

## Conference Paper

# Current Practice, Attitude, and Behaviour towards Road Safety Behaviour among the Drivers in Jakarta, Indonesia

Cynthia Febrina Maharani

University of Birmingham, School of Geography and Earth Sciences, Birmingham, West Midlands, B15 2TT, United Kingdom

## Abstract

The Jakarta Police Department reported that between January and July 2008, traffic accidents in Jakarta caused 1499 people badly injured [15]. The literature also shows that most people who are killed in road crashes or road accidents in Indonesia are drivers [15]. Given the fact that there has been a huge number of road accidents in Indonesia, the understanding of road safety among the drivers across the country remain unclear. The aim of this research is to investigate the current practices, attitude, and perception towards road safety behaviour of drivers in Jakarta, Indonesia. This research used mix methods of qualitative by doing the semi-structured interviews and quantitative by using questionnaires. The nine interview participants were carefully chosen through three different criteria, bus drivers, car drivers, and motorcyclists. Questionnaires were also given to around a hundred people who drive for work in South Jakarta area and were analysed using SPSS software. The findings from the semi-structured interviews show that there is a similar perspective towards road safety behaviour among the drivers. They view road safety behaviour as an attitude in following the safety signs. The drivers also agreed that the biggest obstacle to act safely is the road condition in Jakarta that consists of holes. The result from the questionnaire presents that 71.03 percent of 128 drivers agreed that the road condition in Jakarta is not safe. In conclusion, providing road safety behaviour training should be considered by Police Department before releasing the driving license for drivers.

Corresponding Author:  
Cynthia Febrina Maharani  
CFM523@student.bham.ac.id

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## 1. Introduction

The fact that around 85 percent of road traffic-related deaths and 90 percent of disabilities due to road crashes mostly happen in low-to-middle income countries makes the road safety issue a recognised important global health priority [10]. WHO predicts



that in 2030, the number of road traffic injuries will be increasing, and it will become the fifth leading cause of death [18].

### 1.1. Road accidents in Jakarta, Indonesia

A study found that most people who were killed in road crashes or road accidents in Indonesia are drivers, which is about 64 percent in total and mainly happened to two-wheelers with least protection [19]. It is predicted that the basic problem of road accidents in Indonesia is the imbalance between the fast growth of vehicle on the road and low levels of road development [15]. The phenomenon is worsened by the popularity of motorcycles. [14].

The Jakarta Police Department reported that between January and July 2008, traffic accidents in Jakarta caused 1,499 people to be badly injured. It is also estimated that more than 10 percent of road accidents result in death. Most of the victims are motorbike users. A mixture of growing population, public transportation services, and drivers' behaviour may be the main causes of road accidents in Indonesia [15].

### 1.2. Theories of accident causation

The relationship between man and machine, the frequency and severity relation, unsafe act reasons, and management role in accident prevention were first introduced by Heinrich in 1929 [17]. His theory is well-known as the Domino Theory. The five-domino model suggested that through undesirable traits, people may conduct unsafe acts or create hazards that cause injuries or accidents [11].

The Domino Theory was extended by Bird and Loftus (1986) by adding the influence of management as one of the causes of accidents. The updated Domino Theory is known as Multiple Causation Theory [3]. In Multiple Causation Theory, the root cause of an accident is usually related to lack of management system [12].

Some previous studies found that the road accident caused by multi factors [2]. In Ghana, a study found that the cause of accidents were the people who ignored the dangers and risks while driving and those who often use cell phone while driving [7]. Another cause was habitual over speeding, alcohol, and drugs [7]. What is more, according to Lin [9], a study in Oxford University found that the motorcyclists who use half face helmet were having risks more than twice to experience brain injuries and involved in road accidents.

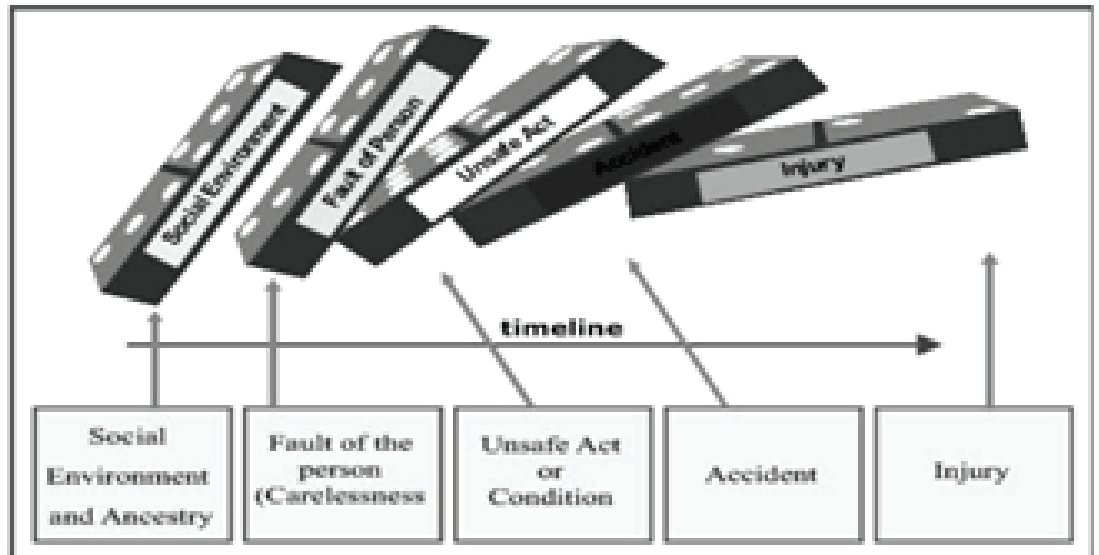


Figure 1: Sequences of domino theory (Heinrich et al., 1980).

### 1.3. Defining perception, practice, and attitude

The term 'perception' can be defined as the subjective opinions, judgements, and feelings of the workers or the people working in relation with occupational health and safety. Occupational health and safety can be determined by exploring people's perceptions of risks [16].

In terms of practice, people or drivers may fail to act safely while driving [1]. Unsafe acts can lead to fatalities [13]. The failure in performing safe acts can be caused by distractions. Ranney et al., [12] explained that drivers' distractions are divided into four categories, which include visual distraction, such as not looking on the road ahead, auditory distraction, such as not hearing the warning sound of speed check because of the radio volume, biomechanical distraction, such as picking up something from glove compartment, and cognitive distraction, such as thinking intensely about something or not focusing on the road while driving.

To some extent, one of the main causes of road accident is drivers' attitude. The term 'attitude' itself means an individual desire to behave properly or poorly in relation to safety [4]. In the matter of attitude, the use of seat belts while driving influences the probability of accidents and injury [1]. On average, the probability of seat belts usage reduces the consequences of being killed in road accidents by 40–50 percent for drivers and passengers in the fore seats [1].

## 1.4. Safety triad theory

In Safety Triad Theory that was introduced by Geller, the workers' attitude in doing their job can be determined by looking their skills, abilities, intelligence, and personality [8]. The behaviour element refers to recognising, communicating, and demonstrating. In addition, the term environment is defined as machine, tools, or equipment [8]. Drivers' performance in their driving task, for example whether they are easily disturbed by navigation system or mobile phones, can be used to analyse drivers' safety behaviour [1].

## 2. Method

This study utilises both quantitative and qualitative research. In this study, the nine participants were carefully chosen from three different criteria, the bus drivers, the car drivers, and also the motorcycle drivers. The drivers are those who frequently use one of the busiest roads in Jakarta each day, Kuningan Road. The purpose of choosing different types of drivers is to get a wide range of perceptions towards safety behaviour on the road among those people who drive different kind of vehicles each day.

In order to determine people' concerns with respect to road safety, a questionnaire was also given to people who work in South Jakarta area. The questionnaire was used to support the findings from the interviews. The researcher gave 150 questionnaires to five different working environments. Each working area was given 30 questionnaires.

### 2.1. Data analysis

Due to the research interviews, the overview of what was represented in the raw data was also examined to gain higher degree of accuracy [6]. In the end of interview session, the researcher recapped the audios, transcribed the interview and also did the manual coding. In the second method that use the questionnaires, the researcher required around two weeks to collect the data. There were 128 questionnaires in return. After the questionnaires were completed, the researcher analysed the results by using SPSS software.

## 3. Results

### 3.1. Questionnaire findings

The questionnaires findings function as supporting data for the semi structured interview results.

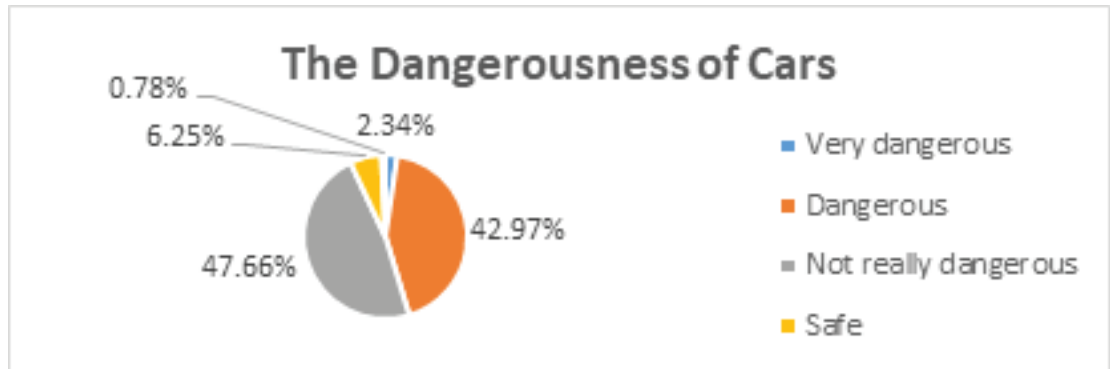


Figure 2: The dangerousness of cars.

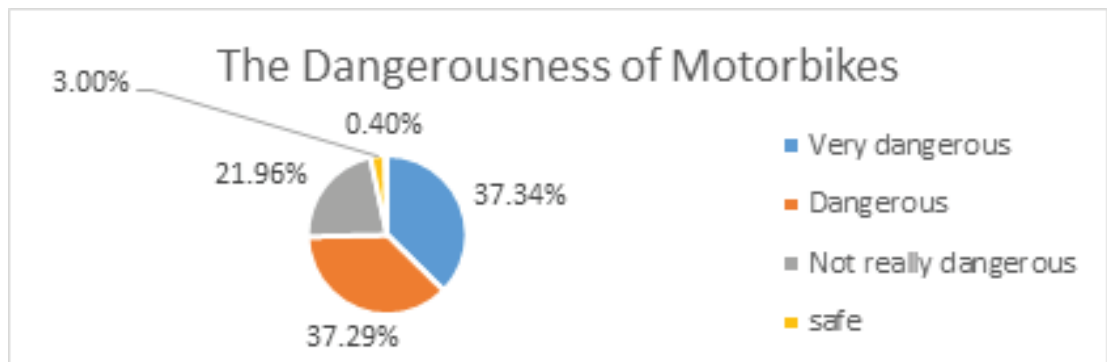


Figure 3: The dangerousness of motorbike.

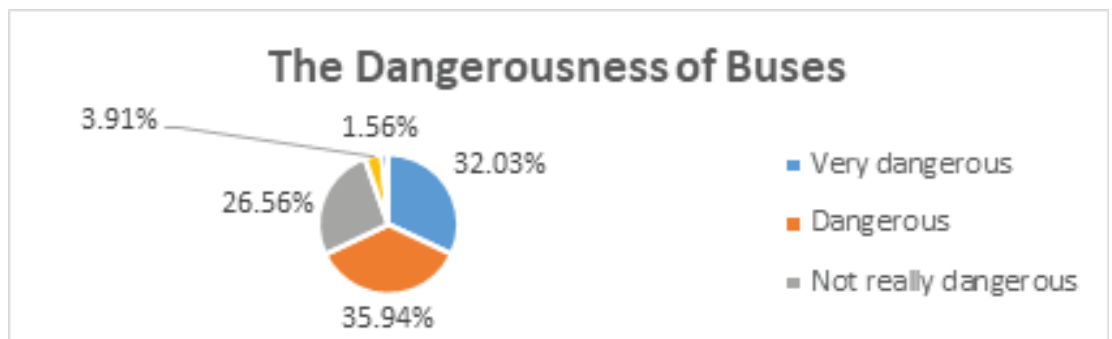


Figure 4: The dangerousness of buses.

Based on the aforementioned three graphics, people think that the most dangerous transportation mode is motorbike with the percentage 37.85 percent while 2.34 percent people think that car is very dangerous and 32.03 percent people think that bus is very dangerous.

## 3.2. Interview findings

### 3.2.1. What is the drivers' perception towards safety behaviour on the road?

Throughout the interviews, almost all drivers demonstrated similar **knowledge** (internal determinant) of road safety behaviour. The drivers of cars, motorbikes, and also buses recognised that act safely on the roads as keeping themselves safe by paying attention to all **safety signs** and be **focus** while driving.

*"...know the rules and procedures of driving, understand the safety signs on the roads." (Respondent 5: Car driver)*

*"...aware of the vehicle condition and also pay attention to all safety signs on the road." (Respondent 2: Motorbike driver)*

*"...focus and concentrate while driving especially not easily disturbed by mobile phone." (Respondent 6: car driver)*

In addition to the findings, the drivers stated their experiences related to acting safely and the accidents that happened to them in the past few years. As expressed by a bus driver, he was involved in a road accident that caused by another driver who was in hurry and did not act safely.

*"In 2013, I was blamed in a road accident. There was a truck hit a motorcycle then the motorcycle hit my bus while I was driving and the biker felt under my bus." (respondent 9: Bus driver).*

Subsequently, the findings suggest that the **experiences** (internal determinant) are one of the main determinants to influence the drivers to increase their awareness and understanding towards road safety behaviour

The other drivers shared their opinions in respect to the drivers who use the mobile phone while driving. According to a female car driver, she often chatted and texted if the traffic is really crowded and the car getting stuck.

*"If it is urgent to use the phone, then the person can use it while there is a traffic or when the red light is on." (Respondent 5: Car driver)*

*"It's really dangerous and could harm another road users." (Respondent 3: Motorbike driver)*

### 3.2.2. What are the attitudes of the drivers towards safety behaviour on the road?

Based on the interview results, It is found that there was a gap between the drivers' perceptions towards other drivers who use mobile phones while driving and their own attitudes. On the previous question about their perception about drivers who use mobile phones while driving, almost all the nine participants said that the attitude was dangerous and can be harmed to another road users. But, when the researcher asked how often they use mobile phone while driving, the results shows a contrast.

*"..... within the traffic, I usually open my mobile phone just to check it."*  
(Respondent 3: Motorbike driver).

*"Well, I am one of those drivers who often use mobile phone while driving."*  
(Respondent 2: Motorbike driver).

*"... women can do some tasks in the same time, including chatting while driving."* (Respondent 5: Car driver).

In a further finding to the car drivers about good safety practice, the car drivers were asked about the use of seatbelt. The researcher found that the three participant interviews always use their seatbelt while driving.

*"... well, yeah seatbelt make me feel more safe and focus..."* (Respondent 1: Car driver).

*"By using the seatbelt will reduce the risk of hitting the dashboard if accident happen."* (Respondent 5: Car driver).

The researcher also asks about using helmet to the motorbike drivers and found that their awareness about good safety practice of using a safety helmet was poor.

*"I use half-face helmet because it is more affordable and easier to use."*  
(Respondent 3: Motorbike driver)

*".... half face helmet of course because it's not heavy and more comfortable to be used rather than the full face one."* (Respondent 2: Motorbike driver)

In addition to the findings, the researcher asked the bus drivers about their habit in driving the buses on the roads. The result shows that the three interview participants of the bus drivers chose to ignore a good safety practice on the roads.

*".. you know almost every bus driver always drive their buses exceeded the speed limit and ignore some forbidden lines..."* (Respondent 7: Bus driver).

*"I always ignore the busway line which is forbidden for buses to pick up my passengers."* (Respondent 8: Bus driver)

## 4. Discussion

### 4.1. What is the drivers' perception towards safety behaviour on the road?

Based on the main findings from the semi structured interviews, it was clearly seen that the perceptions of the driver's road safety were influenced by their experiences which is the road accident that had happened to them. For that reason, the finding is consistent with Safety Triad Theory that introduced by Gellar [5] and an explanation that demonstrated by Brookhuis et al. [1] whereby the theory explained that the safety perceptions and attitudes can be determined by looking at the person's knowledge [5] and their experiences of accidents [1].

### 4.2. What are the attitudes of the drivers towards safety behaviour on the road?

The results of this research indicated that there was a gap between the perception of the drivers towards road safety behaviour and the real practice. The difference was found on the attitude towards using mobile phone while driving.

## 5. Conclusion

This article demonstrated that the internal and external determinants affected how the drivers think, judge, and act towards road safety behaviour. Based on the findings, the drivers also already recognized what factors that affected them to not perform safely while driving. The poor knowledge and attitude can be corrected by adapting safe driving culture and developing a better facility, in this case the road condition, which can support the drivers to act safely. Considering this, a safety driving intervention might be needed to educate the drivers towards road safety behaviour and also function as preventative approach in reducing the number of road accidents. Strict safety riding and demand the higher authority regulations also important to be considered.



By doing so, this can facilitate the drivers to perform safely as well as their perception towards road safety behaviour and most importantly to minimise the probability and consequences of road accidents.

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