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Aspects of urban transportation drivers' perceptions of driving security

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ABSTRACT

The purpose of this cross-sectional study done between December 2009 and February 2010 is to identify which factors are connected with the perception of public transit drivers regarding road safety. According to the results of the study, the elements linked with angkutan kota drivers' opinions of road safety are their knowledge of road safety, their motivation towards road safety, and their experience with accidents and tickets while driving. While the knowledge variable is the most influential factor influencing public transit drivers' perceptions of road safety, other variables also play a role. This indicates that angkutan kota drivers with greater knowledge are 3,790 times more likely to have a positive perception than those with less information. Therefore, it is suggested that angkutan kota owners and related parties (Police and Road Transport Traffic Office), if they want to improve the perception of angkutan kota drivers to drive more safely, build the knowledge and motivation of angkutan kota drivers by holding trainings and mini-workshops on the dangers of accidents while driving.

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1. INTRODUCTION

Various studies have demonstrated that countries that have a sufficient transportation system to fulfill the dynamic requirements of their population are more likely to achieve development goals. Furthermore, transportation facilities are quite beneficial in facilitating people's movement from one location to another (Pamudi, 2018).

Times are changing, and new cars with cutting-edge technology are appearing all the time. The increase in vehicle numbers is also unavoidable. However, it should be noted that the increase in the number of vehicles is not equal to the increase in the number of roads. As a result, the roads are becoming increasingly clogged with traffic, particularly during rush hour. This issue is compounded further by the noncompliance of car drivers and motorcyclists with the restrictions. As a result, many traffic accidents occur on a regular basis (Magfiroh, 2019).

According to WHO, the global road transportation accident rate has reached 1.2 million deaths per year, or 3,288 per day, and more than 30 million injuries/disabilities due to traffic accidents each year, with developing nations accounting for 85% of these deaths. According to WHO, road traffic accidents will be the third largest cause of mortality worldwide by 2020, after heart disease and depression. Three million people have perished in car accidents in the United States since the invention of the first vehicle around a century ago. In Africa, vehicle accidents kill more children than

the HIV/AIDS infection (WHO 2009, in Ben Fauzi Ramadhan, 2009). While the level of road transportation accidents in the Asia Pacific area each year is more than 250,000 deaths caused by road accidents, Indonesia has contributed 44% of total accidents in the globe (Adiyoso, 2018).

According to Jusman Syafii Djamal, the number of accidents in Indonesia in 2009 grew to 19 thousand instances, up from 18 thousand cases the previous year (2008). According to the Asean Development Bank, the number of accidents in Indonesia can reach up to 30 thousand occurrences every year (Jaya, n.d.).

Every year, over 17,000 people are killed in motor vehicle and automobile (public transportation) accidents in Indonesia. 90% of these incidents are the result of poor driver beliefs about driving safety, particularly excessive speeding. (Perempuan, 2013).

From January to October 2009, there were 151 occurrences of motor vehicle and auto (public transportation) accidents in Bogor Regency, with 86 fatalities, 114 serious injuries, 129 mild injuries, and material losses totaling Rp.555,100,000. According to data collected by the Bogor District Police's LAKA Unit, 53 of them occurred in city transportation vehicles.(Sarsina, 2019).

According to the findings of interviews with LAKA staff from the Bogor Regency Police, angkutan kota accidents that occur frequently in the district region are on angkutan kota 06, which runs from Parung to Salabenda. This is because the route is one of the alternative routes to the Puncak area, Bandung, Sukabumi, and other areas in West Java, and it is frequently traversed by vehicles such as motorbikes, cars, public transportation, and heavy transportation (containers), causing the road to narrow and drivers to frequently violate traffic regulations. Meanwhile, driver infractions of traffic sign regulations, such as running red lights, are the cause of traffic accidents in Bogor City and Bogor Regency, according to the City Police Laka Unit and the Bogor Regency Police Laka Unit. Furthermore, there are driver practices that can cause accidents for both themselves and others, such as overtaking between drivers, failing to give a signal when turning the car, driving inebriated, and so on. As a result, accidents between bikers, cars, and pedestrians are possible. Bogor is known as the city of a thousand angkutan kota, which means it is densely packed with public transportation. In addition, private vehicles move along the highways of Bogor City and Bogor Regency (SURYANI, 2011).

Almost all angkutan kota drivers who visit the Parung market or Parung region stop their vehicles along the road to hunt for passengers. This, of course, makes the flow of vehicles along the road unmanageable, and the private automobiles that travel along the road, as well as the numerous street sellers that sell along the angkutan kota market road, making the route even more packed and clogged. (Handari & Qolbi, 2021).

This is consistent with Dale G. Leathers' research in Salihat (2009), which discovered that experience influences perception accuracy. Experience can be gained through a series of experiences that have occurred rather than through a formal learning procedure. One of the impacts on perceiving a risk that occurs in a hazard is the risk's experience. One's firsthand experience with risk may lead one to feel that the likelihood of a risk event reoccurring is higher than it is. A person's experience will determine if a risk is relevant in comparison to something else that is statistically very risky. Aside from an individual's firsthand encounter with a threat, the experience of others has a significant impact on moulding an individual's perception. (Subagia, 2021).

2. RESEARCH METHOD

Type of research

This study employs quantitative research methodologies, including descriptive and analytical methods. This study employs a cross-sectional study design since the independent and dependent variables will be observed concurrently (period).

Place and time of research

This study was carried out at the Public transportation bases in Bogor's Parung and Merdeka markets. This investigation will last around two months, from December 2009 to January 2010.

Population and sample research

This study's population consisted of all public transportation drivers specializing in Parung - Bogor at the Parung Market base and the Merdeka Market base in Bogor. And, using the Purposive sampling method, samples that match the following criteria: According to the number of Public transportation, there are 117 Public transportation driver who specialize in Parung-Bogor. Public transit drivers specializing in Parung-Bogor who were present at the time of the study.

Data collection methods

The data used in this research are primary data and secondary data obtained by means of:

a. Primary Data
   This data was obtained by making direct observations in the field using interviews and questionnaires distributed to respondents, namely public transportation drivers at the Parung Market base.
b. Secondary data
   Secondary data was gathered through searching the literature, data, and documents pertinent to this study. Furthermore, secondary data was gathered from accident reports in various sources, including mass media and the internet, as well as the Bogor Provincial Government Transportation Office..

3. RESULTS AND DISCUSSIONS

Univariate analysis

The perceptions of public transportation drivers concerning driving safety were measured using questions about their opinions or how they perceive an accident hazard when driving public transportation using sensing. An ordinal scale statistical test was used to measure the perception of public transit drivers. The perception variable is known and is divided into two categories using a standard score, namely if the total response score obtained> median (26.00) is considered good and if the total answer score obtained median (26.00) is considered not good. Table 1 shows the distribution of respondents in 2010 based on the category of perception of public transportation drivers majoring in Parung-Bogor concerning driving safety::

Table 1 shows the respondents' perceptions on safety driving in city transportation drivers in the Parung-Bogor in 2010.

Perceptions of City Transportation Drivers	Total (n)	Percentage (%)
Good	61	52.1
Not good	56	47.9
Total	117	100

According to table 1, the majority of respondents, or as many as 61 (52.1%), have a positive impression of driving safety. There are 56 (47.9%) individuals that have a negative perception of driving safety.

Description of public transit drivers' road safety knowledge.

Questions that reflect the amount of urban transport drivers' understanding of driving safety when driving urban transportation are used to assess their knowledge of driving safety. An ordinal scale statistical exam was used to assess the knowledge of city transit drivers. However, before the knowledge variable is known, it is divided into two groups using a standard score, namely if the total answer score obtained is greater than the mean value (16.08), and if the total answer score obtained is less than the mean value (16.08), it is classified as low. Table 2 shows the distribution of respondents in 2010 depending on the category of knowledge of city transportation drivers majoring in Parung-Bogor regarding driving safety:

Table 2 shows the distribution of respondents based on their knowledge of driving safety in Parung-Bogor City Transportation Drivers in 2010.

Perception of city transportation drivers	Total (n)	Percentage (%)
High	65	47
Low	62	53
Total	117	100

According to table 2, 55 (47%) of the 117 respondents have a good level of understanding about driving safety. While the majority of responders, up to 62 (53%), have limited awareness of driving safety.

A summary of city transportation drivers' motivations for road safety.

The motivation of city transportation drivers to drive safely is measured using questions that disclose respondents' desires, hopes, and sentiments. An ordinal scale univariate statistical test was used to determine the description of public transportation drivers' desire for driving safety. The motivation variable is known, and it is classified into two groups using a standard score, namely whether the total response score acquired mean (27.50) is classified as high and if the total answer score obtained mean (27.50) is classified as low. The following table shows the distribution of responders depending on the motive category of Parung-Bogor city transportation drivers in 2010.

Table 3. Shows the distribution of respondents based on their motivation for safe driving in Parung-Bogor City Transportation Drivers in 2010.

Motivation of public transport drivers	Total (n)	Percentage (%)
High	64	54.7
Low	53	45.3
Total	117	100

According to table 3, out of 117 respondents, the majority, or as many as 64 (54.7%), are very motivated to drive safely. While 53 (45.3%) of respondents are unmotivated to improve their driving safety.

An overview of angkutan kota drivers' experiences of road safety.

The driving safety experience of city transportation drivers is measured by questions that show occurrences that respondents have experienced while driving city transportation. An ordinal scale univariate statistical test was used to determine the description of city transportation drivers' experiences with driving safety. The variable experience of city transport drivers is classified into two groups using a standard score, specifically if the total response score obtained the mean (2.79) is classified as a lot and if the total answer score obtained the mean (2.79) is classified as less. The following table shows the distribution of respondents based on the category of motivation of city transportation drivers majoring in Parung-Bogor in 2010:

Table 4. shows the distribution of respondents based on their experience as city transportation drivers on safety driving in Parung-Bogor in 2010.

Motivation of city transportation drivers	Total (n)	Percentage (%)
Many	66	56.7
Less	51	43.6
Total	117	100

According to table 4, most or as many as 66 (56.4%) of the 117 respondents had a lot of expertise with driving safety. While 51 (43.6%) of respondents had less experience with driving safety.

The relationship between city transportation drivers' knowledge and perceptions of driving safety

A bivariate study was performed to examine whether city transportation drivers' knowledge of driving safety is connected to their impression of road safety. It is recognized that the data is not normally distributed based on the data normality test, particularly the Kolmogorov test (p = 0.000), so the data is categorized and the chi square test is employed. The following table depicts the relationship between city transportation drivers' knowledge and perceptions of road safety:

Table 5. shows an analysis of the relationship between city transportation drivers' knowledge and perceptions of road safety in 2010.

Variabel	Perceptions of city transportation drivers about driving safety						P Value	OR 95% CI
	Complain		No Complaining		Total			
	n	%	n	%	n	%	0,001	3,790

Knowledge	38	69,1	17	30,9	55	100	1,755 – 8.14
Driver	23	37,1	39	62,9	62	100	
Total	61	52.1	56	47,9	117	100	

According to table 5, of the 117 respondents analyzed, those with high knowledge have a positive impression of driving safety (69.1%). Respondents with less information, on the other hand, had a negative impression of driving safety (62.9%). Based on the findings of the chi square statistical test, it is known that city transportation drivers' knowledge has a substantial association with their sense of road safety, with a Pvalue of 0.001 (Pvalue 0.05). According to the risk estimate produced, OR (3.790) (95% CI 1.755-8.184) means that respondents with high knowledge have a 3.790 times greater likelihood of having a good perception than respondents with little knowledge.

The relationship between city transportation drivers' motivation and perceptions of road safety.

A bivariate analysis was performed to evaluate whether city transportation drivers' motivation for driving safety is connected to their sense of road safety. It is recognized that the data is not normally distributed based on the data normality test, particularly the Kolmogorov test (p = 0.000), so the data is categorized and the chi square test is employed. Table 6 shows the association between motivation of city transportation drivers and sense of road safety among city transportation drivers:

Table 6. shows an analysis of the relationship between city transportation drivers' motivation and perceptions of road safety in 2010.

Variabel		Perception of Driving Safety						
	Measurement Scale	Good		Not good		Total		P value
		n	%	n	%	n	%	
Driver Motivation City transportation	High	32	60.4	21	39.6	53	100	0.104
	Low	29	45.3	35	54.7	64	100	
	Total	61	52.1	56	47.9	117	100	

According to Table 6, out of 117 respondents analyzed, those with high motivation have a favorable impression of road safety (60.4%). Respondents with poor motivation, on the other hand, had an unfavorable impression of road safety (54.7%). According to the results of the chi square statistical test, motivation does not have a significant association with the perception of city transportation drivers about road safety, with a Pvalue of 0.104 (P value 0.05).

Discussion.

Research limitations.

This study has limitations that may have an impact on the study's results. Some of the limitations in this study are as follows: This study employs a cross-sectional study design to describe the relationship between the independent variable and the dependent variable at the same time, making a causal relationship difficult to discern. However, it is efficient in terms of both time and money. This study just looks at the link between components that are assumed to be related to perceptions (knowledge, motivation, and experience), therefore there are still other variables that are thought to be associated to the dependent variable. The study's findings are heavily influenced by respondents' honesty in answering the questionnaire. If respondents are not truthful in their responses, the resulting picture of city transportation drivers' attitudes on driving safety does not reflect reality. Because the view of city transportation drivers toward driving safety is not a permanent thing in this study, the findings of measures taken at the time of data collection are not continuous results.

Many factors influence respondents' perceptions, which are exceedingly complicated, difficult to assess, and time-consuming. As a result, this study focuses solely on variables that can be tested and are assumed to have a relationship with respondents' perceptions based on existing theory.

Overview of city transportation drivers' perceptions of road safety.

According to the findings of the univariate analysis, most of the perceptions of city transportation drivers majoring in Parung-Bogor about road safety, as seen from 117 respondents, are positive. As many as 52.1% of respondents had a positive perception of driving safety. While 47.9% of city transportation drivers had a negative impression of road safety. This variable is measured using questions that describe respondents' wishes, hopes, and sentiments about having a good perception when driving city transit. The findings of this study contradict the findings of Yulianti (2007), who found that most city transportation drivers (KWK and APB) have a low impression of driving safety. This is due in part to: various respondents, various sample methodologies, and various data gathering approaches (Saleh and Nisa, 2006). In this study, city transportation drivers with a good perception of driving safety outnumber city transportation drivers with a low sense of driving safety by a tiny margin, implying that city transportation drivers with a low perception of road safety are also relatively numerous.

Overview of city transportation drivers' knowledge on road safety.

Based on the results of univariate analysis, this study found that the majority of city transportation drivers majoring in Parung-Bogor have a high level of knowledge regarding road safety, with 47% of respondents having a high level of expertise. 53% of respondents are municipal transit drivers who have little awareness of road safety.

The findings of this study contradict the findings of Yulianti (2007), who discovered that the majority of KWK or APB drivers who responded had a high level of knowledge about driving safety (85.5%). This is feasible since Yulianti's method of instrument gathering differs from that of this investigation. Yulianti (2007) utilized a mix of closed-ended and open-ended questions in her study, whereas this study only employed closed-ended questions. Furthermore, respondents' lack of awareness regarding road safety in this case city transportation drivers may be caused by their state of mind when answering the questionnaire, which is not conducive because they are in a rush or waiting for passengers. As a result, the surveys supplied to city transit drivers were answered informally, resulting in knowledge about driving on the highway that did not correspond to the actual situation.

Essentially, knowledge is information or information that someone knows or realizes. Knowledge also includes various symptoms observed and obtained by humans through sensory observation. When a person utilizes his senses and mind to recognize items or events that have never been seen or felt before, he gains knowledge (Meliono, 2007). This is because knowledge does not arise by itself, but rather as a result of a process and factors that affect knowledge, such as sight, hearing, smell, taste, and touch. Because of these elements, two persons who observe the same object may perceive it differently.

Overview of city transportation drivers' motivation for road safety.

According to the findings of the univariate analysis, the majority of city transportation drivers (54.7) are very concerned about road safety. The remaining 45.3% were uninterested in road safety. This variable is measured by asking questions that indicate the respondent's desire, hope, and feelings about having a favorable perception while driving city transit on the highway.

The findings of this study are consistent with the findings of Yulianti (2007), who discovered that most city transportation drivers (KWK or APB) have a high level of desire for road safety (66.7%). This could be because the respondents researched by Yulianti (2007) had the same background as the respondents studied in this study, namely, both worked as city transit drivers. It is probable that the respondents in Yulianti's study were motivated similarly to the respondents in this study; their motivation regarding driving safety is equally influenced by the presence of traffic officers along the route.

Although the majority of city transportation drivers majoring in Parung-Bogor have a high motivation to have a good perception of road safety, there are still many city transportation drivers who have a low motivation to have a good perception of road safety, or nearly half of the respondents studied have low motivation about road safety.

Motivation is something within a person that encourages that person to behave and act in order to reach particular goals (Saleh and Nisa, 2006). Motivation governs the interaction between humans and

the system as a whole, which is strongly tied to city transportation drivers' perceptions of road safety. This incentive urges city transportation drivers to be motivated and eager to direct their abilities in the form of expertise or skills, energy, and time to do their duties in line with the traffic restrictions established by the police.

An overview of urban transit drivers' experiences with road safety.

According to the findings of this study's univariate analysis, the majority of the respondents (56.4%) had a lot of expertise with road safety while driving city transit. While city transportation drivers have less experience with driving safety (43.6%).

The findings of this study contradict the findings of Yulianti (2007), who discovered that the majority of KWK or APB drivers who responded had minimal experience with driving safety (65.2%). According to Yulianti (2007), the sample used for the study consisted of several types of KWK or APB drivers with different routes, which were expected to represent the entire population of KWK or APB drivers at Kampung Rambutan terminal, whereas the sample used in this study was city transportation drivers who drove city transportation majoring in Parung Bogor. As a result, the experience received by respondents in Yulianti's research differs from the experience gained by respondents in this study, because the experience gained by respondents differs due to the varied routes or lines of city transit drivers researched. Whereas in this study, the respondents investigated took the same route or path, so the average respondent experienced the same thing.

According to the findings of this study, the experience factor seen is the occurrence of accidents and ticketing actions, while the outcomes are the various experiences that respondents have, particularly the experience of being ticketed by Traffic Police officers and the Road Transport Traffic Office. According to a number of questionnaires about accidents and ticketing, as well as interviews, many respondents described bumping as a minor mishap. Some serious accidents resulted in shattered bones, hospitalization, and coma. Meanwhile, the most common experience they had while driving was being penalized for failing to obey traffic signs. Some of them, in fact, nearly all of the city transit drivers who were ticketed, settled peacefully (without going to the green table), while others proceeded to trial. It is regrettable that officials do not take firm action against violating drivers. Indeed, traffic officers on the road are supposed to deliver better experiences and cautions to urban transportation drivers in order to improve their perception of road safety..

According to Geller (2001) in Salihat (2009), people who have never been injured or had a near-miss will assume that harm will not happen to them. People have a tendency to exaggerate unusual events while underestimating frequent events. Individuals' interpretation of risk is influenced by experience, which supplies them with a fresh picture of danger. When individuals have little information about their own experience with a risk, information from numerous sources plays a significant impact in a person's assessment of accident risk. Evidence suggests that young motorcyclists who are new to riding have a far lower ability to absorb the risks they confront when riding than older riders with greater riding experience (Brown, 1989 in Salihat, 2009).

Job experience gives adequate expertise and work skills, but insufficient work experience results in a lesser degree of abilities and competence. The practice of performing similar jobs and work is a good way to improve labor competence (Hadiwiryo, 2002).

A person's experience can be received directly or indirectly. Direct experience is obtained by city transportation drivers through events or events experienced by city transportation drivers, whereas indirect experience is obtained by city transportation drivers through the experiences of city transportation driver colleagues regarding events related to road safety experienced by city transportation driver colleagues.

4. CONCLUSION

The majority of city transportation drivers (52.1%) believe that driving on the Parung-Bogor motorway is safe. The majority of Parung-Bogor city transportation drivers (53%) are unaware of safe driving on the Parung-Bogor highway. The majority of city transportation drivers (54.7%) majoring in Parung-Bogor are very motivated to drive safely on the Parung-Bogor route. The majority of city transportation drivers (52.1%) majoring in Parung-Bogor have extensive experience with driving safety on the Parung-

Bogor highway. The knowledge variable has a substantial association with city transportation drivers' perceptions of driving safety (P value 0.001). City transportation drivers with a high level of knowledge are 3.790 times more likely to have a positive impression of road safety. The motive variable had no significant link with city transit drivers' perceptions of road safety (P value 0.104). The experience variable had no significant link with city transit drivers' perceptions of road safety (P value 0.334).

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