact on the work safety behavior of production staff at PT. Sumber Abadi Bersama.

CONCLUSION

Based on the results of the research and discussion that has been done, the following conclusions are work safety behavior is in a good category, the work safety climate is included in the good criteria, and the safety knowledge of employees at the PT. Sumber Abadi Bersama is in good criteria. Nevertheless, the work safety climate has a significant effect on the safety behavior of employees, work safety knowledge has a significant effect on employee safety behavior. Work safety climate and knowledge of work safety have a significant effect on employee safety behavior and work safety knowledge have the most influence on employee work safety behavior.

REFERENCES

- Anggraeni, D.N. (2008). The relationship between employees' perceptions of the safety climate and safety behavior. *Publication manuscript. Psychology Study Program*. Indonesian Islamic University. Yogyakarta, Indonesia.
- Arikunto, Suharsimi. (2010). *Research Procedures*. Jakarta: PT. Rineka Cipta.
- Dedobbeleer N. And Beland F. (1991). A Safety Climate Measure For. Construction Site. *Journal of research*. Vol. 22 No. 2. PP 97-103.

- Griffin Mark A., Neal Andrew. (2000). Perception of Safety at work: A Framework For Linking Safety, Climate to Safety Performance, Knowledge and motivation. *Journal Of Occupational Health Psychology*. Vol.5 no. 3, 347-358.
- Griffin Mark A., Neal Andrew. (2003). *Safety Climate and Safety at work. Hand book: The Psychology of work Place*. PP 15-34. American Psychological Association.
- Hikmat, PG. (2009). Analysis of the Relationship between Work Safety Climate and Safe Behavior in Working on Construction Projects. *Final report*. Faculty of Engineering, Atma Jaya University. Yogyakarta.
- Panggabean, M. (2004). *Human Resource Management*. Second printing. Bogor: PT. Ghalia Indonesia.
- Santoso, G. (2004). *Occupational Health & Safety Management*. Jakarta: Prestasi Pustaka Publisher.
- Suma'mur. (1995). *Corporate Hygiene and Occupational Health*. Jakarta: PT. Holy mountain.
- Wibowo, AE (2012). *Practical Applications of SPSS in Research*. Yogyakarta: Gava Media
- Winarsunu, T. (2008). *Occupational Safety Psychology*. Malang: UMM Press.
- Zohar Dov. (2003). *Safety Climate: Conceptual and Measurement Issues Handbook. Of Occupational Health Psychology* (PP 123-142). Washington Dc: American Psychology Association. UMM Press.