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# Overview of Work Stress Levels among Online Motorcycle Taxi Drivers, Mechanics, and Construction Workers in Surabaya City

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## ABSTRACT

Work-related stress is one of the psychosocial factors that plays an important role in the occurrence of occupational diseases, particularly in work environments with high job demands and workloads. Continuous exposure to work-related stress can adversely affect workers' physical and mental health and lead to a decline in work productivity. This article aims to describe the level of work-related stress and its potential association with occupational diseases based on the results of a work stress survey practicum.

The method used was a descriptive survey with an observational approach, conducted through the administration of a work stress questionnaire to respondents. The assessed aspects included workload, time pressure, work relationships, and perceived health complaints. The survey results showed that a proportion of respondents experienced moderate to high levels of work-related stress, with common health complaints including fatigue, sleep disturbances, headaches, and muscle pain. These conditions indicate a potential increase in the risk of occupational diseases if appropriate control measures are not implemented.

The implications of these findings highlight the importance of controlling psychosocial factors through the implementation of a comprehensive Occupational Safety and Health (OSH) program, including workload management, provision of adequate rest periods, and enhancement of workplace support, in order to prevent occupational diseases and improve workers' overall well-being.

## 1. INTRODUCTION

Work-related stress is a psychological and physiological response that arises when job demands exceed an individual's ability to cope with them. This condition can have negative effects on both mental and physical health, including decreased concentration, emotional exhaustion, and an increased risk of occupational accidents. Within the job strain model, work-related stress occurs as a result of the combination of high job demands and low levels of worker control over their tasks, which may lead to long-term health disorders.

The current development of the world of work is characterized by increasingly high performance targets, time pressure, and less supportive work environments, thereby elevating the risk of work-related stress among workers. Heavy physical and mental workloads tend to exacerbate stress levels, which may ultimately reduce productivity, work quality, and occupational safety if not properly managed.

The relationship between work-related stress, productivity, and mental health is reciprocal. While stress at an optimal level may enhance performance, excessive stress can trigger mental health problems that negatively affect productivity. In Indonesia, high job demands, long working hours, and a work culture that emphasizes output often overlook workers' psychological well-being. Certain occupations are associated with a higher risk of work-related stress, such as online motorcycle taxi drivers, who face irregular working hours, unstable income, target pressure, as well as traffic and weather conditions. In addition, workshop workers and mechanics are also vulnerable to stress due to heavy physical workloads, high technical demands, and occupational accident risks. Construction workers experience even greater physical and mental pressure due to high workloads, project deadlines, hazardous work environments, and prolonged working hours.

## 2. METHOD

This study was conducted as an occupational health surveillance using a descriptive approach with a cross-sectional design, carried out from December 2025 to January 2026, employing the SDS-30 questionnaire to identify factors contributing to work-related stress. Data were collected from 30 respondents, consisting of 10 high-rise construction workers, 10 mechanics, and 10 online motorcycle taxi drivers, selected through purposive sampling based on the criteria of being actively employed and willing to participate in the study.

The primary variable examined was the level of work-related stress, while supporting variables included age, sex, working hours, length of employment, and type of occupation. Data were obtained through self-administered questionnaires and analyzed using SPSS software with frequency analysis to determine the distribution of work-related stress levels according to respondent characteristics and occupational categories. The results were subsequently presented in tabular form.

## 3. RESULTS

### High-Rise Construction

Table 3.1 Characteristics of High-Rise Construction Worker Respondent.

| Varable | Categories | Frequency (n) | % |
|---|---|---|---|
| Age | 20 Th | 4 | 40% |
| | >20 Th | 6 | 60% |
| Gander | Man | 10 | 100% |
| | Woman | 0 | 0% |
| Length Of Employment | <8 hours | 0 | 0% |
| | 8 hours | 9 | 90% |
| | >8 hours | 1 | 10% |
| Duration of Employment | < 1Years | 9 | 90% |
| | 1 – 5 years | 1 | 10% |
| | > 5 years | 0 | 0% |

Based on the respondent characteristics, the majority of high-rise construction workers were over 20 years of age (60%), and all respondents were male (100%). Most workers reported working 8 hours per day (90%), while a small proportion worked more than 8 hours per day (10%), which may increase the risk of work-related fatigue.

In terms of length of employment, the majority of respondents had worked for less than one year (90%), indicating that most workers were relatively new to their jobs. A short duration of employment may influence workers' ability to adapt to the work environment, their understanding of job tasks, and their perception and management of work-related stress.

Table 3.2 Distribution of Role Ambiguity Levels among High-Rise Construction Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

Based on the frequency analysis, role ambiguity among high-rise construction workers was evenly distributed, with both the mild and moderate categories accounting for 50% each. This finding indicates that while some workers have a fairly good understanding of their duties and responsibilities, others still experience uncertainty regarding their roles at work. Moderate levels of role ambiguity may be attributed to insufficient clarity in work instructions, suboptimal task allocation, or frequent changes in job assignments at the worksite.

Table 3.3 Distribution of Total Role Conflict among Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| **Mild** | 4 | **40 %** |
| **Moderate** | 6 | **60 %** |
| **Total** | 10 | **100 %** |

The results of the frequency test indicate that most of the role conflict experienced by high-rise construction workers falls into the moderate category (60%), while the mild category accounts for 40%. This situation shows that the majority of workers face conflicting role demands, whether from supervisors, coworkers, or the work conditions themselves. Role conflict in the moderate category may arise when workers are required to fulfill multiple work obligations simultaneously or receive inconsistent instructions.

Table 3.4 Distribution of Total Quantitative Workload among High-Rise Construction Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| **Mild** | 4 | **40 %** |
| **Moderate** | 6 | **60 %** |
| **Total** | 10 | **100 %** |

The distribution of workload in the quantitative aspect shows that most participants fall into the moderate category (60%), while the mild category accounts for 40%. This quantitative workload is related to the number of tasks and the time available to complete them. These results indicate that many workers perceive the assigned tasks as relatively numerous and requiring completion within a limited period. In the context of high-rise building construction, this situation often arises due to work targets and tight project time pressures.

Tabel 3.5 Distribution of Total Qualitative Workload among High-Rise Construction Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| **Mild** | 6 | **60 %** |
| **Moderate** | 4 | **40 %** |
| **Total** | 10 | **100 %** |

The results of the frequency test show that most of the qualitative workload falls into the light category (60%), while the moderate category accounts for 40%. Qualitative workload is related to the level of job difficulty and the workers' ability to complete the tasks. The high proportion of the light category indicates that the majority of workers feel they have skills and abilities that are well matched to the demands of their jobs.

Tabel 3.6 Distribution of Total Career Development Among High-Rise Construction Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The distribution of career development shows balanced results between the low and moderate categories, each accounting for 50%. This indicates that some workers feel they have adequate opportunities for career development, while others feel hindered.

Tabel 3.7 Distribution of Total Career Development Among High-Rise Construction Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 3 | 30 % |
| High | 3 | 30% |
| Total | 10 | 100 % |

The distributed data indicate that responsibility toward others is divided into three categories: light (40%), moderate (30%), and heavy (30%). The heavy category indicates that some workers have substantial responsibilities related to the safety or tasks of their colleagues. In high-rise building construction projects, this responsibility is usually associated with teamwork and the potential risk of workplace accidents.

**Mechanical Workers**

Tabel 3.8 Characteristics of Mechanical Worker Respondents

| Variable | Categories | Frequency (n) | % |
|---|---|---|---|
| Age | 20 Th | 3 | 30% |
| | >20 Th | 7 | 70% |
| Gander | Man | 10 | 100% |
| | Woman | 0 | 0% |
| Length Of Employment | <8 hours | 1 | 10% |
| | 8 hours | 6 | 60% |
| | >8 hours | 3 | 30% |
| Duration of Employment | < 1Years | 1 | 10% |
| | 1 – 5 years | 8 | 80% |
| | > 5 years | 1 | 10% |

Based on the respondents' characteristics, most workers in the mechanical sector are over 20 years old (70%), and all respondents are male (100%). Most workers work 8 hours per day (60%), but there are also workers who work more than 8 hours (30%), which puts them at risk of fatigue. In terms of length of employment, the majority of respondents have worked for less than one year (90%).

Tabel 3.9 Distribution of Total Role Ambiguity among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The results of the frequency analysis show that role ambiguity among mechanical workers is evenly divided between the mild and moderate categories, each accounting for 50%. This indicates that some workers have a fairly good understanding of their assigned duties and responsibilities, while others still experience confusion regarding their roles.

Tabel 3.10 Distribution of Total Role Conflict among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The distribution of role conflict shows a balanced result, with 50% classified in the mild category and 50% in the moderate category. This indicates that some mechanical workers experience role conflict at a manageable level, while others perceive more significant role-related pressure.

Tabel 3.11 Distribution of Total Quantitative Workload Among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 3 | 30 % |
| Moderate | 7 | 70 % |
| Total | 10 | 100 % |

The results of the frequency test show that the majority of mechanical workers fall into the moderate quantitative workload category (70%), while the Mild category accounts for only 30%. Quantitative workload refers to the number of tasks that must be completed and the time limits available to accomplish them.

Tabel 3.12 Distribution of Total Quantitative Workload Among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 6 | 60 % |
| Total | 10 | 100 % |

The distribution of qualitative workload indicates that the majority of respondents fall into the moderate category (60%), while the remaining 40% are classified as light. Qualitative workload is related to the level of job difficulty and the skills required to perform the work.

Tabel 3.13 Distribution of Total Career Development Among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 6 | 60 % |
| Total | 10 | 100 % |

The results of the career development distribution show that most mechanical workers fall into the moderate category (60%), while the low category accounts for 40%. This indicates that many workers feel that opportunities for career development are still limited or not yet optimal.

Tabel 3.14 Distribution of Total Responsibility Toward Others Among Mechanical Workers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The distribution of responsibility toward others shows balanced results, with both the light and moderate categories accounting for 50% each. This indicates that some workers are responsible for the safety or work outcomes of their coworkers.

**Online Motorcycle Taxi Drivers**

Tabel 3.15 Characteristics of Online Motorcycle Taxi Driver Respondents

| Variable | Categories | Frequency (n) | % |
|---|---|---|---|
| Age | 20 Th | | |
| | >20 Th | 10 | 100% |
| Gander | Man | 10 | 100% |
| | Woman | | |
| Length Of Employment | <8 hours | 4 | 40% |
| | 8 hours | 2 | 20% |
| | >8 hours | 4 | 40% |
| Duration of Employment | < 1Years | | |
| | 1 – 5 years | 10 | 100% |
| | > 5 years | | |

Based on the characteristics of the respondents, all online motorcycle taxi drivers were over 20 years old (100%) and all were male (100%). In terms of daily working duration, respondents showed variation in working hours, namely less than 8 hours (40%), exactly 8 hours (20%), and more than 8 hours (40%). Long working hours can increase the likelihood of both physical and mental fatigue. All respondents had work experience ranging from 1 to 5 years (100%), indicating that they have sufficient experience in their field and understand the nature of their work, although they remain at risk of experiencing stress due to continuous job demands.

Tabel 3.16 Distribution of Total Role Ambiguity Among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The results of the frequency test show that the level of role ambiguity among online motorcycle taxi drivers is evenly distributed between the mild and moderate categories, each accounting for 50%. This indicates that some drivers have a clear understanding of their duties and responsibilities as online motorcycle taxi drivers, such as transporting passengers or goods in accordance with application regulations.

Tabel 3.17 Distribution of Total Role Conflict among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 6 | 60 % |
| Total | 10 | 100 % |

The distribution of role conflict shows that most online motorcycle taxi drivers fall into the moderate category (60%), while the remaining 40% are in the mild category. This indicates that the majority of drivers experience role-related issues in their work.

Tabel 3.18 Distribution of Total Quantitative Workload among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 6 | 60 % |
| Moderate | 4 | 40 % |
| Total | 10 | 100 % |

The results of the frequency test show that most of the quantitative workload among online motorcycle taxi drivers falls into the light category (60%), while the remaining 40% are classified as moderate. This quantitative workload is related to the number of orders and the length of working time required to complete them.

Tabel 3.19 Distribution of Total Qualitative Workload Among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 6 | 60 % |
| Total | 10 | 100 % |

The distribution of qualitative workload shows that the majority of workers fall into the moderate category (60%), while the light category accounts for 40%. Qualitative workload is related to the level of job difficulty and the skills required.

Tabel 3.20 Distribution of Total Career Development Among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 5 | 50 % |
| Moderate | 5 | 50 % |
| Total | 10 | 100 % |

The frequency test results show that career development scores among online motorcycle taxi drivers are evenly distributed between the light and moderate categories, each accounting for 50%. This indicates that some of them feel that opportunities for career advancement are still limited.

Tabel 3.21 Distribution of Total Responsibility Toward Others Among Online Motorcycle Taxi Drivers

| Stress Categories | Frequency (n) | Percent (%) |
|---|---|---|
| Mild | 4 | 40 % |
| Moderate | 6 | 60 % |
| Total | 10 | 100 % |

The distribution of responsibility toward others shows that most respondents fall into the moderate category (60%), while the light category accounts for 40%. This indicates that online motorcycle taxi drivers bear a fairly significant level of responsibility, particularly regarding the safety of passengers and the goods they transport.

## 4. DISCUSSIONS

Based on respondent characteristics, the majority of high-rise construction workers are over 20 years old, all male, work 8 hours per day, and have less than one year of work experience, indicating that most workers are still in the process of adapting to the work environment. Frequency tests show that role ambiguity is evenly distributed between light and moderate categories, while role conflict is dominated by the moderate category, indicating the presence of unclear and sometimes conflicting role demands. Quantitative workload is mostly in the moderate category due to high targets and project time pressure, whereas qualitative workload is dominated by the light category, reflecting a match between job demands and worker competencies. Perceptions of career development are evenly distributed between low and medium categories, indicating limited clarity in career paths, and responsibility toward others ranges from light to heavy, particularly concerning workplace safety, which overall may contribute to work-related stress among high-rise construction workers.

For mechanical workers, the majority are over 20 years old, all male, work around 8 hours per day, and have less than one year of work experience, indicating that most are still in the early stages of work adaptation. Frequency tests show that role ambiguity and role conflict are each evenly distributed between light and moderate categories, indicating that some workers understand their tasks, while others still face unclear or conflicting role demands. Quantitative workload is dominated by the moderate category, reflecting a high volume of tasks and time pressure, while qualitative workload mostly falls within the moderate to light category, showing that mechanical work requires significant skill, precision, and focus. Perceptions of career development are mainly in the moderate category, indicating limited clarity of career opportunities, while responsibility toward others ranges from light to moderate, particularly regarding safety and team output, which overall may contribute to work-related stress among mechanical workers.

For online motorcycle taxi drivers, respondents are over 20 years old, male, have 1–5 years of work experience, and display variation in daily working hours, including durations over 8 hours, which can potentially cause physical and mental fatigue. Frequency tests

indicate that role ambiguity is evenly distributed between light and moderate categories, showing that some drivers understand their roles, while others face uncertainty due to application policy dynamics and customer demands. Role conflict is dominated by the moderate category, related to target pressure, consumer requests, and the need to maintain personal safety. Quantitative workload generally falls into the light to moderate category, while qualitative workload is dominated by the moderate category, indicating that the job requires focus, mental readiness, and the ability to handle traffic conditions and field risks. Perceptions of career development are divided between light and moderate categories, reflecting limited clarity in career paths, while responsibility toward others ranges from light to moderate, particularly concerning the safety of passengers and goods, which overall may contribute to work-related stress among online motorcycle taxi drivers.

## 5. CONCLUSION

Based on the results of the work stress survey, it can be concluded that work stress is a psychosocial factor with the potential to cause work-related illnesses. Stress levels in the moderate to high categories indicate a risk of health problems among workers. Therefore, controlling psychosocial factors through the implementation of a comprehensive occupational health and safety (OHS) program is highly necessary to prevent work-related illnesses and improve worker well-being.

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