

# Big Five Personality Traits of Extraversion and Neuroticism, and Risky Driving Behavior of Malaysian Drivers

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## Abstract

Majority of traffic accidents had human involvement, and attitudes that contributed to risky driving behavior were impacted by personality traits. Few research, however, have looked at each Big 5 Personality's impact on risky driving behavior separately. Furthermore, the results on extraversion and neuroticism as the Big 5 Personality characteristics of their predictive usefulness were conflicting and ambiguous. The purpose of this study is to determine how extraversion and neuroticism affect the ability of Malaysian highway drivers to predict risky driving behavior. The study employed a quantitative survey method, and 311 usable questionnaires were collected from the motorists using the highway intercept techniques. Partial Least Squares (PLS) path modelling was used in the data analysis. Risky driving behavior was found to be positively and significantly correlated with extraversion and neuroticism. These findings provided an empirical basis to develop evidence-based road safety measures on the personality traits of motorcar drivers. To increase traffic and road safety, it is crucial to be able to recognise and anticipate the characteristics of risky driving in human behavior.

## 1. Introduction

Road traffic accidents may inflict considerable physical damage and high death rate in many nations. According to estimates, these accidents result in 1.35 million fatalities and 50 million seriously injured individuals per year (WHO, 2020). Among the factors that can contribute to traffic accidents are the risky driving behavior (Liu et al., 2021; Harris et al., 2014; Akbari et al., 2019; Mas-Cuesta et al., 2022). Risky driving behaviors include things like excessive speeding, tailgating, impaired driving (driving while intoxicated or using drugs), disobeying traffic signals, not wearing seat belts, texting while driving, and perilous overtaking. These actions dramatically enhance the likelihood of collisions and accidents (Qu et al., 2020). Driving violations and errors are the two most common risky driving behaviors (Al Reesi et al., 2018). Reason et al., (1990) defined errors as "the failure of planned actions to achieve their intended consequences", and violations as "deliberate deviations from those practices believed necessary to maintain the safe operation of a potentially hazardous system". Unlike errors, violations were seen as deliberate behaviors although both errors and violations are potentially dangerous and might lead to a collision. Many scholars attempt to look for suitable and efficient solutions to lessen risky driving behaviors and enhance traffic safety. Some had focused on drivers' personalities as the primary contributing factor to their unsafe driving conduct (Dahlen & White, 2006; Ulleberg & Rundmo, 2003). The big five personality components; extraversion, agreeableness, conscientiousness, neuroticism, and openness, have been widely discussed among the various personality traits (Akbari et al., 2019).

Although the association between these personality traits and driving behavior has been the subject of numerous studies, conclusive proof of this relationship is still missing (Luo et al., 2023). Moreover, there is currently conflicting empirical evidence on extraversion's and neuroticism's individual capacity for prediction (Wang, 2016). Thus, it is still worthwhile to look at how extraversion and neuroticism, two of the Big Five personality traits, affect risky driving habits. Meanwhile, many of these studies have focused on various mode of transport such as public van drivers (Tanglai et al., 2022), bus drivers (Zhang et al., 2019; Ghanavati et al., 2018), taxi drivers (Alavi et al., 2017; Zhang et al., 2019), truck drivers (Gauld et al., 2021; Qi et al., 2022), and motorcyclists (Romero et al., 2019; Ullah et al., 2019). Few studies covered on specific motorcar drivers on the highways. Over half of Malaysia's 33 million registered vehicles were motorcars, which are also high risk road users. Due to the huge volume of traffic and the general greater speed of road users, accidents on highways are more serious than those of other types of roads. Additionally, road safety violations such as excessive speeding, risky overtaking and other blatant violations of traffic laws were more prevalent on highways (Zhang et al., 2020; Huajing et al., 2022). Therefore, by concentrating primarily on motorcar drivers using Malaysia's highways, this study sought to close the current gap.

## 1.1 Risky Driving Behavior

Risky driving behavior is any driving activity that damages or hurts other road users, whether psychologically or physically (Constantinou et al., 2011). Marks et al., (2021), termed it as "aggressive driving" which is defined as intentional actions or behaviors while driving that raise the likelihood of traffic accidents. These actions might be taken out of impatience, irritation, animosity, or a desire to save time. Excessive speeding, tailgating, and other dangerous driving practices endanger not just other road users but also the drivers themselves (Mairean et al., 2021). It is not surprising that a significant amount of literature has focused on examining the relationship between this behavior and various human facets, especially the psychological and social aspects, given the significance of risky driving behavior in consistently contributing to the majority of road traffic accidents (Riendeau, 2012; Nordfjaen et al., 2012; Guo et al., 2016). And it's critical to learn more about how some of these personality factors affect risky driving in order to increase road safety (Akbari et al., 2019; Lajunen & Gaygisiz, 2022).

## 1.2 Extraversion Personality

Excitability, friendliness, talkativeness, assertiveness, and a high level of emotional expressiveness are traits of extraversion. Extraverted individuals are gregarious and exude enthusiasm in social settings. They are invigorated and happy when they are around other people. Individuals who are introverted or low in this personality attribute typically exhibit greater reserve (Power & Pluess, 2015). According to studies by Castanier et al., (2010), Cyders and Smith (2010), Mishra and Lalumiere (2011), and others, people with high extraversion show a penchant for taking risks and are positively associated with sensation seeking. Extraversion is also linked to road crashes, traffic offences, and other risky driving habits (Renner & Anderle, 2000; Lajunen, 2001; Clarke & Robertson, 2005; Oltedal & Rundmo, 2015; Jovanovic et al., 2011). The first researcher on this topic, Fine (1963), discovered that extraverted drivers experience more traffic infractions and accidents than introverted drivers, and these were supported by Smith and Kirkham (1981), who found that extraverted drivers were more likely to have a history of having more accidents on the road. According to Lajunen (2001) countries with high extraversion scores had more fatalities on the roads than those with low or moderate extraversion scores. Meanwhile, Oltedal and Rundmo (2015) showed a positive link between aspects of extraversion and both risky driving and accidents with damages in Norway, Dahlen and White (2006) discovered that extraversion predicts careless driving and traffic accidents, with its high levels being one of the causes, and Stephens (2011) found that the extraverted drivers were more likely to report high driving infractions in the UK. Extraversion was also found to have a beneficial impact on high-risk driving behavior and aggressive driving, which manifests as a pattern of persistent traffic offenses (Vanquez, 2013; Jebeli et al., 2014; Harris et al., 2014). Thus, most of these studies have proven that there is a link between extraversion and risky driving behavior.

However, some research either failed to find a substantial and favourable link between extraversion and driving behavior or produced inconsistent and unclear findings. Only a weak and insignificant association between extraversion and aggressive driving behavior was discovered by Jovanovic et al., (2011) in a study of Serbian drivers. Moreover, extraversion was not proven to be a predictor of aggressive driving behavior among young Romanians (Anitei et al., 2004). Guo et al., (2016) who examined the influence of personality types on driving safety on high-speed railway, came to the conclusion that extraverted drivers were less likely to cause accidents. Dahlen et al., (2012), Harris et al. (2014), and Benfield. et al., (2007) all discovered a weak positive connection between extraversion and aggressive driving. Iancu et al., (2016) also found very little evidence of a connection between extraversion and reckless driving, while for older persons, extraversion was similarly linked to a higher risk of driving (Gadbois & Dugan, 2015). In a study by Shen et al., (2018) they found that extraversion was positively associated with positive driving behaviors, which was inconsistent with previous research which

suggested that extraversion is positively correlated with risky driving behavior. Luo et al., (2023) concurred that risky driving behaviors were not significantly associated with extraversion. Finally, Akbari et al., (2019) who conducted a meta-analysis on 22 studies found that risky driving behaviors were not significantly related to extraversion. In light of the literature's inconsistency and mixed findings, the following hypothesis is formulated:

H1: Driver risk-taking in Malaysia is significantly and positively correlated with extraversion.

### 1.3 Neuroticism Personality

Sadness, moodiness, and emotional instability are traits of neuroticism. Neurotic people frequently experience mood fluctuations, anxiety, impatience, and melancholy. Those with high levels of neuroticism tend to be anxious, angry, hostile, depressed, self-conscious, and impulsive, while those who score lower on this personality trait tend to be more emotionally stable and resilient (Power & Pluess, 2015). Because they are more easily distracted when driving, those with high neuroticism traits are more likely to be involved in traffic accidents (Hansen, 1989). They are easily sidetracked and consumed by worry and anxiety. In their study of the connection between stress and neuroticism, Mathews et al., (1991) discovered a substantial positive link that eventually resulted in collision participation.

Thorrisen (2013) studied the direct and indirect impacts of drivers' neuroticism on their aggressive and considerate conduct using a sample of Norwegian drivers. He discovered that neuroticism had a negative correlation with thoughtful behavior and a positive correlation with aggressive behavior. According to Ucho et al., (2016), neuroticism did not significantly predict adherence to traffic safety regulations, and drivers who had a history of driving errors had higher neuroticism scores (Stephens, 2011). Similar results have been reported by Castanier et al., (2010), Dahlen et al., (2012), Jovanovic et al., (2011), Qu et al., (2015), and Anitei et al., (2014), who found a positive link between neuroticism and aggressive driving behavior. Luo et al., (2023) and Jiang et al., (2022) concurred that risky driving behaviors were positively associated with neuroticism. Akbari et al., (2019) who conducted a meta analysis on 22 studies found that risky driving behaviors had significant positive relationship with neuroticism.

However, by examining neuroticism and crash involvement, Clarke and Robertson (2005) noticed the contradictory results. Their research showed no correlation between collision involvement and neuroticism. Moreover, Harris et al., (2014)'s study found that lower reported traffic accidents and violations were connected with those who scored higher on neuroticism. Other studies also found a slight but favourable correlation between neuroticism and reckless driving (Benfield et al., 2007; Harris et al., 2014; Taubman-Ben-Ari & Yehiel, 2012; Iancu et al., 2016). Also, it was discovered that neuroticism was linked to a lower likelihood of older persons driving (Gadbois & Dugan, 2015). Thus, the following hypothesis is put forward:

H2: Risky driving is significantly and positively correlated with neuroticism among Malaysian drivers.

## 2. Methods and Materials

### 2.1 Study Design

This study used a quantitative approach, and the survey was carried out using a structured self-report questionnaire. Because it is efficient and practical to collect data from many respondents, self-report questionnaires are frequently employed in research as a technique of assessment (Robins et al., 2007). It is also a logical way to gauge intangible factors such as asking people to describe themselves or their behavior in response to inquiries (Sekaran & Bougie, 2013). Structured self-report questionnaire is also one of the most widely used methods of data collection in social science research, and is typically used in studies to examine dimensions including attitudes, values, intentions, and preferences (Kraut, 2006).

Self-report measures are commonly used in road safety research because they are simple to administer and allow for the collection of large data sets by allowing researchers to ask numerous, in-depth questions (Martinussen, 2013). However, the main disadvantage of employing self-reported questionnaires is the potential for desirability bias which occurs when respondents unintentionally or actively chose to provide answers that are socially acceptable (Lajunen, 2001). Nonetheless, in addition to being simple to administer, self-report measures may yield a large number of responses to in-depth questions, producing extensive data sets. The availability of large data sets promotes the application of sophisticated statistical techniques (Lajunen & Ozkan, 2011; Lajunen & Summala, 2003).

### 2.2 Measurements and Instruments

In this study, risky driving behavior was measured using the Driver Behavior Questionnaire (DBQ). DBQ is frequently employed as an efficient method to research driving-related behaviors (Bener et al., 2008; Illiescu & Sarbescu, 2013; Alavi et al., 2017; Atombo et al., 2016; Stanojevic, 2018; Liu et al., 2021). It was modified to fit the customs and characteristics of the area. Versions of the questionnaire in both English and Malay were used. A

team of experts worked on a back-to-back translation to ensure that the original meaning was not altered. The DBQ contained ten violations, seven errors, and eight lapses. Violations are willful departures from the norms that are fundamental to primary traffic safety. It is the driving style that the individual decides to use and the driving habits that they develop through time (de Winter & Dodou, 2010). Errors are when an intentional outcome is not achieved, while lapses are when behaviors differ from what was intended. Unplanned action distinguishes errors from lapses, which are marked by memory problems (Ozkan & Lajunen, 2005). On a Likert-type scale of 0 to 5, participants were asked how frequently they had engaged in each of the 25 behaviors over the previous year (0-never, 1- hardly ever, 2-occasionally, 3-quite often, 4-frequently, and 5-almost all the time). Cronbach's alpha coefficient was used to assess the internal consistency of the questionnaire scales, and the resultant alpha score of 0.883 was higher than the necessary cutoff point (Hair et al., 2014). As a result, the measures' reliability was proven.

Numerous researches have used extraversion and neuroticism of the Big Five Personality scale in relation to driving behavior and accident involvement (Jenekova, 2014; Thorrisen, 2013; Riendeau, 2012; Stephens, 2011; Clarke & Robertson, 2005). This scale was developed based on the prior work of McCrae and Costa (1990) and Golberg (1993). Participants were asked to identify their level of agreement or disagreement on a five-point Likert-type scale, where 1 indicates "strongly disagree," 2 "disagree," 3 "neutral," 4 "agree," and 5 "strongly agree." The Cronbach's alpha scores of 0.778 and 0.728, respectively, likewise supported the reliability of extraversion and neuroticism.

### 2.3 Data Management

The intercept method was used to distribute questionnaires to the motorists who use the Malaysia highways route. This method stopped or chose people at key survey locations using a road side hand-out method. Each participant received the questionnaire, a cover letter, and a stamped return envelope so they could respond anonymously. A total of 348 completed surveys with an 18 percent response rate were returned. However, after excluding 37 cases that were identified as outliers, only 311 questionnaires were deemed to be valid. Non response bias was tested by using T-test to compare the early and late responses as suggested by Armstrong and Overton (1977). The absence of non-response bias was proven because there was no significant difference between early and late participants. The single factor test by Harman was also used to analyze common method variance (Podsakoff et al., 2010). The analysis revealed that no component's variance exceeded 50% of the specified threshold value, and a single factor could only explain 23.53% of the variance overall. As a result, it was established that the data did not include any significant common method variance or bias.

## 3. Results

### 3.1 Descriptive Characteristics of Participants

The demographic data for the participants is shown in Table 1. With 311 total valid respondents, participants were split between 183 women (58.8%) and 128 men (41.2%). The majority of participants (63.7%) were in the 20 to 40 year age group, followed by 32 (10.3%) participants above the age of 50, and 52 (16.7%) individuals between the ages of 41 and 50. 181 (58.2%) of the participants had completed at least a first degree at the tertiary level of study, and 201 (64.6%) of them were married. 28 (9.0%) participants were self-employed, 57 (18.3%) were students, and 226 (72.6%) participants were working in the public or private sector. In terms of driving experience, 96 (30.9%) participants said they had between 5 and 10 years of experience, followed by 73 (23.5%) participants with more than 20 years of experience, 55 (17.7%) participants who said they had between 11 and 15 years of experience, 33 (10.6%) participants who said they had between 16 and 20 years of experience, and 54 (17.4%) participants who claimed they had less than 5 years.

**Table 1** Profile of participants

Variable	Frequency	Percent (%)
Gender:		
Male	128	41.2
Female	183	58.8
Age (Years):		
Below 20	29	9.3
20 to 30	82	26.4
31 to 40	116	37.3
41 to 50	52	16.7
Above 50	32	10.3
Educational Level:		
High School Certificate	47	15.1
Diploma	83	26.7
Degree/Master	181	58.2
Marital Status:		
Married	201	64.6
Single	106	34.1
Other	4	1.3
Occupation:		
Public Sector	122	39.2
Private Sector	104	33.5
Self Employed	28	9.0
Student	57	18.3
Driving Experience (Years):		
Less than 5	96	30.9
5 to 10	55	17.7
11 to 15	33	10.6
16 to 20	73	23.5
More than 20		

Partial Least Squares (PLS) modeling was used to analyze the data. This approach presents the findings in two parts, evaluating both the measurement model and the structural model. Examining the validity and reliability of the measurements used to represent each construct is part of evaluating a measurement model. Indicator reliability, internal consistency reliability, convergent validity, and discriminant validity must all be determined. Internal consistency is demonstrated by the composite reliability and Cronbach Alpha scores, both of which are higher than the suggested value of 0.70. (Chin, 2010; Hair et al., 2014). Cronbach's alpha and the composite reliability coefficient were used to analyse the construct. As indicated in Table 2, all constructs had composite reliability (CR) values more than 0.7, indicating the constructs were reliable (Chin, 2010). The model also exhibits appropriate indication reliability because all factor loadings were higher than 0.7, the cutoff used to evaluate factor loadings for indicator reliability (Henseler et al., 2009).

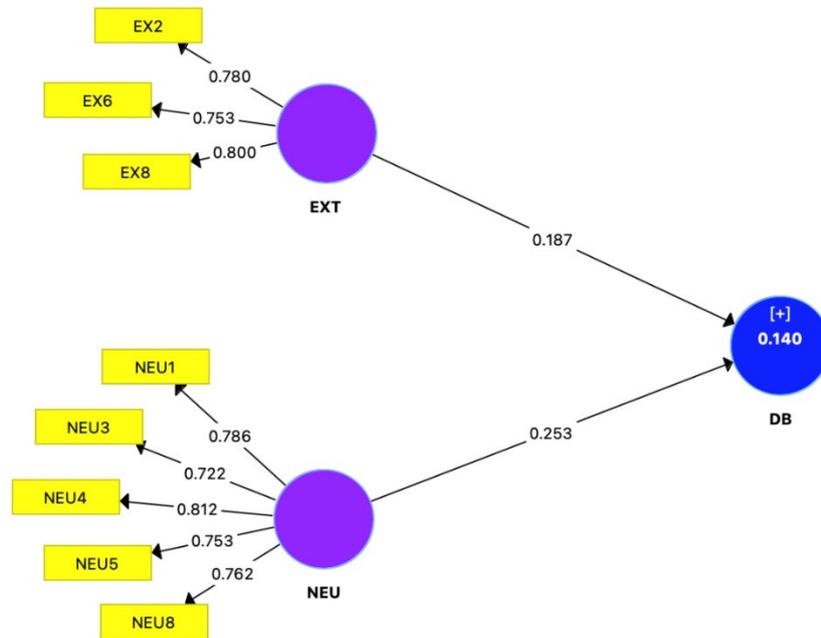
The average variance extracted (AVE) was assessed to evaluate convergent validity, and it is recommended that the AVE should be above 0.5. (Hair et al., 2014; Chin, 2010). Convergent validity was confirmed by the fact that the AVE in this study was higher than the threshold. The Fornell-Larcker criterion and the cross-loadings were two often used metrics used to evaluate the discriminant validity (Henseler et al., 2009). According to the Fornell-Larcker criterion, each construct's AVE should be larger than the squared correlations with all other constructs, (Fornell-Larcker, 1981). As the square root of each concept's AVE is bigger than its correlations with

other constructs and indicators loaded more heavily on the construct they are intended to measure, discriminant validity is established.

**Table 2** Measurement results on loading, CR and AVE

Construct	Item	Loading	CR	AVE
Driving Behavior	DB11	0.763	0.944	0.628
	DB12	0.820		
	DB13	0.797		
	DB14	0.741		
	DB15	0.776		
	DB16	0.790		
	DB17	0.816		
	DB18	0.811		
	DB19	0.816		
	DB21	0.792		
Extraversion	EX2	0.780	0.821	0.605
	EX6	0.753		
	EX8	0.800		
Neuroticism	NEU1	0.786	0.878	0.589
	NEU3	0.722		
	NEU4	0.812		
	NEU5	0.753		
	NEU8	0.762		

The structural model's evaluation utilized path analysis. It is also employed to test the study's hypotheses. The path coefficient demonstrates the strength of the relationship between the independent (predictor) and dependent variables. The highest beta value ( $\beta$ ) indicates the extent to which the predictor variable has an impact on the dependent variable. The bootstrapping procedure with resampling of 500 produced the path estimates and t-statistics for the suggested association. Figure 1 below shows the structural model. Risky driving behavior is the dependent variable in the model, whereas extraversion and neuroticism are the predictor factors. The findings of the hypothesis testing are shown in Table 3. Both H1 and H2 are supported, as seen by the path coefficient and t-value data. This suggests that risky driving behavior has strong and positive correlations with both extraversion and neuroticism.



**Fig. 1** Direct effect between extraversion and neuroticism to driving behavior

**Table 2** Results of hypothesis testing of direct effect

		Beta ( $\beta$ )	T Value	P Value	Result
H1	EX $\rightarrow$ DB	0.187	3.545	0.00*	Sig.
H2	NEU $\rightarrow$ DB	0.253	4.404	0.00*	Sig.

#### 4. Discussion

The first hypothesis looked at the connection between extraversion and risky driving. It was hypothesized that extraverted drivers would be positively associated with reckless driving behavior. Drivers who are extraverted tend to be warm, social, forceful, active, and excitement-seeking. It is asserted that extroverts frequently exhibit lower levels of attentiveness and arousal, which contribute to an increase in their driving mistakes. Because of this, drivers with high extraversion have been identified as having a propensity for taking risks (Castanier et al., 2010; Cyders & Smith, 2010; Mishra & Lalumiere, 2011), and they are frequently linked to traffic collisions, traffic violations, and other risky driving behaviors (Fine, 1963; Smith & Kirkham, 1981; Renner & Anderle, 2000; Lajunen, 2001; Clark & Robertson, 2005; Oltedal & Rundmo, 2005; Benfield et al, 2007; Jovanovic et al, 2011). Aggressive driving was more common among drivers who scored highly on extraversion, and they experience more traffic violations and accidents than introverted drivers (Fine, 1963; Smith & Kirkham, 1981).

According to the study's findings, there is evidence linking extraversion to risky driving habits. The route coefficient from extraversion to reckless driving behavior was shown to be statistically significant ( $\beta = 0.187$ ,  $p=0.000$ ), supporting hypothesis H1. These results are consistent with a number of earlier studies, including those by Oltedal and Rundmo (2006) who found a link between extraversion traits and both risky driving and accidents with property damage in Norway, Benfield et al., (2007) who found that extraversion traits were linked to more self-reported driving among psychology students, and Shonesy (2016) and Vazquez (2013), who reported extraversion and aggressive driving behavior as positively correlated. However, these findings contradict recent research by Luo et al. (2023) who concurred that risky driving behaviors were not significantly associated with extraversion, and Akbari et al., (2019) who concluded from a meta-analysis on 22 studies that risky driving behaviors were not significantly related to extraversion. Other studies that contradict these findings include a study by Anitei et al., (2004) who did not find extraversion to be the predictor of aggressive driving behavior among the Romanian youngsters. Similar findings were reached by Guo et al., (2016), who investigated the influence of personality factors on driving safety on high speed railway and found that extraverted drivers were less likely to cause accidents. Dahlen and White (2006), and Stephens (2011) agreed that extraversion was not a good indicator of risky driving conduct, while others such as Iancu et al., (2016), Dahlen et al., (2012), and Harris et al., (2014), also found a weak association between extraversion and aggressive driving.

The second hypothesis (H2) investigated the link between neuroticism and reckless driving. It was projected that drivers with high neuroticism scores would exhibit risky driving habits. Those with high levels of neuroticism tend to be anxious, angry, hostile, depressed, self-conscious, and impulsive. Because they are more easily distracted when driving, those with high neuroticism traits are more likely to be involved in traffic accidents (Hansen, 1989). They are easily sidetracked and consumed by worry and anxiety. According to the study's findings, there is evidence that suggests that neuroticism and dangerous driving behavior are related. The relationship between neuroticism and poor driving performance was statistically significant ( $\beta = 0.254$ ,  $p < 0.000$ ). Hence, hypothesis H2 that there is a strong positive association between neuroticism and reckless driving behavior was supported. Accordingly Ulleberg and Rundmo (2003) and Thorrisen (2013), concurred that neuroticism and aggressive driving behavior have a strong positive association. This suggests that neurotic drivers in this study have more aggressive conduct because they have less favourable attitudes about driving and about traffic safety. The reason for this aggressive behavior is that neurotic drivers are more likely to experience stress and approach others in an aggressive manner, and they react more quickly to stress in traffic conditions (Clarke & Robertson, 2005). Moreover, these neurotic drivers usually exhibit aggressive driving traits such as impatience, tension, anxiousness, and irritability.

The results also agreed with those of Mathews et al., (1991), who investigated the connection between stress and neuroticism and discovered a significant positive relationship that eventually led to collision involvement, and Thorrisen (2013), who investigated and discovered a negative correlation between neuroticism and considerate behavior. This finding corroborated those of Ucho et al., (2016) who found that drivers who had higher levels of driver lapse also had higher levels of neuroticism, as well as those of Luo et al., (2023), Jiang et al. (2022), Akbari et al., (2019), Vazquez (2013), Castanier et al., (2010), Dahlen et al., (2012), Jovanovic et al., (2011), Qu et al., (2015), and Anitei et al., (2014) who found a positive correlation between neuroticism and aggressive driving behavior. The results of this study, however, were in direct opposition to Lajunen's (2000) finding that neuroticism was adversely correlated with auto accidents. While Harris et al., (2014) found that persons with greater neuroticism scores were connected with less reported traffic accidents and violations, Clarke and Robertson's findings from 2005 found no relationship between neuroticism and collision involvement. Benfield et al., (2007), Harris et al., (2014), Taubman-Ben-Ari and Yehiel (2012), and Iancu et al., (2016) also found a positive but very weak relationship between neuroticism and aggressive driving while Stephens (2011) reported significant relationship between neuroticism with lapses only but not violations and errors.

The results of this study showed how important personality qualities are for understanding what causes traffic accidents on the roads. Yet, the lack of a coherent taxonomy of notions to describe individual differences has hindered the research of personality. This study added to the body of knowledge by reexamining the unresolved problems with the Big 5 personality classification and its connection to driving behavior. Past studies have also highlighted the conflicting and inconclusive results in these associations, which called for additional study and research. These results generally corroborated and supported the existence of positive and significant impacts of particular Big 5 personality traits on risky driving behavior of Malaysian drivers, particularly extraversion and neuroticism. Consequently, by investigating and validating specific aspects of the Big 5 personality as crucial elements for comprehending a driver's behavior, it enhances and supports the theoretical position.

## 5. Study Limitations

The interpretation of the results must take some of the limitations into account. This cross-sectional study's initial data collection was done all at once. Future research should focus on longitudinal techniques because driving behaviors of motorists are dynamic in order to have a complete grasp of the actual risky driving behavior. Second, because self-reported surveys were utilized, it is not possible to rule out the possibility of social desirable bias. Because respondents have a conscious inclination to make responses that will be seen favorably by others, risky driving behaviors may go unreported. Assuring the participants of anonymity and confidentiality of their responses helped to minimize this bias. Respondents may also suffer from recall bias and might not be reliable if respondents do not really understand because of the non-presence of the researcher. Lastly, only drivers of motor vehicles were intercepted for the study, the findings cannot be applied to other drivers of heavily trafficked vehicles. These users, such as trucks and buses, should be included in upcoming studies as well. Notwithstanding these drawbacks, a wealth of information on risky driving practices is gathered, and this information has significant implications for the reduction of highway traffic accidents.

## 6. Conclusion

The relationship between driving safety and driver personality attributes has been the subject of traffic safety studies. Many studies have examined the link between the big five personality traits and driving behaviors, though, few research have looked at each Big 5 Personality's impact on unsafe driving behavior separately. In addition, conclusive evidence of this linkage is still lacking. Extraversion and neuroticism were evaluated as Big 5

Personality traits in this study because their predictive value was yet unclear. The study's findings confirmed these strong positive associations between dangerous driving behavior. Despite being a developing nation, Malaysia still has a high rate of traffic-related injuries and fatalities. Being able to identify and foresee the traits of risky driving in human behavior is essential for improving road traffic safety, especially along highways. Due to the predictability and avoidability of traffic accidents, responsible authorities need to do more to educate the public on the value of establishing safe driving practices.

### Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of the paper.

### Author Contribution

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

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