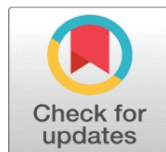
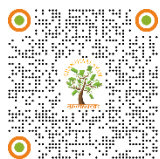


PSYCHOSOCIAL COMPONENTS AND BEHAVIORAL EFFECTS ON OCCUPATIONAL HEALTH AND SAFETY OF MINING WORKERS IN NORTH MINAHASA REGENCY, NORTH SULAWESI PROVINCE

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ABSTRACT

Occupational Health and Safety is currently not properly implemented in every company organization. There are still many accidents due to work in the workplace that cause death and physical disability. Psychosocial and behavioral factors play an important role related to employee safety and health. The physical work environment that is not supported by psychosocial components and employee behavior will ultimately make the occupational safety program unable to run optimally.

This study aims to examine the effect of psychosocial and behavioral components on the occupational safety and health of mining workers in North Minahasa district, North Sulawesi province. The stages of the research method in this study used quantitative research methods, where this is a scientific method to obtain valid data with the aim of finding, proving, and developing knowledge so that it can be used to understand, solve, and anticipate problems in certain fields.

In terms of its type, this research is an explanatory or explanatory research that explains the relationship between research variables, then determines the population and sample. The research design used is a type of survey research. The targeted output in this research is scientific articles in reputable international journals.

The results of the study show that both the psychosocial component and the behavioral component partially have a significant positive effect. Simultaneously, the Psychosocial component and the Behavioral component have a significant positive effect.

Keywords: Psychosocial Components, Behavioral Components, Occupational Health, and Safety (K3)

1. INTRODUCTION

The role of HR is so important that the International Labor Organization (ILO) deems it necessary to clarify how workers should be treated and how to protect workers from work-related accidents and diseases. In addition to improvements in protecting workers, the ILO also recommends improvements in dealing with psychological problems caused by the changing world of work. According to ILO estimates, more than 1.8 million work-related deaths occur annually in the Asia and Pacific region. In fact, two thirds of work-related deaths in the world occur in Asia.

Globally, more than 2.78 million people die each year from work-related accidents or diseases. In addition, there are around 374 million non-fatal work-related injuries and illnesses each year, many of which result in absenteeism from work [ILO \(2019\)](#).

At the global level, occupational safety, and health (OSH) issues are an important part of the ILO's agenda. The International Labor Conference in 2003 discussed OSH standards as part of an integrated approach and reached agreement on a global OSH strategy calling for "clear and centralized" action to reduce mortality, injury, and occupational disease. The ILO calls for a concerted effort to improve worker safety. The global strategy on OSH consists of creating a strong culture of occupational safety and health in all companies and introducing a systematic approach to OSH management.

Specifically in Indonesia, the aspect of occupational safety and health (K3) is still a serious concern because cases of work accidents are still quite high with an increasing trend. Referring to BPJS Employment data in 2019 there were 114,000 work accident cases, in 2020 there was an increase in the January to October 2020 BPJS Employment case there were 177,000 work accident cases. Work accidents not only cause death, material loss, and damage to the environment, but also affect productivity and public welfare. This indicates that there are still rules that are violated by either the organization or management but also violations committed by individuals or the employees themselves, even though there is still a need for improvements to procedures in terms of occupational safety and health for employees who still need attention, especially for employees. employees working in high-risk jobs.

In North Minahasa Regency, North Sulawesi Province is famous for the existence of mines in several places which are still operating, namely in Dimembe, Talawaan, and East Likupang which produce metal gold, silver, iron ore and others. Mine work requires equipment or personal protective equipment (PPE) for mine workers so they can work safely.

Psychosocial and behavioural components are non-physical work environments that have rarely been studied before, even though these two components can have an effect when employees work, especially in high-risk jobs such as in mining. Regulations regarding K3 must also be a priority for every employee or mining company who is in the risky work category.

Based on the background of the problem above, the authors take the title Psychosocial Components and Behavioural Effects on Occupational Safety and Health of Mining Workers in North Minahasa Regency.

Based on studies from previous researchers who examined K3 which focused more on the physical environment and were still lacking in discussing the relationship with the psychosocial and behavioural environment. Occupational safety and health is not only determined by the physical work environment, but psychosocial and behavioural factors play an important role related to employee safety and health. A physical work environment that is not supported by psychosocial components and employee behaviour will eventually make work safety and health programs not run optimally. This really needs to be supported by organizational characteristics and individual characteristics or vice versa and this is a research problem.

2. LITERATURE REVIEW

2.1. OCCUPATIONAL HEALTH AND SAFETY

Ridley (1983) quoted by Shiantosia (2000), defines occupational health and safety as a condition in work that is healthy and safe both for work, for the company and for the community and the environment around the factory or workplace. Jackson (1999) explains that occupational health and safety refers to the physiological-physical and psychological conditions of the workforce caused by the work environment provided by the company. Occupational safety and health is the protection of a person's physical well-being against work-related injuries. Health refers to the general condition of physical, mental, and emotional stability in general Mathis and Jackson (2006):245. A healthy individual is one who is free from disease, injury and mental and emotional problems that can interfere with normal human activities in general.

2.2. BEHAVIOR CONCEPT

Organizational Behavior (OB) is a field of study that investigates the influence that individuals, groups and structures have on behavior within an organization, with the aim of applying knowledge to increase the effectiveness of an organization Robbins and Judge (2008) :1. Organizational behavior studies or examines the behavior, performance, and actions of both individuals and groups and structures within an organization, but organizational behavior is not about how organizations behave but how individual behavior in an organizational setting is how individual behavior itself is and when individuals behave in groups and structure. Studying human behavior is related to psychology, especially social psychology which combines the concepts of psychology and sociology which studies the relationship and influence between humans and the natural or social environment.

The Theory of Reasoned Action (TRA) model is used to study human behavior. Research in social psychologists shows that a person's behavioral intention towards a particular behavior is a determining factor whether or not an individual does the behavior Ajzen and Fishbein (1975). TRA explains that beliefs can affect attitudes and social norms which will change the shape of the desire to behave either guided or just happen in an individual's behavior. Attribution theory explains that when individuals observe someone's behavior, the individual tries to determine whether the behavior is caused internally or externally Robbins and Judge (2008). Behavior that is caused internally is behavior that is believed to be under the personal control of an individual, in other words not affected by anything else.

2.3. PSYCHOSOCIAL

Psychosocial is a condition that occurs in individuals which includes psychological and social aspects or vice versa. Psychosocial refers to the dynamic relationship between psychological and social factors, which interact and influence one another Chaplin (2011). Psychosocial (Psychosocial) according to Erik Erikson is the relationship between a person's mental or emotional health with his social condition. The term psychosocial is a combination of psychological and social. Thus, the notion of psychosocial development is development related to one's emotions or mentality in dealing with other people. So, psychosocial development is a change or development of personality related to social relations. Eric Erikson (1963)

The term psychosocial means alluding to social relations that include psychological factors [Chaplin \(2011\)](#). Psychosocial hazards are non-physical hazards that arise due to the interaction of aspects of the job description, work design and organization as well as management in the workplace as well as the context of the social environment that has the potential to cause physical, social, and psychological disturbances [Eka Setya Nova \(2019\)](#). Psychosocial problems according to [Nanda \(2012\)](#) are: grieving, hopelessness, anxiety, helplessness, risk of deviation from healthy behavior, body image disturbance, ineffective coping, ineffective family coping, post-traumatic syndrome, ineffective role performance, and situational HDR. Furthermore, [Damvad and Expert Group \(2011\)](#) set indicators of the psychosocial work environment, demands, and balance of employee benefits and leadership. Psychosocial work environment indicators, consisting of: freedom to decide on their own work assignments; the framework permits release of the same quality as one's own desire; and the freedom to organize the day including breaks. Demand indicators, consisting of working at high speed; large workload; and high cognitive demands. Indicators of balance between employee benefits and leadership, consisting of clarity of expectations at work; the trust and respect of the leadership; predictability of work; and employee benefits.

Survey research is conducted to explore and answer research questions. The survey also aims to examine the relationship between the independent and dependent variables. In terms of its type, this research is explanatory research that explains the relationship between research variables. The research population is employees who work in high-risk jobs in the work environment of Mining Workers in North Minahasa Regency, North Sulawesi Province. Questionnaires were distributed to sixty employees who were considered to be working in high-risk jobs and then surveyed and asked to fill out a questionnaire related to Occupational Safety and Health (K3). This research is classified as quantitative research, meaning that in analyzing data using formula numbers or mathematical models. The population of this study amounted to 500 populations. According to [Sugiyanto \(2011\)](#) that a decent sample size is between 30 to 500, then the determination of the number of 100 samples is included in the criteria.

3. RESULTS AND DISCUSSIONS

3.1. RESULT

North Minahasa District (often abbreviated as Minut) with its administrative center and capital at Airmadidi, is located in North Sulawesi Province. This district is strategically located because it is located between two cities, Manado, and the port city of Bitung. The distance between downtown Manado and Airmadidi is about 12 km, which can be reached in 30 minutes. Part of the Sam Ratulangi Airport area lies north of the Minahasa region. The population of North Minahasa in 2020 is 224,993 people, the density reaches 212 people/km². The North Minahasa District area includes the subdistricts Airmadidi, Dimembe, Kalawat, Kauditán, Kema, West Likupang, East Likupang and Wori.

There are also gold mining areas in several sub-districts of the North Minahasa Regency. Mining resources are a resource with great potential for the economy of North Minahasa.

The government of North Minahasa District is currently led by Regent Joane J.E. Ganda, SE, MAP and Deputy Regent Kevin Lotulung, SH., MH starting in 2021 until next 5 years in 2026. Through their government, mining in North Minahasa district will continue. has received great attention. Several mining areas owned by residents

of the Northern Minahasa Area, some in Dimembe County, are still active and employ many manual miners. What is interesting here is that the majority of the current mining workers are from outside the region, especially from Java and Makassar. There aren't too many mining workers from North Minahasa. Government aid and even aid from abroad channeled through cooperatives has been very helpful to the mining community in North Minahasa District, including Dimembe District.

- **Hypothesis 1:** The Psychosocial Component (X1) has a significance level of $p\text{-value} = 0.001 < 0.05$, it can be concluded that H_0 is rejected, and H_a is accepted, or the Psychosocial Component (X1) has a significant effect on Occupational Safety and Health (Y). If the value of b_1 which is the regression coefficient of the Psychosocial Component (X1) is 0.008, which means it has a positive influence on the dependent variable Occupational Safety and Health (Y) means that if the Psychosocial Component variable (X1) increases by 1 unit, then Occupational Safety and Health (Y) will also increase by 0.008 units assuming other variables remain constant.
- **Hypothesis 2:** The Behavioral Component (X2) has a significance level of $p\text{-value} = 0.000 < 0.05$, it can be concluded that H_0 is rejected, and H_a is accepted, or the Behavioral Component (X2) has a significant effect on Occupational Safety and Health (Y). If the value of b_2 which is the regression coefficient of the Behavioral Component (X2) is 0.019, which means it has a positive influence on the dependent variable Occupational Safety and Health (Y), it means that if the Behavioral Component variable (X1) increases by 1 unit, then Occupational Safety and Health (Y) will increase by 0.019 units assuming other variables remain constant.
- **Hypothesis 3:** The results of the analysis obtained Simultaneous Test (F test) with a significant level of $p\text{-value} = 0.001 < 0.05$, it can be concluded that H_0 is rejected, or H_a is accepted, which means that the Psychosocial Component (X1) and the Behavioral Component (X2) together - same significant effect on Occupational Safety and Health (Y).

3.2. DISCUSSION

3.2.1. EFFECT OF PSYCHOSOCIAL COMPONENTS ON OCCUPATIONAL SAFETY AND HEALTH

The psychosocial component includes policies, practices, and procedures to protect the psychological health and safety of workers. [Zohar and Luria \(2005\)](#) argue that the only thing that distinguishes a safe environment from a psychosocially safe environment is the focus on specific outcomes, namely physical safety procedures aimed at preserving protect employees from physical harm. While psychosocial safe environment focuses on prevention strategies to avoid psychological harm to employees resulting in reduced employee welfare.

The psychosocial component is a specific component of organizational climate related to freedom from psychological harm in the workplace. Then like organizational climate, psychosocial safety climate can also be understood as belonging to the organization, which consists of the perceptions of individuals within the organization, regarding management's commitment to protecting psychological health and safety. The results of the study show that the Psychosocial Components of Occupational Safety and Health of Mine Workers in North Minahasa District, North Sulawesi Province.

3.2.2. EFFECT OF BEHAVIORAL COMPONENTS ON EMPLOYEE OCCUPATIONAL HEALTH AND SAFETY

Behavior is human action or activity, both directly and indirectly, that can be observed by strangers. Health behavior is a person's response to stimuli related to disease, health care system, food, drink, and environment.

Health behaviour is influenced by external factors, i.e., factors external to the individual, including environmental factors (both physical and immaterial), in which socio-cultural factors is the factor that plays the biggest role in training human health behavior. In addition to extrinsic factors, internal factors, i.e., factors located within the individual, also influence behaviors such as attention, observation, perception, motivation, and suggestion. The research results show that there exist factors constituting occupational safety and health behaviour of miners in North Minahasa district, North Sulawesi province.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1. CONCLUSION

The following are the conclusions obtained from the results of this study as follows:

The psychosocial component has a significant effect on the Occupational Safety and Health of Mining Workers in North Minahasa Regency, North Sulawesi Province.

Behavioral components have a significant effect on the Occupational Health and Safety of Mining Workers in North Minahasa Regency, North Sulawesi Province.

The Psychosocial Component and the Behavioral Component have a significant effect on the Occupational Safety and Health of Mine Workers in North Minahasa Regency, North Sulawesi Province.

4.2. RECOMMENDATIONS

Based on the conclusions of the research results above, the things that can be suggested from this research are:

It is important for Mining Workers to pay attention to the Psychosocial and Behavioral Components which are the determinants of Occupational Safety and Health

For further researchers, it is recommended to increase the scope of research with a larger object.

CONFLICT OF INTERESTS

None.

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