

The big five personality factors psychology essay



**ASSIGN
BUSTER**

This study investigated the utility of the Big Five personality factors in predicting aggressive driving behavior on 100 young Romanian participants. They completed the Aggressive driving behavior (AVIS) test of the psychological Vienna Test System as well as the International Personality Item Pool (IPIP). Previous research findings are also supported by this work, hierarchical multiple regression showing that the only predictor of aggressive driving behavior is low emotional stability, the effect of age and gender being controlled. The other personality factors predict dimensions of aggressive behavior, thus extraversion predicting increased enjoyment of violence, openness to experience predicting negativism in traffic, while low agreeableness predicts enjoyment of violence, and low conscientiousness is a predictor of driving anger.

Introduction

Romania ranks first in Europe in the number of deaths from automobile and traffic accidents per million inhabitants (Sarbescu, Costea & Rusu, 2012). Taking this into consideration, we feel it is necessary to focus our attention both on organizing traffic as well as the human factor involved. Important in the analysis of the second aspect is the driving style, that is how a person chooses to behave in relation to certain aspects such as speed, traffic rules, the way he treats other traffic participants, as driving style is influenced by emotions, thoughts and values. (Trauman-Ber-Ari & Yehiel, 2011). These authors believe that one of the driving styles is hostile-angry driving style, whose main characteristic is aggressive behavior in traffic. Jovanovic Lipovac, Stanojevic & Stanjojevic (2010) describe aggressive driving behavior as any behavior meant to cause physical or psychological suffering

or the intention to harm or to hurt, by driving with excessive speed, honking frequently, cursing at the wheel, cutting the path to overcome milestones, etc.

Some studies have investigated the effect of age and experience on aggressive driving behavior (Marengo, Settani & Vidotto, 2012, Lucidi Giannini, Sgalla, Mallia, Devoto & Reichman, 2010), finding that young people or those who have recently obtained their driving license are more aggressive in traffic than older, more experienced individuals. Other researchers have argued that factors influencing aggressive behavior are situational factors such as heat or traffic irritations (Jovanovic et. all, 2010), factors related to the technical characteristics of the vehicle (Benfield, Szlemko & Bell, 2006) as well as factors related to the drivers traits, such as cognitions (Nesbit & Conger, 2012) dispositional mood, physical and mental health (Shahar, 2008), attitudes and personality traits (Jovanovic et. all, 2010, Dalhen & White, 2006, Jovanovic Stanojevic & Stanojevic , 2011, Britt & Garrity, 2006).

This study investigates the effect of the five factors personality model on aggressive driving behavior among young people. For this study we chose young individuals due to the fact that it has been recorded in previous research that they form the population segment most likely to be involved in traffic accidents due to aggressive driving behavior (Lambert-Belanger, Dubois, Weaver, Mullen & Bedard, 2012). That being said we consider it useful to know as much about everything that facilitates aggressive behavior among young people.

Herzberg (2009) reported that the most aggressive drivers are young men between the age of 18 and 24 years, this segment being involved more often in road accidents than women or men belonging to other age groups. An answer to this fact would be that young men between 18 and 24 years, are aggressive drivers because of their eccentricity and personality, having a higher level of extraversion and a lower level of agreeableness and conscientiousness than older male drivers with driving experience.

The relation between personality and traffic manifested aggression has been studied, most research regarding components of personality such as sensation seeking, impulsivity, altruism, self-esteem, locus of control (Marengo, Settani & Vidotto, 2012) and demonstrating that there is a significant relation between these features and aggressive behavior in traffic. However, most studies explored these features in a isolated and independent manner in relation to driving anger and aggressive driving behavior, little research addressing the relation between a global model of personality.

This paper explores the relation between the five factors personality model (McCrae & Costa, 2006) (emotional stability, extraversion, openness to experience, agreeableness and conscientiousness) and aggressive driving behavior and wishes to determine which of the five factors are predictors of aggressive driving behavior in general, and of its components (instrumental aggression, aggravation, acting out, enjoyment of violence and negativity) (Schuhfried, 20011).

People with low emotional stability tend to be tense, anxious, concerned, rigid, whilst those with high levels of emotional stability tend to be relaxed, calm, tolerant to stress and challenges (McCrae & John, 1990). Numerous studies have investigated the relation between emotional stability and driving style, driving anger, aggression in traffic and reactive aggression (Booth-Kewley & Vickers, 1994, Herzberg, 2009, Bettencourt, Talley, Benjamin, & Valentine, 2006). Taubman - Ben Ari & Yehiel (2011) have highlighted that people with low scores on emotional stability practice an anxious driving style. Dahlen, Edwards, Tubre, Zyphur & Warren (2011) showed that emotional stability relates negatively with aggressive driving, road accidents and traffic violation. Dahlen & White (2006) show that there is a negative relation between emotional stability and anger behind the wheel. Jovanovic et. all (2010) highlights that people with high scores on the emotional stability factor show a high level of physical and verbal aggression in traffic.

Extraversion, which means the pleasure of interacting with others, the tendency to be assertive, sociable, energetic, outward (John & Srivastava, 1999) was studied in relation to aggressive driving behavior, some studies finding a positive relation between extraversion and reckless driving (Renner & Ander, 2000). The study by Benfield, Szlemko & Bell (2006) shows that there is a positive correlation only between extraversion and physical aggression in traffic and other traffic subscales of aggression such as verbal aggression, adaptive and constructive behavior or traffic challenges, do not correlate significantly with extraversion . Martin & Boosma (1989) have shown that people with high scores on the scale of extraversion under the

influence of alcohol show a high level of aggressiveness while driving.

Dahlen & White (2006) showed that extraversion predicts reckless driving and traffic accidents, the high level of extraversion being one of the causes of road accidents.

People with high scores on the openness factor tend to be characterized by aesthetic appreciation, values, idea acceptance, self-actualization, personal growth and development (McCrae & Costa, 2006). Unlike other factors of the Big Five model, few studies have found significant relation between openness and aggressive driving behavior (Jovanovic et al., 2010). Taubman – Ben-Ari & Yehiel (2011) studied the openness factor in the context of driving styles, finding a positive relation between openness and careful driving style while between styles characterized by aggressive, anxious and hostile behavior, there was no significant association with openness. Among the few studies that have found the openness factor associated with aggressive driving behavior is that of Dahlen & White (2006), the authors showing a negative link between openness and reckless driving, individuals with high scores on openness factor being less prone to engage in risky traffic than those with a low score.

People with high scores on agreeableness factor are inclined to trust others, are altruistic, empathic, tolerant, are likely to forgive, generous and gentle (John & Srivastava, 1999, McCrae & John, 1990). People with a high score on agreeableness practice careful driving style, and those with a low score drive in an angry, reckless, anxious and desolate way (Taubman – Ben – Ari & Yehiel, 2011). Also, people with a high score on agreeableness are characterized by adaptive behaviors in traffic while people with low scores

show a high level of verbal aggressiveness when driving (Benfield et. all, 2006). Dahlen & White (2006) found that people with high levels of agreeableness do not practice reckless driving, and have a low level of aggressive behavior in traffic. In addition, Dahlen et. all (2011) have shown that there is a negative relation between agreeableness and violation of traffic rules, people with low scores on agreeableness factor, often violating traffic rules. Also, a negative association was found by Jovanovic et. all (2010) between agreeableness manifested anger while driving, traffic participants with low scores on agreeableness factor behaving more hostile and more furious than those with high scores.

High conscientiousness is characterized by order, self-discipline, organization, intention to do and resolve things and problems (John & Srivastava, 1999). Arthur & Graziano Jr. (1996) have demonstrated the existence of a negative relation between conscientiousness and involvement in accidents. Thus, those with a high score on this factor, being characterized by organization and self-discipline, are rarely involved in traffic accidents than those with low conscientiousness scores. Jovanovic et. all (2010) show that physical aggression and verbal aggression manifested while driving relate negatively with conscientiousness, those with high scores on this factor manifesting a reduced physical and verbal aggressive behavior when driving, than those with small scores. Benfield et. all (2006) show that a high score on this trait relates positively with constructive and adaptive behaviors in traffic and relates negatively with verbal aggression behind the wheel.

The objective of the study

Starting from those found in previous studies we expect to be a significant association between the five factors of personality and aggressive driving behavior, as follows. Theoretically, people with high scores on the extraversion factor, being characterized by activity, spontaneity, increased energy, inclination towards action, will often manifest aggressive behavior behind the wheel. People with high scores on emotional stability, openness to experience, agreeableness and conscientiousness are characterized by a less aggressive behavior in traffic. Therefore, we expect a positive relation between extraversion and aggression behind the wheel and a negative relation between other factors (emotional stability, openness, agreeableness and conscientiousness) and aggressive behavior in traffic.

Method

Participants

64 women and 36 men took part in this study, all second year students in the Faculty Undergraduate Psychology and Sciences Education. (N = 100, Mage = 20.68, SD = 1.91) with the age range between 18 and 25 years. Given the nature of the study all participants had a valid driving license while being tested.

Instruments

International personality item Pool (IPIP)

The five personality factors were assessed with IPIP questionnaire which consists of 50 items made by Goldberg (Goldberg, 1992). Each factor contains 10 items, each with 5 response options (1 = very inaccurate, 5 =

very accurate). The first factor, emotional stability consists of items that measure changes in mood states (i. e., am always relaxed, am easily disturbed) and has a Cronbach alpha coefficient of . 86 . The second factor, extraversion is composed of items that asses the degree of sociality (i. e. Am the life of the party, don't talk a lot) having an internal consistency of . 87. The third factor is openness and measures the degree to which people are interested in new things, abstract ideas and values (i. e. have a rich vocabulary, have difficulty understanding abstract ideas) and has an internal consistency of . 84. The next factor is agreeableness and it evaluates the extent to which someone is interested in other people, empathetic, attentive to the needs and feelings of others (i. e. Am interested in people, feel little concern for other), with a Cronbach alpha coefficient of . 82. The last factor is conscientiousness, which measures the degree to which people are organized, follow the rules (am always prepared, leave my belongings around), having an internal consistency of . 79.

Aggressive driving behavior (AVIS)

AVIS is an assessment tool for aggressive driving behavior which contains 65 items and is part of Vienna Test Systems computerized psychological testing batteries (Benesch, 2011). The items were chosen to evaluate traffic situations where drivers often manifest aggressively. Also, theoretical coverage of all relevant dimensions for the aggressive behavior construct has been taken into consideration when designing the items. Six factors were obtained as follows: instrumental aggression, anger, enjoyment of violence, acting out, negativism and social desirability. Each item has eight response options (1 = very often, 8 = frequently). The first factor,

Instrumental Aggression (18 items) measures behavior that helps the driver to maintain his progression in traffic while affecting other road users opportunity to do the same. (i. e. willingly give other drive user the right of way?, drive past a long line of waiting cars in order to merge in line as far ahead as possible?). The second factor is Anger (11 items) and measures the degree to which, in certain traffic situations, the driver manifest anger or acts angry towards other road users (i. e. become angry when another driver will not let you pass ?, racing when driving?). The next factor is the Enjoyment of Violence (9 items) which assesses the extent to which aggressive behaviors are done intentionally, deliberately to cause harm to others. (i. e. signal to another driver that you think he/she is stupid?, quickly apply the brakes when the car behind you begin to tailgate?). A synonym for this factor would be emotional aggression (affective aggression). The fourth factor is Acting Out (11 items), which measures the lack of consideration for other drivers and expression of feelings of superiority (i. e. speed up when approaching a red light only to brake late? tailgate the car in front of you when there is a lot of traffic?). The Negativism factor (6 items) describes the behavior characterized by refusal to drive in a cooperative and understanding manner (i. e. are especially careful if you are passing a bicycle?, stop immediately when you see that a pedestrian is waiting to cross the street at the crossing?). The last factor is Social Desirability (9 items) and measures the degree to which the driver accepts or rejects minor traffic rules violations committed by the majority (i. e. fail to maintain the prescribed braking distance between you and the car in front of you?, brake traffic regulations on purpose?). There is a score for each factor, calculated by summing the corresponding items and a total score representing aggressive

driving behaviorscore, calculated by summing the scores of all factors except social desirability. The Cronbach alpha coefficient reported by author is . 96

Procedure

All study participants were informed about the nature and purpose of the study. Those who agreed to participate were given several questions regarding demographic information such as gender, age and the possession of a valid driving license. Before testing participants were given information about how to complete the questionnaire and they were explained the fact that they had to complete everything with sincerity. Testing was conducted in the transport psychology laboratory. The test which measures the five personality factors was administered on paper and the test measuring aggressive driving behavior was administered computerized as part of the Vienna Test Systems, a software created of tests and psychological evaluation batteries (Schuhfried, 2011). The data collection process did not require the name of participants.

Results

Table 1.

Means and standard deviations of all variables by gender.

Variable

Male

Female

F

M

SD

M

SD

IPIP

ES

E

33. 22

6. 48

28. 28

7. 35

11. 29**

33. 58

7. 51

34. 72

8. 87

. 41

O

38.58

5.15

39.13

5.43

.23

A

36.31

5.50

41.70

5.17

23.06**

C

34.47

6.89

37.66

7.27

4. 58*

AVIS

IA

65. 83

19. 75

60. 47

19. 54

1. 14

AG

43. 03

14. 75

43. 98

15. 93

. 08

EV

29. 25

12. 29

22. 63

9. 64

8. 88**

ACT

38. 75

13. 36

32. 69

10. 94

6. 01*

NG

26. 75

9. 58

22. 16

9. 11

5. 63*

AT

202. 94

58. 51

181. 64

48. 31

3. 84

Note. IPIP = International Personality Item Pool, ES = Emotional Stability, E = Extraversion, O = Openness, A = Agreeableness, C = conscientiousness, AVIS = Aggressive driving behavior test, IA = Instrumental Aggression, AG = Anger, EV = Enjoyment of violence, ACT = Acting out, NG = Negativism, AT = Total Aggressive driving score.

*p < . 05

â†• *p < . 01

Table 2.

Intercorrelations among all variables (N= 100)

Variable

1

2

3

4

5

6

7

8

9

10

11

(1) ES

—

(2) E

. 13

—

(3) O

. 08

. 36**

—

(4) A

. 11

. 55**

. 44**

—

(5) C

. 04

. 27**

. 26**

. 23*

—

(6) IA

-. 43**

-. 07

-. 17

-. 26**

-. 19*

—

(7) AG

-. 58**

-. 06

-. 12

-. 21*

-. 23*

. 60**

—

(8) EV

-. 28**

-. 10

-. 31**

-. 46**

-. 24*

. 58**

. 54**

—

(9) ACT

-. 33**

-. 04

-. 18

-. 32**

-. 17

. 84**

. 52**

. 64**

—

(10) NG

. 02

-. 09

-. 24*

-. 24*

. 06

. 17

. 02

. 25*

. 35**

—

(11) AT

-. 46**

-. 10

-. 25**

-. 37**

-. 22*

. 90**

. 75**

. 78**

. 89**

. 37**

—

Note. ES = Emotional stability, E = Extraversion, O = Openness, A = Agreeableness, C = conscientiousness, IA = Instrumental Aggression, AG = Anger, EV = Enjoyment of violence, ACT = Acting out, NG = Negativism, AT = Total aggressive driving

* $p < .05$

âf° * $p < .01$

Table 3.

Summary of linear multiple regression on the Aggressive driving behavior

<https://assignbuster.com/the-big-five-personality-factors-psychology-essay/>

Variable

R²

$\hat{\alpha}^2$ R²

$\hat{\beta}^2$

Instrumental Aggression

Model 1

.03

Gender

.15

Age

-.15

Model 2

.30

.24**

ES

-.47**

E

. 14

O

-. 08

A

-. 15

C

-. 11

Anger

Model 1

. 02

Gender

. 01

Age

-. 14

Model 2

. 42

. 38**

ES

-. 60**

E

. 17

O

-. 11

A

-. 16

C

-. 20*

Enjoyment of violence

Model 1

. 09

. 07*

Gender

. 31[°]

Age

-. 10

Model 2

. 39

. 34**

ES

-. 32*

E

. 25*

O

-. 18

A

-. 36*

C

-. 11

Acting Out

Model 1

. 08

. 05*

Gender

. 28

Age

-. 14

Model 2

. 30

. 24**

ES

-. 41**

E

. 19

O

-. 11

A

-. 19

C

-. 07

Negativism

Model 1

. 06

Gender

. 21*

Age

. 07

Model 2

. 15

. 09**

ES

-. 03

E

. 01

O

-. 24*

A

-. 09

C

. 20

Total Aggression

Model 1

. 06

Gender

. 23*

Age

-. 15

Model 2

. 42

. 39

ES

-. 52**

E

. 20

O

-. 15

A

-. 22

C

-. 10

Note. ES = Emotional stability, E = Extraversion, O = Openness, A = Agreeableness, C = Conscientiousness.

* $p < .05$

** $p < .01$

Means and standard deviations for all variables are presented in Table 1 according to gender. One-way MANOVA performed for all study variables, showed a significant multi-variance by gender $F(11, 880) = 8.16$. In terms of personality factors there is a significant variance by gender for emotional stability, agreeableness and conscientiousness. On aggressive driving behavior there is a significant variance by gender on enjoyment of violence, acting out and negativism. It can be seen that there is no significant variance to general aggressive driving behavior by gender. In Table 2 there can be seen bivariate correlations between all study variables.

Note that there are statistically significant negative correlations between four of the five factors of personality (emotional stability, openness, agreeableness and conscientiousness) and aggressive driving. The only factor which does not significantly correlate with aggressive driving behavior is extraversion. As we expected the strongest negative correlation is between emotional stability and aggressive driving behavior ($r = - . 47, p < . 01$). Another strong negative correlation exists between agreeableness and aggressive behavior ($r = - . 38, p < . 01$) as well as between open and aggressive driving behavior ($r = - . 25, p < . 01$). A statistically significant negative correlation exists between conscientiousness and aggression in traffic ($r = - . 22, p < . 05$).

A hierarchical multiple regression was performed for all factors of Aggressive Driving Behavior Test (AVIS) and for the total score of aggressive behavior in traffic. In all regression equations we introduced the first model (Model 1) gender and age to control their effect. In model two were introduced five personality factors. It can be seen that the second model that predicts Instrumental Aggression explains 24% of the total variance. The model is significant with $F(5, 92) = 5. 59, p < . 01$. Thus, instrumental aggression is predicted by reduced emotional stability. The second model that predicts anger behind the wheel explains 39% of variance. This model is statistically significant with $F(5, 92) = 9. 63, p < . 01$. Driving anger is predicted by low emotional stability and a low conscientiousness. The first model that predicts enjoyment of violence explains 7% of the variance. This model was significant at $F(2, 97) = 4. 97, p < . 05$. Also, the second model explains 34% of the enjoyment of violence, the model being significant at $F(5, 97) = 9. 34,$

$p < .01$. Enjoyment of violence is predicted by gender, low emotional stability, a high extraversion and low agreeableness. The first model that predicts acting out explains 6% of the total variance, the model being statistically significant at $F(2, 97) = 4.03, p < .05$. The second model explains 24% of acting out, this model was statistically significant at $F(5, 97) = 5.63$. Acting out is predicted by gender and decreased emotional stability. The second model that explains negativism is statistically significant at $F(5, 97) = 2.30, p < .01$, explaining 9% of the total variance. Note that negativism is predicted by low openness. Finally, there are the models explaining aggressive driving behavior. As you can see, the second model explains 38% of the total variance of aggressive driving behavior being statistically significant at $F(5, 97) = 9.81, p < .01$. Thus, aggressive driving behavior is predicted by gender and by low emotional stability.

Discussion

This paper aimed to highlight and establish the predictive power of the five personality factors on aggressive behavior in traffic. We investigated the relation between emotional stability, extraversion, openness, agreeableness, conscientiousness and aggressive driving behavior as well as its various aspects such as instrumental aggression, anger, enjoyment of violence, acting out and negativism.

Also, for a better understanding of this relation, the study contains information about the participant's gender and age in order to determine if there are significant gender differences and to control their effect on aggressive driving behavior.

Previous research has shown that men behave more aggressively in traffic than women (Vamlaar, Simpsons, Mayhew & Robertson, 2008 Seibokaite, Endriuilatiene & Marksaityte, 20011 Britt & Garrity, 2006). The same happened in this study, observing that men adopt behaviors characteristic for enjoyment of violence, acting out and negativism more intense and more frequent than females. However, in terms of aggressive driving behavior no significant gender differences were found.

Regarding the relation between emotional stability and aggressive driving behavior, the results of this study are supported by those of other studies (Herzberg, 2009, Dahlen & White, Taubman - Ben Ari & Yehiel, 2011).

One can notice the existence of a negative relation between emotional stability and aggressive driving behavior and between emotional stability and four of its five subscales (instrumental aggression, anger, acting out and enjoyment of violence), which means that people prone to sudden dispositional state changes with a low tolerance to stress and frustration have a driving behavior characterized by the intent to hurt others intentionally, to not cooperate in traffic or to express feelings of superiority while driving. Despite the fact that numerous studies have shown the existence of a positive relation between extraversion and road accidents, traffic violations, the consumption of alcohol while driving (Lajunen, 2001, Martin & Boosma, 1989), in this paper, there is no significant relation between extraversion and aggressive driving behavior. As in other studies (Dahlen & White, 2006) there is a negative relation between openness and aggressive driving behavior and between openness and enjoyment of violence and negativism. Agreeableness relates negatively with aggressive

<https://assignbuster.com/the-big-five-personality-factors-psychology-essay/>

driving, as shown by other studies (Dahlen et. All, 2011, Benfield et. all, 2006) as well as with all the 5 factors of aggressive driving behavior. There are also negative relations between conscientiousness and each of the following terms: aggressive behavior, instrumental aggression, anger and enjoyment of violence

On predicting aggressive driving behavior we found that the first predictor that influences aggressive driving behavior is gender, this also predicting aggressive driving behavior factors such as enjoyment of violence and negativism.

On the five personality factors the study showed that low emotional stability generally predicts aggressive behavior as well as its factors except negativism. These results are also supported by the study by Jovanovic et. all (2010) in which neuroticism predicts aggressive driving behavior as well as by Taubman Ben – Ari & Yehierl (2011) showing that neuroticism predicts anxious driving style. Although some studies have shown that extraversion predicts risky driving (Renner & Ander, 2000), in our study, extraversion was not among the predictors of aggressive driving behavior, this factor predicting just enjoyment of violence in traffic. Despite the fact that there is a negative relation between openness and aggressive driving behavior, it was not found among predictors of aggressive driving, predicting only negativism while behind the wheel. Agreeableness dose not predict aggressive driving behavior, its low level predicting just enjoyment of violence. Results of other research (Arthur & Graziano, 2006) have associated conscientiousness with risky driving, but in our paper

conscientiousness predicts only driving anger, other factors and aggressive driving behavior not being predicted by this.

The most important finding of this study is the prediction power of emotional stability regarding aggressive driving behavior. This factor is also the only predictor of aggressive behavior in traffic, other factors predicting only certain scales. People with low emotional stability are anxious, tense, worried. To understand this relation we should take into consideration some details. We know that one of the characteristics of neurotics is low tolerance to stress (distress tolerance). We say this because Beck, Daughters & Bina Ali (2012) have shown that people with a low tolerance to stress practice risky driving, have high levels of anger while driving and engage in a variety of aggressive driving behavior. Thus, people with low emotional stability, characterized by intolerance to stress, when in traffic congestion situations, when they are running out of time or when rushing, perceive certain situations as stressful and unbearable compared to other road users thus engaging in maladaptive aggressive behavior. Another thing worth mentioning is that neurotic individuals are characterized by sensitivity to punishment, therefore, Constantinou, Panayiotou, Konstantinou, Loutsidou-Ladd & Kapardis (2011) have shown that people with high levels of sensitivity to punishment commit a high number of errors in traffic and traffic violations as well as other aggressive traffic behavior .

One of the limitations of this study is the use of self-report instruments to measure the study variables, allowing the issue of social desirability. Another limitation is that of the nature of the instrument AVIS, part of the Vienna Test Systems, a computerized psychological assessment software, testing of

participants being individual and sequential, each subject being required about 25-30 minutes to complete this test. This is the cause of the low number of participants (100). One other limitation is the nature of the batch of participants, composed only of students, some studies saying that there were problems in the generalization of results based solely on students. This work leaves room for a sequel in the future and it could be interesting to study and investigate a mediation relation between personality and aggressive behavior in traffic (for example driving anger or attitudes as mediator variables),

To conclude with, this paper clarifies some issues in transport psychology, showing prediction p