RELATIONSHIP BETWEEN WORK PERIOD AND MEAL FREQUENCY WITH WORK PRODUCTIVITY IN WORKERS FACTORY

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ABSTRACT

Background: Factory workers are vulnerable to decreased work productivity. Factors affecting work productivity include the length of the workday and the meal frequency. Various work periods and meal frequencies will lead to different levels of productivity for individual factory workers. The study aims to determine the relationship between years of service and meal frequency with work productivity at worker factory.
Subjects and Methods: This cross-sectional study was conducted at a textile factory in Palur, Karanganyar Regency, in August 2022. The population in the study consisted of 202 factory workers. A total of 136 workers were obtained using the simple random sampling technique. The dependent variable in this study is work productivity and the independent variables are work period and meal frequency. The research instrument consisted of observation sheets for work productivity, years of service, and meal frequency. The primary data were employed in this study, with univariate analysis using frequency distribution, bivariate analysis using chi-square, and multivariate analysis using multiple ordinal regression.
Results: The results showed that there was a relationship between the length of work and meal frequency with work productivity, the results of multivariate analysis is work period correlated to work productivity by 0.4 times (OR=0.39; 95% CI -1.69 to 0.20) and meal frequency was more highly correlated with work productivity of 0.5 times (OR=0.53; 95% CI -1.34 to 0.07). Significance value between years of service with work productivity (p = 0.013) and meal frequency with work productivity (p = 0.053)
Conclusion: Work productivity is affected by the length of work and meal frequency.

Keywords: work period, meal frequency, work productivity

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BACKGROUND

The industrial world is experiencing intense competition in the era of globalization in the national and international arenas. The rise of competitors is a threat to the company. This situation causes competition in getting the best results for developing human resources in Indonesia (Mangkunegara, 2017). One of the efforts to increase it is through a healthy, fit, and qualified workforce to develop the productivity achieved. The quality of work productivity is still a problem in the workforce. According to APO (Asian Productivity

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Organization) (2019), work productivity in Indonesia is still relatively low, namely 21% or USD 26 in regional coverage in Asia compared to Singapore which occupies the first position at 115%, and Malaysia with the 8th position at 49%. The decline in work productivity decreased in 2020 compared to 2019 by 3.55% (Kemnaker RI, 2021).

One that affects work productivity is the length of service (Tamunu et al., 2021). The definition of a working period describes how long a person has worked in years or months. Work that is carried out at long intervals so that workers can master and develop the skills carried out will also produce good work productivity (Laminia & Muniroh, 2018). The results of the preliminary study show that out of 30 workers, 18 workers who have worked for more than 10 years are more skilled than workers who have worked for less than 10 years. The correlation between years of service and work productivity has a positive relationship (Tamunu et al., 2021). The longer the work is done by someone, the more experienced, responsible, skilled, introspective, and contributes to improving the quality of the company. Skilled workers have a major influence on increasing work productivity (Ramadhani et al., 2020).

Apart from working periods, external factors that affect productivity are meal frequency. There is a relationship between meal frequency and work productivity (Shafitra et al., 2020). Consumption of meals with a frequency of more than 3 times a day will improve employee performance compared to someone who has a habit of eating less than 3 times a day. Meal frequency shows how often a person consumes a main meal consisting of staple foods, side dishes, fruits, and vegetables. The better a person's meal frequency, which is closer to the guidelines for balanced nutrition, it will affect a worker's energy from food consumption. Increasing the frequency of eating will determine the number of nutrients that are obtained by the body (Ningrum and Muniroh, 2017). Preliminary study data, workers consume food 2x/a day because children are fussy so they don't have time to eat breakfast or bring lunch (Primary Data, 2022). Based on the reasons above, the researcher wanted to know the relationship between years of service and frequency of meals with work productivity at workers factory.

SUBJECTS AND METHOD

1. Study design

This research is a study with cross-sectional that will be conducted in August 2022.

2. Population and Sample

The population in this study was 206 workers in a factory in Palur, Karanganyar. A sample of 136 workers aged 18-65 years was selected by simple random sampling.

3. Study variable

Dependent variable: work productivity.
Independent variables: work period and meal frequency.

4. Operational Definition of Variables

Work productivity is a measurable result, which can be achieved by someone in a real work environment in every unit of time.

Meal frequency is the intensity of frequent food consumption in a day.

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Work period namely the period in which a person does work from the beginning to the present.

5. Study Instruments

Data was collected using work productivity observation sheets, meal frequency, and work period.

6. Data analysis

Univariate analysis using the frequency distribution, bivariate analysis using the chi-square test, and multivariate analysis using ordinal regression.

RESULTS

1. Univariate analysis

Table 1 shows that some factory workers are aged 26-45 years, namely in late adulthood and early elderly respectively -each as many as 41 workers (30%). Gender data illustrates that there are more female workers (82%) than male workers (18%). Degree of education with the greatest value (51%). Most of the workers have worked >10 years (54.5%), have good meal frequency (70%), and moderate productivity (44%).

Table 1. Distribution of Characteristics of Respondents

Characteristics of respondents	n	Percentage
Age		
Late adolescence (17-25 years)	25	18 %
Early adulthood (26-35 years)	22	16 %
Late adulthood (36-45 years)	41	30 %
Early Elderly (46-55 years)	41	30 %
Late Elderly (56-64 years)	7	5 %
Gender		
Male	25	18 %
Female	111	82 %
Level of education		
No school	1	1 %
Elementary School	25	18 %
Junior High School	38	28 %
Senior High School	70	51 %
Diploma 3	2	1 %
Years of service		
New (1-5 years)	41	30 %
Moderate (6-10 years old)	21	15.5 %
Old (>10 years)	74	54.5 %
Meal Frequency		
Less < 3x/day	41	30 %
Good 3x/day	95	70 %
Work productivity		
Low (< target)	21	15.5 %
Moderate (= targets)	60	44 %
High (> targets)	55	40.5 %

Based on the data that has been obtained who worked longer were 74 people (54.4%), with high productivity of 27.2%, moderate 19.9%, and low 7.4%. The working period in the moderate category has a total of 15.4% of respondents, which have high productivity (7.4%), moderate (5.9%), and low (2.2%). The total workforce with the new classification is 30.1% with high productivity (5.9%), moderate (18.4%), and low (5.9%).

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2. Bivariate Analysis

The results of measuring the frequency of eating correlated with work productivity. This is indicated by the value of p-value = 0.047. This is indicated by the frequency of eating well with high productivity (30.9%), moderate (31.6%), and low (7.4%). In addition, workers who have less frequency of eating with low (8.1%), moderate (12.5%), and high (9.6%) productivity.

Table 2. Relationship between working period and work productivity

Years of service	Work productivity								p
	Low		Moderate		High		Total		
	n	%	n	%	n	%	n	%	
New	8	5.9	25	18.4	8	5.9	41	30.1	0.029
Moderate	3	2.2	8	5.9	10	7.4	21	15.4	
Long	10	7.4	27	19.9	37	27.2	74	54.4	
Total	21	15.4	60	44.1	55	40.4	136	100	

Table 3. The Relationship of Meal frequency with Work Productivity

Meal frequency	Work productivity						Total		p
	Low		Moderate		High				
	n	%	n	%	n	%	n	%	
Poor	11	8.1	17	12.5	13	9.6	41	30.1	0.047
Good	10	7.4	43	31.6	42	30.9	95	69.9	
Total	21	15.4	60	44.1	55	40.4	136	100	

3. Multivariate Analysis

Table 4. Multivariate Analysis

Variable	OR	CI 95%		p
		Lower Limit	Upper Limit	
Work Period	0.39	-1.69	0.20	0.013
Meal Frequency	0.53	-1.34	0.07	0.528
Work productivity	0.09	-2.96	-1.66	0.099

Table 4 shows that the longer the working period of the workforce (OR= 0.39; 95% CI= - 1.69 to 0.20; p= 0.013) and the better the frequency of meals (OR= 0.53; 95% CI= -1.34 to 0.07; p= 0.528), the higher the level of work productivity (OR= 0.09; 95% CI= -2.96 to -1.66; p= 0.099).

DISCUSSION

1. Sample Characteristics

The ages of the respondents in the research conducted varied from young to old. Workers in this study are of productive age, namely 15 to 64 years (Kemnaker RI, 2021). Characteristics of workers by age group the largest range is found in the category of late adults and early elderly 36 to 55 years as many as 81 people. There is no substandard age. According to Labor Law No. 13 of 2003, it is prohibited to employ someone under the age of 18 who is included in the child category (Kemenperin RI, 2003). Age is positively correlated with worker performance. The higher the age of the worker, the better the level of productivity (Novianti et al., 2017).

The gender category with the largest number of respondents was women. The ability to work between

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women and men is different. According to (Maghfiroh, 2019), male workers have a higher ability to carry out work activities compared to male workers. Respondents in this study had a smaller number of male workers because the activities in the factory were usually done by a woman.

In addition, most education is in the SMA/SLTA/SMK category. Education will affect one's insight. The higher the education, the more knowledge you have. Knowledge will lead to behavior. One of them is having creativity, ideas, and strategies in carrying out an activity. Education also influences how humans have a much better mindset compared to those who don't go to school (Adnan et al., 2020).

2. Relationship of working period with work productivity

Statistical analysis shows that there is a relationship between the length of service and work productivity. Working period data shows that employees with the longest span of service to the company are 36 years and new employees are 1 year. There are more old workers with moderate productivity (reaching the target) and high (more than the target). This shows that the longer the workforce works, the more agile they are because they are accustomed to carrying out their daily work activities (Nurdiawati and Safira, 2020).

The long working period causes the person to be reliable at doing his job because years of experience have been taken so that he has more value in doing work in his field (Triana et al., 2017). A longer working period will lead to a person's persistence. The length of time for work activities also has a good impact on workers, namely being able to correct, minimize and evaluate errors that occur during the production process. Long working hours make a positive contribution because they are more skilled in producing a product compared to new workers (Ukkas, 2017).

3. The relationship between meal frequency and work productivity

Data shows that there is a correlation between meal frequency and work productivity. Based on these results it can be illustrated that workers with the lowest meal frequency are 1 meal and the highest is 3 meals. The meal frequency category is divided into 2, namely less (<3x/day) and good (≥3x/day) (Ayu and Santoso, 2017). The result of the highest meal frequency is in the good consumption category for 95 workers (69.9%), where workers who have moderate productivity eat 3 times a day the highest with a value of 31.6% for 43 people. Frequency affects work productivity, where workers who eat less than 3 times a day are less productive at work due to eating patterns that are less than they should be (Shafitra et al., 2020).

The quantity of food in a day will affect the energy that enters the body. Lack of frequency of eating will cause a lack of nutrients needed by the body. A person needs energy commensurate with the work done. Energy needs will increase because it is in line with the severity of the work done. The more consumption of food with good frequency, the more energy from the food that the body needs will be fulfilled. This will have an impact on increasing work productivity. Food ingredients that are often consumed are rice with

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side dishes, vegetables, and rare fruit (Ningrum and Muniroh, 2017).

4. The relationship between working period and meal frequency with work productivity

Multivariate result data stated that the Nagelkerke R Square value was 0.092, which means that the dependent variable was 9.2% explained by the independent variables and the remaining 10.8% was explained by other variables that were external from other research models. This means that fluctuations in a work period and meal frequency can explain the incidence of variations in work productivity in factory workers by 9.2%. The factor of work productivity incidents in factory workers is caused by multifactorial including biological, psychological, environmental, and sociocultural factors that contribute directly or indirectly. The factors that affect work productivity are divided into two groups, namely the first group, is factors that exist in individuals such as age, temperament, individual physical condition, nutritional status, fatigue, motivation, education, and skills; the second group, are factors that exist outside the individual such as rest time, length of work, nutrition including food consumption, a form of organization, social and family environment, management, industrial relations, income level, work environment and climate, production facilities, technology and opportunities for achievement (Novianti et al., 2017).

This study summarizes that there is a positive correlation between years of service and frequency of meals with the work productivity of workers at Factory X which is one of the Karanganyar factories. The longer working in the factory, the higher the productivity. The habit of eating 3 times a day will lead to increased work productivity compared to eating 2 or 1 times a day.

AUTHOR CONTRIBUTION

All authors contributed to this study.

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CONFLICT OF INTEREST

None.

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