

### ARTICLE

### ANALYSIS OF FACTORS AFFECTING FATIGUE LEVEL IN ONLINE MOTORCYCLE TAXI DRIVERS IN DENPASAR CITY

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### ABSTRAK

Ojek online is popular transportation. As these drivers proliferate, so do accidents. Factors include human error, vehicle error, and road and environmental error. Indonesian land transportation statistics from 2015-2019 show a 4.87% annual increase in work accidents. Fatigue is caused by age, gender, workload, service length, and work duration. Denpasar online motorcycle taxi drivers' biggest workload is fatigue. This study examines how age, gender, smoking habits, length of work, and body mass index affect workplace tiredness in online motorcycle taxi drivers. This cross-sectional observational study used the Industrial Fatigue Research Committee questionnaire. This study included 106 online motorcycle taxi drivers in Bali, primarily Denpasar City, who met inclusion and exclusion criteria using purposive sampling. Majority of individuals are male (51,2%), work >8 hours (69,1%), work >2 years (61,5%), 37 years old (66,1%), obese (100%), and experience occupational tiredness. The investigation found that smoking, work duration, length of employment, age, and BMI affect online motorcycle taxi drivers' work tiredness.

Keywords: Factors; Fatigue; Taxi drivers

### АБСТРАКТ

Ојек онлайн - популярный транспорт. С ростом числа таких водителей увеличивается и количество аварий. Факторы включают в себя человеческий фактор, ошибку транспортного средства, а также дорожные и экологические ошибки. Статистика наземного транспорта Индонезии за 2015-2019 годы показывает ежегодный рост несчастных случаев на производстве на 4,87 %. Усталость обусловлена возрастом, полом, рабочей нагрузкой, стажем и продолжительностью работы. У водителей онлайн-мототакси в Денпасаре самой большой рабочей нагрузкой является усталость. В данном исследовании изучается, как возраст, пол, привычка курить, продолжительность работы и индекс массы тела влияют на утомляемость на рабочем месте у водителей онлайн-мототакси. В этом перекрестном обсервационном исследовании использовался опросник Комитета по изучению усталости на производстве. В исследование были включены 106 водителей онлайн-мототакси на Бали, в основном в городе Денпасар, которые соответствовали критериям включения и исключения, используя целенаправленную выборку. Большинство из них - мужчины (51,2 %), работают более 8 часов (69,1 %), работают более 2 лет (61,5 %), 37 лет (66,1 %), страдают ожирением (100 %) и испытывают профессиональную усталость. Исследование показало, что курение, продолжительность работы, стаж, возраст и индекс массы тела влияют на утомляемость от работы водителей онлайнмототакси.

Ключевые слова: Факторы; Усталость; Таксисты

### **INTRODUCTION**

Online ojek in Indonesia started in 2015 with the formation of Go-Jek company. Based on data from Go-Jek, there are 2.4 million online ojek drivers in Indonesia in 2022. Online motorbike taxi drivers always work all the time, it is undeniable that work fatigue in online motorbike taxi drivers is very high. Occupational fatigue is a decreased level of health or fitness in workers characterised by boredom, fatigue, fatigue, and lethargy so that it can reduce the concentration of workers.<sup>1</sup>

The increasing number of online motorcycle taxi drivers is associated with an increase in the number of traffic accidents.<sup>2</sup> Work fatigue is a problem that is often ignored by online motorcycle taxi drivers. Traffic accidents involving motorbikes are quite high at around 70% and 79% involve online motorcycle taxi drivers in Indonesia.<sup>2</sup> In addition to causing traffic accidents, fatigue also has physical and mental impacts on workers such as depression, decreased concentration, unstable mood, reduced physical strength and endurance, decreased morale, and low cognition.<sup>3</sup> Mental or psychological disorders such as feelings of fatigue that occur continuously can cause depression so that it is called the second killer disease after heart disease.<sup>4</sup>

Online motorcycle taxi drivers to often work overtime. As a result, the body does not have sufficient time to recover from fatigue. Research shows as many as 60% of online motorcycle taxi drivers work more than 11 hours per day, 34.29% work for 6-11 hours per day and 15.71% work less than 6 hours per day, this will affect the rest time of the drivers. The data shows that 15.71% of drivers only carry out work breaks with a duration of <6 hours.<sup>2</sup>

From the observations that have been made, not a few online motorcycle taxi drivers are elderly. This is related to the level of fatigue, the increasing age will reduce work productivity. Based on this description, the authors are interested in conducting research on 'Analysis of Factors Affecting the Level of Work Fatigue in Online Motorcycle Taxi Drivers in Denpasar'.

### **MATERIAL AND METHODS**

A cross-sectional descriptive study was conducted at a online motorcycle taxi drivers in Denpasar between May and August 2023. Inclusion criteria include active work as an online motorcycle taxi drivers, aged >18 years, online motorcycle taxi drivers who use motorbikes, length of work >6 months and willing to be respondents. Exclusion criteria include respondents who refuse during sampling, and respondents who do not fill out the questionnaire completely. The sample size is 106 online motorcycle taxi drivers, which were selected using purposive sampling technique.

Primary data was obtained through interviews and direct observation using the IFRC questionnaire. Univariate analysis was conducted to describe the frequency of variables. Meanwhile, bivariate analysis was conducted to test the relationship between variables using the chi-square test.

### RESULT

SUBJECT CHARACTERISTICS. Respondents in this study were 106 online motorcycle taxi drivers in Denpasar. Data on subject characteristics are shown in table 1.

#### Table 1. Subject Characteristics

Characteristics	Frequency	Percentage (%)
	Gender	
Man	84	79.2
Woman	22	20.8
	Age	
20 – 25 years	29	27.4
26 – 35 years	56	52.8
36 – 45 years	16	15.1
46 – 55 years	5	4.7
	Height	
150 – 160 cm	15	14.2
161 – 170 cm	75	70.8
171 – 180 cm	14	13.2
181 - 190 cm	2	1.9
	Weight	
40 – 50 kg	12	11.3
51 – 60 kg	58	54.7
61 – 70 kg	21	19.8
71 – 80 kg	13	12.3
81 – 90 kg	2	1.9

The majority of respondents were male 84 people (79.2%), 56 people had an age of 26 - 35 years (52.8%), 75 people had a height of 161 - 170 cm (70.8%), and 58 people had a body weight of 51 - 60 kg (54.7%). Characteristics By Occupation. The analysis carried out in table 2 shows the characteristics of respondents when doing work.

Table 2. Characteristics of Subjects in
Doing Work

Characteristics	Frequency	Percentage (%)
Le	ength of Work	
2 months	25	23.6
4 months	24	22.6
3 months	19	17.9
5 months	16	15.1
1 months	11	10.4
6 months	5	4.7
6 months	2	1.9
3 months	1	0.9
5 months	1	0.9
7 months	1	0.9
30 months	1	0.9
	Smoking	
Ya	85	80.2
Tidak	21	19.8
Du	ration of Work	
0-8 hours	51	48.1
>8 hours	55	51.9

Twenty-five individuals, or 23.6%, of the respondents have been employed for a period of two years, and eighty-two percent of the respondents have a habit of smoking. More than eight hours of work was performed by the majority of respondents, which accounted for 55 individuals and represented 51.9% of the total. characteristics that were determined based on the findings of the Irfc questionnaire. Table 3 displays the findings of the analysis of the IRFC questionnaire in the category of activity dulling. The findings are presented in the table for your perusal.

# **Table 3.** Characteristics Based on IRFCQuestionnaire (Activity Weakening)

Characteristics	Frequency	Percentage (%)
Неа	vy feeling in the	head
Sick	51	48.1
Not sick	30	28.3
Very sick	17	16.0
Slightly sick	8	7.5
	Full body fatigue	e
Sick	36	34.0
Very sick	35	33.0
Not sick	24	22.6
Slightly sick	11	10.4
Неа	wy feeling in the	legs
Sick	45	42.5
Very sick	28	26.4
Not sick	28	26.4
Slightly sick	5	4.7
Yav	wning while worl	king
Sick	44	41.5
Very sick	29	27.4
Not sick	24	22.6
Slightly sick	9	8.5
- 8 - 9	Chaotic mind	
Not sick	34	32.1
Sick	34	32.1
Very sick	31	29.2
Slightly sick	7	66
Slightly Slek	Sleenv	0.0
Sick	30 20	36.9
Vorusiek	24	22.1
Not sick	25	52.1 22.6
Slightly sight	23	23.0
Slightly Sick	0 Load on the ever	7.5
	Load on the eyes	24.0
Very SICK	30	34.0
SICK	32	30.2
NOT SICK	29	27.4
Slightly sick	9	8.5
Fee	els awkward and	stiff
SICK	39	36.8
Very sick	29	27.4
Not sick	28	26.4
Slightly sick	10	9.4
	Unstable standin	g
Sick	37	34.9
Not sick	34	32.1
Very sick	29	27.4
Slightly sick	6	5.7
	Wants to lie dow	n
Sick	48	45.3
Very sick	23	21.7
Not sick	22	20.8
Slightly sick	13	12.3

Most respondents Most sick people had a heavy head. 51 people (48.1%) felt tired throughout the body (34.0%), 45 felt heavy in the legs (42.5%), 44 yawned while working (41.5%), 34 had chaotic thoughts (32.1%), 39 were sleepy (36.8%), 36 felt eye pressure (34.0%), and 39 felt awkward and stiff (36.8%). The sick had 37 unsteady standing (34.9%) and 48 laying (45.3%) replies.

			very sien
Characteristics	Frequency	Percentage (%)	Not sick
	Hard to think		Slightly sick
Sick	34	32.1	Slightly sick
Not sick	32	30.2	
Verv sick	31	29.2	Very sick
Slightly sick	9	8.5	Sick
	Lazy to talk		Not sick
Sick	38	35.8	Slightly sick
Verv sick	26	24.5	onghing bion
Not sick	31	29.2	C: al-
Slightly sick	11	10.4	SICK
binghtily bioli	Feeling nervous	1011	Very sick
Sick	41	38.7	Not sick
Not sick	34	32.1	Slightly sick
Verv sick	24	22.6	
Slightly sick	7	66	Sick
I I I I I I I I I I I I I I I I I I I	Inable to concentrate	0.0	Vorusiek
Sick	43	40.6	Very Sick
Not sick	28	26.4	Not sick
Verv sick	20	25.5	Slightly sick
Slightly sick	8	75	
Dif	ficults to focus attentio	n 7.5	Sick
Sick	41	38.7	Verv sick
Very sick	28	26.4	Not sick
Not sick	30	28.3	Clightly gight
Slightly sick	7	66	Slightly sick
Slightly slek	Forgetfulness	0.0	
Sick	41	387	Not sick
Very sick	28	26.4	Sick
Not sick	30	28.3	Verv sick
Slightly sick	7	66	Slightly sick
Slightly sick	Low self confidence	0.0	blightly sick
Sick	37	34.9	0.1
Very sick	30	28.3	SICK
Not sick	30	28.3	Not sick
Slightly sick	9	85	Very sick
Slightly sick	Feeling anvious	0.5	Slightly sick
Sick	38	35.8	
Not sick	33	31.0	Sick
Very sick	30	28.3	Verseiele
Slightly sick	5	47	Very Sick
Diffi	cult to control hehavio	1.7	Not sick
Sick	46	43.4	Slightly sick
Not sick	32	30.2	
Very sick	22	20.8	Sick
Slightly sick	6	57	Verv sick
N	ot nersevering in work	5.7	Not sick
Sick	48	453	
Not sick	31	29.2	Slightly sick
Verv sick	20	189	
Slightly sick	20	66	Sick
T-1-1- 4 1	, , , , , , , , , , , , , , , , , , ,		Very sick
lable 4 sho	ws that most	sick research	Not sick

were lazy to speak (35.8%), felt nervous (38.7%), could not concentrate (40.6%), had trouble focusing their attention (38.7%), easily forgot (38.7%), 37 had a decrease in selfconfidence (34.9%), 38 felt anxious (35.8%), and 46 felt anxious (38.7%).

### Table 5. Characteristics Based on IRFC Questionnaire (Physical Fatigue Weakening)

Table 4. Ch	naracteristics Base	ed on IRFC	Characteristics	Frequency	Percentage (%
Auestionnai	re (Motivation Wo	akening)		Headache	
Questionnan		anennigj	Sick	37	34.9
			Very sick	32	30.2
Characteristics	Frequency	Percentage (%)	Not sick	30	28.3
	Hard to think		Slightly sick	7	6.6
Sick	34	32.1	Sti	ffness in the should	ders
Not sick	32	30.2	Vorusiale	24	24.0
Very sick	31	29.2	very sick	30	54.0
Slightly sick	9	8.5	Sick	33	31.1
	Lazy to talk		Not sick	24	22.6
Sick	38	35.8	Slightly sick	13	12.3
Very sick	26	24.5		Pain in the waist	
Not sick	31	29.2	Sick	45	42.5
Slightly sick	11	10.4	Vory sick	25	23.6
	Feeling nervous		Very Sick	20	23.0
Sick	41	38.7	NOT SICK	22	20.8
Not sick	34	32.1	Slightly sick	14	13.2
Very sick	24	22.6		Shortness of breat	h
Slightly sick	7	6.6	Sick	35	33.0
U	nable to concentrate		Very sick	32	30.2
Sick	43	40.6	Not sick	34	32.1
Not sick	28	26.4	Slightly sick	5	4.7
Very sick	27	25.5	Slightly Slck	J TTL:	4.7
Slightly sick	8	7.5		Inirsty	
Diff	icults to focus attention		Sick	37	34.9
Sick	41	38.7	Very sick	35	30.2
Very sick	28	26.4	Not sick	25	23.6
Not sick	30	28.3	Slightly sick	9	8.5
Slightly sick	7	6.6		Hoarsoness	
	Forgetfulness		Nataiala	25	22.0
Sick	41	38.7	NOUSICK	35	33.0
Very sick	28	26.4	Sick	34	32.1
Not sick	30	28.3	Very sick	33	31.1
Slightly sick	7	6.6	Slightly sick	4	3.8
	Low self confidence		-	Dizziness	
Sick	37	34.9	Sick	38	35.8
Very sick	30	28.3	Not sick	28	26.4
Not sick	30	28.3	Vorusial	20	20.4
Slightly sick	9	8.5	very sick	29	27.4
	Feeling anxious		Slightly sick	11	10.4
Sick	38	35.8	Some	ething stuck in the	eyelid
Not sick	33	31.1	Sick	45	42.5
Very sick	30	28.3	Verv sick	22	20.8
Slightly sick	5	4.7	Not sick	32	30.2
Diffic	cult to control behaviour		Clightly cick	7	6.6
Sick	46	43.4	Slightly Sick	, ,	0.0
Not sick	32	30.2	a	Trembling	
Very sick	22	20.8	Sick	35	33.0
Slightly sick	6	5.7	Very sick	31	29.2
No	ot persevering in work		Not sick	30	28.3
Sick	48	45.3	Slightly sick	10	9.4
Not sick	31	29.2	Subury sien	Fooling unwoll	2.1
Very sick	20	18.9	C; al-		22.0
Slightly sick	7	6.6	SICK	35	33.0
Tahla 1. cho	we that most e	ck research	Very sick	33	31.1
			Not sick	31	29.2
oondents ha	d trouble thinki	ng (32.1%).	Slightly sick	7	6.6

According to table 5, it was discovered that the majority of people who participated in the research experienced the pain category. individuals Specifically, 37 reported experiencing pain in their head (34.9%), 36 individuals reported experiencing pain in their shoulder (34.5%), 45 individuals reported experiencing pain in their waist (42.5%), 35 individuals reported feeling short of breath (33.0%), 37 individuals reported feeling thirsty (34, 9%), 35 individuals reported feeling hoarse with no pain category (33.0%), 38 individuals reported feeling dizzy with pain category (35 8%), 45 individuals reported experiencing a sensation of obstruction in their eyelids (42.5%), 35 individuals experienced trembling in their limbs (33.0%), and 35 individuals reported feeling unwell (33.0%). **Characteristics Of Gender With Job Fatigue** 

**Table 6.** Characteristics of Gender with JobFatigue

		Level of fatigue (n%)				р
Categories		Low	Medium	High	Very high	value
	Man	28	6	7	43	
Condor		(33,3)	(7.1)	(8.3)	(51.2)	
uchuci	Moman	5	0	0	17	0 105
woman	(22.7)	(0)	(0)	(77.3)	0,105	
Total		33	6	7	60	-
10	tai	(31.1)	(5.7)	(6.6)	(56.6)	

In accordance with table 6, the number of male respondents who had a very high tiredness level was 43 (51.2% of the total), whereas the number of female respondents who had a very high fatigue level category was 17 (77.3% of the total). A p-value of 0.105 indicates that there is no correlation between gender and the level of weariness experienced by research respondents. A conclusion that can be drawn from this is that there is no hypothesis that can be supported by the evidence.

### Characteristics Of Smokers With Job Fatigue

Table 7. Char	acteristics of	Smokers with
]	Job Fatigue	

		Т	ovol of Fati	iguo (nº/	<u></u>	
Categories		Low	Medium	High	Very high	- P- value
Yes	Yes	17 (81.0)	4 (19.0)	0 (0)	0 (0)	
Smoker	No	16 (18.8)	2 (2.4)	7 (8.2)	60 (70.6)	0,001
Tota	ıl	33 (31.1)	6 (5.7)	7 (6.6)	60 (56.6)	

Based on table 7, respondents who smoked had a low level of fatigue as many as 17 people (81.0%) and respondents who did not smoke had a very high level of fatigue as many as 60 people (70.6%). The p-value showed a result of 0.001 <0.05, which means that there is a relationship between smoking and the level of fatigue experienced by the research respondents.

# **Table 8.** Characteristics of Work Durationwith Job Fatigue

Categories		I	P.			
		Low	Medium	High	Very high	value
Work Duration	0-8 hours >8	23 (45.1) 10 (18.2)	4 (7.8) 2 (3.6)	2 (3.9) 5 (9.1)	22 (43.1 ) 38	0,011
Tota	l	33 (31.3)	6 (5.7)	(6.6)	60 (56.6)	

fatigue is characterized by Iob the characteristics of work duration. According to table 8, respondents who worked for a length of less than eight hours had a low degree of exhaustion as many as twenty-three individuals (45.1%), while respondents who worked for more than eight hours had a very high level of weariness as many as thirty-eight people (69.1%). It is possible to draw the conclusion that there is a correlation between the amount of time spent working and the level of weariness that is experienced, given that the p-value is 0.011.

Level of Fatigue (n%)						р
Categorie	S	Low	Medium	High	Very high	value
	<2	9	2 (13.3)	0	4	
Length	years	(60.0)		(0)	(26.7)	
of Work	>2	24	4	7	56	0.015
	years	(26.4)	(4.4)	(7.7)	(61.5)	0,015
Total		33	6	7	60	
		(31.1)	(5.7)	(6.6)	(56.6)	

**Table 9.** Characteristics of Legth of Workwith Job Fatigue

Characteristics Od Legth Od Work With Job Fatigue. Based on table 9, respondents with a new work duration category < 2 years had a low level of fatigue as many as 9 people (60.0%) and a long work duration category > 2 years had a very high level of fatigue as many as 56 people (61.5%). The p-value shows a value of 0.015, which means that there is a relationship between length of work with the level of fatigue.

Characteristics Of Age With Job Fatigue

**Table 10.** Characteristics of Age with JobFatigue

			Level of Fat	ione (n%	)	
Categories		Low	Medium	High	Very high	- P- value
Age (years)	20 - 25 26 - 35 36 - 45 46 - 55	7 (23.3) 16 (28,.6) 9 (56.3) 1 (25.0)	4 (13.3) 0 (0.0) 2 (12.5) 0 (0)	1 (3.3) 3 (5.4) 2 (12.5) 1 (3.3)	18 (60.0) 37 (66.1) 3 (18.8) 2 (60.0)	0,016
Tota	1	33 (31.1)	6 (5.7)	7 (6.6)	60 (56.6)	

Based on table 10, the age category 20 - 25 years had a very high level of fatigue as many as 18 people (60.0%), age 26 - 35 years had a very high level of fatigue as many as 37 people (66.1%), age 36 - 45 years had a low level of fatigue as many as 9 people (56.3%), and age 46 - 55 years had a very high level of fatigue as many as 2 people (60.0%). Age and weariness are related, since the p-value is 0.016.

**Table 11.** Characteristics of Body MassIndex with Job Fatigue

Categories		Level of Fatigue (n%)				
		Low	Medium	High	Very high	Value
BMI	Under	1	0	0	1	0,002
	weight	(50.0)	(0)	(0)	(50.0)	
	Normal	19	4 (4.5)	6	59	
		(21.6)		(6.8)	(67.0)	
	Over	10	2	1	0	
	weight	(76.9)	(15.4)	(7.7)	(0.0)	
	Obese	1	0 (0.0)	0	0	
		(100)		(0.0)	(0.0)	
Total		31	6 (5.8)	7	60	
		(29.8)		(6.7)	(57.7)	

Characteristis Od Body Mass Index With Job Fatigue. Based on table 11, respondents with underweight BMI category with very high fatigue category were 1 person (50.0%), normal BMI category with very high fatigue category were 59 people (67.0%), overweight BMI category with low fatigue category were 10 people (76.9%) and obese BMI category with low fatigue category were 1 person (100%). The p-value shows a value of 0.002, which means that there is a relationship between body mass index and the level of fatigue.

### DISCUSSION

This study involved 106 respondents of online motorcycle taxi drivers in Denpasar City who met the inclusion and exclusion criteria. The results showed that the majority of respondents were male (79.2%), had an age in the range of 26-35 years (52.8%), had a height of 161-170 cm (70.8%), and a body weight of 51-60 kg (54.7%).

Most of the respondents were male. Jobs in the transportation sector are more dominated by men, because this job is very risky for criminality.<sup>5</sup> This is similar to research by Ikhtiarni, where as many as 100% of online motorcycle taxi drivers in their research were male.<sup>6</sup> Men tend to have stronger physical conditions than women, so they can face various challenges on the road.<sup>6</sup> Meanwhile, women are less interested in working as online motorcycle taxi drivers, because of the discomfort and fear of being alone with strangers in the vehicle.<sup>7</sup>

The majority of online motorcycle taxi drivers respondents are 26-35 years old (52.8%). This is similar to Anggamguna et al's research which states that the majority of online motorcycle taxi drivers in their research are aged 26-35 years (41,3%).<sup>8</sup> Someone chooses to work as an online motorcycle taxi drivers because of the flexible working hours and enough to meet the needs of clothing and food.<sup>9</sup> Based on the height and weight categories, most respondents were 161-170 cm tall (70.8%) and 51-60 kg (54.7%). Online motorcycle taxi drivers with normal BMI will have sufficient physical fitness. This physical fitness is needed to increase work productivity and reduce the risk of job fatigue.<sup>10</sup> Characteristics based on occupation found that most respondents have worked for 2 years (23.6%), smoke (80.2%), have a work duration of > 8 hours (51.9%), and have a workload of fatigue (35.8%). Research by Monica where most of the respondents have a smoking habit, which can affect lung function.<sup>11</sup> Research by Datu in 2019 shows that the majority of online motorcycle taxi drivers respondents work for 13-24 months (48.8%), the duration of work is more than 8 hours (70.7%).<sup>12</sup> Extending working time is not accompanied by one's effectiveness and productivity, so it tends to cause fatigue, health problems, and accidents. Some signs of fatigue are drowsiness, aching legs, and foggy vision.<sup>13</sup>

Characteristics of gender with fatigue. From the results of the Chi-Square test conducted, it was found that p=0.105 which means that there is no relationship between gender and fatigue in online motorcycle taxi drivers. Similar results were also obtained in Susilawati & Batubara's where gender was not associated with fatigue (p=0.750).<sup>14</sup> Women tend to feel fatigue faster. This is because women always experience biological cycles every month, such as menstruation, hormonal changes which will ultimately affect their physical condition.<sup>15</sup> Less ergonomic working conditions also cause fatigue while working. Various parts of the body will feel uncomfortable, resulting in

feelings of fatigue, slow perception, decreased alertness, and decreased physical work.<sup>16</sup>

Characteristics of smokers with job fatigue. The results of data analysis of the relationship between smoking and fatigue in online motorcycle taxi drivers, obtained p value 0.00 which means there is a significant relationship between the two variables. The same results were also presented by Indeswari which showed that smoking habits were significantly associated with the incidence of fatigue (p=0.00).<sup>17</sup> The three main substances of cigarette are nicotine, tar, and carbon monoxide (CO).<sup>18</sup> Smoking has been shown to reduce the vital capacity of the lungs. This results in a decrease in expiratory inspiratory reserve volume, lowering PaO2 thereby disturbing acid-base balance.

Work Duration With Job Fatigue. The results of the Chi-Square test in this study found that there was a significant relationship between work duration and fatigue in online motorcycle taxi drivers (p value = 0.011). Lupita & Rukayah's research is in line with this study, a significant relationship was found between work duration and fatigue levels in online motorcycle taxi drivers (p = 0.024).<sup>19</sup> Respondents who work more than 8 hours will feel very high levels of fatigue. According to Suwandi, in general a person can work well for <8 hours, the rest of about 16-18 hours is used for rest, sleep, relationships with family, community, and others.<sup>20</sup> Someone who works overtime will affect their ability to work, thus triggering fatigue.<sup>13</sup>

Work duration is also related to work stress. If a person experiences stress continuously, the adrenal glands cannot secrete the hormone cortisol.<sup>21</sup> According to Nathania & Dinata, work duration that is too long causes work stress, has an effect on changes in the hormone cortisol which creates a risk of fatigue.<sup>22</sup>

Length of Work with Job Fatigue. From the Chi-Square results, a p value of 0.015 was obtained, which means that there is a significant relationship between length of work and fatigue in online motorcycle taxi drivers. Based on previous research by Indreswari, tenure or length of work is significantly associated with fatigue (p=0.00).<sup>17</sup> Workers with a long working period tend to do monotonous work which is a factor of saturation, so they feel tired faster.<sup>20</sup> This is reflected in Table 5.7 where 61.5% of respondents with a working period of > 2 years tend to have very high fatigue. Meanwhile, 60% of respondents who have only worked for < 2vears, have a low level of fatigue. In contrast to the research of Syuhada & Widodo which states that tenure cannot be proven as one of the causes of fatigue, because the work performed does not require special skills and does not use heavy physical strength.<sup>23</sup>

The length of service can have a positive influence, namely that the longer a person works, the more accustomed they will feel so that they can tolerate the fatigue they feel.<sup>18</sup> Conversely, tenure has a negative effect if the longer you work, the more fatigue you will feel.<sup>14</sup> AGE WITH JOB FATIGUE. This study shows that age is significantly associated with fatigue in online motorcycle taxi drivers, with a p value of 0.016. These results are similar to research by Indreswari, obtained a p value of 0.00 which means there is a relationship between the two variables.<sup>17</sup> With increasing age, the level of fatigue will increase. This is due to the degenerative process resulting in a decrease in efficiency in the body system.<sup>13</sup> Physiologically, age greatly affects physical muscle work, where with increasing age, muscle strength will decrease.<sup>17</sup>

Age affects basal metabolic rate (BMR) which is defined as the amount of calories or energy required to maintain normal physiological function. BMR will decrease with age, so it will be easy to experience fatigue.<sup>24</sup> However, these results contradict research by Manuel which states that respondents aged <30 years old have a greater risk of experiencing occupational fatigue.<sup>21</sup>

Body Mass Index With Job Fatigue. Chi-Square test results show that there is a relationship between body mass index (BMI) and fatigue in online motorcycle taxi drivers (p=0.002). These results are similar to research by Setiawan, where BMI has a significant relationship with work fatigue in online motorcycle taxi drivers in Yogyakarta (p=0.002).<sup>25</sup> Excessive nutritional status will cause a decrease in the function of muscles, lungs, and other organs.<sup>18</sup> The body will work harder to compensate for the decrease in function, making it feel tired faster. Conversely, if nutrition is balanced and BMI is normal, then the health of the workforce will be better and not easily experience fatigue.<sup>18</sup>

### CONCLUSION

The majority of online motorcycle taxi drivers are male (51.2%), work with a duration of >8 hours (69.1%), work for more than 2 years (61.5%), aged 37 years (66.1%), have an obese body mass index (100%) experiencing job fatigue. The factors associated with job fatigue in online motorcycle taxi drivers, namely smoking (p = 0.001), work duration (p = 0.011), length of work (p = 0.015), age (p = 0.016), and body mass index (p = 0.002).

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### DECLARATIONS

Authors declare that do not have a conflict of interest and affiliations that could raise biased statements in the discussion and conclusion sections of the paper.

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