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Abstract

BACKGROUND: Safety culture regards the perceptions, beliefs, abilities, and safe behavior of individuals or groups of people with respect to their activities, especially work, to achieve a level of occupational health and safety (OHS) performance.

AIM: This study aims to determine the factors related to the work safety culture of the University of Hasanuddin laboratory employees.

METHODS: This study employs quantitative research using a cross-sectional design involving 73 participants from 64 laboratories of ten faculties at the Hasanuddin University. The research instrument was adapted from Edgar Schein's theory and the PRISM FGI safety culture application guide. The questionnaire used was adapted from the loughborough safety climate assessment toolkit. Data analysis was done using the Spearman's correlation test and the regression model residual test.

RESULTS: The results show that management commitment, communication, safety rules and procedures, social environment support, involvement, safety as a priority and need, and personal appreciation for risks are significant (all $p < 0.05$) in determining safety. In particular, social environment support, involvement, and safety as priorities and needs are the factors that determine the work safety culture of Hasanuddin University laboratory employees. Work Safety Culture Regression Model = 21.012 + 0.652 Social Environment Support – 0.274 Engagement + 1.616 Safety as Priority and Necessity.

CONCLUSION: The most influential factor for the safety culture of university laboratory employees is the safety as priority and necessity. The work environment of each laboratory should be regulated according to ISO17025, for laboratory employees are more active in every activity related to OHS, especially for the activities of OHS laboratory.

Introduction

Safety culture regards the perceptions, beliefs, abilities and safe behavior of individuals or groups of people with respect to their activities especially work. Safety culture is applied to achieve a level of occupational health and safety (OHS) performance that can be understood and made a top priority in an organization [1]. An organization with a strong OHS culture proves the seriousness of the organization toward the implementation of OHS in its work environment. In Japan, OHS has become a culture in the daily life of all stakeholders. OHS implementation is no longer within the limits of approach and necessity, but a voluntary approach taken by all parties through the participation of employers and workers [2].

The economic development in Indonesia has a direct impact on improving the welfare of the community, especially workers. For Industrial Revolution 4.0, it is considered essential to create a safe, comfortable, and healthy work environment. This condition can increase the protection of workers from work accidents and dangers of diseases due to work hazards. OHS culture in the work environment can support national economic stability. In addition, OHS culture is also relevant in minimizing the number of work accidents and reducing the severity of accidents that occur [3]. A number of companies that have implemented a strong OHS culture have benefited in several ways, including reduced material losses, less employee turnover, lower absenteeism, higher productivity, and lower insurance costs [4].

According to statistical data from the Social Security Administration (BPJS), in 2020, there were 177,000 work accidents, a 55% increase from 2019. This reveals that the number of work accidents in Indonesia is still very high [5]. A laboratory is a unique environment [6] that has potential hazards originating from the materials, tools, and procedures used as well as from the environment itself. Working with methods, equipment, and materials that carry high-risk requires the implementation of a safety culture.

Accidents in higher education laboratories and research institutions around the world are also on the rise. In 2005, the United States Department of Labor registered nearly 10,000 accidents in academic research laboratories that left two out of 100 users injured [7]. The increasing number of accidents in

higher education laboratories and research institutions around the world can attest to the lack of application of a safety culture [8].

Laboratory workers can potentially suffer from work accidents and work-related illnesses: Hazardous chemicals, radiation, toxic gases, noise, moving machinery, and temperature are all risk factors that can cause accidents and occupational diseases. There are at least ten types of accidents that can be identified in the laboratory including exposure to material spills, falling or slipping, contact with heat exposed to shards of glass (glassware), electric shock, chemical splash in the eye, fire, explosion, skin irritation, and dizziness [9]. Health complaints that are often made by laboratory workers include skin irritation, eye irritation, shortness of breath, poisoning and burns, dizziness, nausea, and sore throat.

Research on the safety culture in educational institutions is still very limited, especially in laboratories located within educational institutions. Hasanuddin University does not yet have data related to OHS culture, because no research has ever been conducted regarding this matter. Thus, the author intends to conduct research on the determinants of OHS culture in laboratories within the scope of Hasanuddin University. The results of this study are expected to be a database that can be used for laboratory accreditation purposes and as recommendations and considerations for leaders in making regulations relating to laboratory work safety. The purpose of this study was to determine the factors that most influence the work safety culture of Hasanuddin University laboratory workers.

Materials and Methods

Ethical statement

Health Research Ethics Committee, Faculty of Public Health, Hasanuddin University on Date: April 18, 2021 with the number: 3617/UN4.14.1/TP.01.02/2021, protocol number: 25221062021.

Types and research design

The type of research used is quantitative with a cross-sectional study approach. Quantitative research is an approach to testing objective theory by examining the relationship between variables, while a cross-sectional study is a research design, in which data collection is carried out at one point in time, and the phenomenon under study occurs during one period of data collection. This study analyzes the influencing factors and the most influential factors on work safety culture in the Hasanuddin University laboratory. The location of the research was at Hasanuddin University, over the period of June to August 2021.

Population and sample

The population used in this study were all laboratory officers registered as Hasanuddin University employees with the status of civil servants (PNS), permanent non-PNS, non-permanent PNS, and honorary employees, totaling 92 people spread across 16 faculties, research institutes, community service centres, and hospitals (UNHAS Employment Data, 2020).

The purposive sampling method is used to determine the laboratory and laboratory officers eligible to be the research samples with minimum risk criteria for the laboratory and 6 months working period for laboratory officers. This working period considered has implemented a work safety culture. According to the criteria, 73 of 92 laboratory staff spread over 64 laboratories in exact faculties are eligible (ten faculties). Meanwhile, the laboratories in social faculties (6 faculties) do not meet the criteria due to negligible OHS risk. The laboratory in question is in accordance with the Regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia Number 7 of 2019.

Data collection technique

Preparation of data collection

The main preparation for research was to get permission at the research site. This was done for a smoother research proceess and to not encounter many obstacles. As for the preparations, a permit letter was submitted for initial data collection and permisson to conduct research.

Data source

1. Primary data

Primary data are data obtained directly from respondents or people who are interviewed and observed. Questionnaires can be given directly to respondents, and they have the opportunity to fill out a checklist of statements.

2. Secondary Data

Secondary data are obtained from university-owned data which includes university profiles, number of laboratory staff, work status, work units, and other relevant information. Other secondary data can be obtained through library research techniques, namely all efforts made by researchers to collect information relevant to the topic or problem under study. Literature studies were carried out using studying scientific books, research reports, research journals, theses, articles, and electronic media.

Data collection method

The data collection process was carried out in the following stages:

1. Research locations (faculty, department, and dental and oral hospital) with laboratories equipped with laboratory personnel within the scope of Hasanuddin University were visited.
2. The aims and objectives of the researchers were conveyed, and a research permit was shown to the authorized official at the location.
3. After getting approval, the researcher met the respondent to conduct an interview.
4. If they were willing to become respondents, proven by their willingness to sign a statement (informed concern), the researcher conducted the interviews or provided questionnaires to be filled out by them. If the respondent does not complete the questionnaire and is willing to continue at a later time, the researcher will communicate again with the respondent. Likewise, if the respondent is unable to fill out the questionnaire at that time, the researcher will meet the respondent at another time.
5. To ensure data quality, only one researcher who filling out observation sheets.

The instrument of data collection

The research instrument used for the dependent variable was adapted from Edgar Schein's theory and the PRISM FGI Safety Culture Application Guide, while the independent variable used a questionnaire adapted from the loughborough safety climate assessment toolkit (LSCAT), which tested for validity and reliability. The LSCAT is a multi-category survey instrument designed to categorize individuals' perceptions, beliefs, experiences, and behaviors regarding safety within a single organization.

The questionnaire uses a Likert scale with five choices ranging from strongly agree to strongly disagree. A middle alternative (neutral) is provided to facilitate th moderate attitudes of respondents to the questions. The Likert scale is a psychometric scale that is commonly used in questionnaires and is the most widely used scale in research, in the form of surveys, and is used to measure the data obtained quantitatively.

In this study, the Likert scale was used to measure perceptions, attitudes, or opinions of a person or group regarding management, commitment, communication, safety rules and procedures, social support, involvement, safety as a priority and need, personal appreciation of risk, and the work environment in relation to work safety culture in the laboratory, based on operational definitions set by researchers.

The research instrument was tested for validity with alpha = 0.05 on 37 laboratory workers at two different universities and one polytechnic college.

Processing and data analysis

Processing includes editing, coding, data entry, cleaning data, and presentation of data/reports (tabulation). Data analysis using univariate analysis was carried out on each research variable to describe it or to describe the existing individual characteristic variables, using frequency distributions and their proportions. The research variables include gender, age, years of service, education, management commitment, communication, safety rules and procedures, social environment support, involvement, safety as a priority and need, personal appreciation of risk, and work environment.

s bivariate analysis was conducted to observe the relationship between two variables, namely, between the independent variable and the dependent variable, using the Spearman's correlation statistical test. Multivariate analysis was carried out to process two or more variables analyzed against an object or person, together using linear regression analysis with a variable scale ratio of all research variables. The data distri on was tested on the regression model residuals to meet the requirements of the classical linear regression assumption test.

Results

The results include an overview of the research that describes the characteristics of PLP and bivariate analysis using the Spearman's correlation statistical test, which aimed to observ the relationship between the independent variables (management commitment, communication, safety rules and procedures, social environment support, involvement, safety as a priority and needs, personal appreciation of risks, and work environment) with the dependent variable (work safety culture). The multivariate analysis was conducted to obtain the determinants of work safety culture at the UNHAS Laboratory. The research results are presented as follows.

Univariate

In the univariate analysis, the characteristics of the respondents including age, gender, employment status, education, position, years of service and type of laboratory are described and are taken as the general description of PLP UNHAS.

Based on Table 1, respondents in the 41–50 age groups have the same number as the 51–60 age group, namely, 24 people (32.9%) from 73 respondents. There were 39 women (53.4%) and 34 men (46.6%) from the 73 respondents. Respondents with PNS status amounted to 46 people (63.0%) and only one person (1.4%) had honorary status, out of 73 respondents. There were 44 people with an undergraduate education (60.3%),

Table 1: Distribution of individual characteristics of respondents

Variable	n	%
Age (Year)		
20–30	10	13.7
31–40	15	20.5
41–50	24	32.9
51–60	24	32.9
Gender		
Male	34	46.6
Female	39	53.4
Employment status		
PNS	46	63.0
Non-PNS permanent	6	8.2
Non-PNS non-permanent	20	27.4
Honorer	1	1.4
Education		
SMA/SMAK/STM	16	21.9
D1/D2/D3	6	8.2
S1	44	60.3
S2	6	8.2
S3	1	1.4
Position		
PLP	43	58.9
Laboratory analyst	28	38.4
Technician	2	2.7
Years of service		
1–10 years	24	32.9
11–20 years	21	28.8
21–30 years	17	23.3
31–40 years	11	15.1
Laboratory type		
Education	13	17.8
Study	1	1.4
Education and Study	35	47.9
Study and testing	2	2.7
Education, study, and testing	22	30.1

Source: Primary Data, 2021.

while only one person was from a doctoral education level (1.4%). There were 43 people who served as PLP (58.9%), while there were only two technicians (2.7%). There were 24 respondents with one to 10 years of work experience (32.9%), representing the majority. On the other hand, 11 people formed the working period between 31 and 40 years (15.1 %), which was the lowest. Finally, out of the 73 respondents, 35 were found working in education and research laboratories (47.9%).

Bivariate analysis

The bivariate analysis was carried out to analyze the relationship (correlation) between the independent variables (management commitment, communication, safety rules and procedures, social environment support, involvement, safety as a priority and need, personal reward for risk, and work environment) with the bound variable (work safety culture) in the Hasanuddin University laboratory, using Spearman's correlation statistical test. The results of the analysis of the relationship between the independent variable and the dependent variable are shown in Table 2.

Table 2: Results of analysis of the relationship between independent variables and bound variables (work safety culture)

Independent Variable	Spearman's Correlation	
	p-value	R
Management Commitment	0,030	0,255
Communication	0,013	0,277
Safety Rules and Procedures	0,001	0,373
Social Environment Support	0,001	0,571
Involvement	0,002	0,350
Safety as Priority and Necessity	0,001	0,775
Personal Reward for Risk	0,001	0,737
Work Environment	0,054	0,227

Source: Primary Data, 2021.

Table 2 shows the results of the bivariate analysis using the Spearman's correlation statistical test. Of the eight independent variables studied, seven variables (management commitment, communication, safety rules and procedures, social environment support, involvement, safety as a priority and need, and personal appreciation for risk) showed a significance below 0.05 ($p < 0.05$). Only the work environment showed a significance value of above 0.05 ($p > 0.05$).

This means that there is a positive relationship or correlation between management commitment, communication, safety rules and procedures, support for the social environment, involvement, safety as a priority and need as well as personal appreciation for risk, and work safety culture in the laboratory. Meanwhile, the work environment has no relationship or correlation with work safety culture in the Hasanuddin University laboratory.

A radar chart was constructed based on the value of the correlation coefficient (r), as provided below.

The Figure 1 describes the strength of the relationship between the independent variable and the dependent variable. According to the numbers, management commitment (0.255) shows a very weak correlation, communication (0.277) shows sufficient correlation, safety rules and procedures (0.373) are moderately correlated, social environment support (0.571) is strongly correlated, involvement (0.350) has a sufficient correlation, safety as priority and necessity (0.775) is very strongly correlated, and personal reward for risk (0.737) is strongly correlated, while work environment (0.227) shows a very weak correlation.

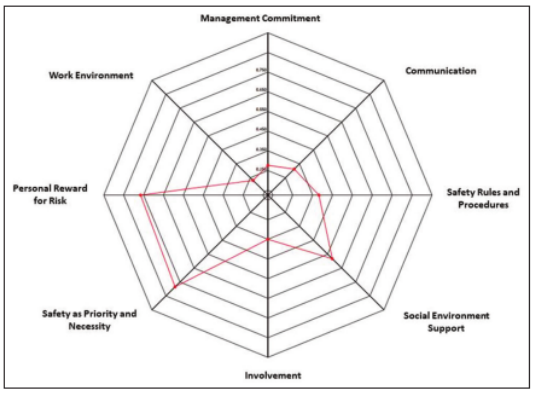

Figure 1: Radar chart of determinant relationship strength work safety culture

Multivariate analysis

Multivariate analysis was used to determine the independent variables that were the determinants of the dependent variable and to predict the dependent variable (work safety culture) based on its determinants. Multivariate analysis is a continuation of the bivariate

analysis, where the results of the bivariate analysis are continued using multiple linear regressions with the backward method. Factors that determine work safety culture are outlined in Table 3.

Table 3: Results of linear regression analysis determinants of occupational safety culture for laboratory officers at Hasananuddin University in 2021

Variables	B	p-value
Social environment support	0.652	0.009
Involvement	–0.274	0.023
Safety as priority and necessity	1.616	0.001

Source: Data pr 2021.

Table 3 shows the results of the multiple linear regression analysis using the backward method. It shows that there are three factors that determine the work safety culture in the Hasanuddin University laboratory, namely, social environment support, involvement and safety as priority and necessity.

A linear regression model can be called a good model if the model meets the (best linear unbased estimator) criteria. This can be achieved if it fulfills the following assumptions: The residuals are normally distributed, there should be no multicollinearity, there is no autocorrelation between the residues, the residual variance is constant (homoscedasity), and there is a linear relationship between the independent variable and the dependent variable.

Y Regression Model = Constant + bx1 + bx2 +… + bxn.

Work Safety Culture Regression Model = 21.012 + 0.652

Social Environment Support – 0.274 Engagement + 1.616 Safety as Priority and Necessity.

R^2 = 0.722; that is, the coefficient of determination of the regression model is 72.2%, meaning that this regression model can explain or predict a work safety culture of 72.2%. This also means that there are still 27.8% other factors outside the independent variables studied that affect the work safety culture of Hasanuddin University laboratory workers.

Discussion

Relationship of social environment support to work safety culture

The social environment includes the role of colleagues in reminding each other about OHS. Work pressure increases when group members who behave in a certain positive way are relatively competent or experienced [10]. Notoadmojo [11] stated that a person's behavior adapts to the environment and the individual concerned.

The results of the research on social environment support indicate that the majority of respondents have social support at work. The results of the relationship analysis carried out on the support of the social environment and work safety culture indicate that the support of the social environment has a very significant relationship to work safety culture. The results of this study are in line with research conducted by Aprilia *et al*. [11], who showed that there is a relationship between the social environment and the behavior and culture that occurs in the workers' environment.

Relationship of engagement to work safety culture

The involvement of workers in improving work safety culture plays an important role, in addition to management commitment [12]. The involvement of workers is realized in the form of their active roles as part of the OHS program. OHS work rules and procedures will not be effective if workers are not directly involved in the implementation of its policies. The involvement of workers in this study refers to the involvement of respondents in preparing OHS rules and procedures, evaluating OHS programs, and solving problems related to OHS. The results showed that the majority of respondents had worker involvement in the less active category.

Respondents who have less active involvement are due to lack of individual awareness and management who do not provide opportunities for workers to be involved in the formation, implementation, and evaluation of OHS work programs. The results of the analysis of research data show that engagement has a significant relationship with work safety culture. Christina [13] stated that employee involvement has a significant influence on worker performance related to OHS. Reports of workers in the event of an accident or hazardous situation are the most influential aspects of the assessment of worker involvement. Previous research conducted by Andi [14] stated that OHS behavior is influenced by the involvement of workers in work safety.

Safety relationship as priority and necessity for work safety culture

Safety as priority and necessity in this case is expressed through the attitude of workers who always prioritize safety and obey OHS rules and procedures at work. The results of the research data analysis state that the majority of respondents emphasize safety as priority and necessity, and the results of the relationship analysis showed that safety as priority and necessity had a very significant relationship with work safety culture. This is not in line with the research conducted at PT.Ukindo Blankahan, which showed no relationship between worker competence and work safety culture [15]. The difference in the results of this study was caused by the difficulty of the existing OHS rules and procedures at PT.Ukindo, such that workers

do not understand and, thereby, do not consider safety as priority and necessity. Placement of safety as priority and necessity is based on the competencies that workers have in relation to the understanding of OHS in the work environment. This is going quite well for the officers at the Hasanuddin University laboratory where most understand well the existing work safety rules and procedures so that they can make work safety a priority.

Determinants of work safety culture in the laboratory

Social environment support, involvement, and safety as priority and necessity are determinants of work safety culture in laboratories, within the scope of Hasanuddin University. These three variables have significance as determinants of safety culture due to the involvement of laboratory personnel in developing, implementing, and evaluating OHS programs in the laboratory. The involvement of the laboratory staff in the preparation and implementation of the OHS program makes laboratory personnel feel ownership and aneed for it so that in its implementation becomes better and more effective.

Social environment support and safety as priority and necessity have a positive influence – if the social environment support and safety as priority and necessity increase, the level of occupational safety and health culture will also increase. Social environment support is needed so that fellow laboratory officers remind each other about implementing OHS programs to foster a safety culture in the laboratory. Seeing safety as priority and necessity also means that laboratory personnel understand the urgency of work safety in doing their work every day.

The involvement of laboratory workers obtained different results from the theory of work safety culture, namely, a negative value relationship, meaning that if the level of involvement is low, the OHS culture will increase. The active role of laboratory officers in every activity related to OHS in the laboratory is only limited to participation in OHS forums/workshops/ training in the workplace. The application of OHS rules and identification of hazards contribute to laboratory workers having a less active OHS culture.

The involvement of UNHAS laboratory officers who are less active is due to the unavailability of a structured container or an organization that is responsible for regulating and managing matters related to OHS in the laboratory. There are several faculties that already have an organizational structure related to OHS, but the OHS program that is prepared stops at the planning stage. Apart from this, the understanding and initiative of the UNHAS laboratory officers towards the OHS aspect is quite good, thus affecting the level of safety culture of the UNHAS laboratory officers in a positive direction.

Conclusion and Suggestions

The most influential factor on the safety culture of university laboratory workers is the factor safety as priority and necessity. Management at the university or faculty level should create a legal and structured organization or employ an organization that has work programs related to OHS, especially laboratory OHS. It is better to involve laboratory officers in every activity related to OHS, especially laboratory OHS and have a standardized rule related to the application of OHS in the laboratory, including supervision of the implementation of these rules. The work environment of each laboratory is regulated with reference to ISO17025. In fact, laboratory workers are more active in every activity related to OHS, especially laboratory OHS.

To be able to answer the limitations of this study, future research should conduct in-depth interviews first with respondents regarding the research variables so that it is possible to obtain more complete information related to the variables studied. In addition, conducting cross-checks or interviews with leaders related to management commitment variables is needed so that they can compare the respondents' perceptions with information obtained from the leaders. Future researchers should also include organizational-specific factor variables and psychological aspects.

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References

1. Kurniasih D. Penilaian safety culture pada level manajemen di [illegible] Ann Meet Test Qual. 2013;10:237-49.
2. Pangkey F, Malingkas GY, Walangitan DO. Penerapan sistem manajemen keselamatan dan kesehatan kerja (SMOHS) pada proyek konstruksi di Indonesia (Studi Kasus : Pembangunan Jembatan Dr. Ir. Soekarno-Manado). J Ilmiah Media Eng. 2012;2(2):100-13. https://doi.org/10.26623/teknika.v13i2.1312
3. Council APLU, Force Task. A guide to implementing a safety [illegible]lture in our universities 2016.
4. Rosenblat A, Stark L. Algorithmic labor and information asymmetries : A case study of Uber s drivers. Int J Commun. 201[illegible]:3758-84.
5. Hill RH, Finster DC. Academic leaders create strong safety cultures in colleges and universities. J Chem Health Saf. 2013;20(5):27-34. https://doi.org/10.1016/j.jchas.2013.06.011

6. Salazar-Escoboza MA, Laborin-Alvarez JF, Alvarez-Chavez CR, Noriega-Orozco L, Borbon-Morales C. Safety climate perceived by users of academic laboratories in higher education institutes. Saf Sci. 2020;121:93-99. https://doi.org/10.1016/j.ssci.2019.09.003
7. Olewski T, Snakard M. Challenges in applying process safety management at university laboratories. J Loss Prevent Process Ind. 2017;49(B):209-14. https://doi.org/10.1016/j.jlp.2017.06.013
8. Cahyaningrum D, Tegar H, Sari M, Iswandari D. Faktor-faktor yang berhubungan dengan kejadian kecelakaan kerja di laboratorium pendidikan. J Pengelolaan Lab Pendidikan. 2019;1(2):41-7. https://doi.org/10.14710/jplp.1.2.41-47
9. Geller ES. The Pshychologi Of Safety Handbook. USA: Lewis Publiher; 2001.
10. Notoatmodjo S. Pendidikan dan Perilaku Kesehatan. Jakarta: PT Rineka Cipta;2003.
11. Aprilia I, Raharjo W, Fitrriangga A. Hubungan Budaya Keselamatan dan Kesehatan Kerja (OHS) Terhadap Perilaku Tidak Aman Pada Pekerja Bagian Panen pt. X Kabupaten Mempawah; 2017. https://doi.org/10.30872/jkmm.v3i1.6271
12. Suyono, H. Belajar dan Pembelajaran. Bandung: PT Remaja Rosdakarya Offset; 2012.
13. Christina WY., Dajkfar L, Thoyib A. The influence of occupational safety and health (OHS) culture on construction project performance. J Civil Engineering. 2012;6:83. https://doi.org/10.31227/osf.io/y5hac
14. Andi A, Alifen RS, Chandra A. Structural equation model of the influence of work safety culture on worker behavior in construction project. J Civil Engineering. 2005;12:127-36. https://doi.org/10.5614/jts.2005.12.3.1
15. Apriani D. Hubungan Budaya OHS dengan Keselamatan Kerja pada Pekerja Pabrik Kelapa Sawit di PT. Indonesia: INDO (AEP GROUP) Blankahan Kab, Langkat Tahun; 2017. Available from: https://repositori.usu.ac.id/handle/123456789/1648 [Last accessed on 2022 Jan 01].

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