Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

Factors Related to Safety Riding Behavior of Students at the Graha Medika Institute of Health and Technology, Kotamobagu

Besse Rismayani[1], Hairil Akbar[2], Sarman[3], Christien Gloria Tutu[4], Anggi Mokoagow[5]
Program Studi Kesehatan Masyarakat, Institut Kesehatan dan Teknologi Graha Medika, Kotamobagu, Sulawesi Utara

Article Info
Keywords:
Knowledge,
Attitude,
The Role of Peers,
Safety Behavior.

ABSTRACT
Traffic accidents are a global problem that has occurred alongside the shift in disease patterns from infectious to non-communicable diseases. The number of deaths caused by accidents has reached 1.35 million annually, 90% of which occur in developing countries, which have only 54% of the world's vehicles. This study aims to determine the factors related to driving safety behavior (safety reading) among students at the Graha Medika Institute of Health and Technology, Kotamobagu. The type of research used is analytical with a cross-sectional research design. This study was conducted at the Graha Medika Institute of Health and Technology, Kotamobagu, and the population was 583 students. The sample size in this study consisted of 100 students and the sampling technique used simple random sampling. Data analysis used the chi-square test. The findings show that SIM ownership (p= 0.001), attitude (p= 0.033), peer role (p= 0.033) are related to safe riding behavior and knowledge (p= 0.311) has no relationship to safe riding behavior in students. Driving safety behavior among students is significantly influenced by factors such as driving license ownership, attitudes, and the role of peers, while knowledge alone does not guarantee safe driving practices.

Corresponding Author:
Besse Rismayani
Institut Kesehatan dan Teknologi Graha Medika
Jl. Siswa, Mogolaing, Kotamobagu Barat, Kotamobagu
besserismayani016@gmail.com

INTRODUCTION

Each year, road traffic accidents cause approximately 1.35 million deaths, 90% of which occur in developing countries, which have only 54% of the world's total vehicles. Road accidents rank as the eighth leading cause of death across all age groups and are the leading cause of death for individuals aged 5–29. Approximately 50% of road fatalities involve vulnerable road users, such as motorcyclists, cyclists, and pedestrians. Without sustained action, road traffic accidents are estimated to be the seventh leading cause of death worldwide by 2030 (WHO, 2014).

According to a report by the World Health Organization (WHO), approximately 1.19 million people die each year due to road traffic accidents. Another 20 to 50 million people suffer non-fatal injuries, many of whom are left disabled. Road traffic accidents cause significant economic losses for individuals, their families, and the country as a whole. These losses arise from medical costs and lost productivity for those who die or are disabled as a

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

result of their injuries, and for family members who must take time off work or school to care for the injured (World Health Organization, 2023).

Traffic accidents are a common problem today, as many drivers engage in poor road behavior. Furthermore, they disregard the traffic signs installed on the side of the road to guide them (Simanjuntak et al., 2024).

Safety riding behavior is a safe and regulatory driving behavior that aims to protect drivers from traffic accidents. Safety riding is designed to increase driver awareness of various potential hazards while driving, thereby creating safer driving behavior (Pratiwi et al., 2024). Safety Riding behavior or driving safety is an effort to reduce the number of traffic accidents and injuries resulting from traffic accidents (Asdar & Sidik, 2013). Safety riding can be defined as a way of riding that is safe and comfortable for both the rider himself and other riders (Ghozali et al., 2019). It is necessary to implement safe riding behavior from an early age to prevent further traffic accidents. Safe driving behavior includes adequate technical knowledge of the vehicle, the ability to control and control the vehicle properly, understanding traffic regulations and supporting facilities, a good understanding of matters related to traffic and road transportation, and having a more patient, tolerant, careful, alert attitude and behavior, as well as respecting and appreciating others and oneself (Kementerian Perhubungan, 2013).

Safety Riding behavior is related to individual behavior, one of the theories related to behavior is the Social Cognitive Theory put forward by Albert Bandura (1986), this theory is based on the proposition that social processes and cognitive processes are central to understanding human motivation, emotions and actions.

Traffic accidents can be caused by drivers, vehicles, environmental factors, and road infrastructure (Raharjo, 2014). The high death rate due to accidents that occur among teenagers is caused by the fact that they are unaware of the risks on the highway and very often put themselves in dangerous situations by not wearing driving equipment and not obeying traffic rules (Setyowati et al., 2018).

A safe driving attitude requires knowledge of adequate vehicle techniques, the ability to control and steer the vehicle properly, a deep understanding of traffic and its supporting facilities, a deep understanding of land transportation, and attitudes and actions that are more patient, tolerant, careful, alert, and respectful and appreciative of oneself and others (Kementrian Perhubungan,2013).

A 2016 study by (Azizah, 2016) found that 57.4% of UNNES Faculty of Mathematics and Natural Sciences students from the 2009-2015 intake practiced safe driving behavior, while 42.6% did not. There is a correlation between knowledge, perception, attitude, peer role, and training participation. Research by (Mokoginta et al., 2022) found a correlation between safe driving behavior and peer attitudes, perceptions, and peer roles.

Unlike previous studies that primarily focused on high school students or general youth populations (Azizah, 2016; Mokoginta et al., 2022; Syahrir et al., 2024), this research is unique because it examines the factors influencing safety riding behavior specifically among college students at the Graha Medika Institute of Health and Technology, Kotamobagu. The study context adds novelty since university students often have different driving patterns, levels of

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

independence, and peer interactions compared to younger adolescents. Moreover, this study integrates multiple determinants driver's license ownership, knowledge, attitude, and peer role in a single analytical framework using a cross-sectional design, allowing a more comprehensive understanding of behavioral influences. The inclusion of institutional and regional context (Kotamobagu) also contributes new evidence from an area rarely represented in prior safety riding literature, thus broadening the scope of behavioral safety research in Indonesia.

From the results of initial observations, it can be said that students have not paid attention to safety aspects when driving, which could potentially lead to traffic accidents, especially for motorcyclists. Therefore, this study aims to determine the factors related to driving safety behavior (safety reading) in students at the Graha Medika Kotamobagu Health and Technology Institute.

METHODS

The design of this research is an analytical observational study using a cross-sectional study design. The aim of this study was to determine the factors related to driving safety behavior (safety reading) in students at the Graha Medika Kotamobagu Institute of Health and Technology. Data collection was conducted between September 2024 and January 2025.

The population in this study involved 583 students from the Graha Medika Kotamobagu Health and Technology Institute and as many as 100 students from the Graha Medika Kotamobagu Health and Technology Institute were included in the research sample using the Slovin formula. Inclusion criteria include students who have the ability to ride a motorbike and students who have been able to ride a motorbike for more than 3 months. Students who did not meet these criteria were excluded from the study.

The independent variables in this study are Driving License Ownership, Knowledge, Attitude, and the Role of Peers, while the dependent variable is Driving Safety Behavior (Safety Reading). Data were collected using primary and secondary sources. Primary data were obtained through interviews or questionnaires answered by respondents regarding knowledge, attitudes, peer relationships, driver's license ownership, and safe driving behavior. Meanwhile, secondary data were collected from previous sources, such as important documents, called secondary data. This data was taken from two sources: the Traffic Unit of the Kotamobagu Police and the Graha Medika Kotamobagu Institute of Health and Technology Campus.

Data processing involved several steps, including editing (reviewing and correcting errors in the questionnaire), coding (assigning codes to categorical responses), cleaning (verifying the accuracy of the entered data), and entering the data into the software for analysis. Data analysis consisted of univariate and bivariate analysis. Univariate analysis was used to analyze variables from the research results to determine their frequency distribution and percentages. Bivariate analysis was conducted using the Chi-Square test to determine the relationship between driver's license ownership, knowledge, attitudes, and the role of peers, and safety reading behavior among university students.

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

RESULTS AND DISCUSSION

A total of 100 students participated in this study. Table 1 presents the distribution of respondents based on age, gender, driving experience, driver's license ownership, knowledge, attitude, and peer role. The majority of respondents were over 20 years old (88%), female (68%), had over 2 years of driving experience (90%), did not have a driver's license (70%), had good knowledge (51%), had poor attitude (59%), had unsupportive peer role (67%), and had unsafe behavior (53%).

Characteristics of Respondents

Table 1. Characteristics of Respondents (n = 100)

Variable	Category	Frequency (n)	Percentage (%)
Age	>20 years	88	88
	≤20 years	12	12
Gender	Male	32	32
	Female	68	68
Driving Experience	>2 years	90	90
	≤2 years	10	10
Sim Ownership	have a driver's license	30	30
	no driver's license	70	70
Knowledge	Good	51	51
	Not Good	49	49
Attitude	Good	41	41
	Not Good	59	59
Peer Role	support	33	33
	do not support	67	67

Table 2 shows the relationship between SIM Ownership and Safety Riding Behavior. From 100 respondents, it shows that respondents who have SIM and Safe safety reading behavior are 22 respondents (73.3%), and Unsafe safety reading behavior are 8 respondents (26.7%). While those who do not have SIM and Safe safety reading behavior are 25 respondents (35.7%) and Unsafe safety reading behavior are 45 respondents (64.3%). Based on the results of the chi-square test with P-value = 0.001 (p-value 0.05) then Ha is accepted Ho is rejected, so it can be concluded that there is a relationship between SIM ownership and Safety Reading driving behavior in students.

Relationship Between Driving License Ownership and Safety Riding Behavior

Table 2. The Relationship Between Driving License Ownership and Safety Riding Behavior

Sim Ownership	Safe	Not Safe	Total (n)	p- value
Have a driver's license	22 (73.3)	8 (26.7)	30 (100)	0.001
No driver's license	25 (35.7)	45 (64.3)	70 (100)	
Total	47 (47.0)	53 (53.0)	100 (100)	

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

Table 3 shows no relationship between knowledge and safe driving behavior. Respondents with good knowledge and safe safety reading behavior were 27 (52.9%), and those with good knowledge and less safe safety reading behavior were 24 (47.1%). Meanwhile, respondents with poor knowledge and safe safety reading behavior were 20 (40.8%), and respondents with poor knowledge and less safe safety reading behavior were 29 (59.2%). Based on the chi-square test results with a p-value of 0.311 (p-value of 0.05), Ha is rejected and Ho is accepted. Therefore, it can be concluded that there is no relationship between knowledge and safe driving behavior (safety reading) among students at the Graha Medika Kotamobagu Institute of Health and Technology.

Relationship Between Knowledge and Safety Riding Behavior

Table 3. The Relationship Between Knowledge and Driving Safety Behavior

Knowledge	Safe	Less Safe	Total (n)	p- value
Good	27 (52.9)	24 (47.1)	51 (100)	0.311
Not Good	20 (40.8)	29 (59.2)	49 (100)	
Total	47 (47.0)	53 (53.0)	100 (100)	

Table 4 shows the relationship between attitudes and safe driving behavior. Twenty-five (61.0%) respondents had good attitudes and safe safety reading behavior, while 16 (39.0%) had good attitudes and less safe safety reading behavior. Meanwhile, 22 (37.3%) respondents had less good attitudes and safe safety reading behavior, while 37 (62.7%) had less good attitudes and less safe safety reading behavior. Based on the chi-square test results with a p-value of 0.033 (p-value of 0.05), Ha is accepted and Ho is rejected. Therefore, it can be concluded that there is a relationship between attitudes and safe driving behavior (safety reading) among students at the Graha Medika Kotamobagu Institute of Health and Technology.

Relationship Between Attitude and Safety Riding Behavior

Table 4. The Relationship Between Attitude and Driving Safety Behavior

Attitude	Safe	Less Safe	Total (n)	p- value
Good	25 (61.0)	16 (39.0)	41 (100)	0.033
Not Good	22 (37.3)	37 (62.7)	59 (100)	
Total	47 (47.0)	53 (53.0)	100 (100)	

Table 5 shows the relationship between the role of peers and safe driving behavior. Twenty-one (63.6%) respondents had supportive friends and practiced safe safety reading behavior, while 12 (36.4%) respondents had supportive friends and practiced unsafe safety reading behavior. Meanwhile, 26 (38.8%) respondents had unsupportive friends and practiced safe safety reading behavior, while 41 (61.2%) respondents had unsupportive friends and practiced unsafe safety reading behavior. Based on the chi-square test results with a p-value of 0.033 (p-value 0.05), Ha was accepted and Ho was rejected. Therefore, it can be concluded that there is a relationship between the role of peers and safe driving behavior among students at the Graha Medika Institute of Health and Technology, Kotamobagu.

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

Relationship Between Peer Role and Safety Riding Behavior

Table 5. The Relationship Between Attitude and Driving Safety Behavior

Peer Role	Safe	Not Safe	Total (n)	p- value
Support	21 (63.6)	12 (36.4)	41 (100)	0.033
Do Not Support	26 (38.8)	41 (61.2)	59 (100)	
Total	47 (47.0)	53 (53.0)	100 (100)	

The results of this study indicate that there is a relationship between Driver's License Ownership and Driving Safety Behavior (Safety Reading) in students of the Graha Medika Kotamobagu Health and Technology Institute. This is because more students do not have a Driver's License (SIM) than those who already have a Driver's License, having a (SIM), someone who has a Driver's License tends to be more aware of traffic rules, speed and road conditions so they are more likely to follow the rules and safe behavior. Someone who does not have a SIM is more at risk of unsafe behavior while driving, such as violating traffic signs, excessive speed, and not using attributes while driving.

The results of this study are supported by research conducted by (Kaisun, 2020) , that there is a relationship between SIM Ownership and Driving Safety Behavior (Safety Reading) in students of Man 1 Medan, this is based on the results of the statistical test p-value of 0.002 (p-value <0.05). This study is also supported by research conducted by(Putri, 2021), that there is a relationship between SIM Ownership and driving safety behavior in students at Ngudi Waluyo University, this is based on the results of the statistical test p-value of 0.000 (p-value <0.05).

A driving license (SIM) is issued by the Indonesian National Police (Polri) to someone who meets the administrative requirements, is physically and mentally healthy, understands traffic regulations, and is skilled at driving a motorized vehicle. To reduce the risk of accidents, every driver must have a driver's license that matches the type of vehicle they are driving. If someone is deemed qualified to drive a vehicle, the police will issue a driver's license. Motorcyclists must have a Class C driver's license; to obtain a driver's license, a person must meet age, administrative, and health requirements, and pass a police examination President, RI. (2009).

The results of this study indicate that there is no significant relationship between knowledge and driving safety behavior (Safety Reading) among students at the Graha Medika Institute of Health and Technology, Kotamobagu. This is because many students at the Graha Medika Institute of Health and Technology, Kotamobagu, have good knowledge of driving safety compared to students who have poor knowledge of driving safety.

The results of this study are supported by research conducted by (Safitri, 2023), which states that there is no significant relationship between Knowledge and Driving Safety Behavior (Safety Reading) in students of SMA Negeri 10 Makassar. This is based on a statistical test with a p-value of 0.986 (p-value <0.05). The results of this study are also supported by research conducted by (Syahrir et al., 2024), which states that there is no relationship between Knowledge and Driving Safety Behavior in Grade XII Students of SMA Negeri 4 Palu. This is based on a statistical test with a p-value of 0.599 (p-value <0.05).

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

The more a driver experiences or sees accidents, the better his knowledge of the causes and ways to prevent accidents should be (Sukmaningtias, 2010) This knowledge forms perceptions so that individuals, through their thought processes, will avoid the driving risks they will face.

Knowledge is the result of knowing after sensing a certain object without knowledge a person does not have the basis for making decisions and determining actions to address the problems faced (Notoatmodjo, 2012). Lack of knowledge regarding awareness of safe driving, especially among students, can increase the risk of traffic accidents (Syahrir et al., 2024).

The results of this study indicate a significant relationship between attitudes and driving safety behavior (safety reading) among students at the Graha Medika Institute of Health and Technology, Kotamobagu. This is because many students have poor attitudes compared to those with good attitudes.

The results of this study are supported by research conducted by (Syahrir et al., 2024) that there is a relationship between Attitude and Driving Safety Behavior (Safety Reading) at SMKN 2 Luwu, this is based on the results of statistical tests with a p-value of 0.002 (p-value <0.05). This study is also supported by research conducted by (Mokoginta et al., 2022) that there is a relationship between Attitude and Driving Safety Behavior in Students of SMAN 1 Kotamobagu, this is based on statistical tests with a p-value of 0.000 (p-value <0.05).

Attitude is something that is done in bringing oneself to respond to events that occur according to the way of thinking and desire to act. Drivers who have a good attitude in driving are more likely to behave/act safely when driving compared to those who have a less good attitude (Azizah, 2016).

The results of the study showed that there was a relationship between the Role of Peers and Driving Safety Behavior (safety Reading) in students at the Graha Medika Kotamobagu Institute of Health and Technology. This was because many students had friends who were not supportive compared to students who had supportive friends. The reason from student friends was that every time they rode a motorbike and had a passenger, it never occurred to them to ask about driving, there were also student friends who asked about driving.

The results of this study are supported by research conducted by (Azizah, 2016) that there is a relationship between the Role of Peers and Driving Safety Behavior (Safety Reading) in FMIPA UNES students of the 2008-2015 class), this is based on the results of the statistical test p-value 0.043 (p-value <0.05). This study is also supported by research conducted by (Mokoginta et al., 2022) that there is a relationship between the role of peers and driving safety behavior in students of SMAN 1 Kotamobagu, seen from the significant value with a statistical test p-value of 0.000 (p-value 0.05).

College students typically have a number of friends or peer groups on a daily basis. Other members of this group of friends are usually influenced to be aware of driving safety risks if most of them are already aware of them, conversely, if someone in the group or is influenced to do something that is not (Ridho, 2012).

Jurnal Eduhealth
Volume 16, Number 04 2025 DOI 10.54209/eduhealth.v16i04
ESSN 2808-4608 (Online)
https://ejournal.seaninstitute.or.id/index.php/healt

CONCLUSION

This study shows that there is a relationship between driving license ownership and safety reading behavior among students at the Graha Medika Institute of Health and Technology, Kotamobagu. There is no relationship between knowledge and safety reading behavior among students at the Graha Medika Institute of Health and Technology, Kotamobagu. There is a relationship between attitude and safety reading behavior among students at the Graha Medika Institute of Health and Technology, Kotamobagu. There is a relationship between the role of peers and safety reading behavior among students at the Graha Medika Institute of Health and Technology, Kotamobagu. This study acknowledges several limitations, including the relatively small sample size and the focus on a single institution, which may limit the generalizability of the findings to a wider student population. Future studies are recommended to involve larger and more diverse samples from different universities or regions to obtain broader insights into safety riding behavior. In addition, longitudinal studies could be conducted to explore behavioral changes over time and to assess the long-term impact of interventions related to driving safety education. It is also suggested that future researchers include additional variables, such as family influence, personality traits, and environmental conditions, to better understand the complex factors influencing safe riding behavior among young drivers.

ACKNOWLEDGEMENT

The author would like to express his sincere gratitude to the management and entire academic community of the Graha Medika Kotamobagu Institute of Health and Technology for their cooperation and the opportunity provided throughout the research process. He also extends his deepest appreciation to all student respondents who took the time to complete the questionnaire and provided invaluable information to facilitate this research. Finally, he hopes that the results of this study will be beneficial and serve as a reference source for interested parties in efforts to improve driving safety behavior among students.

REFERENCE

Asdar, M., & Sidik, R. D. D. (2013). Perilaku Safety Riding Pada Siswa SMA Di Kabupaten Pangkep. *Jurnal. Fakultas Kesehatan Masyarakat. Universitas Hasanuddin.*, *6*.

Azizah, M. H. (2016). Faktor Yang Berhubungan Dengan Perilaku Keselamatan Berkendara (Safety Riding) Pada Mahasiswa. In *kesehatan masyarakat UNNES*. Universitas Negri Semarang.

Ghozali, M. L. et al. (2019). *Fiqih lalu lintas: tuntunan Islam dalam berkendara secara aman*. UIN Sunan Ampel Press Surabaya.

Kaisun, F. (2020). *Analisis faktor yang berhubungan dengan perilaku keselamatan berkendara pada siswa/i MAN 1 Medan*. Universitas Islam Negeri Sumatera Utara Medan.

Mokoginta, S. et al. (2022). Faktor yang Berhubungan dengan Perilaku Keselamatan Berkendara pada Pelajar SMAN 1 Kotamobagu. *Window of Public Health Journal*, *3*(3), 516–526. https://doi.org/10.33096/woph.v3i3.232

Notoatmodjo. (2012). *Metode Penelitian Kesehatan*. Rineka Cipta.

Pratiwi, A. P. et al. (2024). Sosialisasi Safety Riding Pada Siswa Sma Dengan Menggunakan Metode Ceramah Dan Media Audiovisual. *Window of Community Dedication Journal*, *05*(01), 34–39.

Putri, S. A. (2021). *Faktor Yang Berhubungan Dengan Perilaku Keselamatan Berkendara Pada Mahasiswa Di Universitas Ngudi Waluyo.* Universitas Ngudi Waluyo.

Raharjo, R. (2014). *Tertib Berlalu Lintas* (Cet.1). Yogyakarta : Shafa Media.

Ridho, M. (2012). Hubungan Persepsi Tentang Keselamatan Berkendara Dengan Intensitas Penggunaan Helm Pada Mahasiswa. In *Skripsi* (Issue 0806455143). Universitas Indonesia.

Safitri, R. (2023). *Gambaran Perilaku Keselamatan Pengendara Motor (Safety Reading) pada Siswa SMA Negeri 10 Makassar.* (Vol. 2, Issue 4).

Setyowati, D. L. et al. (2018). Faktor Penyebab Kecelakaan Lalu Lintas Pada Siswa Sekolah Menengah Atas Di Kota Samarinda. *The Indonesian Journal of Occupational Safety and Health*, *7*(3), 329–338. https://doi.org/10.20473/ijosh.v7i3.2018.329

Simanjuntak, E. Y. et al. (2024). Upaya Pengendalian Kecelakaan Lalu Lintas Dan Perilaku Berkendara di Jalan Raya Melalui Edukasi Bagi Remaja. *Journal Abdimas Mutiara*, *5*(2), 296–300.

Sukmaningtias, A. (2010). *Studi Persepsi Risiko Terhadap Kecelakaan pada Pengendara Motor Sekolah Menengah atas (SMA) di Kota Depok Tahun 2010*. Universitas Indonesia.

Syahrir, M. S. et al. (2024). Faktor Yang Mempengaruhi Perilaku Keamanan Berkendara Siswa Kelas XII SMA Negeri 4 Palu. *Preventif: Jurnal Kesehatan Masyarakat*, *15*, 32–46.

WHO. (2014). *Global Status Report On Road Safety.*