

## Relationship between sleep duration, work duration and work fatigue among online motorbike taxi drivers in Kendari City

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### Abstract

**Background:** Online motorcycle taxis are one of the means of transportation most frequently used by the public because they reach their destination faster than using a car. People are also used to using online motorcycle taxi services as daily transportation and as a service to deliver food or goods. Online motorcycle taxis also have risks that can occur both for online motorcycle taxi drivers and their passengers. One of these risks is the risk of an accident occurring while the online motorcycle taxi driver is working. Driver fatigue is a serious problem that causes traffic accidents every year.

**Method:** This type of research is quantitative with a cross sectional research design. This research consisted of 100 samples using accidental sampling technique. Data analysis was carried out using the chi-square test.

**Result:** Online motorcycle taxi drivers have poor sleep duration and work duration. and it can be seen from the characteristics of online motorcycle taxi drivers who have less sleep duration or >8 hours/day as much as (95.0%) and the length of work shows that they do not meet the requirements or work >8 hours/day as much as (62.0%). So the results of the analysis of the variables sleep duration and work duration on work fatigue show a significant relationship, with p values = 0.032 and 0.023.

**Conclusion:** Insufficient sleep duration and inappropriate work duration can influence work fatigue in online motorcycle taxi drivers in Kendari city in 2023.

**Keywords:** Online motorcycle taxi; Drivers; Sleep duration; Work duration; Work fatigue

### 1. Introduction

In the current era of globalization, which is all online and application-based, more and more people are ordering online, so people need online motorcycle taxi services 24 hours a day. [1]. Online transportation itself consists of online motorcycle taxis and online taxis. The convenience provided by online motorcycle taxis makes people's interest in using this type of online transportation increasing all the time [2]. [3]. This causes the activities of online motorcycle taxi drivers to sometimes not pay attention to the time of day, many even work from morning until late at night to get maximum points and bonuses in one day. This causes there to be no working time limits and makes online motorcycle taxi drivers work continuously regardless of time so that work fatigue in online motorcycle taxi drivers occurs more often. [4].

Data Regulations related to online motorcycle taxis have been issued by the Government which are contained in the Minister of Transportation Regulation Number PM 12 of 2019 concerning Protecting the Safety of Motorbike Users Used

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for the Public Interest. [5]. It is certainly hoped that this regulation will be able to provide protection not only to online motorcycle taxi drivers or drivers but also to people who need services from online motorcycle taxis. The development of online motorcycle taxis in large Indonesian cities is also felt in Kendari City, the capital of Southeast Sulawesi Province. The rise of online motorcycle taxis in Kendari City cannot be separated from the public's uncertainty regarding transportation modes and increasingly congested traffic conditions, requiring the public to respond to all problems with the capital they have. [6], [7].

The increasing amount of work experienced by online motorcycle taxi drivers has caused many online motorcycle taxi drivers to decrease their sleep duration. A sleep duration of less than 8 hours has a greater risk of experiencing fatigue compared to respondents who have a normal sleep duration. Lack of sleep can increase the body's production of cortisol, which is often called the stress hormone, resulting in stress and fatigue. Things that influence the sleep duration of online motorcycle taxi drivers are the long duration of working hours which causes online motorcycle taxi drivers to sleep less [8], [9], [10].

Work fatigue is not only physical or psychological, work fatigue is also related to decreased physical performance, the emergence of feelings of fatigue, decreased motivation and work productivity. Traffic accidents that occur at any time can also be influenced by work fatigue problems that occur in the driver. Drivers who feel tired while working can trigger traffic accidents. [11], [12], [13].

Based on the research above, this research was conducted with the aim of finding out the relationship between sleep duration and work duration on work fatigue among online motorcycle taxi drivers in Kendari City in 2023.

## 2. Material and methods

This type of research is quantitative analytical, with a cross sectional study design. This research was conducted using a survey method among online motorcycle taxi drivers using a questionnaire. The survey was conducted with the aim of finding out the relationship between sleep duration & work duration with work fatigue in online motorcycle taxi drivers. This research was conducted in Kendari City, Southeast Sulawesi Province in 2023. The sample in this research was 100 Grab online motorcycle taxi drivers. The sampling technique in this research was carried out using convenience sampling or accidental sampling techniques. The research results obtained were then input using the Microsoft Excel application, then analyzed using the SPSS version 16.0 application. Analysis of the relationship between the independent variable and the dependent variable using the chi square test.

## 3. Results and discussion

### 3.1. Univariate Analysis

**Table 1** Distribution of respondents based on sleep duration of online motorcycle taxi drivers In Kendari City In 2023

Sleep Duration	n	%
not enough	95	95.0
Enough	5	5.0

Resource: Primary data, 2023

**Table 2** Distribution of Respondents Based on Work Duration of Online Motorbike Taxi Drivers in Kendari City in 2023

Duration Of Work	n	%
accordance	10	38.0
it is not in accordance with	90	62.0

Resource: Primary data, 2023

Table 1 The largest number of respondents were drivers whose sleep duration was not sufficient, 95 people with a percentage of 95.0%.

Table 2 The largest number of respondents were drivers whose work duration was inappropriate, namely 90 people with a percentage of 62.0%.

### 3.2. Bivariate Analysis

The Relationship between Sleep Duration and Work Fatigue in Kendari City Online Motorbike Taxi Drivers in 2023

Based on the data obtained, an analysis was then carried out to determine the relationship between sleep duration and work fatigue in online motorcycle taxi drivers. The relationship between these variables is presented in table 3 below:

**Table 3** Distribution of the Relationship between Sleep Duration and Work Fatigue among Online Motorbike Taxi Drivers in Kendari City in 2023

Sleep duration	work fatigue				Total		P Value
	severe fatigue		mild fatigue				
	n	%	n	%	n	%	
not enough	70	76.1	3	37.5	73	73.0	0.032
Enough	22	23.9	5	62.5	27	27.0	
Total	92	92.0	8	8.0	100	100	

Resource: Results of Primary Data Analysis in 2023

Table 3 shows that of the 73 (73.0%) respondents whose sleep duration was less, there were 70 (76.1%) respondents whose work fatigue was mild. Meanwhile, of the 27 (27.0%) respondents whose sleep duration was sufficient, there were 22 (23.9%) respondents whose work fatigue was severe and 5 (62.5%) respondents whose work fatigue was light. The results of statistical tests using the chi square test obtained a p value of  $0.032 < 0.05$ . This shows that there is a significant relationship between sleep duration and work fatigue in Kendari City online motorcycle taxi drivers in 2023.

Based on the results of bivariate analysis using the chi-square test, it was found that there was a relationship between sleep duration and work fatigue in online motorcycle taxi drivers in the city of Kendari in 2023. Sleep duration greatly influences online work fatigue. motorcycle taxis driver. The results of this study showed that respondents who had less sleep duration were more likely than respondents who had sufficient sleep duration, so that respondents whose sleep duration was insufficient experienced severe fatigue. This means that the more rest time, the lighter the level of fatigue and conversely, the less rest time, the heavier the level of fatigue.

This is in line with research conducted by Agustina and Lupita (2019) with the title "Factors Related to the Level of Work Fatigue in Online Ojek Drivers in the East Jakarta Region in 2019 shows that there is a relationship between sleep duration and the level of work fatigue in ojek drivers online in East Jakarta in 2019 as proven by the statistical test value  $p\text{-value} = 0.042$  [18].

Relationship between work duration and work fatigue among online motorcycle taxi drivers in Kendari City in 2023

Based on the data obtained, an analysis was then carried out to determine the relationship between work duration and work fatigue in online motorcycle taxi drivers. The relationship between these variables is presented in table 4 below.

Table 4 shows that of the 38 (38.0) respondents whose work duration was appropriate, there were 38 (41.3%) respondents whose work fatigue was severe and 0 (0%) respondents whose work fatigue was light. Meanwhile, of the 62 (62.0%) respondents whose work duration was inappropriate, there were 54 (58.7%) respondents whose work fatigue was severe and 8 (100%) respondents whose work fatigue was light. The results of statistical tests using the chi square test obtained a p value of  $0.023 < 0.05$ . This shows that there is a significant relationship between work duration and work fatigue among online motorcycle taxi drivers in Kendari City in 2023.

Based on the results of bivariate analysis using the chi-square test, it was found that there was a relationship between work duration and work fatigue among online motorcycle taxi drivers in the city of Kendari in 2023. Work duration greatly influences online work fatigue. motorcycle taxis driver. The results of this study show that there are more respondents whose work duration is not suitable than respondents whose work duration is suitable, so that respondents whose work duration is not suitable experience very severe fatigue. Extension of working time beyond the

working capacity is usually not accompanied by optimal work efficiency, effectiveness and productivity, and in fact usually indicates a decrease in work quality and results and working for long periods of time causes a tendency to fatigue. Because according to online motorcycle taxi drivers, the more orders they receive, the more points they get, which is why these online motorcycle taxi drivers always work more than 8 hours/day or always work overtime every day.

**Table 4** Distribution of the Relationship between Work Duration and Work Fatigue among Online Motorbike Taxi Drivers in Kendari City in 2023

Duration of work	work fatigue				Total		P Value
	severe fatigue		mild fatigue				
	n	%	n	%	n	%	
accordance	38	41.3	0	0	38	38.0	0.023
it is not in accordance with	54	58.7	8	100	62	62.0	
Total	92	92.0	8	8.0	100	100	

This is in line with research conducted by Meri Meilani Dorothy Datu, et al (2019) with the title "The Relationship between Length of Work and Work Fatigue in Online Ojek Riders in the Manguni Online Rider Community Sario Meri Meil" which shows that there is a relationship between work period/duration work for online motorcycle taxi drivers in the Manguni Rider online Sario community as proven by the statistical test value p-value = 0.023. [19],

#### 4. Conclusion

Based on the results of research conducted regarding the relationship between sleep duration & work duration with work fatigue in online motorcycle taxi drivers in Kendari City in 2023, it can be concluded that: There is a relationship between sleep duration and work fatigue in online motorcycle taxi drivers in Kendari City in 2023. (p -value = 0.032), and there is a relationship between work duration and work fatigue in online motorcycle taxi drivers in Kendari City in 2023 (p-value = 0.023).

#### Compliance with ethical standards

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##### *Disclosure of conflict of interest*

All authors in the making of this scientific article have no conflict of interest.

##### *Statement of informed consent*

All informants/respondents involved in this study have stated their consent as informants/respondents to be interviewed and provided information/information in accordance with research needs.

#### References

- [1] Auliana, N. (2021). Description of Employee Work Fatigue at PT. PLN ULP Sinjai, Balangnipa Village, North Sinjai District, Sinjai Regency. Scientific Publications, 1–141.
- [2] Belia, R., & Handayani, P. (2018). Factors Affecting Work Fatigue in Kampung Rambutan. Journal of Public Health.
- [3] Carolus Borromeus Mulyatno. (2022). Journal of Education and Counseling Journal of Education and Counseling, 4, 1349–1358.

- [4] Databox.Kata Data. (2021). The number of traffic accidents fell by 14% in 2020. Databox.Kata Data. <https://databoks.katadata.co.id/datapublish/2021/11/08/jumlah-kecelakaan-lalu-lintas-turun-14-pada-2020>
- [5] Dokolomo, S., & Elwindra, E. (2021). Factors Associated with Work Fatigue in Online Ojek Drivers in East Jakarta in 2020. *Persada Husada Indonesia Journal*, 8(29), 24–29.
- [6] Dwijayanti, M., & Jember, M. (2021). The impact of online motorcycle taxis on working hours and motorcycle taxi income in the city of Denpasar. *E-Jurnal EP Unud*, 10(8), 3247–3279.
- [7] Hernayanti, M. A., & Kurniawidjaja, L. M. (2022). The Relationship Between Individual Factors and the Occurrence of Fatigue in Office Workers in the Transition Period from Pandemic to Endemic Covid-19. *National Journal of Occupational Health and Safety*, 3(1). <https://doi.org/10.59230/njohs.v3i1.6030>
- [8] Ihsania, E. (2020). Factors Associated with Subjective Work Fatigue in Goods Delivery Couriers in the South Tangerang Region, 2020. In Thesis, Jakarta:UIN Syarif Hidayatullah. <https://repository.uinjkt.ac.id/dspace/handle/123456789/64526>
- [9] Iman Azizul. (2020). Risk Factor Analysis of Trans Jateng Rapid Transit (Brt) Bus Driver Fatigue Levels Causes of Traffic Accidents. Thesis, 5–17.
- [10] Indonesia, U., Safitri, D. S., Studi, P., Dan, K., Kerja, K., Masyarakat, F. K., & Indonesia, U. (2008). Oil and Gas Company X East Kalimantan 2008 Thesis By: Oil and Gas Company X East Kalimantan.
- [11] Khoiroh, M., Muniroh, L., Atmaka, D. R., & Arini, S. Y. (2022). The Relationship between Central Obesity, Sleep Duration, and Energy Adequacy with Fatigue among Female Worker in PT Galaxy Surya Panelindo. *Media Gizi Indonesia*, 17(2), 106–114. <https://doi.org/10.20473/mgi.v17i2.106-114>
- [12] Kumentas, R. J. A., Rorong, I. P. F., & ... (2022). Comparative Analysis of the Income of Conventional Ojek Drivers and Gojek Online Ojek Drivers (Study of Ojek and Online Ojek Drivers in... *Scientific Periodical Journal ...*, 22(6), 121–132. <https://ejournal.unsrat.ac.id/index.php/jbie/article/view/43076%0Ahttps://ejournal.unsrat.ac.id/index.php/jbie/article/download/43076/37915>
- [13] Lupita, & Rukayah, S. (2020). Factors Associated with the Level of Work Fatigue among Online Ojek Drivers in the East Jakarta Region in 2019 The Correlation Factors of Fatigue Level on Online Ojek Drivers in East Jakarta In 2019 Abstrak Pe. *Jurnal Persada Indonesia*, 7(25), 31–37.
- [14] Masyarakat, F. K., Islam, U., Sumatera, N., Batubara, M., Masyarakat, F. K., Islam, U., Sumatera, N., Drivers, G., & Grab, D. (2023). Analysis of factors that influence fatigue in Medan city grab driver workers. 3(4), 329–336.
- [15] Rani, Y. S. (2023). Analysis of Fatigue Factors in Drivers. 3(2), 273–279.
- [16] Risiko, F., Ojek, P., & Udayana, U. (2020). *Indonesian Public Health Media*. 16(2).
- [17] Rukayah, S., & Lupita, L. (2020). Factors Associated with the Level of Job Fatigue in Online Motorbike Taxi Drivers di Wilayah Jakarta Timur Tahun 2019. *Jurnal Persada Husada Indonesia*, 7(25), 31–37. <https://doi.org/10.56014/jphi.v7i25.287>
- [18] Simanoah, K. H., Muniroh, L., & Rifqi, M. A. (2022). Relationship between Sleep Duration, Stress Level and Energy Intake with Body Mass Index (BMI) in New Students 2020/2021FKM UNAIR. *Media Gizi Kesmas*, 11(1), 218–224. <https://doi.org/10.20473/mgk.v11i1.2022.218-224>
- [19] Soraya Dokolamo, D. (2021). Factors Associated with Work Fatigue among Online Ojek Drivers in East Jakarta in 2020. *Jurnal Persada Husada Indonesia*. 8(29), 24–29.