



The Relationship Between Personality Type to Work-Related Stress at PT Bumi Suksesindo Maintenance Workshop, Indonesia: A Cross-Sectional Study

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ABSTRACT

Every worker has a different personality type, which is one of the factors influencing how workers cope with their jobs to avoid stress. Objective: This study aims to analyze the relationship between personality type and work-related stress among maintenance workshop workers at PT Bumi Suksesindo. This study employed a cross-sectional approach with a sample size of 50 maintenance workshop workers. It utilized Personality Type A and B questionnaires based on the theory by Rosenman & Friedman (1961) and the Job Stress Scale questionnaire. Validity testing was conducted using the Pearson Product Moment correlation table with a sample of 30 participants; at a significance level of 0.05, the value was 0.3610, indicating the instrument is valid. Reliability testing yielded Cronbach's Alpha values of 0.886 and 0.929, confirming the instrument's reliability. This study employed the non-parametric chi-square statistical test to determine whether a relationship exists between the independent variables and the dependent variable. The study found a p-value of 0.005, indicating a significant relationship between personality type and work-related stress among workers in the maintenance workshop. Personality type is significantly associated with work-related stress. Therefore, the company may organize group exercises or other activities to alleviate worker burnout.

Keywords: Type A and Type B Personality, Work-Related Stress, Cross-sectional

INTRODUCTION

One of the existing mining companies in Indonesia is PT Bumi Suksesindo, located in Banyuwangi Regency, East Java Province. Currently, PT Bumi Suksesindo (BSI) focuses its operations primarily on gold and copper production at the Tumpang Pitu site, which consist of seven mining areas. Within the company, there are numerous departments responsible for their respective areas of operation, one of which is the maintenance department. Workers in this department are responsible for repairing operational machinery and vehicles. Workers in this department face numerous potential hazards while on the job, such as being pinched, struck by machinery, run over, falling, and so on.

Based on interviews conducted with workers in the maintenance workshop, it was concluded that some workers feel overwhelmed by their work because tasks must be completed promptly to prevent backlogs and neglect. According to the result of the psychological assessment based on MCU conducted by PT Bumi Suksesindo, it was found that the maintenance department has a higher number of workers experiencing stress-related disorders.

The risk of workplace accidents and work-related illnesses in the mining industry are numerous. Unlike workplace accidents, which can occur suddenly, work-related illnesses develop gradually due to long-term exposure to physical, biological, chemical and ergonomic risks in the work environment. Occupational diseases

that can occur in the mining industry include pneumoconiosis caused by dust exposure, musculoskeletal disorders resulting from lifting excessive loads in improper positions over extended periods, noise-induced hearing loss caused by noise levels exceeding the TLV (Threshold Limit Value), work related stress, and many other occupational diseases that can arise in the mining sector.

According to Presidential Regulation of the Republic of Indonesia No. 7 of 2019, work-related stress is classified as a mental and behavioral disorder under the target organ system². According to the latest report by the Health and Safety Executive (HSE) in 2023, there were 875.000 cases of work-related stress, depression, and anxiety in the UK, resulting 17,1 million lost workdays due to these issues³. According to the State of the Global Workplace 2026 by Gallup, Southeast Asia has a worker stress rate of 25%⁴. According to Robbins and Judge (2019), the causes of work-related stress are divided into three categories: environmental factors, individual differences, and organizational factors⁵. According to Hurrell and McLaney (1988), the causes of stress in the workplace include intrinsic workplace factors, an individual's role within the organizational structure, demands outside of work, and Type A and Type B personality traits⁶. Robbins and Judge (2019), as cited in Budiasa (2021), state that the effects of stress can be divided into three categories: physiological effects of stress, such as various illnesses caused by prolonged stress; psychological effects of stress, such as depression and fatigue; and behavioral effects of stress, such as workplace accidents resulting from human error⁷.

An employee's personality type plays a significant role in determining how well they can adapt to their work environment. Every worker has a different personality type, so this can also be a factor in how workers approach and handle their work to avoid stress⁸. According to Friedman and Roseman (1959), personality types are categorized into two types: Type A and Type B¹. Type A indicates a personality characterized by being highly competitive, vengeful, and highly enthusiastic in all aspects of life, and often speaking quickly⁹. Meanwhile, Type B indicates a personality characterized by being less competitive, less vengeful, more relaxed, patient, and speaking calmly⁹.

Based on this background, although the MCU data for maintenance workshop workers at PT. Bumi Suksesindo indicates a high prevalence of stress, it remains unclear to what extent Type A and Type B personality traits contribute to stress levels among these workers. Most studies on work-related stress have been conducted on office workers, whose work context differs significantly from that of maintenance workshop workers, who must deal with tight deadlines and life-threatening risks due to working in the mining industry, where heavy machinery is extensively used during operations. Therefore, further research is needed on the extent to which differences in personality type can influence work-related stress through an observational analytical study using a cross-sectional approach. This study aims to analyze the relationship between personality type and work-related stress among maintenance workshop workers at PT Bumi Suksesindo.

METHODOLOGY

Type and Design of the Study

This study is an observational analytical study aimed at analyzing the relationship between independent and dependent variables. It employs a cross-sectional approach, as it was conducted through field observations and direct data collection at a single point in time.

Research Population

Based on preliminary research—specifically the results of PT Bumi Suksesindo's MCU, the maintenance department has the highest number of workers experiencing work-related stress. Therefore, the population for this study consists of workers in the maintenance workshop at PT Bumi Suksesindo. The total population of workers is 50 individuals. The sampling technique used in this study is total sampling. The sample size for this study is 50 respondents.



Research Variables

The independent variable in this study are personality type A and type B, and the dependent variable is work-related stress.

Data Collection Technique and Instruments

Primary data was collected directly from workers in the maintenance department of PT Bumi Suksesindo using the Job Stress Scale questionnaire and the Type A and Type B personality questionnaires, which were developed based on the theory of Friedman and Rosenman (1974). Secondary data was obtained from the maintenance department of PT Bumi Suksesindo in the form of the number of workers and job sections, as well as other secondary data, namely the result of PT Bumi Suksesindo's MCU in the form of DASS 21 measurements. By using valid and reliable instruments during data collection, the research results are expected to be valid and reliable. An absolute requirement for obtaining valid and reliable research result is the use of valid and reliable research instruments¹⁰. The instruments used in this study underwent validity and reliability testing before being administrated to respondents. The validity test conducted on the personality and work-related stress questionnaire instruments used the Pearson Product Moment table with a sample size of 30 people and a significance level of 0.05, yielding a value of 0.3610. since the calculated $r > \text{tabel } r$, the instrument is valid. Based on the reliability test conducted on the research instrument, the results showed a Cronbach's Alpha of 0.886 for the personality type instrument and a Cronbach's Alpha of 0.929 for the work-related stress instrument. Based on the validity test conducted, the Cronbach's Alpha value was > 0.6 , indicating tha the data instruments are reliable¹¹. Since the validity and reliability tests have been conducted, this means that both the personality type and work-related stress measurement instruments are valid and reliable for use in this study.

Data Analysis Techniques

The data analysis conducted in this study utilized the SPSS software and involved univariate and bivariate analyses. Univariate analysis was performed to examine the frequency distribution of the variables under study, namely personality types A and B and work-related stress. Bivariate analysis, on the other hand, was used to determine the relationship between independent and dependent variables. The data types obtained in this study were nominal data for the personality type A and B variables and ordinal data for the work-related stress variable. Therefore, the statistical test used was a non-parametric statistical test employing the chi-square statistical analysis. This statistical test was conducted to determine if there was a relationship between the independent variables personality type A and B, and the dependent variable work-related stress.

Ethics Approval

This study has received ethical approval from the Health Research Ethics Comitte under number 11/EA/KEPK/2023

RESULTS

Table 1. Distribution of Personality Type Among Maintenance Workshop Workers

No.	Category	Frequency	Percentage (%)
1.	Type A	34	68
2.	Type B	16	32
Total		50	100

Table 1 shows that the majority of maintenance workshop workers have Type A personality, with 34 respondents. Meanwhile, there are 16 maintenance workshop workers with Type B personality.

**Table 2.** Distribution of Work-Related Stress Among Maintenance Workshop Workers

No.	Category	Frequency	Percentage (%)
1.	Low	8	16
2.	Moderate	23	46
3.	High	38	38
Total		50	100

Table 2 shows most of the maintenance workshop workers experience moderate work-related stress, with 23 respondents reporting this level. 8 maintenance workshop workers experience low work-related stress, and 19 maintenance workshop workers experience high work-related stress.

Table 3. The Relationship Between Personality Type and Work Stress Among Maintenance Workshop Workers

Personality Type	Work-Related stress						Total		<i>P-value</i>
	Low		Moderate		High		n	%	
	n	%	n	%	n	%			
Type A	5	14.7	11	32.4	18	52.9	34	100	0.005
Type B	3	18.8	12	75	1	6.3	16	100	
Total							50	100	

Based on the results in Table 3, it was found that workers in the maintenance workshop with personality type B who experienced the highest frequency of work-related stress fell into the moderate category, totaling 12 workers. Meanwhile, workers with personality type A who experienced the highest frequency of work-related stress fell into the high category, totaling 18 workers. The most common personality type among workers is type A. According to the results of the research data analysis, the p-value was 0.005, which is smaller than the alpha level of 0.05. Therefore, it can be concluded that there is a relationship between personality types A and B and work-related stress among workers in the maintenance workshop.

DISCUSSION

On average, maintenance workshop workers at PT. Bumi Suksesindo have Type A personalities. The nature of the work in the maintenance workshop at PT Bumi Suksesindo demands that they be ambitious to succeed and complete their tasks with minimal errors to avoid future losses, this aligns with the views of Friedman and Rosenman (1961), who noted that Type A individuals tend to prioritize success¹. Maintenance workshop workers also face the demand to work quickly because if they work slowly, the production process will be delayed, this aligns with opinions of Friedman and Rosenman (1961), who state that Type A individuals tend to move quickly.

The results of this study also indicate that 23 (46%) workers in the maintenance workshop at PT Bumi Suksesindo tend to experience moderate levels of work-related stress. Work-related stress among maintenance workshop workers at PT Bumi Suksesindo can be linked to the workers' personality type, which is mostly type A. Individuals with type A personalities are more prone to stress because if their work does not align with their expectations, it will cause them stress.

Based on the results of the chi-square statistical test, it was found that there is a relationship between personality type and work-related stress among maintenance workshop workers at PT Bumi Sukseindo. This supports the theory that one of the factors causing work-related stress is personality type⁶. This study is also consistent with research conducted by Giu (2013), who stated that Type A personality has a positive effect on work-related stress among employees at the Manado Religious Training Center, while Type B personality has a negative effect on work-related stress among employees at the Manado Religious Training Center¹².

The conditions of these maintenance workshop workers also align with research by Simbolon (2023), which found that the relationship between Type A personality and work-related stress is moderate, while the relationship between Type B personality and work-related stress is low¹³. The study states that workers with Type A personality have higher work-related stress than workers with Type B personality¹³. Workers with Type A personality always want to complete their work as soon as possible but may feel burdened by the work if they do not work according to their wishes, which can ultimately lead to work-related stress.

The study conducted on maintenance workshop workers is also consistent with the research by Natasha (2021), which found that Type A personality has a significant effect on work-related stress. Individuals with Type A personality are prone to stress because they do not take time to rest while performing their work¹⁴. Another study also indicates that Type A personality has a positive and significant effect on work-related stress¹⁵. This study is also consistent with research conducted by Ramadhani (2025), which states that individual characteristics such as Type A personality are associated with levels of work-related stress. However, the results of that study indicate that while Type A personality is indeed associated with work-related stress, it has a negative correlation with work-related stress¹⁶.

This study has several strengths, including the use of reliable and valid work-related stress and personality type instruments following reliability and validity test, as well as the use of total sampling on this study, which minimizes the risk of generalization error¹⁰. However, this study also has limitations, namely that it only examines whether there is a relationship between personality type and work stress. This study cannot explain the causal relationship that may exist between personality type and work stress. This study cannot explain the causal relationship that may exist between personality type and work-related stress.

CONCLUSION AND RECOMMENDATIONS

The results of this study indicate a significant relationship between personality type and work-related stress among maintenance workshop workers at PT Bumi Sukseindo. Based on these findings, it is recommended that the company provide training or awareness sessions for workers on work-related stress and administer pre- and post-test to measure workers understanding of the material covered. The company may also organize activities such as group exercises or other initiatives to alleviate workers boredom with their jobs.

Workers are advised to perform light stretching exercise during work breaks to relax tense muscles, thereby helping the body recover from work-related tension. Workers are also encouraged to engage in regular exercise for at least 30 minutes twice a week outside of work hours to maintain physical fitness while on the job.

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