THE ANALYSIS OF UNSAFE DRIVING IN JEEP CAR DRIVERS AT THE LAVA TOUR AREA OF MERAPI VOLCANO

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Abstract
Merapi Lava Tour is a tourist destination to enjoy the natural beauty of Merapi with a jeep. Jeep accidents on Merapi Lava Tour have occurred several times, killing at least two passengers. The purpose of this study is to analyze the unsafe driving behavior of Merapi Lava Tour jeep drivers. The type of the research is qualitative research with purposive sampling technique, involving 9 informants that consist of 4 jeep drivers, the chairman of the association and 4 jeep passengers. The data were collected through interview and observation. The research site was at Merapi Lava Tour area. The result of the research suggests that the drivers’ knowledge about safety driving is good and they also have positive driving behavior. However, in practice, there are drivers who violated the regulation and committed unsafe behavior while driving. Merapi Lava Tour has been equipped with accident insurance, Standard Operating Procedure (SOP) and Personal Protective Equipment (PPE) for jeep drivers, but there are also still inadequate facilities, i.e. first aid kit that has not been evenly distributed and training on safety driving that is not available for all drivers yet.

Keywords: Tourism, Unsafe Driving, Driving Behavior, Merapi Lava Tour

Intisari
Wisata Lava Tour Merapi adalah tujuan wisata untuk menikmati keindahan alam Merapi dengan jeep. Kecelakaan jeep di wisata Lava Tour Merapi telah terjadi beberapa kali, yang menyebabkan setidaknya dua penumpang meninggal dunia. Tujuan dari penelitian ini...
adalah untuk menganalisis perilaku tidak aman pengemudi jeep Lava Tour Merapi. Tipe penelitian ini jenis penelitian kualitatif dengan teknik Purposive sampling, terdiri dari 9 informan yaitu pengemudi jeep, ketua asosiasi jeep, dan penumpang jeep. Metode pengumpulan data dengan wawancara dan observasi. Lokasi penelitian di kawasan Lava Tour Merapi. Hasil penelitian menunjukkan bahwa pengetahuan pengemudi sudah baik terkait mengemudi dan bersikap positif tetapi dalam praktiknya ada pengemudi yang melanggar dan berperilaku tidak aman saat mengemudi. Lava Tour Merapi telah dilengkapi asuransi kecelakaan, Standar Operasional Prosedur (SOP) dan Alat Pelindung Diri (APD) untuk mengendarai jeep, tetapi ada fasilitas yang tidak memadai yaitu kotak P3K belum merata dan belum ada pelatihan keselamatan mengemudi jeep.

Kata Kunci: Pariwisata, Berkendara Tidak Aman, Perilaku Mengemudi, Lava Tour Merapi

Introduction

Lava Tour” tourism object is a tourist attraction located in Kinahrejo Hamlet, Umbulharjo, Sleman, Yogyakarta. Tourists can see the residual materials from the eruption of Mount Merapi from up close here. The number of visits at Merapi reaches thousands of people every day, so Merapi Volcano Tour is one of the mainstays of tourism in the Sleman Regency of Yogyakarta.1 The Lava Tour’s rugged terrain and its rocky and sandy trail require drivers to have a proper training beforehand.2

The Chief of the Sectoral Police of Pakem explained that there was a jeep carrying 6 passengers that crashed into a bus in early 2018, causing all passengers to be thrown out of the vehicle and one of the passengers was killed. The risky behavior was apparently committed by the driver to spur the adrenaline of the tourists by stepping on the brakes or the gas in a sudden manner. In 2013, there was also an accident in the Lava Tour area where a jeep overturned because the

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2 Njogja.co.id, “ Lava Tour Merapi” https://www.njogja.co.id/sleman/lava-tour-merapi
brake locked up and the driver could not control the vehicle’s speed. Something similar happened again in 2017, where a jeep fell into a pit. The passengers and the driver suffered minor injuries from this incident.3

The causes of accidents can be divided into two categories, namely unsafe actions (human factors) and unsafe conditions (environmental factors).4 Many mistakes are made by a driver due to a lack of discipline and the driver’s ignorance of how to drive properly and safely.5 Indiscipline in driving may lead to an accident. Of the many accidents that have occurred, most (90.3%) are caused by human factors and 86.8% are caused by driver errors.6 According to Lawrence Green’s theory, knowledge, perception, experience, beliefs and values are included in the predisposing factors that facilitate one’s understanding. Knowledge is an important determinant before individuals take action.7

The type of the research is qualitative research with case study design. The research subjects are 9 informants that consist of 1 chairman of the jeep car association, 4 jeep car drivers at Merapi Lava Tour, and 4 passengers. The data collection techniques used were in-depth interviews and observation.8 The data of the research were analyzed interactively and continuously until the research was finalized. Data validity tests used were source triangulation and method triangulation.9

### Predisposing Factors in Drivers

1) **Knowledge**

Knowledge is information that is known or realized by someone. Knowledge influences a driver’s unsafe driving behavior. The aspects

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6 Data Direktorat Jendral Perhubungan Darat Departemen Perhubungan Republik Indonesia, 2005
that are related to knowledge are divided into knowledge before driving and knowledge when driving. Knowledge of Standard Operating Procedures (SOP) before driving a car. The SOP before driving a car must be understood by drivers before they operate the vehicle. Based on the result of the interview, the understanding of SOP before driving was already found in drivers, but the existing SOP was only related to vehicle completeness. “There are SOP (Standard Operating Procedure) items that must be fulfilled in order to drive on the Lava Tour. All vehicle components, such as lights and license plates must be installed; horns must be functioning. Before leaving, the SOP for the car must be met, such as vehicle lights, tires, safety belts, helmets for passengers, spare tires, seat belts, a first aid box and roll bars”. 

Knowledge of driving equipment, based on the interview result obtained from Informant A, all drivers would make sure of what they should carry while driving. It is mostly related to vehicle documents, such as driver’s license (SIM), vehicle registration (STNK), Handy Talkie (HT) as a communication device and car key equipment (jack) to handle vehicle damage on the road. Other things that are also needed include masks and radiator water.

Knowledge of safe driving behavior, knowledge of safe driving behavior can reduce the occurrence of accidents on the road. The drivers have understood what safe driving behavior is. Based on the interview results, safe driving behavior while driving is understood as being aware of the existing regulations and comply with the standard equipment that must be used and carried while driving. This is consistent with the statement from informant B: “ensuring the vehicle is safe, ensuring seat belts function properly, giving helmets and explanations to the guests”. Knowledge of disturbances while driving, disturbances while driving can be distractions from yourself or from the environment. This disturbance can endanger the safety of the driver and passengers if the disturbance interferes with the driving. According to the interview result, it is found that knowledge about disturbances while driving is the technical factors of the vehicle, individual factors, which is the driver’s health, and environmental factors. This idea is supported by informant E’s statement: “Those that can interfere with safety while driving can be technical, individual, and human errors”. 

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10 Interview with Daldiri at MGM Adventure, June 10th 2018
11 Interview with Arka at Yoes Adventure, June 24th 2018
12 Interview with Very, at MGM Adventure, June 24th 2018
Knowledge of hazards and risk in the track path, hazard and risk are all conditions that can harm or injure the drivers and passengers. The result of the interview suggests that the drivers themselves will feel the danger in the track path when there is one. However, hazard and risk identification has not been carried out regularly. A driver would be notified by other drivers if there were any problems in the track path. “To notify us about risks and hazards, (the management) will install signs on every road that we take”.¹³ Knowledge about the causes of accidents on the road, the interview result on the knowledge of the causes of accidents on the road suggests that all drivers know the causes of accidents, which include individual factors, environmental factors and the condition of the vehicle. The informant D statement: “The causes of accidents on the road are the condition of the brake, the steering and speed, driver, the vehicle and the environment”.¹⁴ Knowledge of how to drive safely, knowing how to drive safely can help avoid problems on the road. Safe driving is a driving behavior that refers to driving safety standards. Based on the interview result, it is found that, according to the informants, driving safely is done by preparing the required equipment before driving, obeying driving rules, and being focused and/or healthy while driving. The passengers can stand when we reach the track path”.¹⁵

2) Attitude

Attitude towards activities that endanger safety. The driver attitude regarding activities that can endanger oneself while driving, which include the driver playing with their phone, answering a call, and smoking while driving, is shown in the interview with informants: “do not use communication devices on the road because it can be dangerous, must not use mobile communication devices while on the road, and must not smoke while driving “.¹⁶ Based on the result of the observation in the Lava Tour, the jeep passengers believe that the drivers do not use communication devices (telephone) while traveling. Attitude towards damaged safety tools, according to the result of the interview with informants, it is found that the drivers will repair damaged safety device (safety belt) and will not operate if the damage has not been repaired.

¹⁴ Interview with Heri at Yoes Adventure, June 24th 2018
Enabling Factor (Facilities)

This factor includes available facilities and infrastructure. Facilities are all things that can be used to achieve a goal, while infrastructure is anything that supports the main implementation of a process (business, development, project). The facility here is to determine the effect of unsafe driving behavior on the driver. The key informants explain their answer to the question given by the researcher, while the supporting informants provide a comparison for the key informants’ answers. The result is as follows:

The applicable SOP (Standard Operating Procedure is imposed at Merapi Lava Tour for the jeep’s drivers. All informants said that the SOP had been made and implemented. Provision of passenger helmets, according to the interview result, helmets for passengers and drivers at Merapi Lava Tour have been provided by the management and will be given before the start of the tour. Based on the observation of Merapi Lava Tour passengers, passengers were reminded by the driver to use the helmets provided by the management when they traveled at Merapi Lava Tour.

The provision of First Aid Kit (First Aid in Accident), from the interview, it was found that first aid kit for jeep drivers at Merapi Lava Tour has been provided. However, not all vehicles are equipped with one because the drivers have to provide it themselves. Furthermore, some have difficulties to use it. Based on the observation of Merapi Lava Tour passengers, some drivers had provided a first aid kit in their vehicles, while the others had not. The provision of masks, according to all informants in the interview, masks for Merapi Lava Tour jeep drivers had been provided and would be given to passengers before the start of the trip. Based on the observation of Merapi Lava Tour jeep passengers, all passengers received a mask given by the driver when the tour was about to begin. The provision of Glasses, sunglasses are only provided for Merapi Lava Tour jeep drivers. There are drivers who use them, while others do not depending on the existence of dust. “The glasses are worn by the drivers, but I rarely use them. I only wear it when there is dust”. According to the observation of Merapi Lava Tour jeep passengers, there were people who saw drivers wearing glasses while driving on the track, while some did not wearing them.

Accident Insurance is a guarantee given to drivers as

17 Interview with Alden, at MGM Adventure, June 24th 2018
compensation in the event of an accident. From the interview, it is found that accident insurance facility on Merapi Lava Tour for the jeep drivers will be assisted by the management. However, the insurance provided is not a full coverage insurance. However, the help will be given as much as possible, according to the driver and the head of the jeep association. Safety Driving Training, according to the result of the interview with all informants regarding safety driving training, there has not been any training related to safe driving in Merapi Lava Tour. “The management has not provided a safety driving training here”.18

**Reinforcing Factor (Management Support)**

The motivation support from the management is expected to encourage the drivers at Merapi Lava Tour to carry out safe driving. The interview result suggests that the management has motivated the drivers to drive safely before the trip begins in a briefing and explains about the rules while the drivers are on the road. “The manager will inform and motivate us to always behave safely. In my case, there is a briefing before the trip begins that emphasizes what should not be done while we are on the road”.19 Sanctions imposed when violating SOP, sanctions are given to drivers for violating SOPs. If it is a first-time violation, the driver will be reprimanded. However, if it is a repeated and/or fatal violation, the manager will suspend the driver. Drivers who do not carry HT when will be fined 50,000 rupiah. It is in accordance with Informant C’s statement: “Sanctions will be given by the management to drivers who violate the SOP in the form of a reprimand and a fine of 50,000 rupiah if they do not bring HT as a communication tool while on location”.20 Supervision from the management, management’s support related to driver supervision is supervising in the field in coordination with the field coordinator. The management conducts surveys in the field 2-3 times a week.

However, in reality, some drivers still feel that the supervision is not optimal because it is not done regularly and periodically.

**Driving Behavior**

Warming up the vehicle before driving, warming up the vehicle is an action that a driver must take before driving the car. Based on the

interview result, it is found that all drivers warm up the vehicle for 5-10 minutes before operating. Inspection of car tires before driving, checking the tires before driving is quite important in terms of driving. From the interview result, it is found that all drivers always check the condition of the car before starting to drive, such as the tires and radiator water. Overtaking other vehicles is a dangerous action when driving. According to the interview result, it is found that drivers overtake other vehicles by taking the right lane when driving on provincial roads. However, when they are on the track path, they overtake other vehicles based on the road condition of the path, since there are many potholes that they should avoid.

Violation of SOP, from the interview result, it is found that all drivers have ever violated the existing Standard Operating Procedure (SOP). The use of a seat belt (safety belt) is an obligation for drivers and passengers before driving. Safety belt can protect them from injuries in an accident. However, there are also drivers who do not use the seat belt while driving. Based on the observation of Merapi Lava Tour jeep passengers, there were drivers who used seat belts while others did not.

The use of shoes are personal protective equipment to protect the feet in case of injury. When they do not put on shoes, they put on mountain sandals. According to the observation of Merapi Lava Tour jeep passengers, when it was sunny or hot, the drivers would wear shoes. Moreover, there were passengers who saw drivers wear mountain sandals when the weather was cloudy.

Discussion

Safety Driving is a safe driving behavior that can help avoid an accident on the road. Safety Driving is concerned with the safety of both the drivers, passengers and other road users. In Merapi Lava Tour, there is no training available for drivers which may trigger unsafe behavior in driving.

In this study, the data were collected through in-depth interviews with and observations of several respondents who have been selected according to criteria set by the researcher. The respondents consist of 1 (one) chairman of the jeep car association at Merapi Lava Tour, 4 (four) jeep car drivers at the Lava Tour, and 4 (four) Merapi Lava Tour jeep passengers.
a. **Predisposing Factor**

1) **Knowledge**

The drivers’ knowledge of the causes of road accident is concluded from the interview result. They stated that the causes of road accidents were divided into several factors including vehicle factors, driver factors and environmental factors. Drivers who had ever experienced health problems while driving could testify on how it would lead to unsafe driving. Overall, if a driver feels unwell, he/ she will not drive until he/ she is healthy again. In this research, some jeep drivers of Merapi Lava Tour still do not know how to drive correctly, which can lead to unsafe behavior. Some drivers do not possess deep knowledge on this matter. This finding is in line with that of previous research, which states that knowledge is a very important domain in the formation of actions or behavior.\(^\text{21}\) In a previous study, it is stated that the driver’s knowledge influences unsafe driving behavior.\(^\text{22}\)

Meanwhile, in other studies, the knowledge and attitude of workers towards safe and Occupational Safety and Health (OSH) behavior are antecedents or internal triggers of their actions. The internal trigger from within oneself can trigger a person to behave in a certain way.\(^\text{23}\)

From the result of the interview, the driver’s knowledge of the driving equipment that must be carried is in accordance with what is stated in the law, including driving licence and other vehicle documents. The drivers carry driving licence (SIM), vehicle registration (STNK), and identity card which are stated in Article 77 Paragraph 1. The drivers also carry other equipment, such as jacks, helmets, radiator water, masks, and communication devices in the form of HT, which are stated in Traffic Law No. 22 of 2009.

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in Article 57 Paragraph 3. This finding is consistent with previous research that the equipment at the workplace can influence and increase the workers’ performance while working.24

2) **Attitude**

Attitude is not an action, but a predisposition to a behavior. Attitude is a closed reaction, not open. Attitude refers to the readiness and willingness to act, and not the implementor of certain motives.25

From the interview with the drivers, when a safety device was broken, the respondents agreed to immediately repair it and would not operate before the issue was handled. It is done to avoid accident risk on the next trip. From all factors that have been studied about driver attitude that affect their behavior, it is found that only a few drivers have acceptance, respect and responsibility while driving and have positive attitudes. Thus, the drivers’ attitude must be further improved because they need to be ready to deal with anything that may happen on the road. It does not mean that the risk of an accident cannot only be dealt with by having acceptance, respect and responsibility while driving. Other things also need to be considered in driving, which is consistent with the theory used.26

b. **Enabling Factors (Facilities)**

The facilities here refer facilities and infrastructure available at Merapi Lava Tour jeep car community. Facilities are everything that can be used as a tool in achieving goals, while infrastructure is everything that becomes the main support for the implementation of a process. The facilities here are to determine the unsafe driving behavior committed by the drivers as the key informants.

The result of interview suggests that the manager and jeep drivers emphasize and remind the passengers before the start of the trip to keep wearing their helmets during the tour to protect their heads. The existing SOP at Merapi Lava Tour is already good and mostly emphasizes the vehicle completeness standard. If there are drivers

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who violate the SOP, they will get sanctions. The findings of this study are in line with previous research which states that Standard Operating Procedure (SOP) has many impacts. If the information on the Standard Operating Procedure (SOP) is not spread to all workers, they will not implement the SOP and will behave unsafely. The provision of first aid kit in the jeep is used as a preparation in case of minor injuries. The accident insurance for the jeep drivers is already quite good but the insurance is not a full coverage insurance. Nevertheless, the manager will help the drivers as much as possible in the event of an accident.

Furthermore, based on the interview conducted by the researcher regarding safety driving training for jeep drivers at Merapi Lava Tour, generally the driver have a lack of understanding about safety driving due to there have not been training. With safety driving training for the drivers, they can improve their performance by possessing the skills and ability required to drive properly.

Of all factors studied regarding the facilities that influence the driver behavior, the researcher believes that the provision of first aid kit is not evenly distributed in all jeeps. Furthermore, safety driving training is not available yet. These all indicate the lack of facilities provided to improve the driver performance. It is in line with the finding of previous research that the work environment or facilities available at work can support work performance.

c. Driving Behavior

From the interview result on the actions taken by drivers, they regularly warm up and check the vehicle before driving. The checking is carried out in several different components, including the radiator water, tire condition, and brake condition. This result is in accordance with that of a previous study that vehicle maintenance affects the

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quality of the vehicle as well as the workers who use it. In Merapi Lava Tour, the checking is only done by the driver. The driver only checks for basic things, such as the radiator water and tire condition, while overall vehicle eligibility checking has not been done yet. Vehicle eligibility checking must be carried out to ensure the safety of the drivers and passengers.

Overtaking other vehicles while on the road is an action most likely taken by drivers and it can endanger the drivers, passengers or the other road users. Careful techniques are needed to do this because the car will interact directly with the vehicle to be overtaken. Drivers use the right lane to overtake other vehicles when they are on the provincial road, but when they are on the track path, they use both the right and left lanes when overtaking other vehicles. It is because the track of Merapi Lava Tour has potholes and is rocky, so the drivers will use either lane based on the condition of the road. From the result of the interview regarding personal protective equipment, one of the rules that drivers obey is wearing shoes. However, there are still drivers who do not comply with certain regulations, like the use of seat belts while driving. This can trigger the driver to commit unsafe driving.

d. Reinforcing Factor (Management support)

From the result of the interview related to management’s support to motivate drivers, they motivate and remind drivers to always behave safely while driving. The sanctions will be given to drivers who violate the rules that have been set. Supervision on drivers are also conducted by the management, so that if a driver violates the rules, he can be immediately reprimanded to avoid repeated violation. However, the supervision conducted is still considered quite minimal because there is not any routine and periodical supervision from the management to directly check in the field. Supervision is very important to maintain the discipline and safety of drivers, passengers or customers, and other drivers. This supervision takes the form of reprimands, fines and suspensions. Reprimand made by the supervisor or management is expected to provide a deterrent effect to drivers who violate the rules.

Conclusion

The study that the driver’s know and understand about safety

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31 Dian Putri Nastiti, Op. Cit
driving. The drivers have a positif attitude. However, other components of attitude are also required for drivers to have, such as accepting, respecting and being responsible in terms of driving that, in practice, have not been in accordance with the regulations.

Personal Protective Equipment (PPE) for Merapi Lava Tour passengers is provided in the forms of passenger helmet and mask. PPE in the form of protective glasses for the drivers has not been provided by the management. The facilities provided at Merapi Lava Tour include accident insurance and SOP in driving a jeep. However, there is inadequate facility regarding the provision of first aid kit and training related to safety driving.

The head of the association has provided motivation to the drivers related to the existing regulations so that they always behave safely in driving to avoid accidents while on the road. Supervision has also been carried out by the management to supervise the drivers in the field.

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