

# The Correlation between Levels of Gadget Addiction with Level of Vigilance on Ojek Online Driver

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## ABSTRACT

Accidents that occur involve a lot of motorbikes. Motorcycle vehicles have been turned into alternative public transportation called ojek. Accidents can be prevented by increasing the level of vigilance. Currently, an ojek online driver has emerged which the driver can be ordered through the gadget. Accessing the internet through gadgets frequently and repeatedly by the driver is at risk of addiction to the internet. This study aimed to determine the correlation between the level of gadget addiction and the level of vigilance in ojek online drivers in the Surabaya. This study used a correlational design with a cross-sectional study approach and applied a consecutive sampling technique which conducted 53 ojek online drivers operating in the Surabaya. The independent variable was the gadget addiction level and the dependent variable was the level of vigilance. Questioner Young's Internet Addiction Test (YIAT) was used to measure the level of addiction and the application of PVP-Touch was to measure the level of alertness. Data were analysed using the Spearman rho test ( $\alpha < 0.05$ ). The level of gadget addiction in ojek online drivers was no addiction (51%). The level of vigilance on the ojek online drivers was high vigilance (52.8 %). There was a strong and positive correlation between the level of gadget addiction and the level of alertness ( $p=0.000$ ). The higher level of addiction generated a lower level of vigilance. Therefore, nurses need to promote the results of this study to ojek online drivers to reduce the number of accidents. Further research needs to be done on the analysis of the factors causing gadget addiction.

**Keywords:** addiction, gadget, ojek online driver, PVT, vigilance

## INTRODUCTION

The reduced level of vigilance is the biggest risk factor for accidents [1]. Accidents that occur involve a lot of vehicles (motorcycles) [2]. Nowadays, many motorcycles have switched functions from private vehicles to alternative public transportation which is often referred to as ojek online driver. Currently, an ojek online driver has become a phenomenon since it can be ordered through an android application found on a smartphone [3]. Accessing the internet through gadgets frequently and repeatedly can cause addiction to the internet [4], [5]. Internet addiction can cause significant disruption to the occupation [6].

Surabaya, one of the biggest cities in Indonesia, is having accidents quite high. The most case is involving motor accidents which were 972 motorcycle vehicles out of 1.328 total vehicles [2]. In addition, to increase the number of accidents, internet users have also increased, both users who through mobile phones, and other gadgets that can access the internet; currently, this have reached 88.1 million users by 2014 of which 85% of them use mobile phones and 13% use tablets. As many as 26.1 % of these users use the internet for services, such as ojek online drivers. East Java Province occupies the second-highest position in Indonesia with 12.1 million users. There were 6.1% of users who use up to more than 9 hours each day using the internet on mobile phones [7].

Researchers conducted a preliminary study of 10 ojek online drivers around Surabaya. The interview results found that out of 10 people (100%) now use smartphones all the time both at work and at home. Consequently, people get jobs easily with various activities, such as accessing news or information,

social media and also games. The results of the interview also found that out of 10 people, 3 people (30%) had used mobile phones while driving without stopping to the side of the road. Not only does this disobey the rules of driving, but it also unfollows the rules imposed by ojek online providers which require the driver to stop when accessing the gadget.

One of the causes of accidents endures the mental-physical condition of the driver who has a shortage of anticipation and carelessness. It was because of other activities that interfere with the driver's concentration. The driver is in a condition unable to estimate danger that might occur in connection with the condition of the vehicle and traffic environment [8]. The biggest risk factor for serious injury and death on circumstances of an accident while driving is a decreased level of vigilance [1]. This study aimed to determine the correlation between the level of gadget addiction and the level of vigilance in ojek online drivers in Surabaya.

## METHODS

A cross-sectional study was used and consecutive sampling applied to determine the subjects which gained about 53 respondents. The independent variable was the level of gadget addiction in ojek online drivers, while the dependent variable was the level of vigilance in ojek online drivers. Researchers took data for the measurement of addiction levels using the Young's Internet Addiction Test (YIAT) questionnaire. Researchers retrieve alertness data using the Psychomotor Vigilance Test (PVT)-Touch for

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Android application that has been installed on the researcher's smartphone. The analysis uses the Spearman's rank. This research has received ethical clearance from the research ethics committee

### RESULT

**Table 1.** The distribution of respondents based on the characteristic of an ojek online drivers in Surabaya

Characteristics	n	%
Ages ( year )		
15-19	1	1.9
20-24	3	5.7
25-29	9	17.0
30-34	7	13.2
35-39	12	22.6
40-44	11	20.8
45-49	7	13.2
50-54	1	1.9
55-59	1	1.9
60 above	1	1.9
Total	53	100
Gender		
Male	52	98.1
Female	1	1.9
Total	53	100
Work duration		
Less than 6 months	11	20.8
6-12 months	7	13.2
More than 12 months	35	66.0
Total	53	100
Education		
Primary School	4	7.5
Junior School	6	11.3
High school	34	64.2
Higher Education	9	17.0
Total	53	100
Marriage Status		
Married	40	75.5
Single	13	24.5
Total	53	100
Respondents situation while collecting		
Beginning orders	4	7.5
Having receive orders	47	88.7
Closing orders and going home	2	3.8
Total	53	100

The results of the characteristic data obtained the distribution of samples by age group with the largest number of age groups of 35-39 years totalling 12 respondents (23%). The sample distribution based on the dominant gender was male as many as 52 respondents (98.1 %). Distribution based on the working length showed the most respondents who worked for more than 12 months were roughly 35 respondents (66%). Distribution by education level which most high school graduates is 34 respondents (64, 2 %). Most of the respondents were on married status which reached 40 respondents (75.5 %). The situation of respondents when collecting data was having received orders, namely 47 respondents (88.7 %). (Table 1)

**Table 2.** Distribution of respondents based on the level of gadget addiction and vigilance of ojek online drivers in Surabaya

Level of Addiction	n	%
No addiction	27	51
Mild addiction	21	39.6
Heavy addiction	5	9.4

Total	53	100
Vigilance Level		
Low	25	47.2
High	28	52.8
Total	53	100

Most respondents were not addicted to the number of 27 respondents (51%) and a high level of alertness of 28 respondents (52.8%). (Table 1.2)

**Table 3.** Analyst of the correlation between the level of gadget addiction and the cloud of ojek online drivers in Surabaya

	The level of vigilance				Total	
	Low		High			
The addiction level	N	%	n	%	N	%
No addiction	2	3.8	25	47.2	27	50.9
Moderate	18	34.0	3	5.7	21	39.6
Severe	5	9.4	0	0	5	9.4
Total	25	47.2	28	52.8	53	100.0
<i>Spearman's rank:</i>	<i>Correlation coefficient :</i>					
	<i>0.601</i>					
	<i>Significant cant (p): 0.000</i>					

The higher level of lower vigilance was respondents with moderate addiction of 18 respondents (34%). The highest level of vigilance among respondents without a gadget addiction of 25 respondents (47.32 %). The data shows no respondents with severe addiction who have a high degree of vigilance. (Table 1.3). Data analysis using the Spearman test obtained  $p=0.000$  with a significance level  $\alpha<0.05$ , then concluded that there is a correlation between the level of gadget addiction with the level of vigilance on ojek online drivers. The result of the correlation coefficient was 0.601 which indicated a strong correlation between the level of gadget addiction and level of vigilance. Ojek online drivers who have a high level of gadget addiction are at risk of having a low level of vigilance.

### DISCUSSION

The highest level of addiction among ojek online drivers in Surabaya was having no addiction category which obtained 27 respondents (51%). Many drivers were not got any experience of addiction caused by age. The age of 35-39 years was the age group that has no experienced addiction, namely 15.1 % of the total drivers. They did not use gadgets very often and only use it for work. Manumpil, Ismanto, & Onibala (2015) in their research found that gadgets are in demand by adolescent because of various applications present various news media, social networks, hobbies, and even entertainment [9]. Drivers with the highest levels of addiction in the 25-29 years age group were 5.7 % of the total drivers. The results of researcher interaction with the driver aged 35-39 years found that they did not understand the function of gadgets for those purposes. They only understand the use of gadgets for work in accepting orders as an ojek online driver. Researchers argued that the gadget attracted drivers aged 25-29 years because of the appearance and the applications contained in the gadget always evolve. Drivers are fascinated by a new thing each day which arises from the development of technology, especially social media constantly showing something new daily. This will be able to fill the leisure time of young drivers while waiting for orders. The level of vigilance category owned by the driver is the high level of vigilance as much as 28 respondents (52.8 %). The situation when retrieval of the data affects the level of vigilance of the driver. The situation when retrieval of the data on the driver with a low level of vigilance was on the driver who has been getting orders which reached 43.4 % of

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the total respondents. Respondents with a high level of vigilance were on the driver who was beginning opened orders which showed 9.4 % of all respondents.

Analysis of the data revealed that the level of gadget addiction will be associated with a high degree of vigilance. The higher the level of the addiction gadget is, the lower level of vigilance will happen. Excessive use of gadgets is not a demand for employment. The use of a job only takes the receipt of orders, the calculation of the amount of passenger payment, and the accumulation of points in the performance. Drivers used a lot of gadgets more than the job needs. Several drivers used gadgets to get information about the base location and also areas of potential customers from other drivers through social media chat groups. These activities cause them to always monitor the gadget to get any information which includes work-related activities. Some of them also used gadgets external purpose of work such as open internet pages or play online games. When collecting data, researchers observed that several times, they ignored the order due to browsing activity, opening social media or playing online games. Driver tend to no longer concentrate on taking orders since they did online activities unrelated to work. Addiction of the gadget could cause a person to be unable to concentrate as they already feel adorable to their gadget [9]–[13]. This decrease in concentration could make a person unaware. They become unable to anticipate the traffic situation [14]–[17]. Researchers believe this phenomenon could occur even though the use of gadgets is not done directly while driving. Someone who has focused on their activities on gadgets will always think about the desire to immediately repeat the activity. Followed the theory of internet addiction proposed by Young, that one of the features exhibited by someone who is addicted anxiety is when someone is not in a state of accessing the internet, having a great desire to be able to get back online immediately, and feeling satisfied returned carrying out these activities [17-19].

Excessive use of gadgets unrelated to work also made the driver staying up tonight whereas it is too focused on its activities, such as social media, browsing, or playing online games [18]. This caused the driver to wake up in a sleepy state due to a lack of sleep. Sleep less than 8 hours can result in less physical energy and a lack of enthusiasm. Sleep quality individually influences the level of vigilance [1]. There is a significant correlation between drivers who are sleepy and the incident due to traffic accidents. Feeling sleeping causes the rider to lose reaction power and concentration due to a lack of rest [14]. Researchers reported that although the driver did not directly use the gadget while driving, his desire to continue to access the gadgets always thought by the driver as a result of the addiction and decrease in the level of vigilance on the road which caused harmful for the driver's condition. This can be seen from the answers of the drivers on the addiction level questionnaire. Some drivers expressed experiencing the desire to always online. Drivers had anxiety when offline and will return to peace when they are online. This proved that the level of addiction will affect the emotional ojek online drivers [19]. Changing emotions will cause less focus on the work done [20]. Researchers believe that if this continues to occur, the driver's attention will continue to be distracted while on the road as a result that they are not aware of the conditions which will occur on the highway. The results of the questionnaire also found that due to the impetus of always be online, the driver was unable to control the time of use. The driver accesses the gadget beyond the time he wants. Drivers access up too late into the night resulting in reduced hours of sleep. This

can impact the driver's sleepiness when he was on duty in the morning due to a lack of sleep time used to access the gadget. Researchers reported that the decrease in vigilance has also an impact on cognitive changes which showed on the occurrence of gadget addiction. This is supported by Kimberly S Young in 2013 who states in addicted gadget users are cognitive changes that will run into serious problems if its neglected [18]. Some problems arise due to cognitive changes, such as difficulty in concentration or focus, difficulty in controlling emotions, and decreased ability to measure or predict things.

Researchers argue that the driver may run into a decrease in the ability to maintain attention and vigilance which is a manifestation of cognitive changes resulting from the addiction to the gadgets experienced by the driver following Roy's nursing adaptation. Addiction reduces the ability of the driver to estimate the distance to the object in front of him. The decrease in ability causes the driver not alert to road conditions and unable to adapt to road conditions. Drivers were at risk of having an accident due to cognitive impairment. This can be prevented by blocking cognitive changes that can reduce the use of gadgets for purposes unrelated to work. These strategies can be useful to maintain the level of vigilance of drivers in driving so they can adapt to the conditions on the highway.

### CONCLUSION

A significant correlation between the level of gadget addiction and the level of alertness has proven in this study. The higher level of addiction is, the lower level of alertness will detect. The addiction gadget leads the driver to use the gadget which tends to stay up late.

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