

# TENDENCY OF MOTORCYCLE TRAFFIC VIOLATIONS AND ACCIDENTS BASED ON A VARIETY OF DRIVING LICENSE OWNERSHIP

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## Abstract

Indonesia is a country with the number of motorcycles reaching 43.34% of the total population or 119.5 million motorcycles compared to 275.7 million people. However, the number of Driver's License holdings is only 8.8 million (8.3%). This study aims to determine the tendency of violations and traffic accidents among motorcyclists related to the ownership of a Driver's License of various ages in several cities in Indonesia.

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With a statistical descriptive research method using online questionnaires, this study found a tendency to violations and traffic accidents based on the ownership of a Driver's License. But there was no difference between the two groups after testing with statistics in both traffic violations and traffic accidents.

**Keywords:** traffic violation, traffic accident, ownership of Driver's License.

#### **Abstrak**

Indonesia merupakan negara dengan jumlah sepeda motor mencapai 43,34% dari jumlah penduduk atau 119,5 juta sepeda motor dibandingkan 275,7 juta penduduk. Namun, jumlah kepemilikan SIM C hanya 8,8 juta (8,3%). Penelitian ini bertujuan untuk mengetahui kecenderungan pelanggaran dan kecelakaan lalu lintas pada pengendara sepeda motor berkaitan dengan kepemilikan SIM C dari beragam usia di beberapa kota di Indonesia. Dengan metode penelitian deskriptif statistik yang menggunakan kusioner online, penelitian ini menemukan adanya kecenderungan pelanggaran dan kecelakaan lalu lintas berdasarkan kepemilikan SIM C. Namun tidak ada perbedaan di antara kedua kelompok setelah diuji dengan statistik baik dalam pelanggaran lalu lintas maupun kecelakaan lalu lintas.

**Kata kunci:** pelanggaran lalu lintas, kecelakaan lalu lintas, kepemilikan SIM C

## **INTRODUCTION**

Based on data from the Indonesian Police Traffic Corps (Korlantas Polri, 2022), the total number of vehicle ownership in Indonesia is 149,707,859 units. Of these, 119,536,624 units were motorcycles. Assuming that the population of Indonesia in mid-2022 is 275.77 million people, it can be said that the number of motorcycles in Indonesia today is 43.34% of the total population (Annur, 2022).

In Indonesia, licenses for motorized vehicle drivers are divided into 3 types, namely type A driving licenses for cars, type B driving licenses for large vehicles such as trucks and buses, and type C driving licenses for motorcycles. This study focuses on drivers who have a type C driving license or what is called a SIM C

In 2018, the number of SIM C 2018 was only 8,855,521 compared to the population of 126,508,776 people (6.9%) or when compared to the number of motorcycles of 106,657,952 (8.3%) in the same year (BPS, 2020). This shows that on the streets (either highways or suburban roads) more drivers do not have SIM C than those who have SIM C.

Regarding the SIM C practice exam for motorcyclists, there are pros and cons. Some parties who did not support stated that the SIM C practical exam was too difficult because it was designed for racers where the examinees were asked to wind and drive in a number 8 on a narrow lane, without dropping their feet on the asphalt (Hastanto, 2021), so that they could pass the exam. SIMs are only for those who already have good driving skills (Radityasani, 2021). The zigzag and figure eight obstacles in the SIM C practice test are intended to train bikers' balance. This is to measure the level of proficiency of motorcyclists in regulating body balance (Radityasani, 2021). These obstacles are designed according to procedures and have been carefully calculated by the police. The SIM C exam should be made difficult with the aim of increasing driving safety. SIM C applicants who fail the practical exam should evaluate and practice, but people immediately look for shortcuts (CNN Indonesia, 2021).

One of the chosen shortcuts is to use brokers (Bukhori, 2021). Bukhori added that because of the many difficult requirements, the quick way to get a SIM is with brokers. In addition, for those who fail and fail again in the exam, shortcuts through brokers are a necessity. Laksmi (2017) adds that the reason for using brokers is not only easy and fast, but there is also encouragement from the surrounding environment which causes prospective SIM applicants to use brokers. Efforts have been made, for example, the implementation of New Public Management in the Yogyakarta Samsat office through the Drive Thru system. The effectiveness of this method is questionable because of the limited practice of public services with this system and the still controlled bureaucracy by the District/City Samsat office. In addition, public access to experience Drive Thru services is also still limited regarding the dissemination and disclosure of information provided by bureaucrats (Rahmawati et al., 2022). Socialization efforts were also carried out at the Malang City Police Station. The obstacle faced is that people prefer to use the services of brokers because they are considered easier and faster (Salsabila, 2021). Based on this it can be said that there is a small percentage of SIM C ownership, some of which are obtained illegally. Thus, the risk of motorists on the road becomes higher, and accidents and traffic violations can certainly occur, especially for those who do not have a SIM C.

Based on data from the Korlantas Polri released by the Ministry of Transportation, the number of traffic accidents in Indonesia reached 103,645 cases in 2021 and increased compared to 2020 data of 100,028 cases. To traffic accident data in 2021, there were 25,266 fatalities and material losses reaching Rp246 billion. Meanwhile, the number of seriously injured victims due to traffic accidents in 2021 is 10,553 people, and 117,913 people with minor injuries. Of this number, motorcycles have the highest percentage of 73%, followed by freight transport at 12% (Dihni, 2022).

Korlantas Polri (2022) also released traffic violations against motorcyclists in Indonesia. The Korlantas Polri (2022) recorded 1.77 million pieces of evidence of traffic violations (tickets) until October 2021. Based on this number, 793,821 tickets or 44.89% were minor violations. Meanwhile, as many as 746,153 tickets, or 42.22% were serious violations. Then, 227,819 tickets, or 12.89% are moderate violations (Pahlevi, 2021).

Several studies in Indonesia have been conducted trying to examine risky behavior, traffic violations, and motorcyclist traffic accidents related to SIM C ownership. Wartatmo and Kuschiawati (2011) found that there is a relationship between cellphone use while driving, speeds > 50 km/hour, and ownership of SIM C with motorcycle traffic accidents. All three are risk factors for motorcycle traffic accidents in Yogyakarta Municipality.

Nastiti (2017) found that SIM C ownership and participation in the SIM C exam had no relationship with traffic accidents in class XI high school students in Sidoarjo Regency. Handayani et al. (2017) found that the factors that influence the potential for motorcycle traffic accidents in high school student respondents in Surakarta (n=360) were high speed (13.69%), violations of traffic lights and signs (39.51%), and unusually dangerous behavior (14.10%). Only a small number of respondents already have SIM C.

In other countries, several similar studies have also been conducted. For example, Martín-delosReyes et al. (2021) found a very strong relationship between the reasons for driving

without a driver's license and the risk of causing road accidents. Curry et al. (2015) used driver respondents (n = 410,230) who obtained a driver's license in New Jersey with an age range of 17-20 in 2006-2009. They found that age and driving experience both interacted to influence accident rates. In particular, the youngest age group (17 years) had a higher accident rate. In each age group, it was also found that the more experienced driving, the lower the accident rate.

Chapman et al. (2014) examined how the rates of accidents and traffic violations among novice drivers aged 16-17 years did change in the months before and after obtaining a driver's license. The accident rates of 16- and 17-year-olds were the highest even after they got their unsupervised driver's licenses. After that their accident rate decreased rapidly during the first year after obtaining a driver's license and decreased again in the second and third years. Traffic offense rates among 16 and 17-year-olds peaked after their accident rate peaked and then declined, while traffic offense rates in the older group peaked during their first year of obtaining a driver's license. More than 70% of beginners aged 16 and 17 are accident-free during the first 3 years of license.

## METHODS

This research is descriptive qualitative research that aims to determine the tendency of traffic violations and traffic accidents on motorcyclists associated with SIM C ownership. The respondents of this study were motorcycle riders who already had a SIM C, male and female, and from the age group of teenagers to the elderly.

Data was obtained online using a Google Form containing questions about demographics, SIM C ownership behavior, traffic violations, and traffic accidents. Regarding the question of traffic violations, there are 19 answer options that respondents can choose from. Meanwhile, for traffic accidents, respondents were given open-ended questions. The results of the respondents' answers related to traffic accidents were then analyzed and re-categorized. Data were analyzed using Microsoft Excel to determine behavioral tendencies and using SPSS to test differences in behavior in the two groups.

## RESULTS

This study has obtained 165 respondents from several cities in Indonesia, where the complete demographic data can be seen in Table 1.

Table 1. Demographics of Respondents (N=165)

Category	Sub Category	Amount	Percentage
Gender	Male	63	62,4 %
	Female	102	37,6 %
Age Group	Teenagers (17 - 20)	25	15,2 %
	Early Adulthood (21 – 40)	113	68,4 %

Category	Sub Category	Amount	Percentage
	Middle Adults (41–60)	25	15,2 %
	Elderly (60 and above)	2	1,2 %
Level of education			
	Junior High School	1	0,6 %
	Senior High School	40	24,2 %
	Diploma	28	17 %
	Bachelor degree	85	51,5 %
	Postgraduate	8	4,9 %
	Doctoral	1	0,6 %
	Other	2	1,2 %
Types of Work			
	College student	86	52,1 %
	Private sector employee	22	13,3 %
	civil servant	10	6,1 %
	Teacher	9	5,5 %
	Housewife	8	4,9 %
	Self-employed	7	4,2 %
	Lecturer	2	1,2 %
	Businessman	1	0,6 %
	Police	1	0,6 %
	Farmer	1	0,6 %
	Midwife	1	0,6 %
	Other	17	10,3 %
Domicile (Province/City)			
	East Java (Kediri, Bojonegoro, Surabaya)	44	26,7 %
	West Java (Bekasi, Bogor, Depok)	34	20,6 %
	Bali	18	10,9 %
	DKI Jakarta	14	8,5 %
	Banten	4	2,4 %
	Central Java (Semarang)	4	2,4 %
	Special Region of Yogyakarta	2	1,2 %
	South Sulawesi (Tana Toraja)	1	0,6 %
	West Sumatra (Padang)	1	0,6 %

Regarding the behavior of SIM C ownership, of the 165 respondents, there were 11 people whose SIMs were not renewed. When related to how to get a SIM C, it was found that the number of respondents who chose by "shooting" or not through official channels had higher number compared to respondents who chose to take the official exam. (See table 2).

Table 2. Behavior Related to SIM C

Category	Sub Category	Amount	Percentage
SIM C Validity Period			
	Applicable	154	93,3%
	Not Applicable (Off)	11	6,7%
How to Get SIM C			
	The official exam from the police department	76	46,1%
	Not taking the official exam from the police department	89	53,9%

Based on the trend of traffic violations, in general, individuals who have a SIM C obtained officially have a higher violation behavior when compared to individuals who have a SIM C obtained illegally or known in Bahasa as “Nembak” (Table 3).

Table 3. The tendency of Traffic Violations Based on a Variety of Driver's License Owners

Types of Traffic Violations	A motorcyclist with an illegally obtained driver's license.	A motorcyclist with an Officially Obtained Driver's License
1. Does not meet roadworthiness requirements (rearview mirrors, horns, front and rear lights, turn signals, brakes, speedometers, etc.)	12	12
2. Driving the vehicle on the sidewalk	6	4
3. Not wearing a helmet	38	26
4. Do not turn on the headlights of the vehicle during the day and at night	6	6
5. Violating traffic signs	37	12
6. Break through the busway	2	3
7. Riding more than 2 people	13	11
8. Do not bring driving documents (SIM, STNK)	8	13
9. Go against the flow	11	8
10. Using a cell phone (HP) while riding a motorbike	12	6
11. Motorcycle crossing the toll road	2	1
12. Not giving priority to road users (Ambulance, fire department, funeral procession)	1	1
13. Driving over the speed limit	4	2
14. Driving below the speed limit	3	1
15. Breaking through the railroad crossing	1	0
16. Race on the highway	1	2
17. No motor vehicle license plate installed	1	3
18. Motorcyclists turn around without using a flashlight	10	4
19. Others	7	11
Total	126	175
Average	1,4	2,3

Likewise, with the tendency of accidents (although there are data related to passive accidents), individuals who have an official SIM C have a higher accident rate compared to individuals who have a SIM C obtained illegally (Table 4).

Table 4. The tendency of Traffic Accidents Based on the Variety of Ownership of Driving Licenses

Types of Traffic Accidents	A motorcyclist with illegally obtained driver's licenses	A motorcyclist with an Officially Obtained Driver's License
	1. Crashing (motorcycles, cars, and other objects)	15
2. Sleepy	1	4
3. Collision (with motorbikes, cars, and other vehicles)	3	2
4. Fall	18	19
5. Slip	18	13
6. Crashed (motorcycles, cars, and other vehicles)*	3	6
7. Grazing	1	0
8. Get hit by (motorcycle, car, other vehicles, and another object)*	12	9
9. Sudden brake	2	4
10. Almost crashed	1	1
11. Almost fell	1	0
12. Never	12	10
	Total	87
	Average	0,98
		78
		1,02

Description (\*): passive accident, involving other road users

Based on table 4, it was also found that only 22 people (12 respondents with illegally obtained SIM C and 10 respondents with legally obtained SIM C) were free from accidents. Meanwhile, the skills of holders of SIM C that were obtained officially showed a tendency to be less skilled in driving, because they still experienced behaviors such as crashing (n=10), drowsiness (n=4), falling (n=19), and slipping (n=13).

However, when the statistical analysis was carried out it was found that there was no significant difference between the two groups (official SIM C holders and unofficial SIM C holders). By using the Mann Whitney U test, the behavior of traffic violations obtained a value of  $Z = -0.484$  (Asymp. Sig. > 0.05), while the behavior of traffic accidents obtained a value of  $Z = -0.145$  (Asymp. Sig. > 0.05). (Table 5 and Table 6)

Table 5. Traffic Violation Statistics Test

Test Statistics	
	pelanggaran_lalu_lintas
Mann-Whitney U	164,000
Wilcoxon W	354,000
Z	-0.484
Asymp. Sig. (2-tailed)	0.628
Exact Sig. [2*(1-tailed Sig.)]	0.644 <sup>b</sup>

a. Grouping Variable: Driver`s

b. Not corrected for ties.

Table 6. Traffic Accident Statistics Test

Test Statistics	
	kecelakaan
Mann-Whitney U	69,500
Wilcoxon W	147,500
Z	-0.145
Asymp. Sig. (2-tailed)	0.885
Exact Sig. [2*(1-tailed Sig.)]	0.887 <sup>b</sup>

a. Grouping Variable: Driver`s

b. Not corrected for ties.

## CONCLUSION

This study found that the tendency of traffic violations and accidents among motorcyclists based on SIM C ownership, it turns out that holders of official SIM C have worse behavior in traffic compared to holders of SIM C obtained illegally. Based on statistical analysis, it was found that there were no differences in behavior (both traffic violations and traffic accidents) in the group of holders of official SIM C and groups of holders of SIM C obtained illegally.

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