



Risk Driving Review from Big Five Personality

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ABSTRACT

Accidents that occur due to drivers who tend to drive with a high risk. Vehicle users tend to drive recklessly and passthrough traffic which is called the risk of driving, this is influenced by internal and external factors. The purpose of this study is to look at the risk of driving in terms of five personalities and which personality types tend to lead to driving. The technique used is quantitative, with a sample of 100 participants. The sampling technique in this study was purposive sampling. How to collect data using google forms. Data analysis technique with simple regression test. Based on the hypothesis test, it was found that there is a relationship between agreeableness and neuroticism personality types on the risk of driving and Conscientiousness, Openness to experience and Extraversion have no relationship with the risk of driving. These results mean that the proposed hypothesis is accepted.

Keywords: *Agreeableness, Consciousness, Extraversion*

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INTRODUCTION

According to the Central Statistics Agency, data on vehicle users in Indonesia in 2020 reached 136,137,451 units (Auliani et al., 2023; Mulyasari et al., 2023; Wanti et al., 2023). This amount is the accumulation of passenger cars, buses, freight cars, and motorcycles. Among the accumulated vehicles, motorcycles occupy the highest number of vehicles, which are 115,023 million units and then, there are 15.79 million passenger

cars (Al Maarif et al., 2023; Noer et al., 2023). The large number of these vehicles can pose a risk to motorists as well as to other road users, such as pedestrians and cyclists. This can be seen from the number of accidents in Indonesia in 2021, there were 103,645 cases which increased from the previous year (Adisty, 2022). This accident is influenced by behavior while driving (Hardiyansyah, 2009).

Behavioral forms when driving include looking ahead, observing other drivers through the rearview mirror, obeying road signs, how to step on the gas and brake pedals, how to hold the steering wheel, and keeping a distance from other drivers when driving (Miyajima, Nishiwaki, Ozawa, Wakita, Itou, Takeda, & Itakura, 2007). Individuals who violate signs and overtake vehicles tend to have a risk of driving and can harm themselves and other road users (Huda & Ismail, 2020). This is one of the individual behavior or known as subjective behavior. According to Deery (1999) the perceived risk when driving is more a subjective assessment of the driver when driving and can be influenced by experience and age.

The driving behavior is part of the subjective assessment of the driver, namely the subjective assessment of the driver when driving and risk-taking behavior such as driving the vehicle speed while driving and the driver's involvement in driving (Jonah, 1986). Subjective behavior is part of individual factors is still one of the interesting discussions related to the risk of driving (Ranal et al., 2023; Utami et al., 2023). Driving risk is an individual's behavior while driving, related to how the individual detects the movement of other vehicles, when the individual responds to traffic hazards and controls attention while driving (Deery & Fildes, 1999). This is often the cause of traffic accidents that occur. Driving behavior can lead to risk in driving or what is commonly referred to as risky driving (Fadiyah et al., 2023; Fiqih et al., 2023; Hermansyah et al., 2023). The increasing number of accidents is due to various factors other than driving behavior itself, one of which is the attitude of the driver in general and specifically and the way the driver controls his vehicle (Assum in Iversen & Rundmo, 2004).

Deery and Fildes (1999), stated that there are perceptions that can cause danger while driving, such as the way the driver recognizes the road, the way the driver responds to traffic hazards, the way the driver keeps his distance from other drivers, the perception of the driver's attention to see the speedometer and the use of mirrors (Pamuji & Limei, 2023). This perception can be one of the causes of driving risk, therefore the driver must have a good perception when driving and it often occurs in young drivers. Ullerberg and Rundmo (2003) stated that young drivers often ignore the risks while driving and tend to drive unsafely, such as cutting other drivers' lanes, not seeing signs and driving above the average speed (Azizah et al., 2022; Nicholas et al., 2023; Putri et al., 2023). WHO in 2021 released drivers at a young age who are often involved in traffic accidents, around 73% of whom are under 25 years old and male, while women often have accidents and almost a third die. The survey conducted by Dananjaya (2022) stated that the age group involved

in the accident was dominated by the productive age category by the age category 15-34 years and in the second position was the age category 35-60 years.

Research conducted by Prito, Hartantri, Putra & Basuki (2019), states that drivers in the young age group, under the age of 20 years, exhibit behavior frequently changing lanes, overtaking other motorists, driving at above-average speeds and breaking through traffic lights (Holly et al., 2023; Levan's et al., 2022; Saputra et al., 2022). may have an impact on driving risk. Kriswardhana, Sulistyono, Ervina, Supriyanto, Hayati, Wicaksono & Ramadhani (2020), stated that the younger the driver, the higher the potential for individuals to violate the speed limit. Oktavianti (2016) said that ages between 17 and 40 years, tend to drive carelessly which will result in the risk of driving this is because at that age activities and work outside the home are very high and ultimately tend to drive aggressively due to time demands work.

Aggressive driving behavior can be a phenomenon that worries and even endangers the driver himself or other motorists and can harm others, one of which is pedestrians who are often at risk of accidents (Krahe in Popușoi & Holman, 2016; Dula & Geller, 2016). 2003; Matthews, Dorn, Hoyes, Davies, Glendon & Taylor, 1998), besides pedestrians there are other road users who can be harmed by aggressive driving behavior, namely cyclists (Lafont, Roge, Ndiaye & Boucheix, 2018). Aggressive driving behavior can also be associated with negative thoughts and emotions, can be related to stress in the driving environment so that drivers drive aggressively (Houston, Harris & Norman, 2003). Risky driving behavior is also influenced by external factors such as drivers such as rushing (Fitzpatrick, Samuel & Knodler Jr, 2017), the types of roads traversed such as rural roads tend to be riskier and tend to be more aggressive (Papantoniou, Yannis & Christofa, 2019). Internal factors can also affect the risk of driving data, one of which is a person's personality. Personality types are still an interesting discussion regarding risk (Amrina et al., 2022; Maryati et al., 2022). Drivers often ignore risks when driving, one of which was stated by Ulleberg & Rundmo (2003) that drivers driving unsafely take other drivers' lanes, ignore existing signs and drive at high speed and this is also related to one's personality.

One of the well-known personality theories, namely the big five personality traits. The big five personality type is part of a personality taxonomy that is compiled based on a grouping approach of words or language used in everyday life to describe individual characteristics that differ from one individual to another (Ramdhani, 2012). McCrae and Costa (in Feist & Feist, 2006) have a description of the five personality factors, namely neuroticism having anxious, temperamental, sentimental and emotional traits. Extraversion is affectionate, sociable, talkative, enthusiastic, friendly and passionate. Openness to experience is imaginative, creative, innovative, curious and free (Fathia et al., 2022; Liam et al., 2023; Saskia et al., 2023). While agreeableness has a soft-hearted, trusting, generous, friendly, tolerant and friendly nature. The fifth part of the big five personality is conscientiousness, which is conscientious, hardworking, organized,

punctual, ambitious, persistent and efficient. Previous research has shown that this personality type can influence dangerous driving behavior and involvement in accidents (Monteiro, de Hollanda Coelho, Hanel, Pimentel & Gouveia, 2018; Ismail & Halim, 2016; Idris & Napitupulu, 2015; Ulleberg & Rundmo, 2003). Yang, Du, Qu, Gong and Sun (2013), stated that when individuals drive and are faced with various situations while driving, such as other drivers who cut their lanes, other drivers who give the horn, other drivers who preceded and other road users who come. can suddenly make the driver easily nervous, easily irritated, anxious, easy to change his mind and even tend to become emotional.

Therefore, researchers are interested in seeing and testing whether the big five personality types can affect a person's driving risk and which personality types tend to affect the drivers' driving risk.

RESEARCH METHODOLOGY

The research method in this research is quantitative. The sample in this study was a driver with a minimum of 1 year and already has a driving license and uses a private vehicle for daily activities. Participants were asked to fill out a blank sheet to fill out this questionnaire. The researcher prepares the measuring instrument that will be used in this study, namely the risky driving behavior scale compiled by Ulleberg and Rundmo (2003). There are three components in measuring risky driving behavior, namely speed (speeding), rule violation (rule violation) and selfassertiveness. The big five personality scale is based on Ramdhani (2012) in the form of language and cultural adaptation Big Five inventory. The validity of this study uses content validity which is carried out by three expert judgments, namely English language experts, and two Gunadarma University lecturers. The reliability results will be shown in table 1

Tabel 1. Nilai Cronbach's Alpha Nilai Cronbach's Alpha

Variabel	Cronbach's Alpha Value	Initial Number of Items	Number of Good Items
Driving Risks	0.857	14	12
<i>Agreeableness</i>	0.883	9	9
<i>Neuroticism</i>	0.874	8	7
<i>Extraversion</i>	0.700	8	8
<i>Conscientiousness</i>	0.782	9	7
<i>Openness To Experience</i>	0.792	10	8

Based on the data in table 1, the reliability results for the two measuring instruments were obtained according to Cronbach's Alpha, the driving risk scale obtained a value of 0.857 and from the 14 items there were 12 good items. agreeableness is 0.883 and there are 9 good items; neuroticism of 0.874, has 7 good items out of 8 items; Extraversion has a reliability value of 0.70 with 8 good items; for Conscientiousness has

a reliability value of 0.78 d and has 7 good items out of 9 items and for Openness to Experience the reliability value is 0.79, from 10 items there are 8 good items.

The data analysis technique used is the correlation technique by testing the big five personality with driving risk obtained based on the results of filling out the questionnaire and knowing which personality type has an influence on driving risk. All these analyzes were aided by use of the Statistical Package for Social Sciences (SPSS) version 25.0. With this method, researchers will get the results of which personality type has an influence on driving risk.

RESULTS AND DISCUSSION

The results of the relationship test and influence test obtained results which will be described in table 2 and table 3.

Table 2. Correlation Test

	<i>Neuroticism</i>	<i>Extraversion</i>	<i>Openness to experience</i>	<i>Agreeableness</i>	<i>Constiusness</i>	<i>Rizky Driving</i>
<i>Neuroticism</i>	1	.222	.511**	.442**	.409**	.343*
		.169	.001	.004	.009	.030
		100	100	100	100	100
<i>Extraversion</i>		1	.582**	.498**	.295	-.018
			.000	.001	.065	.913
			100	100	100	100
<i>Openness to experience</i>			1	.554**	.430**	.239
				.000	.006	.137
				100	100	100
<i>Agreeableness</i>				1	.273	-.199
					.089	.021
					100	100
<i>Constiusness</i>					1	-.017
						.916
						100
<i>Rizky Driving</i>						1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Based on table 2, the personality types agreeableness and neuroticism have a relationship with the risk of driving and the other three personality types have no relationship. Agreeableness personality type and driving risk have a value of 0.021

($p \leq 0.05$) and neuroticism has a relationship of 0.030 ($p \leq 0.05$). To test the effect, the results are obtained in table 3, below:

Table 3 Direct Effects (Group number 1 - Default model)					
	X1 Agreeableness	X2 Neuroticism	X3 Extraversion	X4 Conscientiousness	X5 Openness to Experience
Resiko Berkendara	-0.522	0.504	0.023	0.340	-0.345

Table 3 shows that there is a direct influence between the agreeableness personality type and the risk of driving with a regression weight value of -0.522, there is a direct influence between the Neuroticism personality type and the risk of driving having a regression weight value of 0.504, there is a direct influence between the extraversion personality type and the risk of driving. has a regression weight value of 0.023, there is a direct influence between Conscientiousness personality type and driving risk has a regression weight value of 0.340 and there is a direct influence between Openness to Experience personality type and driving risk has a regression weight value of (-0.345). In addition, the researchers tried to test the different identities of participants based on the risk of driving. The data are in table 4

Table 4. Test results of different participant identities

Different identity test	Sig	Information
Risks of driving * the type of vehicle that is often used (automatic and manual)	0.040 ($p \leq 0.05$)	There is a difference
Risks of driving * length of SIM ownership	0.084 ($p \leq 0.05$)	No difference
Driving risks *gender	0.034 ($p \leq 0.05$)	There is a difference
Risk of driving * exceeding the speed limit	0.028 ($p \leq 0.05$)	There is a difference

Based on the data in table 4, the results show that there is a difference between the risk of driving and the type of vehicle commonly used by the participants, gender and exceeding the speed limit when driving and there is no difference in the risk of driving with the length of time having a SIM (Driving Permit).

Table 2 shows that of the five personality variables, the results show that agreeableness and neuroticism have a relationship. This means that individuals who drive tend to have a good attitude in driving, but if there is behavior that makes the driver change the situation, the driver tends to drive the vehicle excessively which can cause risks when driving. This result was proven in previous research that personality traits can

influence risky driving behavior and involvement in accidents (Monteiro, de Hollanda Coelho, Hanel, Pimentel, and Gouveia, 2018; Ulleberg and Rundmo, 2003).

The results of this preliminary study are supported by previous research which states that the agreeableness personality type has an influence on the risk of driving (Al-Tit, 2020), agreeableness tends to be more aggressive when driving (Zhang, Qu, Ge, Sun & Zhang, 2017; Yang, Du, Qu, Gong & Sun, 2013), agreeableness is negatively related to all forms of driving aggression (Burtăverde, Chraif, Aniței, and Dumitru, 2017); agreeableness can predict risky driving behavior such as losing concentration while driving and losing control of the vehicle (Dahlen & White, 2006). On the other hand, agreeableness, normlessness and sensation seeking personality types are related to positive evaluations when driving and tend to obey traffic rules, namely attitudes towards safety, meaning that when individuals obey the applicable signs, the risk of driving will be reduced (Mallia, Lazuras, Violani & Lucidi, 2015), agreeableness personality types tend to have a safe attitude when driving and are not easily offended (Shen, Ge, Qu, Sun & Zhang, 2018; Ulleberg & Rundmo, 2003).

Individuals who have the agreeableness personality type are individuals who tend to be cooperative, fully trusting, kind to others, warm, tolerant and like to help others. When driving, individuals who have agreeableness tend to drive safely, follow applicable signs, use safety equipment when driving (Mallia, Lazuras, Violani & Lucidi, 2015). Drivers who have high agreeableness personality scores tend to be kind, obedient, modest, gentle, and cooperative (Roccas, Sagiv, Schwartz & Knafo, 2002; Shen, Ge, Qu, Sun & Zhang, 2018; Chen, 2009; Ulleberg & Rundmo. , 2003; Ulleberg, 2001). Meanwhile, drivers who have a low agreeableness score are irritable, suspicious and inflexible drivers so that the risk of driving will be high because the driver is easily provoked by other drivers which can cause accidents. According to Dahlen & White (2006), individuals who have low agreeableness scores can predict the driver to lose control of his vehicle so that it can be at risk for driving behavior that can result in accidents, it can also be caused by interference from passengers while driving.

In addition, there is a neuroticism personality type which is a significant predictor of aggressive behavior that can lead to risk when driving, this behavior can be caused by oneself or can be triggered by aggressive behavior caused by other drivers so that it can lead to a risk of driving (Zhang et al. , 2017; Triman & Bagaskara, 2016; Yang et al, 2013), as well as individuals who are easily anxious tend to have a risk effect when driving. Drivers with neuroticism scores according to McCrae and Costa (in Feist & Feist, 2009), stated that neuroticism is a strong personality trait and often occurs, individuals who have high scores on this type tend to be full of anxiety, temperamental, self-pity, very aware of themselves, are emotional and vulnerable to stress-related disorders.

Drivers who have high neuroticism when faced with various other motorist behaviors that cut lanes or that appear suddenly, will tend to make the driver stressed, easily nervous, easily irritated, anxious, easily changed his mind and even emotional so

that the driver can drive unsafely and risk when driving (Ismail & Halim, 2016; Chen, 2009; Dahlen & White, 2006; Lajunent, 2002; Langford & Glendon, 2002; Ulleberg, 2001). This driving behavior can be observed when individuals drive directly by using a driving simulator, so that the differences in each driver can be seen. Individuals with low neuroticism scores are typically calm, not temperamental, self-satisfied and unemotional. However, this driver may experience the risk of driving on the road, due to lack of attention and excessive trust when driving (Lajunent, 2001).

According to Mallia, et al (2015), explaining that personality type can have a significant effect on driving safety attitudes. The personality types agreeableness, neuroticism and extraversion were associated with positive individual evaluations of the applicable traffic rules and drivers tended to have attitudes related to safety, specifically the drivers had fewer violations and had fewer accidents due to driver error. Research conducted by Dahlen and White (2006) showed that driving with anger and several components of the Big five theory (openness to experience, agreeableness and emotional stability) were predictive of risky driving behavior or unsafe driving. Driving risks are often caused by driving behavior such as driving in a zigzag, cutting other drivers' lanes, not using sign lights when turning and driving the vehicle when the light is yellow (Herani & Jauhari, 2017), these things can make accidents inevitable. Research conducted by Nakayasu, Seya, Yagi and Miyoshi (2009), states that driver behavior depends on experience while driving, different individual characteristics and individual ability to control the environment and the vehicle.

Individual differences such as perceptions of risk, attitudes towards traffic safety, and aspects of the driver's personality have been associated with an increased likelihood of unsafe driving, one of which is aggressive driving (Chen, 2009). There are several research results that provide the answer that traits have a stronger influence on behavior over which individuals have little control. The relationship between traits and value priorities may reflect the individual's influence with the environment on which the individual's innate factors are based, one of which is personality (Rocca et al., 2002). Personality traits can predict directly or indirectly against violations, mistakes and neglect while driving. A more positive attitude towards traffic safety is negatively predicted towards risky driving behavior (Lucidi et al., 2014). Research conducted by Idris and Napitupulu (2015), states that there is a relationship between the big five personality types and the risk of traffic accidents that occur in bus drivers in Riau. Another study conducted by Triman and Bagaskara (2016), that personality conscientiousness, extraversion, agreeableness, and neuroticism have a significant relationship with driving risk and other results state that there is a significant influence between neuroticism, agreeableness and conscientiousness on the risk of driving in drivers in Indonesia. Jakarta.

In this study there is a relationship and a direct effect of 0.504 (see table 3), this means that the high neuroticism in this study will spur a high driving risk as well. Unsafe driving behavior will cause other motorists to experience accidents such as accidents or

even bumping into other vehicles. These results are similar to research conducted by Chraif, Aniței, Burtăverde and Mihăilă (2016), which states that individuals who drive with the neuroticism personality type have a negative relationship with risky driving behavior. Research conducted by Jiang and Rau (2018), revealed that drivers believe that breaking the rules is okay, and drivers don't care whether they break the law or not, as long as the driver can achieve the expected destination.

In table 4, the results show that the risk of driving has differences with the types of vehicles that are often used, namely automatic and manual vehicles. Individuals who drive automatic tend to be more at risk than manual vehicles because manual vehicles make drivers tend to feel comfortable when driving and do not require a lot of energy to drive and also tend to be monotonous when driving. These results are supported by research conducted by Neubauer, Matthews and Saxby (2012) Automatic vehicles have a negative impact, such as being able to make motorists feel complacent about safety and increasing the desire to engage in dangerous activities (such as driving a vehicle at high speed), can increase passive fatigue, cell phone use, loss of alertness and response time to driving situations. But the original purpose of the automatic car design was to improve safety.

The results of different tests on the risk of driving and gender there are differences (see table 4). These results prove that male and female drivers have different emotional attitudes while driving and have different responsiveness to vehicles. Female drivers tend to be faster in responding when there is a disturbance while driving, tend to be responsive or respond and may cause accidents related to vehicles or other road users. This behavior can be seen in the results of the researchers' observations of participants, female participants tend to immediately scream or react when there are disturbances in the simulator, such as pedestrians or drivers cutting their lane. This is evidenced by research that male drivers tend to be more daring, male drivers are often wrong in seeing road conditions, cut other drivers' lanes, often have fatal accidents and drive vehicles at high speeds, and are more reckless and tend to drive at will, so that it can increase the risk of driving because they drive more aggressively and tend to be at greater risk than women (Septianingtyas, 2019; Putranto & Alfonsus, 2016; Bachoo, Bhagwanjee & Govender, 2013; González-Iglesias, Gómez-Fraguela & Luengo-Martín, 2012; Rhodes & Pivik, 2011).

Female drivers have the same opportunity in risky driving behavior, often female drivers drive aggressively and harm other road users, often accidents occur between car users and cyclists or pedestrians (Prito, Hartantri, Putra & Basuki, 2019; Tao, Zhang & Qu, 2017; Krahe, 2005).

Both female and male drivers have a balanced risk associated with road accidents (Tao, Zhang & Qu, 2017; Jiménez-Mejías et al., 2014; Krahe, 2005; Deffenbacher, et al., 2003; Parker, Lajunen & Summala, 2002). Risky driving behavior also occurs in big cities in Indonesia caused by reckless driving styles and aggressive behavior that can

affect the risk of driving for both men and women (Maulina, Danilasari, Nazhira & Jufri, 2018; Putri, 2016; Putranto & Alfonsus, 2016).

The results of the different test between the risk of driving and the speed limit have differences (see table 4), these results indicate that drivers tend to drive at high speeds in an empty state and may tend to drive recklessly when traffic jams occur such as driving in a zigzag or blocking other vehicles, breaking through signs. applicable traffic. The results of this study are in line with research conducted by Fruhen and Flin (2013), which states that aggressive driver behavior when driving can be bad for other road users, such as cyclists or pedestrians. reckless driving can lead to road accidents.

The result of the fourth different test is that there is no difference between the risk of driving and the length of SIM ownership (see table 4). It is possible for the majority of the sample to have a good driving safety attitude while driving, the government has recently provided a campaign related to driving safety and can reduce driving risks so that drivers do not drive aggressively (Hassan & Abdel-Aty, 2011). The provision of training programs that involve drivers is expected to form a driving safety attitude in order to reduce the tendency to drive above the average speed (Prabhakharan & Molesworth in Hassan & Abdel-Aty, 2011).

Risky driving behavior is influenced either consciously or unconsciously about what the driver is doing (Jonah, 1986). In addition, the risk of driving is influenced by the attitude of the driver in general and specifically and the way the driver controls his vehicle (Assum in Iversen & Rundmo, 2004). This result is also influenced by the understanding that social cognition is an interaction that can be predicted and regulated by each individual so that it has the potential to form an understanding that will be faced in everyday life (Bodenhausen, Macrae & Hugenberg, 2003).

Affective aspects form a role in information processing, such as a person's mood and emotional state can motivate individuals to behave or act. Driving safety attitude is one way for individuals to evaluate themselves when driving, whether the behavior is good or not (Yang et al, 2013), so the driver is asked to have a driving safety attitude so that it can reduce the risk of driving. Driving safety attitudes are often found as one of the predictors of driving behavior, and allow safety driving attitudes to be a mediating variable between personality and driving risk (Yang et al, 2013; Fisher, Rizzo, Caird, & Lee, 2011; Chen, 2009; Ulleberg & Rundmo, 2003).

CONCLUSION

The results showed that agreeableness and neuroticism personality types have an influence on driving risk, this is the first step to conduct further research using a driving simulator to see the risks of driving directly with driving simulator media and in this study also found other possible variables such as safety attitudes. driving which can reduce the risk of driving.

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