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MORALITY BEFORE KNOWLEDGE

Work stress, employee capacity, and organizational policy: A quantitative study on the effects of age and job rotation on work ability

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ABSTRACT

Background: Employability is the capacity possessed by every worker and is a balanced value between personal resources and work factors. **Methods:** This study used a cross-sectional study design with a research sample of 99 respondents obtained through simple random sampling technique. This research instrument uses The Workplace Stress Scale to measure work stress and the Work Ability Index to measure work ability. This study used chi-square test analysis and multiple logistic regression. **Findings:** Work ability can be affected by work stress because it disrupts individual health and has an impact on the company. This study aims to determine the relationship between work stress levels and work ability in employees of Company P in 2024. **Conclusion:** The results showed that the level of work stress was significantly associated with work ability (p=0.003; POR=4.209; 95% CI=1,708-10,369). The results of multivariate analysis showed that age (p=0.017; POR=0.222; 95% CI =0.065-0.761) and job rotation (p=0.000; POR=76.951; 95% CI=12.524-472.811) were confounding variables of the relationship between work stress level and work ability. **Novelty/Originality of this article:** In this study, the variable most related to work ability is job rotation. Companies can consider before rotating employees and facilitating training in specialized fields so that employees have skills in related fields.

KEYWORDS: office employee; work ability; work ability index; work stress.

1. Introduction

As time goes by, the whole world is faced with increasingly rapid developments in the environment and science so that each individual must adapt and be able to complete their work according to the demands of the company. Human resources (HR) who are unable to compete and do their jobs well will have a negative impact on the future of the company and on the workers themselves, such as early retirement, health problems, disabilities, and decreased company productivity (Ilmarinen et al., 1991). Work ability is the capacity possessed by each worker and is worth a balance between personal resources and work factors.

Having work ability means having work competence, the health needed for that competence, and having good work principles to manage work tasks, provided that the work given and the work environment meet appropriate standards (Tengland, 2011). Work ability can be affected by work stress because it interferes with the health of individuals and has an impact on the company (Kordi et al., 2014). Work ability is the condition of individual

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resources in relation to work (Ilmarinen, 2001). Individual resources include health and functional capacity (physical, mental, and social), education and competence, values and attitudes, and motivation. Meanwhile, work factors include physical and mental work demands, work community and management, and work environment. The result of the combination of these two elements can be called individual work ability. Research (Comper et al., 2021) shows that job rotation also has an impact on decreasing work ability and work period can have a positive effect because ideally, the longer a person works, the better their work ability will be and the more they master their field of work (Jayanti & Dewi, 2021).

One of the instruments that can measure work ability and has been used frequently by various countries is the Work Ability Index (WAI). WAI was developed in the 1980s in Finland due to the increasing number of cases of early retirement and the increasing cost of work disability so that workers are unable to carry out their duties (Ilmarinen, 2009). Currently, the retirement age in Finland is flexible between 63 and 68 years. However, 7.5% of the working age population has retired early due to disability, so the actual average retirement age is 60 years (Lahelma et al., 2012). WAI scores decrease with increasing age of workers (Rypicz et al., 2021), this is evidenced by a study comparing WAI scores in several European countries and Israel. In Czech nurses and midwives aged between 51 and 62 years had a WAI score of 36.3 points (moderate), in Portugal with an average age of 34.3 years had a WAI score of 38.7 (good), and in Israel the group with an average age of 41.1 had a WAI score of 41.8 points (good) (Čeledová et al., 2014). Research conducted (Kaewboonchoo, 2016) in 4 ASEAN countries, namely Indonesia, Malaysia, Vietnam and Thailand, found that more than 70% of workers from each country had good to very good work abilities. The highest score of 41.5 points by Vietnam and the lowest of 38.7 points by Malaysia, while Indonesia is 39.6 points which is included in the good category. However, it was found that of the four ASEAN countries, Indonesia has the most workers with poor work ability, namely 8 respondents. Work ability is also closely related to work stress and health status (Yang et al., 2019). In Indonesia, work stress is still a serious problem that results in a rate of emotional mental disorders of 9.8% and work-related stress resulting in fatalities of 35%, and an estimated 43% of lost work days (Trisnasari & Wicaksono, 2021).

Company P is one of the state-owned companies engaged in the electricity energy sector. Employees of Company P are white collar workers because their work requires more dominant mental demand. In their daily lives, employees spend a lot of time on administrative, managerial, professional work and very little in doing physical work. Based on a preliminary study conducted at P, the results showed that 6 out of 8 employees experienced high stress. In a study conducted by (Lestari & Ramdhan, 2014) the results showed that workers with high stress levels would have a worse work ability index (WAI) and workers with mild stress would have a better WAI. Therefore, based on the description of the problems that have been described, this study aims to determine the relationship between work stress levels and work ability in employees of Company P in 2024.

2. Methods

This study uses a quantitative method with a cross-sectional study design. Cross-sectional research is a study to study risk factors and effects, by means of an approach, observation or data collection at one time simultaneously. This study will analyze the relationship between independent variables, namely work stress, age, gender, education level, marital status, length of service, and job rotation with the dependent variable, namely work ability. This research was conducted at the Office of Company P located at Gambir, Gambir District, Central Jakarta City.

Population is a general area consisting of objects or subjects that have certain quantities and characteristics determined by researchers to be studied and then conclusions drawn. In this study, the population selected was employees ofCompany Ptotaling 99 people. The sample is a number of parts of the entire population. The technique used in sampling in this study is simple random sampling. To determine the size of the research sample, the two-proportion difference hypothesis test formula is used:

$$n = \frac{\{Z_{1-\alpha/2}\sqrt{(2P(1-P))} + Z_{1-\beta}\sqrt{(P1(1-P1))+P2(1-P2)}\}^2}{(P1-P2)^2} \quad \text{(Eq. 1)}$$

Description: n= Minimum sample size, Z1−β= Standard normal distribution value at test power β= 80%, $\frac{Z1-\alpha}{2} = Standard\ normal\ distribution\ value\ at\ confidence\ level$ ∝= 5%, Company P= $\frac{(P1+P2)}{2}$, P1= Proportion of poor work ability in the at-risk group, P2= Proportion of poor work ability in the non-at-risk group.

Table 1. Sample calculation

Variable	Researcher	P_1	P_2	Total Sample
Age	(Kazemi et al., 2019)	0282	0.018	45
Gender	(Gharibi et al., 2016)	0.684	0.316	45
Level of Education	(Gharibi et al., 2016)	0.521	0.094	28
Marital Status	(Gharibi et al., 2016)	0.902	0.098	7

From the sample calculation results, a minimum sample of 45 was obtained. The results were multiplied by two because the sample calculation used the Lemeshow two-proportion difference hypothesis test formula. A minimum sample of 90 was obtained. The researcher added 10% of the minimum sample to anticipate the possibility of invalid data. From a total of 120 employees of P, 99 employees were taken as research samples/respondents.

2.1 Data collection technique and research instruments

This study uses primary data obtained directly from employees of P. Primary data collection was conducted through direct interviews (face to face) using written questionnaires distributed to employees about individual factors, job factors, work stress and work ability. The following are the stages used to obtain primary data: The researcher asked the respondents' willingness to participate in the study. The researcher conducted interviews referring to the questions on the questionnaire.

Instruments are defined as tools for measuring information or making measurements. This research instrument uses a written questionnaire that contains instructions for filling out and informed consent as approval for data collection before respondents answer. The questionnaire consists of the following questions: Personal data questionnaire, questionnaire sheet regarding individual factors consisting of respondent's name/initials, age, gender, education level and marital status. Regarding work factors, it consists of length of service, yes/no statements about never having experienced job rotation, and choices for each field of work. The workplace stress scale questionnaire to measure employee stress levels is one of the instruments for measuring work stress subjectively. This questionnaire was developed by The Marlin Company and The American Institute of Stress in the United States. This questionnaire contains eight items that describe how often respondents feel an aspect of their work. The assessment in this questionnaire uses a Likert scale which is divided into five points, namely never (score 1) to very often (score 5). The higher the score indicates a higher level of work stress. The total score of respondents can be interpreted as follows (Lawal and Idemudia, 2017): 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Very Often.

The Work Ability Index (WAI) questionnaire to measure employee work ability is an instrument used to measure work ability and functions as a tool to estimate how long someone is able to work. This questionnaire was developed by the Finnish Institution of Occupational Health (FIOH) and is often used in the field of Occupational Safety and Health (OHS). WAI has seven items that include assessments of current and anticipated future work ability, absence due to illness, number of diseases diagnosed by a doctor, and psychological capacity (Ilmarinen et al., 1991). Each question has a different range/value, so the value of each answer will later be calculated into WAI points with the lowest score having a score of 7 to the highest at a score of 49.

2.2 Data processing

Editing, the editing process is carried out by re-checking the completeness of the contents of the questions, clarity, and relevance of the answers to the statements to find out any errors after being filled in by the respondents. For example, if there are respondents who do not meet the inclusion criteria or there are errors in filling out the questionnaire, they can be corrected immediately. Coding, after the editing process is complete, coding can be carried out, namely the process of providing codes for the answers from respondents according to the predetermined categories. This is done to make it easier to analyze data from the measuring instruments used.

Table 2. Research variable codes

Num	Research Variables	Research Code
1.	Work Ability	Code 0= Good (Points > 36)
		Code 1= Bad (Points ≤ 36)
2.	Job Stress	Code 0= Low (Score 0-20)
		Code 1= High (Score 21-40)
3.	Age	Code 0= ≤ 37 years (Median)
		Code 1= >37 years (Median)
4.	Gender	Code 0= Male
		Code 1= Female
5.	Level of Education	Code 0= High (Bachelor's Degree/Master's Degree/Doctorate Degree)
		Code 1= Intermediate (Senior High School)
6.	Marital Status	Code 0= Not Married
		Code 1= Married
7.	Years of Service	Code 0= ≤ 5 years
		Code 1= ≥ 5 years
8.	Job Rotation	Code 0= No
		Code 1= Yes

Data entry, after coding, the data to be analyzed is a combined and transferred to a computer software program for further data processing. Cleaning, the process of rechecking the data entry results from each respondent that has been completed, so that there are no code errors or incomplete data. Data presentation, after data processing and data analysis are complete, the results can be presented in various forms, such as tables, graphs, narratives, images, and so on.

2.3 Data analysis

Univariate data analysis was conducted to explain or describe the characteristics of the research variables. In this study, univariate analysis aims to determine the description of work stress variables, individual factors (age, gender, education level, and marital status), job factors (length of service and job rotation) and work ability. This analysis will produce the distribution and percentage of workers at P. Bivariate data analysis was conducted to analyze the relationship between independent and dependent variables. This study uses bivariate analysis to see the relationship between independent variables, namely work stress, individual factors (age, gender, education level, marital status), and job factors (length of service and job rotation) with the dependent variable, namely work ability at P. In analyzing the data, the researcher used the Chi-Square test (x2). The significance is determined by Company P value ≤0.05. To determine the closeness of the relationship between the independent variables and the dependent variables, the Prevalence Odds Ratio (OR) value is used with a 95% confidence interval (CI).

The null hypothesis (H0) criterion is rejected if the Company P value ≤ 0.05, which means there is a difference or a statistically significant relationship. The null hypothesis (H0) criterion is accepted if the Company P value > 0.05, which means there is no difference or no statistically significant relationship. Multivariate analysis is an extension of univariate

and bivariate analysis. This analysis aims to analyze the influence of the most dominant independent variables on the dependent variable. In this study, to conduct a multivariate analysis, a multiple logistic regression test of the risk factor model was used. Variables that produce a p-value (Asymp. Sig/asymptotic significance) <0.25 in the bivariate analysis become candidates for the multivariate test. Furthermore, the independent variables will be entered into the multivariate model together with the interaction variables. The interaction test is carried out by selecting interaction variables in stages starting from the variable with the largest p-value. After the interaction test is complete, a confounding test is carried out to see the variables that control the relationship between work stress and work ability. In addition, the variable with the largest Prevalence Odds Ratio (Exp B) is the variable that most influences the dependent variable.

Table 3. Multivariate analysis

Num	Objective	Data Analysis
1.	Analyzing the description of work stress levels, work ability, individual factors and job factors in employees of Company P in 2024.	Univariate
2.	Analyzing the relationship between individual factors (age, gender, education level, marital status) and work ability	Chi-Square
3.	Analyzing the relationship between work factors (length of service and work rotation) and work ability	Chi-Square
4.	Analyzing the relationship between work stress and work ability	Chi-Square
5.	Analyze the variables that are most related to work ability	Multiple Logistic Regression

Every research to be conducted must ensure that the research does not deviate from the applicable code of ethics norms. The research entitled "Analysis of the Relationship between Work Stress Levels and Work Ability in Employees of Company P in 2024" has passed the ethics test by the Health Research Ethics Commission of the National Development University "Veteran" Jakarta with Number: 216/V/2024/KEP. This research was conducted by ensuring the confidentiality of respondents, without coercion, and not used for exploitation. The principles that are implemented are: Informed Consent Sheet, This sheet is used to request respondents' consent regarding their availability to fill out the instruments provided. The consent sheet contains information related to the research to be conducted and is proof that this research was conducted with the correct system without coercion from any party. Confidentiality, All data related to respondents from the preliminary study process to the ongoing research is confidential and confidentiality is guaranteed. Respect for Human Dignity, Researchers must give respondents the freedom to make decisions without coercion from any party. All respondents' identities will be kept from parties not involved in this research to avoid harm and misuse. Justice, Respondents receive justice, without distinguishing between ethnicity, bag, and religion. This is related to the equality and fairness of respondents in obtaining the risks and benefits of the research. Beneficience and Non-Malaficient, This research is useful for respondents and researchers must prevent accidents or unexpected things in terms of physical or psychological in respondents.

3. Result and Discussion

3.1 Overview of the research location

P is one of the Main Distribution units with its business activities organizing the provision of electricity for the public interest with adequate quantity and quality, as well as carrying out government assignments in the electricity sector in order to support development in the Special Capital Region of Jakarta Province. Company P is located at Gambir, Gambir District, Central Jakarta City. Company P has 17 implementing units consisting of 16 Customer Service Implementation Units, namely: Customer Service

Implementation Units Bandengan, Customer Service Implementation Units Bintaro, Customer Service Implementation Units Bulungan, Customer Service Implementation Units Cengkareng, Customer Service Implementation Units Cempaka Putih, Customer Service Implementation Units Ciputat, Customer Service Implementation Units Ciracas, Customer Service Implementation Units Jatinegara, Customer Service Implementation Units Kebon Jeruk, Customer Service Implementation Units Kramat Jati, Customer Service Implementation Units Lenteng Agung, Customer Service Implementation Units Marunda, Customer Service Implementation Units Menteng, Customer Service Implementation Units Pondok Gede, Customer Service Implementation Units Pondok Kopi, Customer Service Implementation Units Tanjung Priok, and 1 Distribution Regulatory Service Unit, namely Distribution Regulatory Service Jakarta with a business area of 661.5 km2. The business of distributing electricity for public interest, includes the construction and installation, operation, and maintenance of electricity distribution installations.

P has 120 employees who are divided into 6 different divisions. The divisions include Construction, Commerce, Planning, K3L and Security, Communication and General, and Finance. Working hours of Company P from 07.30 to 16.30. Employees of Company P are included in white collar workers because their work requires more dominant mental demand. In their daily lives, employees spend a lot of time on administrative, managerial, professional work and very little time doing physical work. To balance this situation, Company P holds joint exercise/sports every Friday and provides a gym as a supporting facility for employees.

3.2 Research result

Univariate analysis was conducted to determine the frequency distribution of dependent and independent variables. The dependent variable in this study was work ability, while the independent variables consisted of work stress levels, individual factors (age, gender, education level and marital status) and job factors (length of service and job rotation). Bivariate analysis was conducted to determine the relationship between the dependent variable (work ability) and the independent variables consisting of work stress levels, individual factors (age, gender, education level and marital status) and job factors (length of service and job rotation). Bivariate analysis was conducted using the Chi-Square test with the provision that if the p-value is ≤0.05 then Ha is accepted which means there is a relationship between the two variables. Conversely, if the p-value is >0.05 then there is no relationship between the two variables.

The relationship between age and work ability, based on the results of bivariate analysis, it was found that respondents who were less than 37 years old, namely 34 respondents (61.8%) tended to have poor work ability compared to employees aged >37 years. The results of the chi-square test obtained a p-value= 0.155 (p-value> 0.05) so it can be concluded that there is no significant relationship between age and work ability in Company P employees in 2024. The relationship between gender and work ability, based on the results of the bivariate analysis, showed that female respondents with a total of 31 respondents (64.6%) tended to have poor work ability. The results of the chi-square test obtained a p-value=0.081 (p-value> 0.05) so it can be concluded that there is no significant relationship between gender and work ability in Company P employees in 2024.

The relationship between education level and work ability, based on the results of the bivariate analysis, showed that respondents with a secondary education level (SMA) with a total of 5 out of 99 respondents (71.4%) tended to have poor work ability. The results of the chi-square test obtained a p-value=0.591 (p-value>0.05) so that it can be interpreted that there is no significant relationship between education level and work ability in Company P employees in 2024. The relationship between marital status and work ability, based on the results of the bivariate analysis, showed that 47 out of 99 respondents (56.0%) who were married had poor work ability compared to employees who were not married. The results of the chi-square test showed that the p-value=0.701 (p-value>0.05) so that it can be

interpreted that there is no significant relationship between marital status and work ability in Company P in 2024.

The relationship between length of service and work ability, based on the results of the bivariate analysis, showed that 5 out of 99 respondents (71.4%) with a work period of <5 years and 49 respondents with a work period of more than 5 years (53.3) had poor work ability. Because this variable does not meet the requirements, namely 2 cells have an expected count <5%, so the Fisher's Exact test was carried out. The results of the Fisher's Exact test obtained a p-value=0.450 (p-value>0.5) so that it can be interpreted that there is no significant relationship between length of service and work ability in employees of Company P in 2024. The relationship between job rotation and work ability, based on the results of the bivariate analysis, shows that there is a significant relationship between job rotation and work ability in employees of Company P in 2024 (p-value=0.000). The resulting POR value is 22.750 (95% CI: 4.932-104.950) which can be interpreted that respondents who have experienced job rotation have a 22.750 higher risk of having poor work ability. There is a significant relationship between the level of work stress and work ability in employees of Company P in 2024. The results of the chi-square test show that the p-value= 0.003 (p-value<0.05) with a POR value of 4.209 (95% CI: 1.708-10.369) so that it can be interpreted that respondents with high levels of work stress have a 4.209 times higher risk of having poor work ability. The null hypothesis (H0) criteria are rejected because there is a relationship (p-value<0.05) between work stress and work ability.

Multivariate analysis using logistic regression of risk factor models to determine the relationship between work stress levels and work ability in employees of Company P in 2024. If the bivariate analysis results in a p-value<0.25, then the variable becomes a candidate to be tested together with the main independent variable (work stress) along with the confounding variables and their interactions will be included in the full multivariate model. From the results of the full model, an interaction test will be carried out, by gradually removing insignificant interaction variables (p-value>0.05). The interaction test is carried out to see the interaction of each independent variable with the main independent variable, namely work stress. After the interaction test is carried out, the next step is a confounding test by looking at the difference in the OR value of the main variable after the confounding candidate variable is removed. If the change in OR value is>10%, the variable is considered a confounding variable. Bivariate selection of variables with p-value results≥0.25 in the bivariate analysis cannot be included in the multivariate test because they do not meet the requirements to continue to modeling.

Table 4. Bivariate selection results

Num	Variable	P-Value	Information
1.	Age	0.155	Candidate
2.	Gender	0.081	Candidate
3.	Level of Education	0.591	Not a Candidate
4.	Marital Status	0.701	Not a Candidate
5.	Years of Service	0.450	Not a Candidate
6.	Job Rotation	0.000	Candidate
7.	Job Stress Level	0.003	Candidate

Based on table 4, the results of the bivariate selection show that there are 4 variables that are candidates for multivariate analysis, namely age, gender, job rotation and work stress levels because they have a p-value <0.25. The gender variable has been removed, it can be seen that the change in the OR of the main variable of work stress is <10%, so the gender variable is not a confounding variable and must still be removed from the model. Table 5 is the final multivariate model because the remaining independent variables, namely age, job rotation, and work stress have a p-value <0.05. The results of the final multivariate model show that the age variable and the job rotation variable are confounding the relationship between the level of work stress and work ability. From the model above, it can be interpreted that employees with high levels of work stress are at risk of having poor work ability 0.22 times higher than employees with low levels of work stress after controlling for

the "age" variable. In addition, employees with high levels of work stress are at risk of having poor work ability 76.951 times higher than employees with low levels of work stress after controlling for the "job rotation" variable. It can also be concluded that the variable most related to work ability is job rotation with the highest POR of 76.951.

Table 5. Final multivariate model

Variable	B	P-Value	Exp (B)	95% CI: Lower	95% CI: Upper
Age	-1.50	0.01	0.22	0.06	0.76
Job Rotation	4.34	0.00	76.95	12.5	472.8
Job Stress	2.71	0.00	15.05	4.20	53.94

3.3 Discussion of research results

3.3.1. Univariate analysis

Discussion of work ability frequency distribution, work ability or work ability is the alignment between the resources owned by workers with the demands of the work faced by the worker. Personal resources include age, education, health and functional capacity, namely physical, mental and social aspects that are the basis for work ability (Ilmarinen and Bonsdorff, 2016). One of the factors that affects work ability is work stress which can interfere with individual health and later have an impact on the company (Kordi et al., 2014). The relevance of work ability for workers and companies is very important. The results showed that out of 99 respondents, 54 respondents had poor work ability (54.5%) with a work ability index ≤36 points. Although the frequency of good work ability is not much different, namely 45 respondents (45.5%), workers with poor work ability can have an impact on the company and the individual themselves. In the 1980s in Finland, there were cases of early retirement and increasing costs of work disability because workers were unable to carry out their work duties (Ilmarinen, 2009).

Poor work ability indicates an imbalance between job demands and worker resources. This can be caused by several things, namely individual limitations and work factors (Tuomi et al., 1998). In addition, worker stress levels are still a serious problem in Indonesia. Research by (Trisnasari & Wicaksono, 2021) found that 9.8% of emotional mental disorders and work-related stress resulted in fatalities of 35%, so it is estimated that 43% of work days were lost. This can have a negative impact on the company and the workers themselves. A study conducted by (Comper et al., 2021) showed that job rotation also has an impact on decreased work ability. At P, job rotation is implemented for its employees and does not have a minimum time in office. So that employees are required to be adaptable and able to master each field of work. However, this is quite difficult to implement because the minimum time in office is uncertain, so it is quite difficult for employees to master one specific field. This triggers a decrease in employee work ability.

Discussion of the frequency distribution of individual factors, in this study, individual factors include age, gender, education level and marital status. Based on the results of the univariate analysis, it is known that respondents aged ≤37 years have a higher frequency, namely 55 out of 99 respondents (55.6%) and male respondents as many as 51 out of 99 respondents (51.5%). The lower labor force participation rate (TPAK) in women can be caused by economic factors such as wage gaps and demographic factors such as urbanization rates, women's marital status, and the number of children in the family (Purbowati, 2019). Several studies have shown that women who are married and have children tend to withdraw from the labor market. Then, the results of the univariate analysis on the education level variable show that 92 out of 99 respondents (92.9%) are dominated by higher education levels (Bachelor's Degree/Master's Degree/Doctorate Degree). While at the secondary education level (SMA) there are only 7 out of 99 respondents (7.1%). The importance of education not only affects the individual himself, but will also benefit the company. Through education, workers can have the skills needed to work efficiently and use work facilities properly (Putri, 2016). Furthermore, in the variable of marital status, there

are 84 out of 99 respondents with married status. As many as 15 other respondents (15.2%) have unmarried status. Marital status can affect work ability, but this can also be influenced by gender because of the individual's role in the family.

Discussion of the distribution of work factors, in this study, work factors include work period and work rotation. Work period is calculated from the beginning of the respondent's work as an employee of Company P until the respondent fills out the research questionnaire. It can be seen that 92 out of 99 respondents (92.9%) have worked for 5 years/more. While the other 7 respondents (7.1%) have a work period of less than 5 years. Work period can describe employee loyalty to the company. The length of work period is quite important because it can provide extensive work experience, knowledge and work skills including in facing obstacles and achieving success. So that work period can form workers who are skilled, fast, can analyze difficulties and are able to overcome them (Amanda et al., 2018).

In the work rotation variable, the results obtained were 87 out of 99 respondents (87.9%) had experienced work rotation. while the other 12 respondents (12.1%) stated that they had never experienced work rotation while being employees of P. Job rotation is an administrative control that is the rotation of workers from one field to another in this case rotation between tasks, levels of work exposure, and different demands. Job rotation can have a positive effect on improving employee performance and abilities if employees are given training during the transfer of tasks (Fachruddin, 2022). But on the contrary, job rotation can have negative results on employee performance and cause a decrease in the work ability of employees who experience rotation (Anggraini, 2013).

Discussion of the frequency distribution of work stress levels, work stress can be interpreted as an emotional state that arises due to a mismatch between the workload and the individual's ability to deal with the pressures they face (Vanchapo, 2020). Based on the results of the univariate analysis, it shows that 67 out of 99 respondents (67.7%) have high levels of work stress. While the other 32 respondents (32.3%) have low stress levels. This can be caused by work demands that tend to put pressure on a person which will later have an impact on work stress (Ningrat & Mulyana, 2022). Stress in workers can interfere with health, psychological conditions, and affect the behavior of the worker (Quick et al., 1987).

3.3.2 The relationship between work stress levels and work ability

Job stress can be interpreted as an emotional state that arises due to a mismatch between the workload and an individual's ability to deal with the pressures they face (Vanchapo, 2020). Based on the results of the univariate analysis, it shows that 67 out of 99 respondents (67.7%) have high levels of work stress. While the other 32 respondents (32.3%) have low stress levels. Then in the bivariate analysis, the results showed that there was a significant relationship between the level of work stress and work ability (p-value=0.003) with a POR of 4.209 (95% CI: 1.708-10.369) which can be interpreted that respondents with high levels of work stress have a 4.209 times higher risk of having poor work ability. That respondents with low levels of work stress as many as 22 out of 99 (68.8%) respondents have good work ability. This is in line with research conducted by (Lestari & Ramdhan, 2014) which found that workers with high stress levels will have worse work ability index (WAI) and workers with mild stress will have better WAI.

A person can be said to be healthy if they are not only free from disease or weakness, but also have a balance between physical, mental and social functions. Work ability is closely related to work stress and health status (Yang et al., 2019). The impact of stress on individuals can disrupt health, psychological conditions, and affect behavior (Quick et al., 1987). Stress can also worsen other health problems, such as digestive, respiratory, endocrine, reproductive, dermatological, and musculoskeletal disorders (Dolan, 2007). Meanwhile, in companies, the most common impacts that arise due to workers experiencing stress are absenteeism, presenteeism, and workers leaving their jobs (turnover) (Cox et al., 2000).

3.3.3 Multivariate analysis

In order to find out the most dominant variables on work ability, the researcher conducted a multivariate analysis through modeling with Multiple Logistic Regression test with a risk factor model. Multivariate modeling includes all candidate variables and interaction variables. In this case, it means the independent variables are age, gender, job rotation, work stress. Interaction variables include age by work stress, gender by work stress, and job rotation by work stress. In the full multivariate model, an interaction test is carried out by removing insignificant interaction variables (p-value>0.05) gradually starting from the interaction variable with the largest p-value. From the results of the first modeling, the variable "job rotation by work stress" has the largest p-value (p-value= 0.999) so it is not included in the next modeling. The next modeling obtained the results of the interaction variable "age by work stress" having the largest p-value (p-value= 0.300) so it is not included in the next modeling. After the variable "age by gender" was removed, the results of the interaction variable "gender by work stress" had a p-value= 0.232 so that the variable must be removed from the next modeling. So the results of the interaction test can be concluded that there are no significant interaction variables on the main independent variable (work stress).

The next step is to conduct a confounding test by looking at the difference in OR values for the main variable of work stress by gradually removing the candidate confounding variables, if the change in OR is 10% then the variable is considered a confounding variable. The final modeling results show that the variables age and job rotation become confounding variables because the change in OR of the main variable of work stress is> 10%. From the final modeling, it can be explained that employees with high levels of work stress have a risk of 0.222 of having poor work ability compared to employees with low levels of work stress after controlling for the variable "age". Furthermore, employees with high levels of work stress have a risk of 76.951 times of having poor work ability compared to employees with low levels of work stress after controlling for the variable "job rotation".

Job stress can be interpreted as an emotional state that arises due to a mismatch between the workload and the individual's ability to deal with the pressures they face (Vanchapo, 2020). The many demands of work can increase stress and interfere with workers' health, engagement, and ability to work (Ilmarinen, 2006a). The results of the study showed that the physical and physiological capacity of individuals at the age of 60 is only 60% of the individual's capacity at the age of 20 (Soto & John, 2012) which means that as age increases, physical and physiological capacity also decreases. In a study by (Gajewski et al., 2023) it was stated that in some parts of West Asia and East Asia, employment rates increase with age and people tend to work into old age. Some of the causes include high life expectancy, lack of competent young workers, and social security and pension systems (Abbas, 2019). Job rotation is an administrative control that refers to the transfer of work between tasks that require different skills, levels of work exposure, and work demands (Van et al., 2018). Initially, job rotation was used by engineers and managers to improve workforce performance and flexibility (Guimarães, Anzanello and Renner, 2012). Currently, this approach has evolved into an ergonomic strategy aimed at reducing the risk of work exposure (Leider et al., 2015). Job rotation programs have also been implemented for muscle rest, recovery from fatigue, and maintenance of ability and performance (Neupane et al., 2011). Job rotation can occur due to company/organizational decisions or the wishes of the employees themselves. Job rotation based on company decisions is usually carried out with the consideration of eliminating employee boredom, while rotation based on personal desires can be caused by family, health, or personal reasons.

It can be seen from the frequency distribution of job factors that most respondents have experienced job rotation, namely 87 out of 99 respondents (87.9%). It can be interpreted that Company P has a high job rotation rate. Companies can rotate employees to different fields from the fields they have previously worked in. Of course, each field of work has special tasks, so employees in that field must master their field of expertise. This can be a problem if a worker is aunable to a adapt to a new field that they have not mastered. Job

rotation can have a positive effect on improving employee performance and abilities if employees are given training during the transfer of duties (Fachruddin, 2022). But on the other hand, job rotation can have negative results on employee performance and cause a decrease in the work ability of employees who experience rotation (Anggraini, 2013).

3.4 Research limitations

The research conducted did not examine all risk factors with work ability, namely noise factors and physical workload because at Company P there was no exposure to noise and physical workload, as well as financial compensation factors caused by company policies. Primary data were obtained using quantitative methods by filling out questionnaires so that the quality of data information depends on the understanding and honesty of the respondents (objective). There is a chance of bias because the questions on the questionnaire are quite numerous so that during the data collection/questionnaire filling process, respondents tend to be in a hurry because of the limited time they have because they have to continue their tasks/work. There are limitations in obtaining previous research that is relevant to the research conducted.

4. Conclusion

A total of 45 employees have good work ability (45.4%) while 54 other employees have poor work ability (54.5%). Employees with low stress levels number 32 employees (32.3%) while 67 other employees have high work stress levels (67.7%). A total of 55 employees are aged ≤37 years (55.6%) and 44 other employees number 44 people (44.4%). There are 51 male employees (51.5%) and 48 female employees (48.5%). Most employees have a high level of education (92.9%). There are 84 married employees (84.8). A total of 92 out of 99 employees have a work period of ≥5 years (92.9%). Furthermore, the proportion of employees who have experienced job rotation is 87 out of 99 employees (87.9%).

There is a significant relationship between work stress and work ability in employees of Company P with p-value= 0.003 and POR value= 4.209 (95% CI: 1.708-10.369) which can be interpreted that workers with high levels of work stress are at risk of 4.209 times having poor work ability. Based on multivariate analysis, it was found that the job rotation variable is the variable most related to work ability in employees of Company P with p-value=0.000 and POR value=76.951 (95% CI: 12.524-472.811) so it can be interpreted that workers who have experienced job rotation are at risk of 76.951 times having poor work ability.

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