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Emotion Regulatory from Riding Aggressively on Motor Bike Students

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ABSTRAK

Agresivitas berkendara merupakan perilaku agresif yang dilakukan pengendara yang dapat merugikan pengendara lain dan dirinya sendiri. Agresivitas berkendara dapat menjadi faktor penyebab meningkatnya kecelakaan dan pelanggaran lalu lintas. Salah satu faktor yang dapat memengaruhi agresivitas berkendara adalah regulasi emosi. Penelitian ini bertujuan untuk mengetahui pengaruh regulasi emosi terhadap agresivitas berkendara pada mahasiswa pengendara sepeda motor. Penelitian ini menggunakan skala regulasi emosi dan skala agresivitas berkendara. Responden dalam penelitian ini mahasiswa laki-laki di Kota Makassar sebanyak 123 yang diperoleh menggunakan convenience sampling. Penelitian ini menggunakan pendekatan kuantitatif dengan teknik analisis data statisktik nonparametrik metode regresi ordinal. Hasil penelitian ini menunjukkan bahwa terdapat pengaruh negatif dan signifikan regulasi emosi terhadap agresivitas berkendara pada mahasiswa laki-laki di Kota Makassar (B = -0,063, p = 0,008), dengan 4,6% variabel agresivitas berkendara memberikan sumbangsih dalam menjelaskan varians regulasi emosi (R2 = 0,046) maka semakin tinggi kemampuan regulasi emosi pengendara maka semakin rendah agresivitas berkendara pada pengendara sepeda motor dan jika semakin rendah kemampuan regulasi emosi pengendara maka semakin tinggi agresivitas berkendara pada pengendara sepeda motor. Penelitian ini dapat menjadi landasan bahwa dapat dilakukan intervensi atau pelatihan regulasi emosi kepada pengendara agar dapat meningkatkan kemampuan regulasi emosi sehingga menurunkan tingkat agresivitas ketika berkendara.

ABSTRACT

Aggressive driving is aggressive behaviour carried out by drivers that can harm other drivers and themselves. Aggressive driving can be a contributing factor to increased accidents and traffic violations. One factor that can influence aggressive driving is emotional regulation. The study aimed to analyze the impact of emotional regulation on driving aggressiveness in motorcycle students. The study used an emotional regulation scale and a driving aggressiveness scale. Respondents in this study of male students in the city of Makassar were as many as 123, obtained using convenience sampling. This research uses a quantitative approach with nonparametric statistical data analysis techniques of ordinal regression methods. The results of this study show that there is a negative and significant influence of emotional regulation on driving aggression in male students in Makassar City (B = -0,063, p = 0,008), with 4.6% of driving aggressiveness contributing to the explanation of emotion regulation variance (R2 = 0,046). The higher the driver's ability to regulate emotions, the lower the motorcyclist's driving aggressiveness, and the worse the rider's emotion regulation ability, the higher the motorcycle rider's driving aggression. This research could be the basis for intervention or emotional regulation training in drivers in order to improve their ability to regulate emotions, thereby reducing levels of aggression while driving.

1. INTRODUCTION

Nowadays, transportation is one of the important needs in human life. Humans tend to use private transportation to move from one place to another. And using efficient transportation can bring

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goods or people in the shortest possible time and with the smallest possible costs. Makassar city is the largest city in South Sulawesi with quite high transport and traffic activity (Ahmed et al., 2023; Silalahi et al., 2017). The most commonly used means of transportation is a motorcycle with the number of motorcyclists in Makassar City of 1.377.837 units. Motorcycle owners in Makassar City account for 70%-80% of all vehicle owners (Ramli et al., 2018; Sing et al., 2022). So, from the data it can be seen that the rate of motorcycle users in Makassar City tends to be high and continues to increase every year. Based on research carried out by previous study found that the number of motorcycle accidents in Makassar City in 2011-2015 reached 4,806 cases (Mohapatra et al., 2022). Whereas in 2022 motorcycles were one of the transportation contributors of the greatest number of accidents and offenders there are in the City of Makassar, with a total of 120,284 accidents as well as violations as 3,863. Previous study shows that there are factors that influence traffic accidents such as age, gender, education, employment, vehicle equipment and driving behaviour (Abdulwahid et al., 2022). Accidents and driving offences can be caused by unsafe actions, that is, a person's behavior that can cause harm to himself or others or is interpreted as aggressive behaviour (Handayani et al., 2017; Zhang, 2018). Based on this, it can be concluded that the rate of accidents and traffic violations in Makassar City has been increasing, this can be one of the indicators that driving aggressiveness in the City of Makassar is a factor causing the increase (Adavikottu & Velaga, 2021; Bagasatwika, 2020).

Aggressive driving behavior is also referred to as driving aggression (Abdulwahid et al., 2022; Vazquez, 2015). Such behavior has a negative impact on drivers who are on the road. The impact of driving aggression can be material loss, physical injury, and emotional trauma. Driving aggression is an aggressive form of driving that can harm both drivers and other drivers. A behavior said to be aggressive driving when carried out intentionally that can increase the risk of accidents and is motivated by impatience, anger, hostility, and effort in saving time (Duany & Mouloua, 2022; Mushthofa et al., 2021). Degrees of aggressive driving behavior or so-called driving aggressiveness can cause damage to yourself and others, thereby increasing the risk of traffic accidents.

Based on the results of initial data collection and interviews, it can be seen that there are several factors that can influence driving aggressiveness, one of which is the ability to regulate emotions. Emotions are an aspect that can influence a person's behaviour as well as when driving (Liu et al., 2021; Zighan et al., 2023). Riders who are unable to control their emotions while driving can cause drivers to vent their emotions while driving. Some of the aggressive driving behaviours that drivers tend to do, especially motorcyclists, include not using helmets, motorcycles that are not standardized in the factory, and non-obedience to traffic barriers that have been established in the traffic rules. Studies conducted show that there is an influence on the level of aggressive driving behavior on the potential for accidents in teenage motorcyclists (Cho et al., 2022; Handayani et al., 2017). Based on this, there are a number of factors that cause drivers to be aggressive in driving that can increase the potential for accidents in teenage motorcyclists.

Aggressive behavior is also influenced by age factors. Previous study also suggested that individuals with young adult age ranges of 18-22 years and 23-27 years have higher aggressive driving behaviors compared to older age (Vazquez, 2015). Traffic accidents are the leading cause of death among young people, with the age range of 15-29 years, and 73% are male, it also explained that motorcyclists between the ages of 18-21 tend to drive for activity, increase confidence by showing skill, tend to ride at high speeds to shorten travel time and be noticed by others (Abdulwahid et al., 2022; Liu et al., 2021).

Previous study argues that emotional regulation is an individual's ability to process or manage emotions (Din & Ahmad, 2021). Other study stated that aggressive driving behavior is behaviour that can be influenced by emotional disturbances, thus conducting others at risk (Akbari & Hossaini, 2018). The results of a study suggested that drivers who are unable to manage their negative emotions have a tendency to behave aggressively when driving that can be detrimental to themselves and others (Asseraf & Shoham, 2017). Other studies also found that there is a positive relationship between emotional regulation and a person's aggressive driving behavior. (Marhan et al., 2021). Other study also argued that the level of emotional regulation of drivers has a strong influence on drivers' driving style which can also be one of the factors causing driving aggressiveness (Navon & Taubman – Ben-Ari, 2019). The ability to regulate emotions is a determining factor for drivers in increasing the risks that occur when driving, especially driving aggressiveness. Research produced by study suggests that emotional regulation can affect how the emotional level and aggressiveness of drivers when driving (Din & Ahmad, 2021). So, it's concluded that emotional regulation has a correlation in affecting a person's driving aggressiveness.

Based on the data and explanation above, researchers are interested in conducting research on the influence of emotional regulation on driving aggressiveness in student motorcyclists. This can be seen through the number of student motorbike riders in Makassar City and the level of traffic violations and

accidents which can be influenced by aggressive driving. This study aims to analyze the effect of emotional regulation on driving aggressiveness in student motorcyclists.

2. METHOD

This study used a quantitative research method with the number of samples in this study of 123 samples that damaged male motorcycle rider students in the City of Makassar who had experienced a traffic accident or committed a traffic violation (Sugiyono, 2016). The sampling technique in this study is non-probability sampling using convenience samplings. The data collection consisted of 14 question items referring to aspects of aggressive driving behaviour which consisted of actions that endanger other drivers and actions that intimidate other drivers. On 30 respondents who filled out the distributed Google form showed the following results, there were 53.3% or 16 respondents who had a high level of driving aggressiveness with a tendency to show their anger when another driver was driving slowly, thereby slowing down the driving lane, 36.6% or 11 respondents had a moderate level of driving aggressiveness with a tendency to run red lights when there was an opportunity, and 10% or 3 respondents had a low level of driving aggressiveness and tended to increase speed when the road was empty.

These characteristics are determined by researchers to be studied and then conclusions drawn. The population in this study were male students riding motorbikes in Makassar City who had experienced traffic accidents or committed traffic violations. This number was obtained from several students studying at universities in Makassar City. The number of samples in this study was determined using the Slovin formula. Based on the Slovin formula, the minimum target number of samples is 100 samples. Therefore, by referring to the Slovin formula, the number of samples in this study, which was 123 samples, is said to be adequate and has met the minimum sample size limit. Sampling in this research was non-probability sampling using convenience sampling techniques because the probability of a subject in the population being selected as a research sample is unknown.

Researchers further conducted interviews with three student motorcyclists. Three respondents stated that they tended to run red lights because they had the opportunity to do so or because the green light had recently changed to a red light. Three respondents also stated that they tended to show their anger in the form of honking continuously to provoke other drivers, when other drivers were slow to drive their vehicles while on the road. The three respondents tended to find it difficult to control their emotions when they felt negative emotions while driving which had an impact on their ability to drive on the road. The measure used in this study is a measurement that was constructed by the researchers, namely an emotional regulation scale based on the aspects consisting of 13 items with a reliability of 0.899. The driving aggressiveness scale is based on aspects and consists of 14 items with a reliability of 0.860. The implementation phase of the research consists of four phases, namely, the preparatory stage of the study, the scale test phase, the data collection phase and the data analysis phase.

3. RESULTS AND DISCUSSION

Result

The respondents in the study were 123 male motorcycle rider students in the city of Makassar who had been involved in an accident or violation of motorcycles. The results of the descriptive analysis of the research data are presented by categorizing the research variables by reference to the value of the variable ratio tested in this study, which is presented in Table 1.

Table 1. Research Variable Ratio

Variable	Hypothetical			
	Min	Max	Mean	SD
Emotion Regulation	13	65	39	8.666
Driving Aggressiveness	14	70	42	9.333

Based on Table 1 ratio values for each research variable obtained, the researcher will categorize the data consisting of high, medium, and low for each variable possessed. The emotional regulation scale is 13 items with scores ranging from 1 to 5. Here follows a description of this emotion regulation scale as show in Table 2.

It can be seen from Table 2 state that there are 78 respondents having emotional regulation in the high category with a percentage of 63.414%. A total of 42 respondents have emotional control in the middle category with the percentages of 34.146% and 3 respondents are in the lower category with an percentual of 2.439%. Based on the percent results show that respondents in this study tend to have

emotion regulation at the higher category. The driving aggressiveness scale has 14 items with scores ranging from 1 to 5. Table 3 is a description of the emotion regulation scale.

Table 2. Categorization of Emotional Regulation Variables

Variable	Interval	Category	f	%
Emotion Regulation	48 <X	High	78	63.414
	31 < X <47	Medium	42	34.146
	X < 30	Low	3	2.439
Total			**123**	**100%**

Table 3. Categorization of Aggressiveness Variables Driving

Variable	Interval	Category	F	%
Driving	52 < X	High	0	0
Aggressiveness	33 < X <51	Medium	49	39.837
	X < 32	Low	74	60.163
Total			**123**	**100%**

It can be seen from Table 3 that there are no respondents who have driving aggressiveness in the high category. A total of 49 respondents have emotional regulation in the middle category with a percentage of 39.837% and 74 respondents are in the lower category with the percentages of 60.163%. Based on the percents results show that respondents in this study tend to have driving agressiveness at the low category. Testing the hypothesis in this study using the method of ordinal regression analysis with the help of the Jamovi program version 2.3.28. The results of the test of hypotheses can be seen in Table 4.

Table 4. Hypothesis Test Results

Variable	R2 Negelkerke	B	95%CI		SE	z	p
			Lower	Upper			
Emotion Regulation	0.046	-0.063	-0.111	-0.017	0.023	-2.67	0.008

Table 4 shows that emotional regulation has a negative and significant influence on driving aggressiveness (B = -0.063, p = 0.008), with a 4.6% driving aggressivity variable contributing to the explanation of emotion regulation variance (R2 = 0.046). In addition, a negative B value means that the higher the regulation of emotions, the lower the driving aggressiveness in male motorcyclists. Thus, the hypothesis in this study is accepted. Additional tests on this study using the spearman rank method with the help of Jamovi program version 2.3.28. The results of the hypothesis test can be seen in Table 5.

Table 5. Result of Correlation between Observed Variable Aspects

Variable	1	2	3	4
1. Cognitive reassessment	-			
2. Emotional expression emphasis	0.798***	-		
3. Conflict behavior	-0.481***	-0.506***	-	
4. High speed driving	-0.081	-0.106	0.131	-

Description. *p < 0.05, **p < 0.01, ***p < 0.001.

Table 5 showed that there was a negative and significant correlation between cognitive reassessment and conflict behavior (r = -0.481; p < 0.001), but it was not correlated with the reciting aspect (r = 0.081; p = 0.373). Furthermore, it also found that there is a negative, significant correlation between the emphasis on emotional expression and conflicting behaviour (r = -0.506; p<0.001) but it is not corelated with reciting aspects (r="0.106"; p = 0.244).

Discussion

The results of the analysis show that the contribution of the influence of emotional regulation on driving aggressiveness is 3% (p < 0.001). The results of this study are consistent with similar research that found that emotion is an aspect that can influence a person's behavior as well as driving. Drivers who are not able to control their emotions while driving can lead to drivers venting their emotions while driving. Previous study suggests that emotion regulation is an individual's ability to process or manage

their emotions (Estévez et al., 2019; Hafeman et al., 2020). Other study suggests that a driving behavior is considered aggressive if it is intentional, tends to increase the risk of collision, and is motivated by impatience, annoyance, hostility, and efforts to save time (Duany & Mouloua, 2022; Liu et al., 2021).

Other study suggests that there is a negative influence between emotional regulation on aggressive behaviour among motorcyclists in Malang City (Sutton & Wheatley, 2003). This is also consistent with what was stated which shows that there is a relationship between emotional regulation and driving aggressiveness (Marhan et al., 2021). The same research results are also explained by the fact that there is a significant negative relationship and influence between emotional regulation on driving aggressiveness. Other study suggests that the higher a person's emotional regulation, the lower the level of driving aggressiveness committed (Navon & Taubman – Ben-Ari, 2019). The ability to regulate emotions is a determining factor for drivers in increasing the risks that occur while driving, especially driving aggressiveness. The aggressiveness and the ability regulate emotions can predict the driving risks of motorists, which can cause accidents and traffic violations. This is consistent with the research which shows that there is a relationship between the negative emotions of the driver and the driving aggressiveness of the driver while driving (Kawabata et al., 2022; Liu et al., 2021).

As for the limitations on this research, that is, less diverse research subjects such as the tribe in particular, the lack of the number of research topics so that the given results are not generalized well. The researchers did not control factors that could influence the research variables such as personality factors, weather factors when driving and conditions factors when on the road.

4. CONCLUSION

The results of the data analysis showed that emotional regulation had a negative impact between emotion regulation and driving aggressiveness in male students of motorcyclists. So, it can be explained that the higher the regulation of emotions, the lower the driving aggression. Conversely, the lower the emotion regulation, the higher the driving aggressiveness among male motorcyclists in Makassar City. Other results found that there is a negative and significant correlation between cognitive reappraisal and conflict behaviour, but not correlated with aspects of speeding. In addition, it was also found that there is a negative and significant correlation between suppression of emotional expression and conflict behaviour, but not correlated with aspects of speeding. Drivers can engage in independent activities, such as exercise or training, that can help improve emotional regulation skills to reduce the risk of driving aggressiveness. Future researchers can conduct research should be more heterogeneous in taking research data such as ethnicity and consider other factors that may affect driving aggressiveness such as conditions or situations on the road that may affect drivers while driving.

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