

Safety Riding Behavior among Students in Bekasi, Indonesia

Irawan¹, Suripno², Muh Kadarisman³, Prasadja Ricardianto⁴, Susanty Handayani⁵,
Prima Widiyanto⁶, Heri Subagyo⁷

^{1,2,4,5,7}Postgraduate Program, Trisakti Institute of Transportation and Logistics, Jakarta, Indonesia -13410

³Management, Muhammadiyah University of Jakarta, Indonesia - 15419

⁶Transportation Management, Trisakti Institute of Transportation and Logistics, Jakarta, Indonesia -13410

Email: ¹iwayirawan@gmail.com, ²drs.suripno@gmail.com, ³kadarisman.bkn@gmail.com, ⁴ricardianto@gmail.com,

⁵susantyhandayani@gmail.com, ⁶primawidiyanto@yahoo.com, ⁷hsubagyo88@yahoo.co.uk

✉ Corresponding author: ricardianto @ gmail.com

Abstract— The purpose of the research is to determine and analyze the safety riding behavior among students of two Public Senior High Schools (SMAN), which are SMAN 6 and SMAN 8 in Bekasi, Indonesia. The reason why the research was conducted was that the high number of road traffic accidents in Bekasi. Another problem was unsafe riding behaviors committed by students while riding a bike. Human errors had to be the dominant factor leading to road traffic accidents since people were lack of awareness about safe riding behaviors. The research was conducted at SMAN 6 and SMAN 8 Bekasi, using a quantitative approach and employing factor analysis with 179 students as a sample. The data was collected by distributing statement letters with a tested Likert Scale model. The result shows that there is a correlation between students' awareness and safety riding behavior; there is a correlation between students' attitude and safety riding behavior; there is a correlation between students' perception between safety riding behavior; there is a correlation between the role of students' peers and safety riding behavior, and there is no correlation between participating on training and safety riding behavior.

Keywords— Awareness, attitude, perception, the role of peers, safety riding, training.

I. INTRODUCTION

In Indonesia, the most dominant factor leading to road accidents is the driver (human error), which is 93.5%, followed by the road factor, which had 3.23%, and vehicles and environment, which were 2.76% and 0.49% respectively. What caused human errors leading to road accidents varied, for example, scatter-brained, sleepy driver, driving under alcohol influence, carelessness, unskilled driver, and speeding. The data shows that 90% of road accidents were caused due to humans' carelessness and lack of knowledge about road signs [1].

Based on the Indonesian National Police, 27.910 people died as a result of road accidents in 2018. This was 6% less than that of 2017 in which 27.910 people became victims. Though the number of victims declined, there was an increase in the road accident rate. In 2017, there were 101.022 road accidents occurred in Indonesia whereas 103.672 accidents happened in 2018 (viva.co.id, retrieved on December 27, 2018).

Based on the Department of Transportation, there were 146 road accidents in the first three months of 2017 in the Municipality of Bekasi. The details can be seen in table 1.

TABLE 1. Road Accidents in Municipality of Bekasi in 2017

	January	February	March	April
Number of Deaths	7	7	6	7
Number of Injured Victims	30	33	34	21
Total	37	40	41	28

Source: [2]

The table shows that there were 37 accidents in January, with seven deaths and 30 being injured. Seven deaths and 33 injured victims were in February with a total of 40 accidents. In March, there were 41 accidents with 34 injured victims and 6 deaths while there were seven deaths and 21 being injured in April. Bekasi Department of Transportation identified that road accidents frequently occurred in five lanes. The lanes were Sultan Agung Street, Pekayon Street, Narogong Street, Joyo Martono Street, and Kalimalang Street. Those were busy streets. In fact, Kalimalang Street, Sultan Agung Street, and Pekayon Street are intercity roads connecting Municipality of Bekasi and DKI Jakarta. Joyo Martono Street connects the Municipality of Bekasi and Regency of Bekasi while Joyo Martono Street links Municipality of Bekasi to Bogor Regency.

The Ministry of Transportation through the Directorate General of Land Transportation has initiated the Safe School Route (RASS) program to reduce road accidents involving students. This program is manifested by implementing road equipment facilities, such as the construction of Safe School Zone (ZoSS), bus stops, and sidewalks as well as assisting with medium-sized buses. The RASS program also encourages students and parents to walk, cycle, or use public transportation as a safe and comfortable option rather than using a motorbike that is prone to accidents.

Karnavian stated that human errors dominated the cause of road accidents in 2018, followed by road and weather conditions by 29.7%. Motorbikes were involved in 73% of road accidents throughout 2018. The most dominant cause of road accidents is human errors. Human errors can be affected by two factors, which are physical and psychological [3]. Humans often commit unsafe actions while riding a motorbike

such as speeding, suddenly overtaking, riding against the traffic, and violating road signs. Students frequently violated the traffic rules by not wearing a helmet, not having important documents such as Driving license and Vehicles Registration Certificate and violating road signs. Other violations include carrying more than one adult passenger, riding against the traffic, incomplete vehicles, and not turning on the main lights. The violations are related to the student's lack of understanding about safety riding.

The results of preliminary studies indicate that SMA Negeri 6 and SMA Negeri 8, Bekasi is located in a densely populated area and the traffic is dense enough that crosses Pekayon street which is one of the roads accident-prone in the City of Bekasi, so the impact on the vulnerability to traffic accidents for its students. The results of preliminary observations of the behavior of driving safety students of SMA Negeri 6 and SMA Negeri 8, Bekasi obtained data that amounted to 81.5% of respondents do not examine the condition of the engine before driving, of 62.8% of the respondents did not bring the letter driving license and vehicle ownership, of 59.7% of respondents do not wear a standard helmet when driving, to 68.6% of respondents did not wear a jacket when driving, the 72.1% of respondents did not wear a mask while driving, of 86.5% of respondents do not wear gloves while driving, 81,3% of respondents passed the road markings if the condition of the road is jammed, 74,4% of respondents drive at speeds above 80 km/h if the condition of a deserted road, 47.2% of the respondents use mobile phones/headsets while driving and of 63.8% of respondents chatting on the current drive. Thus it can be said that students do not pay attention to the safety aspects of driving that will be the potential for the occurrence of traffic accidents, especially motorcycle riders.

It can be concluded, that some of the problems of this research are; (1) the Still high number of traffic accidents, (2) the Factor of human error becomes the dominant factor of the causes of traffic accidents, (3) low public awareness of the importance of the behavior of the driver safety, (4) is still a lack of public understanding about the traffic signs, (5) the age group of students is a group which is prone to a traffic accident, (6) is still the lack of knowledge students will be traffic safety and (7) the Frequent occurrence of the behavior of the unsafe student while riding a motorcycle.

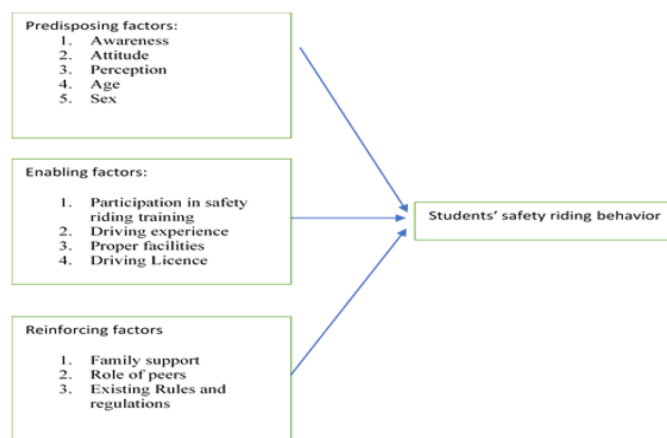
Overall, the study by [4] shows that feelings of anxiety and discomfort associated with traveling with people You don't know is the factor most influential encourage negative feelings of personal safety on public transport. The results of the research [5] also show that musculoskeletal disorders and fatigue affect the condition of the driver, which can have a negative impact on the safety of the driver and the customer. The research by [6] mentions that there is a relationship between knowledge and attitude with the practice of driving safety. A thorough evaluation of more of the factors important based on the results of the study [7] can produce valuable information to reduce severe injury [8] indicates that the program bike smart can be a component of the training package the safety of a low-cost and effective which includes training based on skills and experience. Students' awareness

of safety riding can be measured through statements. Those statements can reveal how far students understand the very concept of safety riding while riding a motorcycle. The component of behavior belief is defined as a person's belief about things or consequences that arise when someone behaves while evaluation outcomes are evaluations of these things or consequences (positive, negative, favorable-unfavorable) [9].

Perception is defined as something that is absorbed, receipted by five senses, such as seeing, hearing, tasting, or often translated as a shadow in dreams, opinions, sights, titles, or reactions which essentially lead to what one responds to through the five senses pictured in imagination in one's thoughts [10]. The high mortality rate among motorized vehicle drivers and riders is influenced by the perception of the low risk of accidents while driving. Young riders, like students, often put themselves in dangerous situations such as speeding and violating traffic lights [11]. Students' perceptions of safety riding are measured through statements about their views or how they perceive the danger of an accident while riding a motorcycle. Among the people who are usually considered important to individuals are parents, people with higher social status, peers, close friends, teachers, co-workers, community friends, spouses, and so on [12].

Peers are children or adolescents with a relatively similar level of maturity. They usually tend to group and form peer groups called gangs. A Peer group is a group of teenagers of the same age who have close and interdependent relationships. This similarity cannot only be seen in terms of age and maturity, but can also be seen in terms of socio-economic background, and so on. A peer group usually consists of adolescents/teens of same-sex [13]. On the other hand, if most members of the group ignore safety while riding a motorbike, other members will most likely do the same [14].

Based on the description of the theoretical basis above, the theoretical framework can be described (Figure 1).



Source: Modified Theory of Lawrence Green [15]–[17]

Fig. 1. Theory Framework

In this study, researchers consider the meaningfulness or significance (significance) of solving problems on the analysis of factors associated with safety riding on the high school students 6 Bekasi SMAN 8, Bekasi. Some of the factors

associated with safety behavior examined in this study include: awareness, attitudes, and perceptions represent predisposing factors; attending the safety riding training. Factors associated with safety riding in this study are called the independent variable or the independent variable (X_1, X_2, X_3, X_4, X_5), and safety riding in this study is called the dependent variable or the dependent variable (Y).

The conceptual framework is a relationship between one concept and another from the research problem (Figure 2).

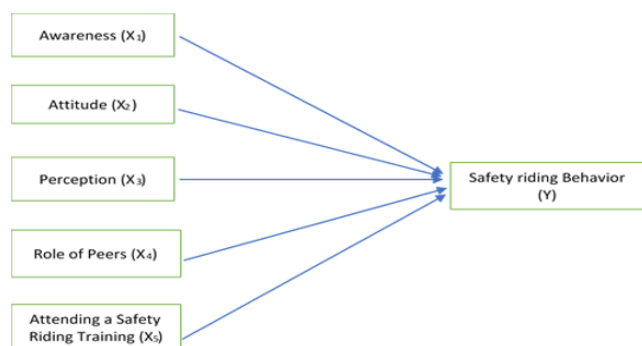


Fig. 2. Conceptual Framework

The selection of factors related to safety riding behavior was because they represent three safety riding behavior factors, which are: awareness, attitudes, and perceptions represent predisposing factors; attending the safety riding training represents enabling factors, and role of peers represent reinforcing factors. The age factor is not used in this study because the population studied in this research were students of class XI which is the average age of respondents is almost the same which is about the age of 15, 16, and 17 years old, so it does not vary significantly in age. The gender factor is also not used in this study because the respondents are taken in this research specific to students male sex because of the tendency of the behavior of the drive male students are more prominent than women.

Factors driving experience is not used in this study because the age of the respondents was almost equal (15, 16, and 17 years old) so it is assumed the driving experience of the respondents also tend to be ranged between 3-5 years so not different significantly the experience of driving. Factors amenities and facilities are not used in this study because it is based from the interview with the respondents of the study that most or almost all students stated that they have a motorcycle and a motorcycle ridden is a motorcycle belonging to his family so that it can be seen that the facilities and means that the students have the same tendency that has a motorcycle.

The factor ownership of the driver ID used in this study because the age of the respondents was almost equal [16], [17] so based on the rules of the requirements of the ownership of the driver ID that is at least already have the ID card. Based on the results of the interview data showed that most or nearly all of the respondents don't have ID cards and do not have a driver ID with the reason of its status is still a student. Factors of family support are not used in this study because the factor that is dominant in influencing the behavior and attitude of the

respondents is the environment of the community factors the role of peer assumed more influence than family support. And based on the analysis of the author that almost all parents of students support children to behave better in the drive to safety and avoid accidents traffic. Factors applicable regulations and policies are not used in this study because it has been represented by the factors of knowledge against the riding safety.

Based on the conceptual framework outlined that can be formulated research hypothesis as follows:

H1: There is a relationship between the awareness with the safety riding behavior.

H2: There is a relationship between the attitude with the safety riding behavior.

H3: There is a relationship between the perception with the safety riding behavior.

H4: There is a relationship between the role of the peer with the safety riding behavior.

H5: There is a relationship between attending a safety riding training with the safety riding behavior.

II. METHOD

This research used a quantitative approach emphasizing numerical data which was obtained from the statistical method. Confirmatory Factor Analysis was employed to analyze the data. Confirmatory Factor Analysis aims to find several indicator variables that form variables that are not directly measurable based on the theoretical basis. Therefore, this confirmatory factor analysis aims to test the theory. The data analysis procedure in quantitative research can use computer applications to assist factor analysis work. One of them is Statistical Package for Social Science.

The population was all students of SMAN 6 Bekasi, which had 1080 students, and all students of SMAN 8 Bekasi, which had 1,224. The sampling technique used in this study was a non-probability sampling technique, which is a purposive sampling type. The research sample was determined by the criteria: (1) being a class XI student of SMAN 6 Bekasi or class XI SMAN 8 Bekasi, (2) male student, (3) riding a motorcycle. Based on these criteria, the total population of the study was 153 students of SMAN 6 Bekasi and 168 students of SMAN 8 Bekasi, so the total population of this study was 321 students. Determination of the sample size using the Slovin formula obtained 179 students. Slovin formula was used to determine the sample size, and finally, 179 students were obtained as total samples.

This research used primary and secondary data. Primary data were obtained from interviews using questionnaires directly with high school students in the Municipality of Bekasi to obtain data that includes: the names of respondents; respondent batch; driving experience; awareness of safety riding; attitudes towards safety riding; perceptions of safety riding; the role of peers towards safety riding; attending a safety riding training and safety riding behavior. Secondary data were obtained from high schools in Bekasi City regarding the number of students and the Bekasi Police Precinct Traffic Accident data. It was also obtained from various texts such as books, journals, and related articles as a literature review to

analyze more deeply. Testing the inter-relationship between variables using chi-square test, and then compiled a recapitulation of the results of the bivariate analysis and will be known whether the five variables of the research are interconnected.

III. RESULTS AND DISCUSSION

A. Correlation Between Level of Awareness and Safety Riding Behavior

By testing the correlation between the level of awareness and safety riding behavior on students using the chi-square test, the following results are obtained (Table 1).

TABLE 1. The Result of the Chi-Square Test for Correlation between the Level of Awareness and Safety Riding Behavior

Awareness	Safety Riding Behavior						P-value
	Unsafe		Safe		Total		
	N	%	n	%	N	%	
Not	60	75,0	20	25,0	80	100	0,000
Sufficient	7	43,8	9	56,3	16	100	
Good	24	28,9	59	71,1	83	100	
Total	91	50,8	88	49,2	179	100	

The result shows that of the 80 respondents who had less awareness about safety riding behavior, there were 60 respondents (75.0%) did unsafe riding, and 20 respondents (25.0%) performed safety riding. Of the 16 respondents who had sufficient awareness, there were 7 respondents (43.8%) who did unsafe riding, and 9 respondents (56.3%) performed safety riding, and of the 83 respondents who had a good awareness of safety riding behavior, There were 24 respondents (28.9%) did unsafe riding, and 59 respondents (71.1%) did safety riding. The results of the analysis using the chi-square test obtained a p-value of 0.000 ($p < 0.05$), which means that H_a is accepted and H_o is rejected. This shows that there is a correlation between awareness and safety riding behavior.

The facts found in the field, the respondents know good looks than they already understand about safety riding behavior, both for general information about the safety riding behavior, regulations and policies when driving, the completeness of the drive, the preparation on the before, during, and after the drive. While the respondents have less knowledge and enough, some of the respondents lack understanding about safety riding behavior which includes general information about safety riding, regulations and policies when driving, the completeness of the drive, the preparation on the before, during, and after the drive.

This is by the theory of Lawrence Green, which states that behavior is influenced by predisposing factors, one of which is the knowledge of the respondents [15]. Some studies conclude that there is a significant relationship between the variables of knowledge with the use of a helmet or safety riding [18]. Safety riding is a behavior that prevents road accidents in which it has the basic awareness that emphasizes the safety of both passengers and drivers. Safety riding aims to raise riders' awareness of any possibility on the road [19]–[21]. However, other research states no relationship was found between knowledge about driving safety with safety riding behavior

[22], [23]. The results of other studies in Indonesia indicate that the awareness of motorcyclists has a positive effect on driving behavior [24].

B. Correlation Between Attitude and Safety Riding Behavior

By testing the correlation between attitude and safety riding behavior on students using the chi-square test, the following results are obtained (Table 2).

TABLE 2. The Result of the Chi-Square Test for Correlation between Attitude and Safety Riding Behavior

Attitude	Safety Riding Behavior						P-value
	Unsafe		Safe		Total		
	N	%	N	%	N	%	
Not Good	64	57,1	48	42,9	112	100	0,029
Good	27	40,3	40	59,7	67	100	
Total	91	50,8	88	49,2	179	100	

The result reveals that 112 respondents did not have a good attitude towards safety riding behavior. It is also shown that 64 respondents (57.1%) did unsafe riding while 48 respondents (42.9%) performed safety riding. Whereas, of the 67 respondents who had a good attitude, there were 27 respondents (40.3%) who did unsafe riding, and as many as 40 respondents (59.7%) performed safety riding. The results of the analysis using the chi-square test obtained a p-value of 0.029 ($p < 0.05$), which means that H_a is accepted and H_o is rejected. This shows that there is a correlation between attitude and safety riding behavior.

The results of this study reinforced the research stated that attitude is a reaction or response that is still closed from someone, yet is an action or activity, but it is a readiness to react to objects in a particular environment as an appreciation of the object [25]. Drivers and riders who have a good attitude in driving are more likely to behave/act safely than those who have a bad attitude [26]. Other research in several country also noted that there is a trend of safety riding behavior with driving attitudes [27]–[29]. Other results by [30] also show that the relationship between driving behavior is mediated by risk perceptions and safety attitudes. The results of other studies in Europe, for example, show that the relationship between risky driving behavior is mediated through attitudes [31].

C. Correlation Between Perception and Safety Riding Behavior

By testing the correlation between students' perception and safety riding behavior on students using the chi-square test, the following results are obtained (Table 3).

TABLE 3. The Result of the Chi-Square Test for Correlation between Perception and Safety Riding Behavior

Perception	Safety Riding Behavior						P-value
	Unsafe		Safe		Total		
	N	%	n	%	N	%	
Negative	32	64,0	18	36,0	50	100	0,028
Positive	59	45,7	70	54,3	129	100	
Total	91	50,8	88	49,2	179	100	

The result reveals that among 50 respondents who had negative perceptions about safety riding behavior, there were 32 respondents (64.0%) who did unsafe riding while 18

respondents (36.0%) rode safely on the road. Meanwhile, among the 129 respondents who had positive perceptions, there were 59 respondents (45.7%) who did unsafe riding whereas 70 respondents (54.3%) performed safety riding. The results of the analysis using the chi-square test obtained a p-value of 0.028 ($p < 0.05$), which means that H_a is accepted and H_o is rejected. This shows that there is a correlation between students' perception and safety riding behavior. The results of the research in the field shows, respondents who have a lack of good 57.1% behave safely in drive, while the respondents who have a good attitude as much as 59.7% behave safely in the safety of driving. These results prove that the very need for the development of attitude towards a culture of security and safety on campus.

The results of this study are in line with research by [32] stating that there is a meaningful relationship between risk perception, driving safety with the use of safety belts. See also add, increase the implementation of laws and regulations, such as setting expressly limits the speed of the vehicle is an even the increase in the incidence of death on the highway caused by the way the drive that is not safe. Another study in India explained that there is a significant positive correlation on drivers 'risk perceptions affecting drivers' road safety [33].

D. Correlation Between the Role of Peers and Safety Riding Behavior

By testing the correlation between the role of peers and safety riding behavior using the chi-square test, the following results are obtained (Table 4).

TABLE 4. The Result of Chi-Square Test for Correlation between the Role of Peers and Safety Riding Behavior

The Role of Peers	Safety Riding Behavior				Total		P-value
	Unsafe	Safe	Unsafe	Safe	N	%	
Not Supporting	67	57,3	50	42,7	117	100	0,018
Supporting	24	38,7	38	61,3	62	100	
Total	91	50,8	88	49,2	179	100	

The result shows that 117 respondents whose peers did not support the safety riding behavior, there were 67 respondents (57.3%) who did unsafe riding, and 50 respondents (42.7%) performed safety riding. Meanwhile, of the 62 respondents whose peers were supporting, there were 24 respondents (38.7%) who did unsafe riding, and 38 respondents (61.3%) did safety riding. The results of the analysis using chi-square are test obtained-valuable of 0.018 ($p < 0.05$), which means that H_a is accepted and H_o is rejected. This shows that there is a correlation between the role of peers and safety riding behavior.

The results of the research in the field shows, respondents who had the role of the peer does not support regarding safety riding behavior to 57.3% not safe in driving, while the respondents who had the role of peer support 61.3% of behaving safely in the drive. In this study, the role of peers about safety riding behavior is shown by the response to the behavior of the drive friends such as inspection of the vehicle before driving (tires, lights, horn, rearview mirror, chain, machine), the examination of the completeness of the vehicle, the use of helmet, mask, gloves, jackets, shoes, the limit speed

drive, and so on. This research is in line with research conducted by [34], there is a significant relationship between the role of peers and safe riding behavior.

E. Correlation Between Attending a Safety Riding Training and Safety Riding Behavior

By testing the correlation between attending a safety riding training and safety riding behavior on students using the chi-square test, the following results are obtained (Table 5).

TABLE 5. The Result of Chi-square Test for Correlation between Attending a Safety Riding Training and Safety Riding Behavior

Attending a Safety Riding Training	Safety Riding Behavior				Total		P-value
	Unsafe	Safe	Unsafe	Safe	N	%	
No	86	51,2	82	48,8	168	100	0,712
Yes	5	45,5	6	54,5	11	100	
Total	91	50,8	88	49,2	179	100	

The result shows that 168 respondents had never attended training on safety riding, there were 86 respondents (51.2%) who did unsafe riding, and 82 respondents (48.8%) performed safety riding. Meanwhile, of the 11 respondents who attended the training, there were 5 respondents (45.5%) who did unsafe riding, and 6 respondents (54.5%) performed safety riding. The results of the analysis using the chi-square test obtained a p-value of 0.712 ($p > 0.05$), which means that H_a is rejected and H_o is accepted. This shows that there is no correlation between training participation and safe riding behavior. According to the results of research in the field, the majority of respondents never attend training for Safety Riding and not all of the respondents who do not follow the training to behave safely in the drive, there is only 48,8% of the total respondents who never attend the training otherwise behave safely in drive, while the 51.2% never follow other training to behave not safe.

TABLE 6. Research Summary

No	Independent Variables	Statistic Test	P-value	Conclusion
1	Awareness	Chi-Square	0,000	There is a correlation
2	Attitude	Chi-Square	0,029	There is a correlation
3	Perception	Chi-Square	0,028	There is a correlation
4	The Role of Peers	Chi-Square	0,018	There is a correlation
5	Attending a Safety Riding Training	Chi-Square	0,712	No correlation

Table 6 shows that four hypotheses, which are awareness, attitude, perception, and the role of peers, are accepted. Meanwhile, the attending a safety riding training variables are not correlated with safety riding behavior.

IV. CONCLUSION

Schools are expected to make regulations related to the requirements for riding motorbikes to school, for example having a driving license. The school should facilitate students, who meet the requirements, to take the driving license test. This will help them to get their driving license. Students can attend counselling or safety riding training organized by the school, or from the police and related institutions.

Students should implement safety riding behavior both when riding for short and long-distance to minimize or prevent road accidents. Also, it provides an example to the wider

community that safety is important. Students should change their behavior, increase awareness, and care about safe riding to prevent traffic accidents. Unsafe behaviors such as smoking while riding, talking, using cellphones while riding, and violating traffic signs should be avoided. It is expected that further research can be carried out on factors related to safety riding behavior in students with different research variables.

ACKNOWLEDGMENT

Researcher thanked the leader of Public Senior High Schools (SMAN), which are SMAN 6 and SMAN 8 in Bekasi, Indonesia, and some lecturers of Transportation Management in Trisakti Institute of Transportation and Logistics, Jakarta, Indonesia. They have all helped to provide operational data for number of road traffic accidents in Bekasi. Thanks also to all respondents who were willing to fill out the questionnaire, Trisakti Institute Transportation and Logistic who have given assignments to research location of the safety riding behavior.

REFERENCES

- [1] PM RI, *Regulation of The Minister of Transportation of The Republic of Indonesia PM Number 13 Year 2014 About Traffic Signs*. Jakarta: Ministry of Transportation of the Republic of Indonesia, 2014.
- [2] D. Bekasi, *Municipality of Bekasi Department of Transportation 2018*. Bekasi, 2018.
- [3] A. D. C. Rifal, "Faktor Risiko Yang Berhubungan Dengan Kecelakaan Lalu Lintas Pada Pengemudi Bus (Studi Pada Bus PO Jember Indah Trayek Jember-Situbondo)," 2015.
- [4] G. Currie, A. Delbosc, and S. Mahmoud, "Factors influencing young peoples' perceptions of personal safety on public transport," *J. public Transp.*, vol. 16, no. 1, p. 1, 2013.
- [5] T. Nurhafizhah, I. H. Susilowati, A. Maulana, and M. F. Habibullah, "Safety and Fatigue Risk Factors among Online Motorcycle Drivers in Depok City, Indonesia," *KnE Life Sci.*, pp. 702-708., 2018.
- [6] R. Perwitaningsih, E. Mahawati, and E. Hartini, "Hubungan antara Pengetahuan dan Sikap Terhadap Praktik Keselamatan dan Kesehatan Berkendara Sepeda Motor pada Mahasiswa Kesehatan Masyarakat Udinus Semarang Tahun 2013," *J. Udinus.*, 2013.
- [7] C. Lam *et al.*, "Rider factors associated with severe injury after a light motorcycle crash: A multicentre study in an emerging economy setting," *PLoS One*, vol. 14, no. 6, p. e0219132., 2019, doi: 10.1371/journal.pone.0219132.
- [8] K. A. McLaughlin and A. Glang, "The effectiveness of a bicycle safety program for improving safety-related knowledge and behavior in young elementary students," *J. Pediatr. Psychol.*, vol. 35, no. 4, pp. 343-353., 2010, doi: 10.1093/jpepsy/jsp076.
- [9] L. A. M. Yogatama, *Analisis Pengaruh Attitude, Subjective Norm, dan Perceived Behavior Control terhadap Intensif Penggunaan Helm Saat Mengendarai Motor Pada Remaja dan Dewasa Muda di Jakarta Selatan*. Prosiding PESAT 5, 2013.
- [10] K. Hermawan, "Persepsi Pengendara Sepeda Motor Terhadap Kewajiban Penggunaan Helm Standar di Kabupaten Kubu Raya (Analisa Pelaksanaan dalam Pasal 57 Ayat (1) Jo Ayat (2) dan Pasal 106 Ayat (8) Undang-Undang Nomor 22 Tahun 2009 di Jalan Adi Sucipto," *J. SI Ilmu Sosiatri*, vol. 3, no. 3, 2014.
- [11] I. K. Salihat and L. M. Kurniawidjaja, "Persepsi Risiko Berkendara dan Perilaku Penggunaan Sabuk Keselamatan di Kampus Universitas Indonesia, Depok," *Kesmas Natl. Public Heal. J.*, vol. 4, no. 6, p. 275, 2010, doi: 10.21109/kesmas.v4i6.167.
- [12] L. Hakim and F. L. Nuqul, "Analisa Sikap Terhadap Aturan Lalu-Lintas Pada Komunitas Bermotor," *J. Psikol. Indones.*, vol. 8, no. 2, pp. 93-103, 2011.
- [13] A. K. Norimah Jr *et al.*, "Food Consumption Patterns: Findings from the Malaysian Adult Nutrition Survey (MANS).," *Malays. J. Nutr.*, vol. 14, no. 1, pp. 25-39, 2008.
- [14] M. Ridho, *Hubungan Persepsi Resiko Keselamatan Berkendara dengan Perilaku Pemakaian Helm pada Mahasiswa Universitas Indonesia Depok Tahun 2012*. Depok: Universitas Indonesia, 2012.
- [15] S. Notoatmodjo, *Metode Penelitian Kesehatan*. Jakarta: Rineka Cipta, 2010.
- [16] A. Hariza, *Public Health Science*. Yogyakarta: Nuha Medika, 2011.
- [17] UU RI, *Law of the Republic of Indonesia Number 22 of 2009 concerning Road Traffic and Transportation*. Jakarta: Law of the Republic of Indonesia, 2009.
- [18] D. Fadilah and R. Ginanjar, "Faktor-Faktor Yang Berhubungan Dengan Perilaku Pemakaian Helm Pengendara Sepeda Motor Pada Pelajar Kelas X (Sepuluh)," *PROMOTOR*, vol. 1, no. 1, 2018, doi: 10.32832/pro.v1i1.1425.
- [19] R. Rahardjo, *Tertib Berlalu Lintas*. Yogyakarta: Shafa Media, 2014.
- [20] R. Ariwibowo, "Hubungan antara Umur, Tingkat Pendidikan, Pengetahuan, Sikap Terhadap Praktik Safety Riding Awareness pada Pengendara Ojek Sepeda Motor di Kecamatan Banyumanik," *J. Kesehat. Masy.*, vol. 2, no. 1, pp. 1-10, 2013.
- [21] Wesli, "Pengaruh Pengetahuan Berkendara Terhadap Perilaku Pengendara Sepeda Motor Menggunakan Stuctural Equation Model (SEM)," *Teras J.*, vol. 5, no. 1, pp. 43-50, 2015.
- [22] N. M. Murkyatma, "Hubungan antara faktor keselamatan berkendara dengan perilaku keselamatan berkendara," *J. Promkes Indones. J. Heal. Promot. Heal. Educ.*, vol. 5, no. 2, pp. 155-166., 2017.
- [23] A. D. Puspitasari, "Hubungan Antara Faktor Pengemudi dan Faktor Lingkungan dengan Kepatuhan Mengendarai Sepeda Motor pada Mahasiswa FKM Unair Tahun 2013[Thesis]," Universitas Airlangga, 2013.
- [24] A. Alvisyahri, R. Anggraini, and S. Sugiarto, "In IOP Conference Series: Materials Science and Engineering (Vol. 917, No. 1, p. 012035)," 2020.
- [25] S. Notoatmodjo, *Promosi Kesehatan Teori dan Aplikasinya*. Jakarta: Rineka Cipta, 2010.
- [26] I. D. Astuti, "Analisis Penerapan Perilaku Aman Berkendara pada Mahasiswa Pengendara Sepeda Motor di Kawasan UNSRI Indralaya Tahun 2014," *Fak. Kesehat. Masy. Univ. Sriwijaya, Palembang*, 2014.
- [27] H. Iversen, "Risk-taking attitudes and risky driving behaviour," *Transp. Res. Part F Traffic Psychol. Behav.*, vol. 7, no. 3, pp. 135-150., 2004, doi: 10.1016/j.trf.2003.11.003.
- [28] L. Yao and C. Wu, "Traffic safety for electric bike riders in China: attitudes, risk perception, and aberrant riding behaviors," *Transp. Res. Rec.*, vol. 2314, pp. 49-56., 2012, doi: 10.3141/2314-07.
- [29] C. F. Chen, "Personality, safety attitudes and risky driving behaviors—Evidence from young Taiwanese motorcyclists," *Accid. Anal. Prev.*, vol. 41, no. 5, pp. 963-968., 2009, doi: 10.1016/j.aap.2009.05.013.
- [30] T. Wang, S. Xie, X. Ye, X. Yan, J. Chen, and W. Li, "Analyzing E-Bikers' Risky Riding Behaviors, Safety Attitudes, Risk Perception, and Riding Confidence with the Structural Equation Model.," *Int. J. Environ. Res. Public Health*, vol. 17, no. 13, p. 4763., 2020, doi: 10.3390/ijerph17134763.
- [31] P. Ulleberg and T. Rundmo, "Personality, attitudes and risk perception as predictors of risky driving behaviour among young drivers," *Saf. Sci.*, vol. 41, no. 5, pp. 427-443., 2003, doi: 10.1016/S0925-7535(01)00077-7.
- [32] K. Salihat and L. M. Kurniawidjaja, "Persepsi Risiko Berkendara dan Perilaku Penggunaan Sabuk Keselamatan di Kampus Universitas Indonesia, Depok.," *Kesmas J. Kesehat. Masy. Nas. (National Public Heal. Journal)*, vol. 4, no. 6, pp. 275-280., 2010.
- [33] T. Ram and K. Chand, "Effect of drivers' risk perception and perception of driving tasks on road safety attitude," *Transp. Res. part F traffic Psychol. Behav.*, vol. 42, pp. 162-176., 2016, doi: 10.1016/j.trf.2016.07.012.
- [34] S. Wulandari, S. Jayanti, and B. Widjasena, "Faktor-Faktor Yang Berhubungan Dengan Perilaku Berkendara Aman (Safety Riding) Pada Kurir Pos Sepeda Motor di PT. Pos Indonesia Cabang Erlangga Semarang 2017," *J. Kesehat. Masy.*, vol. 5, no. 5, pp. 346-355., 2017.