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DISTRESS FACTOR ANALYSIS OF WORKERS IN A CONSTRUCTION COMPANY IN 2024

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Abstract

This study aims to describe the level of distress and risk factors associated with distress in workers in a construction company, which was conducted in May - December 2024. A cross sectional design was carried out in this study. A total of 255 people who have completed the complete online questionnaire were included in the study. The primary data collection was the measurement of the psychosocial state of workers using a questionnaire distributed online. The measurement of worker stress levels also used DASS 21 and the variables of context of work and context of the work were taken using COPSOQ III, NIOSH questionnaires and previous studies that have gone through validity and reliability tests. A multivariate analysis was conducted to identify the risk factors that have a significant effect on dysstress, namely, marital status and career improvement, status and wages. The dominant risk factors for distress in the construction industry in 2024 are increased careers, status, and wages, with a 95% IK: 1,325 - 5,443, after controlling work schedules/hours, organizational culture and function, and marriage. The findings could serve as a foundation for developing targeted strategies to mitigate distress, enhance workplace conditions, and ultimately improve productivity and morale within construction companies. Furthermore, comparative studies across different construction companies or regions could identify best practices and strategies that successfully reduce distress levels among workers facing similar challenges.

Keywords: distress, psychosocial, construction

INTRODUCTION

Stress that arises from work can be interpreted as a person's reaction when facing pressure and demands at work that are not in line with the knowledge and skills they have, so it becomes a challenge that needs to be overcome properly (Leka et al., 2003). The impact of stress experienced in the work environment can appear in physical, mental, and social forms. Physical signs can be seen through sleep disturbances, difficulty concentrating thoughts, and feeling tense after work time ends. In addition, feelings of disappreciation by co-workers, tension at work, and dissatisfaction with one's own work are included in the impact of stress on the mental side. Meanwhile, the social impact of stress can include perceived tensions in families, interpersonal relationships, and social activities (Bowen et al., 2014). Occupational stress is a condition of the gap between various things related to work and the ability of workers that have a negative impact on psychological conditions and occur in the workplace or caused by their work (Kurniawidjadja et al., 2019).

Psychological Stress is a term in discussing stress that is related to how we receive and adapt to impulses and events that are stressful in nature (Dewi, 2012). Differentiation of types of stress based on their impact (Dewi, 2012). Eustress (good stress) is stress that causes stimulation and arousal, so it has a beneficial effect on the individual who experiences it. Optimal stress will cause high arousal and motivation, sharp grasp and clear perception, and provide calm (Siswanto, 2007). The second is Stress is stress that has a harmful impact on the individual who experiences it, such as: unpleasant or excessive demands that drain the individual's energy so that it makes it easier to get sick. In addition, the impact will result in boredom, decreased motivation, frequent skipping, and experiencing lethargy. At high levels

of distress will result in insomnia, irritability, increased mistakes and indecision (Siswanto, 2007). Psychosocial factors that have a relationship with work distress workload factors, work schedules, bullying, foreign communication, and home-workplace relationships. The symptoms of related work stress are varied and can affect some or all of the symptoms of work distress, including symptoms of headache and dizziness, musculoskeletal disorders, anger, difficulty sleeping and changes in appetite (Fajarudin & Erwandi, 2022). The third is Hyperstress, namely stress that has an extraordinary impact on those who experience it. Although it can be positive or negative, this stress still makes us limited in our adaptability. An example is stress due to terrorist attacks. The fourth is Hypostress, is stress that arises due to lack of stimulation. For example, stress due to boredom or due to routine work.

Jobs in the construction sector are volatile and uncertain, which contributes to increased pressure in the industry (Bowen et al., 2013). Research shows that work stress in the construction industry is often caused by poor working conditions, low control over work, minimal support, high work demands, and injustice in organizations, such as gender discrimination, discrimination based on age, harassment, interpersonal relationship problems, unfavorable economic conditions, and physical illness (Nwaogu et al., 2020).

Research on mining and construction workers in Australia, indicates that as many as 28% of workers experience high levels of distress (Bowers et al., 2018). In construction workers in South Africa, it is reported that as many as 55% experience distressed (Bowen et al., 2013). Another study in China said health workers experienced symptoms of depression, anxiety, insomnia and distress. The largest percentage is the symptom of distress at 71.5% during the Covid-19 pandemic (Lai et al., 2020). Meanwhile, the latest study in China found that construction workers who experienced moderate depression were 31.55% and 6.25% experienced severe stress (Zhang et al., 2021). Research in Singapore shows that 56.3% of construction workers experience some sign of depression, anxiety or stress (Palaniappan et al., 2023). Research conducted by UNICEF and Gallup in 2021 in 21 countries, it was reported that in Indonesia there is a special percentage of 29% of people who often experience depression (UNICEF, 2021).

Construction is one of the industries that is at high risk of experiencing disruption. Work in the scope of construction is characterized by dynamism and considerable uncertainty which can increase distress. Long construction project working hours, compliance with standards, time and budget are factors that affect distress (Bowen et al., 2018).

A construction company is a leading state company in Indonesia that plays a major role in infrastructure development and is engaged in the field of construction services, has expanded its business into the field of property, transmission tower construction and investment. The project from this construction company is spread throughout Indonesia and abroad, with a total of around 1600 workers. From the results of MCU measurements of workers in construction companies in 202, it was found that diseases suspected to be related to distress were stomach pain of 16.9%, difficulty defecating as much as 4.6% and high blood pressure as much as 8.3%. In addition, shortness of breath disease also appeared by 2.8%, asthma by 1.8% and bronchitis by 0.7%.

This study aims to describe the level of distress and risk factors associated with worker distress in a construction company. The research contributes to the understanding of worker distress in the construction industry by identifying and describing the levels of distress experienced by employees and the associated risk factors. By highlighting these factors, the study provides valuable insights that can inform interventions aimed at improving worker well-being and safety. Additionally, the findings could serve as a foundation for developing targeted strategies to mitigate distress, enhance workplace conditions, and ultimately improve productivity and morale within construction companies. This research also adds to the existing

literature on occupational health by focusing specifically on the unique challenges faced by construction workers, thereby addressing a critical area in workplace health and safety.

RESEARCH METHOD

This study was conducted to analyze the description of the level of distress and risk factors for distress in workers in a construction company, which was conducted in May - December 2024. The population of this study is all construction company workers. The sample is 255 people who have completed the complete online questionnaire. A quantitative approach with a cross sectional design was carried out in this study. The respondents and samples were employees at a construction company and data collection was carried out using questionnaires. The primary data used in this study was obtained by distributing an online questionnaire containing data on individual arenas, work arenas, and home arenas. Meanwhile, secondary data is sourced from company documents and literature studies, journals, books and government regulations.

The risk factors studied as many as 18 variables include individual arena, work arena and home arena factors. Included in the individual arena factors are age, gender and education. For the workplace factors, namely task design, work load and speed, work schedule/hours, participation and control, work environment and equipment, career promotion, status & wages, role in the organization, interpersonal relationships, organizational culture & function. And the home arena factors include marital status, family and work interactions, family support, and sports.

Primary data collection was the measurement of the psychosocial state of workers using a questionnaire distributed online, the measurement of worker stress levels also used DASS 21 and the variables of context of work and context of work were taken using COPSOQ III, NIOSH questionnaires and previous studies that have gone through validity and reliability tests. Quantitative data analysis was carried out univariate, bivariate and multivariate.

To calculate the risk value of the two variables tested, the distress variable which initially consisted of 5 categories (normal, mild distress, moderate distress, severe distress and very severe distress) was changed to 2 categories, namely no distress (normal and mild) and distress (moderate, severe and very severe). The design and research procedure have been approved by the Research Ethics Committee of the Faculty of Public Health, University of Indonesia with Number Ket-374/UN2. F10. D11/PPM.00.02/2024

RESULT AND DISCUSSION

22% of workers experienced distress with details, namely 28 workers (11%) experienced moderate distress, 20 (7.8%) severe stress and 8 (3.1%) very severe distress.

Table 1. Overview of Stress Levels

Variable	Number (n)	Percentage (%)
Stress Levels		
Not stressed	199	78,0
Distressed	56	22,0
Details of Stress Levels		
Usual	162	63,5
Light	37	14,5
Keep	28	11,0
Heavy	20	7,8
Very Heavy	8	3,1

The description of the individual arena factor was obtained by 61 workers (23.9%) aged 18 – 30 years old and 194 (76.1%) aged over 30 years; most of the respondents, namely 179 (70.2%) are male and 76 (29.8%) are female; Most of them, namely 234 (91.8%), pursue higher education, but there are still 21 (8.2%) who do not pursue higher education.

The description of the workplace factor was obtained as many as 158 employees (62%) of the respondents' working period of 1-10 years and 97 employees (38%) of the working period >10 years; most of them, namely 164 workers (64.3%) are permanent employees and as many as 91 (35.7%) respondents are contract employees; A total of 198 respondents (77.6%) had a good assignment design, but there were still 57 respondents (22.4%) who were not good; most of them, namely 193 respondents (75.7%) had a bad workload and speed and the remaining 62 respondents (24.3%) were good; a total of 160 respondents (62.7%) had good working schedules/hours, but there were still 95 respondents (37.3%) who were not good; A total of 159 respondents (62.4%) had good participation and control, but there were still 96 respondents (37.6) who were not good; Most of them, namely 211 respondents (82.7%), have a good working environment and equipment, but there are still 44 respondents (17.3%) who are not good. A total of 199 respondents (78%) had a good increase in career, status and wages, but there were still 56 respondents (22%) who were not good; a total of 249 respondents (97.6%) had a good role in the organization, but as many as 6 respondents (2.4%) were not good; good interpersonal relationships as many as 244 respondents (95.7%) and bad relationships as many as 11 respondents (4.3%); and as many as 203 respondents had good culture and organizational functions, but there were still 52 respondents (20.4%) who were not good.

Table 2. Overview of Workplace Factors

Variable	Number (n)	Percentage (%)
Working Period		
1-10 years	158	62,0
>10 years	97	38,0
Employment Status		
Remain	164	64,3
Contract	91	35,7
Task Design		
Good	198	77,6
Bad	57	22,4
Work Load and Speed		
Good	62	24,3
Bad	193	75,7
Schedule/Hours		
Good	160	62,7
Bad	95	37,3
Participation and Control		
Good	159	62,4
Bad	96	37,6
Environment and Work Equipment		
Good	211	82,7
Bad	44	17,3
Career Enhancement, Status and Wages		
Good	199	78,0

Bad	56	22,0
Role in the Organization		
Good	249	97,6
Bad	6	2,4
Interpersonal Relationships		
Good	244	95,7
Bad	11	4,3
Organizational Culture and Function		
Good	203	79,6
Bad	52	20,4

The description of the house arena factor is that as many as 213 respondents (83.5%) are married and as many as 42 respondents (16.5%) are not married; A total of 39 respondents (15.3%) had bad interactions between home and work, but most of the respondents, namely 216 (84.7%), were good; a total of 164 respondents (64.3%) had poor family support and 91 respondents (35.7%) were good; As many as almost half of the respondents, 106 (41.6%) exercised less, and 149 respondents (58.4%) exercised enough

In the initial stage, bivariate selection is carried out to determine the relationship that occurs independently of the dependent variable. At the level of significance of p-value ≤ 0.25, it was selected as a variable that was included in the multivariate analysis. If in substance the independent variable is important, even though it has a p-value of ≥ 0.25, it will still be included in the multivariate analysis. The results of the bivariate selection showed that there were 12 variables that had a p-value ≤ 0.25 using the p-value Omnibus Tests of Model Coefficients.

Table 2. Bivariate Selection to enter into multivariate

Variable	p-value	Information
Age	0,053	Candidate
Gender	0,667	Out
Education	0,118	Candidate
Working Period	0,045	Candidate
Employment Status	0,344	Out
Design Assignment	0,375	Out
Work Load and Speed	0,348	Out
Schedule/Hours	0,057	Candidate
Participation and Control	0,775	Out
Environment and Work Equipment	0,272	Out
Career Enhancement, Status and Wages	0,007	Candidate
Role in the Organization	0,127	Candidate
Interpersonal Relationships	0,016	Candidate
Organizational Culture and Function	0,001	Candidate
Marital Status	0,001	Candidate
Home and Work Interaction	0,162	Candidate
Family Support	0,024	Candidate
Sport	0,149	Candidate

Age variables (p-value = 0.053), education (p-value = 0.118), working period (p-value = 0.045), schedule/working hours (p-value = 0.057), career advancement, status and wages (p-value = 0.007), role in the organization (p-value = 0.127), interpersonal relationships (p-value = 0.016), organizational culture and function (p-value : 0.001), marital status (P-value : 0.001), home-work interaction (p-value : 0.162), family support (p-value : 0.024) and sports (p-value : 0.149) will be included in the multivariate analysis.

Table 3. Results of Multivariate Analysis

Variable	Category	p-value	Adjusted OR	95% CI	
				Low	High
Schedule/Hours	Bad / Good	0,197	1,618	0,778	3,364
Career Enhancement, Status and Wages	Bad / Good	**0,006**	2,686	1,325	5,443
Organizational Culture and Function	Bad / Good	0,068	2,084	0,946	4,593
Marital Status	Not Married / Married	**0,001**	4,043	1,911	8,551

From the results of the multivariate analysis, the results of 2 variables that are significantly related to the disease are obtained, namely career increase, status and wages and marital status.

Workers with poor career conditions, status and wages are at 2.68 times higher risk of experiencing distress than workers with good career conditions, status and wages, with a 95% IK: 1,325 - 5,443, after controlling work schedules/hours, organizational culture and function, and marital status.

There is a relationship between marital status and stress in workers in a construction company in 2024, with p-value = 0.001. Unmarried workers are 4.04 times more likely to experience distress than married workers.

Research limitations

The limitation of this study is that not all stress variables are measured due to time and resource limitations; The distribution of questionnaires through online surveys so that there is a potential for bias because respondents fill in based on the conditions at that time and there is a possibility that respondents do not answer honestly.

Discussion

There were 56 employees (22%) who experienced a distraint. This is in line with research Miyanda et al. (2024) who reported that as many as 57.3% of construction workers experienced moderate levels of stress during the Covid-19 pandemic. And in line with the research Palaniappan et al. (2023) which found that as many as 33% of migrant construction workers in Singapore experienced moderate to severe levels of distress. A survey conducted on copper-nickel miners in China found that 42.65% of miners experienced work stress. The higher the level of occupational distress, the lower the quality of life, indicating that occupational distress is a risk factor that can reduce quality of life (Liu et al., 2023). Therefore, the distress condition of 22% of these workers requires special monitoring from the company. Monitoring the source of stress and its symptoms is important, because workers can prevent distress if they are aware of events or symptoms that lead to reactions caused by distress.

The results of the study showed that as many as 83.5% of respondents were married. Unmarried workers are 3.92 times more likely to experience distress than married workers.

Miyanda et al. (2024) mentioned that there is no significant relationship between marital status and distress, limitations in meeting the needs of individuals and households are triggering factors for distress. On the other hand, family is also considered a source of enthusiasm for work. However, it is different in the study conducted on health care workers in Massachusetts USA (Zhang et al., 2021), where there is a relationship between mental stress and marital status. This happened due to concerns that the frontline health officer would transmit the disease to his family. The psychological pressure on women with families is greater because women take a higher proportion of family responsibilities. Female workers are considered to be able to hinder them from fulfilling their obligations in the family, which is a source of distress (Liu et al., 2023). Research conducted on construction workers during the pandemic in Southern Spain showed that individuals living with their partners experienced a lower risk of distress than those who were not married (Gómez-Salgado et al., 2024). In a study related to distress in the working population in Finland, it was found that loneliness was strongly related to distress. Having someone who can provide emotional support when needed can reduce stress levels (Viertiö et al., 2021). Companies are advised to provide counseling spaces for workers, provide education and socialization on how to avoid and reduce the stress that occurs.

The dominant factors of distress in this study are the increase in status, career and wages. The uncertainty of increasing status makes workers worried that their working period will not last long, in this company there is no alternative type of worker contract used to reduce termination of employment. Poor rewards associated with low salaries and welfare and lack of career development opportunities are stressful factors for workers. The lower the wages received, the higher the level of work stress, as evidenced by a study involving nickel miners in China (Li et al., 2019). This is in line with research involving construction workers in China (S. Zhang et al., 2023) Where the results were obtained that poor rewards related to low salaries and welfare and lack of career development opportunities became stressors for workers. Companies need to develop a career and status promotion system for workers, not just an evaluation of past performance (judgemental evaluation) but more on the development of workers in the coming period (developmental evaluation).

CONCLUSION

The study found that the risk level of distress among workers in a construction company was 22%, with 3.1% experiencing very severe distress, 7.8% severe distress, and 11% moderate risk. Significant risk factors included marital status, career advancement, status, and wages, with workers facing poor career conditions being 2.68 times more likely to experience distress. Future research should investigate the mechanisms connecting these factors to distress through qualitative methods like interviews and focus groups, as well as longitudinal studies to monitor changes over time. Additionally, exploring interventions such as mentorship and professional development could enhance workers' perceptions of their career trajectories. Comparative studies across different construction companies might identify effective strategies to reduce distress, while examining the role of organizational culture and support systems could inform policies for healthier work environments in the construction sector.

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