

Factors Related with Work Stress in Informal Industrial Workers in Surakarta

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ABSTRACT

Background: The risk of Occupational Diseases that often occurs in the informal industry is work stress. Work stress is not only caused by internal factors, but also caused by social factors from workers. This study aims to analyze and estimate the influence of social capital and other factors on work stress in informal industrial workers in the city of Surakarta.

Subjects and Method: This study uses a cross-sectional study conducted on informal industry workers in Surakarta, Central Java, Indonesia, in April-May 2024. The number of study subjects was 210 people selected with a simple random sampling. The dependent variable was work stress. The independent variables were social capital, income, target achievement and capital borrowing status. Independent variable study data was taken using a questionnaire measuring tool, and for work stress using the Work Stress Questionnaire (WSQ). Data analysis in the form of multiple linear regression using Stata 13.

Results: There was an effect of social capital ($b = -1.38$; 95% CI = -1.86 to -0.89; $p < 0.001$), income ($b = -0.56$; 95% CI = -0.89 to -0.22; $p = 0.001$), target achievement ($b = -19.73$; 95% CI = -23.59 to -15.89; $p = 0.012$) and capital borrowing status ($b = 4.24$; 95% CI = 0.95 to 7.52; $p = 0.012$) on work stress.

Conclusion: Work stress is significantly affected by social capital, income, target achievement and borrowing status.

Keywords: social capital, work stress, workers

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BACKGROUND

Industry in Indonesia is growing rapidly. One of the most easily encountered industrial developments by the public is the informal industry. The informal industry in Indonesia has occupied the highest number of 139.85 million people (59.11%) at the end of 2023 (BPS, 2023). To support productivity when working, the productive age range at work or

adult age is given, namely 19-59 years old (Ministry of Health, 2023).

Of the large percentage of informal industries in Indonesia, Central Java occupies the largest number of micro and small industries in Indonesia out of 34 provinces. In 2022, the number of micro and small industries in Central Java has reached 892,108 industries or equivalent to 20.6% of

the number of industries in Indonesia (BPS, 2023).

The city of Surakarta is one of the cities in Central Java with a population of 523,008 people as of the end of 2022. Of the total population, the population with a productive working age from 19 to 59 years old is 300,298 people (BPS, 2023). According to the latest data, informal sector work units in Surakarta reached 6,010 units with a workforce of 16,441 people (BPS, 2023).

One of the PAKs that often occur in the workplace is work stress. Work stress can be experienced in both formal and informal industries. All workers around the world, 44% experience work stress (State of The Global Workspace Report, 2023). Work stress is also defined as a condition that arises from human interaction with the work done and forces humans to deviate from normal functions (Asih, 2018).

In the informal industry, stress can be experienced both by employers and by workers in the industry. Work stress is caused by various factors other than within the worker, namely the worker's social factors. Stress occurs due to pressures from the workplace to avoid poor results. More studies have been conducted on individual characteristics and internal risk factors that affect work stress but less varied through broader social determinants of health (Backhaus et al, 2020).

According to Putnam, social capital is a part of social life such as networks, norms, and beliefs that encourage participants to act effectively together to achieve common goals (Field, 2011). Social capital assesses the overall resources related to the ownership of the network of relationships of each individual in an institution. Coleman defines that social capital has two elements, namely social capital through social structure and social capital that makes it easier for people to do something within the framework of the social structure

(Coleman, 2021). Income according to the Great Dictionary of the Indonesian Language is a result of work in the form of business or trade received by individuals in the form of wages, commissions, profits, and fees. Income for workers in the informal industry sector is mostly in the form of wages from sales profits. Achieving the target is a result that must be obtained and worked on within a certain period of time. The status of borrowing capital is about borrowing business capital carried out by workers or more speculative traders in developing their business.

Social capital factors can also be accompanied by a variety of other social factors to affect work stress. Sinking from the background mentioned above, the researcher aims and is interested in researching the factors that affect work stress in informal industrial workers in Surakarta City.

SUBJECTS AND METHOD

1. Study Design

This was a cross-sectional study conducted in informal industry in Surakarta, Central Java, Indonesia, from April to May 2024.

2. Population and Sample

The population of this study is informal industry workers consisting of traders and business owners in Surakarta which amounted to 3,635 samples and as many as 210 study subjects were randomly selected by simple random sampling.

3. Research Variables

The dependent variable was work stress. The independent variables were social capital, income, target achievement, and capital borrowing status.

4. Operational Definition

Work Stress: The result of the total score of the questions in the Work Stress Questionnaire which measures work stress in general and social in the workplace.

Social Capital: Networks and social values that can facilitate individuals and communities to achieve common goals in the workplace.

Income: The average income of workers in the last 6 months.

Target Achievement: The perception of workers regarding the goods/services that have been sold between meeting the target or not meeting the target.

Capital Loan Status: Questions about the status of capital loans used to open a business.

5. Study Instrument

Work Stress is measured using the Work Stress Questionnaire from Sweden version of Kristina Holmsgren. Other variables were measured using a questionnaire.

6. Data Analysis

Univariate analysis was carried out with the aim of finding out the results of the distribution of study frequencies and the percentage of each study variable, namely work stress, social capital, income, target achievement and capital borrowing status. The next analysis is a multivariate analysis, which is a double linear regression analysis conducted to measure the influence of social capital variables, income, target achievement and capital borrowing status on work stress.

7. Research Ethics

Study ethics including informed consent, confidentiality, and anonymity are handled with care throughout the study process. The

letter of feasibility of study ethics was obtained from the Health Study Ethics Committee of the Dr. Arif Zainudin Regional Mental Hospital, Central Java Province with the number 070/8142.

RESULTS

1. Sample Characteristics

Table 1 shows that the age that most often appears is between 25 to 35 years old with 82 study subjects (39%) followed by the age >35 years with 79 study subjects (37.6%) and the least as <25 years with 49 study subjects (23.3%). The most gender was male with 110 study subjects (52.3%) and for female sex with 100 study subjects (47.7%). The largest marital status was married with 128 study subjects (61%) and single status with 82 study subjects (39%). The most education came from high school graduates or equivalent with 134 study subjects (63.8%), S1 education with 25 study subjects (11.9%), junior high school education with 24 study subjects (11.4%), D3 education with 19 study subjects (9%), and finally elementary education with 8 study subjects (3.8%). Finally, for working time, the most is during the day with 166 study subjects (79%), then for day and night working time as many as 24 study subjects (11.4%) and the least is night working time for 20 study subjects (9.5%).

Table 1. Sample characteristics

Characteristics	Category	Frequency (n)	Percentage (%)
Age	<25 years	49	23.3
	25-35 years old	82	39
	>35 years	79	37.6
Gender	Man	110	52.3
	Woman	100	47.7
Marital status	Single	82	39
	Marry	128	61
Education	elementary school	8	3.8
	Junior High School	24	11.4
	Senior High School	134	63.8
	D3	19	9
	S1	25	11.9

Characteristics	Category	Frequency (n)	Percentage (%)
Working Time	Afternoon	166	79
	Evening	20	9.5
	Day and night	24	11.4

2. Univariate Analysis

Table 2 shows the work stress score, according to the results of the study the work stress score applied is the category of stress and slight stress. There were 108 study subjects (51.42%) experiencing work stress and 108 study subjects (48.58%) experiencing slight work stress. The minimum score obtained by the study subjects was 35. The maximum score obtained from the study subject questionnaire was 73.

Table 2 shows the income description of the study subjects. A total of 119 study subjects (56.67%) had an income of <Rp 5,000,000. Then the income >Rp 5,000,000 with 91 study subjects (43.33%). The results of the study description also show the smallest monthly income of Rp 1,000,000 and the largest monthly income of Rp 12,000,000 according to data obtained from 210 study subjects. The standard deviation is 2,241,517.

Table 2. Univariate Analysis of Data Continuum Variables

Variable	N	Mean	SD	Min.	Max.
Job Stress	210	8.81	11.27	35	73
Income (rupiah)	210	8.79	2,241,517	1,000,000	12,000,000

Table 3 shows the description of target achievement and capital borrowing by study subjects. As many as 192 study subjects (91.5%) achieved the expected sales target. Meanwhile, 18 study subjects (8.5%) felt that they had not reached the required target. The results of the description of the status of

capital loans, after data collection on 210 study subjects, it was found that 16 study subjects (7.6%) borrowed capital in opening a business and as many as 194 study subjects (92.4%) did not borrow capital in opening a business.

Table 3. Univariate Analysis of Data Dichotomous Variables

Variable	Category	n	%
Target Achievement	Not achieved	18	8.5
	Achieved	192	91.5
Capital Borrowing Status	Yes	16	7.6
	No	194	92.4

3. Multivariate Analysis

The results of the double linear regression analysis are shown in Table 4. This model of multiple linear regression analysis shows a fairly good fit (Adj R-squared= 72.5%; p<0.001).

After controlling for confounding factors, high social capital ($b = -1.38$; 95% CI= -1.86 to -0.89; $p < 0.001$), high income ($b = -0.56$; 95% CI= -0.89 to -0.22; $p = 0.001$), and

high target achievement ($b = -19.73$; 95% CI= -23.59 to -15.89; $p = 0.012$) reduces work stress.

There is a relationship between work stress in informal workers and borrowing capital. The borrowed capital status increased work stress after controlling for confounding factors of social capital, target achievement, and income ($b = 4.24$; 95% CI = 0.95 to 7.52; $p = 0.012$).

Table 4. Results of multiple linear regression analysis between and social capital, income, target achievement, and business capital origin on work stress

Independent Variables	OR	CI 95%		P
		Lower Limit	Upper Limit	
Social Capital	-1.38	-1.86	-0.89	<0.001
Income	-0.56	-0.89	-0.22	0.001
Target Achievement	-19.73	-23.59	-15.89	0.012
Capital Borrowing Status	4.24	0.95	7.52	0.012
N observations = 210				
Adj R-Squared = 0.725				
p<0.001				

DISCUSSION

Stress is the result of an imbalance between demands and individual resources in the workplace. The work environment faced by workers is the main source of stress for workers. This can be caused by a mismatch between individuals and their environment. One of the aspects that is the main interaction between individuals and their environment is social capital.

Based on the results of the multiple linear regression test in this study, it was found that there was an influence of social capital on work stress. High social capital reduces work stress after controlling for confounding factors of target achievement, income, and capital borrowing. Through these results, it is concluded that good social capital can reduce work stress.

The results of this study are also in line with the theory summarized by Asih et al. (2018) in a book entitled "Work Stress" which explains that the role of individuals in organizations also affects work stress in the form of role conflicts and social relationships that are the same as social capital. The demands of tasks that are at the same time as career development and work relationships are one of the things that affect work stress, whether it increases or decreases. According to this study, work stress management so that the level can decrease and not get worse is to increase social capital in the work environment. Efforts to increase social capital include

a good workload distribution, a transparent salary distribution system and in accordance with employee contributions so that it can make people feel safe, comfortable, and peaceful in the workplace (Widodo, 2016).

Income is a result in the form of currency as a result of work rewards or contributions to work within a certain period of time. In this study, most of the income is obtained from the sale of goods or food, both from the trader and from the employee. The selected income range is monthly income for the last six months. According to the results of data analysis in this study, high income reduces work stress after controlling for confounding social capital factors, target achievement, and capital borrowing. Less income from the perspective of workers or traders causes economic pressure. Economic pressures cause a major impact on workers' health as they reinforce fears of crisis, fears of job insecurity and other adverse consequences.

This study is in line with Tanzia's (2023) study, which states that high income has opportunities as a factor that prevents work stress in workers with a study of online motorcycle taxi drivers. It is also supported in a book entitled "Work Stress" by Asih et al (2018) which states that financial problems can be the cause of work stress. Income that is further from expenses affects a person's mental health and can result in depression.

The achievement of work targets is the final result that is to be obtained through the management process and the process in the work. The achievement of work targets in this study is categorized as achieved or unachieved, which indicates the adequacy of achieving the target for living expenses. The existence of targets at work can help employees or traders to be more productive and effective in marketing their goods and services. The existence of targets can help employees to determine priority work so that they can manage the time to work on it. In this study, there is a relationship between work stress in informal workers and target achievement. The target achieved was to reduce work stress after controlling for confounding factors of social capital, income, and capital borrowing.

This study is supported by a study by Constantinus (2021) which explains that work stress owned by workers in the form of eustress can be a motivation for them to try not to be underestimated by management in their work. Workers who are motivated to produce good work results can use stress as their motivation. Likewise, through achieving good targets, work stress with negative values can also decrease. In addition, this study is also supported by Safitri and Gilang (2020) who stated that work stress has a significant effect on work productivity in employees so that they are able to achieve the desired work targets.

When creating a new business or job, it is not uncommon for entrepreneurs and their workers to be faced with conditions that are able to trigger quite high stress. People who are able to survive in the business they are living and working on have a relatively high enough capacity to tolerate work stress. The effect of sufficient capital and not being a burden at work is one of the triggers for a decrease in stress levels.

In this study, there is a relationship between work stress in informal workers and borrowing capital. The borrowed capital status increased work stress after controlling for confounding factors of social capital, target achievement, and income. This study is supported by Baron et al (2013) who stated that the level of stress will be lower if the capital managed by entrepreneurs and employees is able to meet the sense of optimism, resilience, and hope. Previous study states that capital plays a large role in the business operational process to buy materials, produce products, and pay employees. With enough capital, stress at work can also decrease.

AUTHOR CONTRIBUTION

All authors contributed equally to all stages of the research, including problem formulation, data collection and analysis, interpretation of results, and manuscript writing and revision.

CONFLICT OF INTEREST

There is no conflict of interest in this study.

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REFERENCE

Asih GY, Widhiastuti H, Dewi R (2018). Work Stress (Stress Kerja). Semarang University Press: Semarang.

Backhaus I, Varela AR, Khoo S, Siefken K, Crozier A, Begotaraj E, Fischer F, et al. (2020). Association between social capital and depressive symptoms among college students in 12 countries: result of a cross-national study. *Front Psychol*,

11:644. <https://doi.org/10.3389/fpsyg.2020.00644>.

BPS (2023). Number of population by age group and gender 2020-2022 in the city of Surakarta (Jumlah penduduk menurut kelompok umur dan jenis kelamin 2020-2022 di kota Surakarta). Indonesia. <https://surakartakota.bps.go.id/indicator/12/319/1/jumlah-penduduk-menurut-kelompok-umur-dan-jenis-kelamin.html>.

BPS (2023). State of Employment in Surakarta City 2023 (Keadaan Ketenagakerjaan Kota Surakarta 2023. Indonesia). <https://surakartakota.bps.go.id/pressrel-ease/2023/11/15/258/keadaan-tenaga-kerjaan-kota-surakarta-agustus-2023.html>.

BPS (2023). Proportion of informal sector work 2020-2022 (Proporsi kerja sektor informal 2020-2022). Indonesia. <https://www.bps.go.id/id/statistics-table/2-MjE1MyMy/proporsi-lapangan-kerja-informal-menurut-provinsi.html>.

Coleman J (2021). Foundations of social theory. Cambridge, Mass: Harvard University Press.

Constantinus (2021). the effect of work stress, organizational policies and organizational citizenship behavior (OCB) on the achievement of work targets (Pengaruh stres kerja, kebijakan organisasi dan organizational citizenship behavior (OCB) terhadap pencapaian target kerja). 3(2). Indonesian Jour. Islamic Psy. (p-ISSN: 2685-1482 e-ISSN 2714-7576).

Field J. (2011). Modal Sosial. Yogyakarta: Kreasi Wacana.

Safitri AE, Gilang A (2020). The effect of work stress on employee work productivity at PT. Telkom Witel Bekasi (Pengaruh stres kerja terhadap produktivitas kerja karyawan pada PT.Telkom Witel Bekasi). Manage and Econom J, 6(3):249-270. <https://doi.org/10.31955/mea.v4i1.169>.

Tanzia S, Ernawati E (2023). Development of the informal sector in national development (Hubungan tingkat pendapatan dengan stres kerja pada pengemudi ojek online di Jakarta Barat, Tahun 2020). 7(1). Jurnal MSTKIK. 43-50. ISSN-L 2579-6410. <https://doi.org/10.24912/jmstkip.v7i1.10100>.

Widodo HT (2016). The role and benefits of social capital in increasing the work effectiveness of employees in the micro, small and medium enterprises sector at the Tanggulangin Sidoarjo Bag and Luggage Handicraft Center (Peran dan manfaat modal sosial dalam peningkatan efektivitas kerja karyawan sektor usaha mikro kecil dan menengah di Sentra Kerajinan Tas dan Koper Tanggulangin Sidoarjo). 2(1). JBMP. 01-14. doi: <https://doi.org/10.21070/jbmp.v2i1.911>.