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Quality of Life Among Informal Sector Workers in Relation to Working Hours, Income, and Social Support

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Abstract

The quality of life of informal sector workers is related to their work-life balance, job satisfaction, and health problems. Prevention of work accidents, occupational diseases, and welfare improvement are regulated in the occupational health and safety management system. The purpose of analyzing their quality of life. A cross-sectional design was conducted for this research, from May to August 2025 on online platform drivers. Accidental techniques and establishing inclusion criteria were used to determine the research sample. The instrument used was a questionnaire that had met validity and reliability standards. Multivariate regression was used for data analysis. The results of the study found that their quality of life was related to income, social support, and working hours, stated at a p value <0.001. Of the three variables related to quality of life, working hours/week showed a negative relationship with a B value of -0.231, while the other two variables were positive. The higher the number of hours worked by online platform workers per week, the lower their quality of life. In contrast to income, the t value = 5.576 and p = 0.000 means that income is correlated 5 times with quality of life. High income means their quality of life is 5 times better. Social support was proven to be significantly related to quality of life with a p value of 0.000 and t value of 12.038. Positive social support was associated with 12 times better quality of life for workers

Keywords: ISO 45001, Long Working Hours, Platform work, Quality of Life, Total worker health

INTRODUCTION

Research on the quality of life of informal workers is important because this group constitutes a dominant segment of the employment structure in many developing countries, including Indonesia. However, informal workers contribute significantly to the national economy. Many countries, including Indonesia, have conducted research on the quality of life of informal workers. However, they face challenges such as lack of health insurance, inadequate working conditions, and lack of social security (Satriawan, 2021). This situation has the potential to significantly reduce their physical, psychological, social, and environmental well-being, as well as their quality of life.

One study showed that the informal sector provides employment opportunities for those unable to find work in the formal sector. Various economic activities are carried out by the informal sector without clear regulations (Rusmana et al., 2025). Informal workers face many dilemmas, such as low wages, job insecurity, lack of social protection, and a low quality of life (Rafif & Puspitasari, 2024). Furthermore, a gender gap was found among informal sector workers. Globally, male informal workers have a better quality of life, women tend to have a worse quality of life in terms of psychological, physical, income, social and other aspects (Louzado et al., 2021). Family life reflects the quality of life of women working in the informal sector (Dewi & Wiratna, 2020).

In Indonesia, the proportion of informal employment remains high compared to formal sector workers (Satriawan et al., 2021), (Pramesti & Effendi, 2025). Jobs in the formal sector are limited, so employment opportunities are found in the informal sector, providing an alternative for the community. Besides being easy and requiring minimal requirements, in some countries, development is supported by the informal sector. However, it is recognized that the absence of clear regulations poses risks for workers, including lack of health insurance, substandard wages, uncertainty about the future, and the threat of unilateral termination of employment.

Quality of life is comprehensive, encompassing an individual's understanding and assessment of their life. A person's expectations for life, including physical, mental, and social well-being, are key indicators of quality of life. Those working in the timber industry experience muscle pain due to long working hours, which reduces their quality of life (Azizah & Hastuti, 2023). Quality of life is the standard of values achieved, physical condition, and expectations for life (WHO, 2020). Other research explains that quality of life is related to a person's abilities and weaknesses (Nofita et al., 2023).

It has been reported that long working hours result in poor health, inadequate income, and a low quality of life Sindecharak & Kwanyou (2021), and Satarudin et al., (2021), Research on the quality of life of informal workers in Ukraine shares similarities, with related variables such as individual capacity, income, and economic stability. In Indonesia, the number of informal workers exceeds that of formal workers due to the limited number of jobs in the formal sector (Pramesti & Effendi, 2025). Therefore, it is necessary to manage informal workers through appropriate regulations so they can work safely, healthily, and with quality, while also directly contributing to the country's economic development

According to previous research conducted in China, many factors influence the quality of life of informal workers, including working hours and income. Excessive working hours are associated with fatigue, decreased physical health, and stress (Zhou et al., 2024). On the other hand, social support from family, friends, and community can be an important resource that strengthens psychological resilience and improves the well-being of informal workers (OECD, 2024).

Evidence suggests that economic vulnerabilities such as income, uncertainty of working hours, a sense of security, and low well-being are prevalent among informal workers. However, integrative studies assessing the simultaneous influence of these three factors on the quality of life of informal sector workers in Indonesia are still very limited. One of the currently booming informal sector jobs is online motorcycle taxi drivers (Ferusgel et al., 2021). This research fills a gap in previous research. Therefore, this study is important to explain variations in quality of life among informal sector workers in urban areas, such as online motorcycle taxi drivers, by exploring working hours, income, and social support. Research findings are relevant to needs that lead to more targeted interventions.

The ergonomic aspects of platform workers and the absence of an OHS management system in the company, related to workloads and long working hours that result in mental fatigue. According to ISO 45001:2018, organizations are required to identify and control OHS risks, including psychosocial factors, as part of an occupational safety and health management system. However, the implementation of psychosocial risk control in industrial practice remains weak, especially at the administrative and behavioral control levels, which should be an important layer of protection after technical controls. The NIOSH approach emphasizes the integration of occupational safety protection and worker health promotion, including psychological and social factors.

There is still a gap between formal company policies and actual implementation in the field, particularly in efforts to strengthen psychological ergonomics and workers' mental well-being. Therefore, the research hypotheses are: 1) Long working hours are negatively related to quality of life. 2) High income is related to quality of life, and 3) Social support is related to quality of life. This study aims to fill this gap by analyzing the relationship between working hours and quality of life, the relationship between income and quality of life, and the relationship between social support and quality of life, thus producing a model of the quality of life of informal sector workers.

This study modifies quality of life using three key variables: income, social support, and working hours, building on previous research. The key difference between this study and other studies is that the indicators used are a modification of the WHO concept and are oriented towards a work environment that aligns with the conditions of platform driver workers in Indonesia. Given the increasing number of platform drivers in the past three years, despite the lack of specific regulations regarding their work, this research contributes to policy support for them.

METHODS

A cross-sectional design was used in this study. According to the literature, a cross-sectional design is a study conducted on one subject and measured only once (Utami et al., 2025). The study was conducted over four months, from May to August 2025. Cross-sectional designs describe the condition of a population at a single point in time (Harlan & Johan, 2018). The study followed the STROBE (Cross-Sectional Observational Study, Cohort, and Case-Control) checklist.

The target population was motorcycle taxi drivers from online transportation platforms (e.g., Gojek, Grab, Maxim) residing in the Helvetia Village, Medan. The population size in the Helvetia Village area is not empirically available (not recorded in Helvetia Village), so the researcher determined a sample of 200 online motorcycle taxi drivers. This was based on considerations of limited funds, research time, and their very high mobility. The sampling technique used accidental sampling, where the sample was not taken randomly. The flow of participants in the following image:

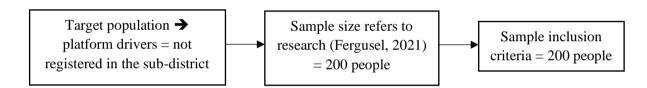


Figure 1. the flow of participants

The platform driver population was not recorded at the village level; the sample size of 200 was based on references (Fergusel, 2021). A total of 200 respondents were approached through an initial recruitment process at the research site. A total of 200 participants met the requirements and agreed to participate in the study.

This technique was carried out to obtain a sample by considering the ease of obtaining samples, by chance encountered during the research (Utami et al., 2025). Sample inclusion criteria are as follows: 1) male gender. 2) working as an online motorcycle taxi driver for at least 6 months. 3) permanent employment (not a side job) and 4). Expressing willingness to be a research respondent. Exclusion criteria: 1) working part-time. 2) inactive, sick, or account logged. 3) incomplete data. Recruitment was conducted at the parking locations and using a Google form. Data eligibility was based on respondents meeting the criteria. The sample size was 200, with an alpha level of 5% (two-tailed test), and an anticipated dropout rate of 10%. However, no respondents withdrew.

The research instrument was developed by researchers, adopting previous research (WHO, 2020), (Zhou et al., 2024), (OECD, 2024), and (Sindecharak & Kwanyou, 2021). The instrument included characteristics, quality of life, working hours, income, and social support. There are four indicators of Quality of life was measured: health, safety, satisfaction, and balance. The instrument consists of 20 items and 5 options using a Likert scale. Furthermore, the quality of life scores are grouped into 4 categories: 20-35 (low), 36-50 (sufficient), 51-65 (good), and 66-80 (very good). The questionnaire instrument was used to measure working hours per week, standard working hours of 40 hours/week, and income in units per month. Social support has been tested for validity and reliability before being used in the study. The instrument has been tested for validity and reliability using SPSS and is declared valid and reliable > 0.7.

Before data collection, the instrument was validated and tested on 20 different samples. Data analysis was performed using univariate analysis, data normality testing, and logistic regression. To prove the a priori hypothesis of the theory from literature evidence, a multivariate regression model analysis approach was used. This research has received permission from the health research ethics committee of the Maluku Husada Health Sciences College Number: RK. 114/KEPK/STIK/IV/2025 Date April 10, 2025.

RESULT Respondent Characteristics

Demographic characteristics are shown in Table 1 including age, education, marital status and number of children in the family.

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Characteristics	Mean	Median	Mode	Std. Deviasi
Age	32.11	32	33	7.130
Education	2.89	3.0	3	0.831
Marita status	1.73	2.0	2	0.556
Number of family dependents	2.07	2.0	2	0.790
Working hours/weeks	44.26	45.0	63	14.230
Income/months	3.412.500	3.500.000	5.000.000	1167221.392

Table 1. Demographic Characteristics (n=200)

Based on the results of the frequency distribution analysis of 200 respondents, the following characteristics were obtained: from the aspect of age, the average age was 32.11 years and the mode was 33 years, the majority of respondents were of working age. The average education was 2.89 and the mode was 3 indicating a high school education. Based on marital status, the average was 1.73 and the mode was 2 indicating that the majority of respondents

^{*}Source: primary data, 2025

were married. The number of family dependents was an average of 2.07 and the mode was 2, the majority of whom had 2 dependents in the family. The average working hours were 44.26 hours per week and the mode was 63 hours per week, meaning that the respondents' working hours exceeded normal working hours. The average respondent's income was Rp. 3,412,500 and the mode was Rp. 5,000,000 indicating that they earned above average income.

Table 2. Results of Analysis of Quality of Life Variables

Variable	В	Std. Error	Т	Sig.	95% CI
v uriubie	Ъ	ota. Error	•	Dig.	(lower-upper)
Rank of working hours	- 0.231	0.055	-4,228	0.000	62.216 - 69,233
Rank of income	0,305	0.055	5,576	0.000	53,980 - 60,465
Rank of social support	0.634	0.053	12,038	0.000	2,729 - 3.849
Contant	329.426	8,641			

^{*}Source: primary data, 2025

The table above shows that all variables are related to quality of life, with a p-value of less than 0.05. The negative direction of the B coefficient value for the working hours variable. Meanwhile, the social support and income variables show a positive trend. This result indicates that positive social support will impact the quality of life of platform drivers. The magnitude of support is expressed at a T value of 12.038, meaning that the quality of life is 12 times better for platform drivers who receive positive support from their community, family, or colleagues. Income has a positive trend; the higher the income, the better the quality of life for platform drivers. A T value of 5.5 indicates that those with high incomes will have a fivefold increase in their quality of life compared to those with low incomes. This is in contrast to working hours. The analysis results show a T value of -4.228. Online platform drivers who work four times longer hours per week will have a fourfold decrease in their quality of life. Social support functions as a protective factor against stress and contributes to the enhancement of subjective well-being. Overall, the results of this study affirm that income and social support are key determinants in improving respondents' quality of life, whereas excessive working hours may instead lead to its decline.

Table 3. Sensitivity Analysis

Variable	B (main model)	B (model sensitivitas	Deriction change	Description
Working hours	- 0.231	- 0.219	Same	Stable
Income	0.305	0.298	Same	Stable
Social support	0.634	0.621	Same	Stable

^{*}Source: processed data, 2025

The results of the sensitivity analysis show that the direction of the coefficient remains the same (working hours remain negative on satisfaction, income and social support remain positive), with a change in the B value of <10% from the main model, so the results are

considered stable. The direction of the effect remains the same, the magnitude of the effect (B or OR) does not change much, and significant results remain consistent.

Table 4. Linearity test

			•	
Variable	В	Bias	Sig	Description
Working hours_Quality of life	0,071	0.00	0.075	Not significant → linearity is
				met
Income_Quality of life	1,563	1,082	0.01	Significant → linearity is not
				met
Social support_Quality of life	3,267	0.003	0.001	Significant → linearity is not
				met

^{*}Source: processed data, 2025

The linearity assumption is that working hours meet the linearity assumption, and the other two variables, income and social support, do not meet the linearity assumption. This means that the presence of income and social support variables does not consistently change quality of life, thus this model is simple.

Table 5. R-Square Value

Model	R R-Square		Adjusted R-Square	
Social support_income_working hours	0.693	0.48	0.47	

^{*}Source: processed data, 2025

The coefficient of determination or R Square (R²) is a statistical indicator used to assess the extent to which variations in the dependent variable can be explained by the independent variables in a regression model. The R² value ranges from 0 to 1; the closer it is to 1, the better the model's ability to describe the diversity of the observed data. A high R² value indicates that the independent variable makes a significant contribution in predicting changes in the dependent variable, while a low R² value indicates the substantial influence of other factors not included in the model.

As can be seen in Table 3, the large value (R = 0.693) explains that the x variable in the study of social support, working hours, and opinions has a fairly strong relationship with the respondents' quality of life. Furthermore, the large relationship is also shown in Table 3, indicating that the quality of life of online motorcycle taxi drivers is 48% measured by income, working hours, and social support. Meanwhile, 52% of the quality of life of online motorcycle taxi drivers is related to other variables. Based on the level of suitability of the category is quite good based on the Adjusted R Square value of 0.47.

Table 6 Multicollinearity Test of VIF, and Heteroscedasticity

	В	Beta	Stand. Error	Tolerance	VIF
Working hours	-0.071	-0.0131	0.038	1.000	1.000
Income	1.563.E6	0.0001	0.000	1.000	1.000
Social Support	3.267	0.6130	0.299	1.000	1.000

1. Interpretation of the Effect of Working Hours on Quality of Life: Unstandardized B = -0.071. Each additional hour of work per week decreases the quality of life score by 0.071 points. A beta of -0.131 indicates a weak and negative relationship.

Multicollinearity (VIF)

A VIF value of 1.000 indicates no multicollinearity. The predictor, working_hours, does not collinear with any other variables (as VIF = 1 is the best value). The model is safe from multicollinearity. Regression analysis shows that working hours are negatively related to quality of life ($\beta = -0.131$), but this relationship is not significant (p = 0.064; 95% CI = -0.147 – 0.004). A multicollinearity check revealed a VIF value of 1.000, indicating no multicollinearity issues in the model.

Heteroscedasticity (ROBUST Standard Error)

The analysis results show that: The significance of the Hours worked coefficient remains substantively unchanged after the ROBUST SE is applied, indicating that the model is not affected by heteroscedasticity and the estimates remain stable.

Observation Effects

The examination results indicate that: There are no Cook's Distance values >1, All leverage values are within reasonable limits, and no observations exceed the critical Mahalanobis cutoff. Therefore, it can be concluded that no observations unduly influence the regression model.

Residual Distribution

The P–P plot and histogram show a distribution pattern approaching normal. Skewness and kurtosis values are within statistical tolerance limits (–2 to +2). The assumption of residual normality has been met.

2. Income is positively related to quality of life. Unstandardized B value = 1.563E-6. Each 1-unit increase in income increases quality of life by 0.000001563 points. Beta = 0.236. The effect strength is positive and moderate. Income is positively and significantly related to quality of life. This means that the higher the income, the higher the quality of life.

Multicollinearity

A Tolerance value of 1.000 and a VIF of 1.000 indicate no multicollinearity. Income does not experience linear overlap (redundancy) with other variables in the model.

Heteroscedasticity (Robust Standard Error)

After using the Robust SE, the significance value of the Income variable remained consistent (p = 0.001). The coefficient value also did not change substantively compared to the standard SE. This indicates that the model is stable and not affected by heteroscedasticity. The use of the Robust SE confirmed that the estimated regression coefficients remained reliable.

Influential Observation Effect.

The leverage of all values is within reasonable limits. No observations were found that unduly influence the regression model, so the regression results can be considered stable and representative.

Residual Distribution

The histogram and normal P–P plot show a residual pattern approaching a normal distribution. Skewness and kurtosis range from -2 to +2. The residuals are normally distributed, so the assumption of normality is met and the regression model is suitable for inference.

3. Social support is positively related to quality of life. Unstandardized B value = 3.267. Each 1-point increase in social support increases quality of life by 3.267 points. Beta = 0.6130 indicates a strong and positive relationship. Social support is positively and significantly related to quality of life. This means that the stronger the social support, the higher the quality of life. Multicollinearity (VIF)

Tolerance value = 1.000 and VIF = 1.000. Interpretation: The VIF value is well below the threshold of 10, and the Tolerance value is above 0.10, so there is no indication of multicollinearity in the Social Support variable. The variable can stand alone as a predictor of quality of life.

Heteroscedasticity (ROBUST SE).

The coefficient and significance value for Social Support remain consistent (p = 0.000), indicating that the model is not affected by heteroscedasticity and the regression estimates are stable.

Observation Effect (Influential Observation)

The observation influence was evaluated using Cook's Distance, leverage, and Mahalanobis Distance. Summary of findings: No Cook's Distance values > 1, leverage values for all observations are within the acceptable range, and no observations exceed the critical Mahalanobis cutoff. Interpretation: No extreme observations were found that excessively influenced the model, so the regression model results can be declared stable and representative.

Residual Distribution

The residual pattern follows a normal distribution, with points spread along the diagonal line of the P–P Plot and a histogram resembling a normal curve. Thus, the assumption of residual normality is met.

DISCUSSION

Research findings indicate that working hours are negatively associated with quality of life, while income and social support are positively associated with quality of life. Long working hours increase stress, physical and mental fatigue, and reduce time for rest, family time, and activities that enhance quality of life. When individuals work excessively long hours, the work-life balance is disrupted, resulting in lower life satisfaction and overall health. The more time spent working, the lower a person's perceived quality of life (Marcos et al., 2025).

A high income provides greater access to resources that can improve quality of life, such as healthcare, education, nutritious food, and recreational activities. Income supports individuals to meet the daily needs of their families, by fulfilling the needs of their families directly their hopes are fulfilled which means that their quality of life is fulfilled.

Social support has a positive impact on quality of life. Scientifically, it has been shown to act as a barrier against mental stress. People who receive support from family, friends, or a social community feel more confident because they can share joys and sorrows with their group. They often receive support in solving problems related to work pressures. This is consistent with previous research, which indicates that those who receive support have a better quality of life and are less likely to experience mental stress (Firman et al., 2023).

High weekly work hours lead to reduced family time, resulting in workers experiencing less support and being unable to share stressful work experiences with their families. The majority of respondents had a high school education and were adults, meaning they were in the productive age category. Those in this phase had high work ethic but lacked mental resilience. The results indicate that the online motorcycle taxi driver population in this study is relevant in assessing the quality of life of informal workers. Relevant to previous research findings, the characteristics of informal tea picker respondents in West Bandung are predominantly male, married status, and have 1-5 dependents (Mia & Rahayuningsih, 2018). The results of this study are similar to previous research comparing formal and informal workers, where it was found that the level of education in the formal sector was higher, while informal workers were dominated by respondents with upper secondary education (Herwanti et al., 2021).

Similar research in Bone Balongo by Hulatali et al. (2023) on workers presented several findings, including the fact that they work irregular hours. The results showed that income,

social support, and working hours influence quality of life. Irregular work schedules impact income. Generally, informal workers' income is based on working hours. Jobs with regular (fixed) working hours make it easier for workers to manage their time for social and family life (Angelia & Soeharto, 2020).

The research findings align with the literature, which explains that fatigue and work stress decrease after reducing working hours. Quality of life is related to flexible working hours, which provide a comfortable work environment (Anhar et al., 2025). A sufficient income makes it easier for individuals to access healthcare, education, and other life necessities. Meeting these needs improves a person's quality of life. Simply put, a high income impacts a better quality of life (Nutakor, 2023). Mental stability supports a good quality of life, mental stability is obtained from positive social support (Christanti et al., 2024).

The research findings indicate that the determining factor with the strongest positive correlation with quality of life is social support. The second factor positively correlated with quality of life is income. This is consistent with the literature, which states that workers with positive social relationships with those around them are key to well-being and happiness (Wibowo, 2019). A person who has positive social support can overcome mental stress and be more meaningful, thus having an impact on a good quality of life (OEC, 2024). Achieving happiness and well-being means achieving a good quality of life, as happiness is one measure of quality of life. The results of the opinion variable are relevant to previous research, which explains that low quality of life for street vendors equates to low income (Jennifer et al., 2025). The findings of the work experience study support Zhou's (2024) research, which found high levels of mental stress and fatigue in workers who work beyond standard working hours.

The research yields a useful determinant model for informal workers and reinforces the importance of managing social support and working hours. Working time management is based on the international occupational health and safety management system outlined in ISO 45001. Occupational risk control consists of elimination, substitution, engineering, administration, and personal protective equipment. The administrative control aspect of ISO 45001 can be applied in this research. Considering that the study population is not in the formal sector, the research recommends that the online platform driver community consider working hours not exceeding 45 hours per week. This means that if work exceeds 8 hours on a given day (9-10 hours), it is not permitted to do so continuously. This aligns with the Minister of Manpower Regulation, which stipulates national working hours for workers.

Research Weaknesses

The study did not specifically focus on passenger platform drivers, which is a weakness and could bias the results. There are differences between passenger platform drivers and food delivery platform drivers, such as work hours and income. The majority of platform drivers operate both as passenger drivers and food delivery drivers.

Another weakness of this study is that the results cannot be applied generally to other types of informal employment, as the characteristics of each informal job vary. The study also cannot be generalized to women, as the entire sample was male. To avoid bias, a random sampling technique was used to avoid bias in the results. Gender was selected for the majority of online platform drivers.

CONCLUSION

The most strongly contributing determinants related to quality of life are social support, followed by income and working hours. Considering that informal workers' working hours are not fixed and are flexible, depending on the worker themselves, this research provides a positive contribution to their ability to manage their working hours, limiting them to no more than 8 hours per day or a maximum of 45 hours per week. They can manage their working hours independently. It is necessary to establish a platform driver community supported by government policies so that this community can easily access information related to their welfare, work safety standards, and safety protection efforts at work.

This research contributes to the development of occupational health and social epidemiology by identifying hidden health risks in groups often overlooked by formal surveillance systems. Therefore, the study of informal workers' quality of life is not only academically relevant but also has practical implications for achieving social justice and sustainable development (Sustainable Development Goals), particularly the goals of decent work (SDG 8) and reduced inequality (SDG 10). A longitudinal study is needed to assess improvements in the platform driver work system after the policy in the informal sector is implemented.

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