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Personality Profiles Of Traffic Offenders: Does It Correlate To Alcohol Consumption?

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Abstract

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The aim of this study is to identify personality profiles in the sample of traffic offenders and to find if there are differences in alcohol consumption according to different personality profiles. 683 traffic offenders (611 males, 72 females) participated in the study. The age ranged from 18 to 79 years. A self-administered questionnaire was composed by AUDIT test, Big Five Inventory, Barratt impulsiveness scale (motor-impulsiveness subscale), Aggression scale and Lie subscale. The results show that there are low – risk and high – risk personality profiles of traffic offenders (for both males and females). Those, who have higher expression of impulsiveness, aggression and neuroticism (high risk personality profile), consume alcohol in a hazardous and harmful way. These traffic offenders tend to make more serious road traffic rules violations like driving under the influence of alcohol. Therefore, it could be stated that serious road traffic rules violations might be evaluated as the outcomes of high – risk personality and other problematic behavior such as harmful alcohol consumption.

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Keywords: Traffic offenders; personality profile; alcohol consumption.

1. Introduction

Risky driving is still one of the most important factors in determining the road accidents all over the world. World Health Organization states that the total number of road traffic deaths remains unacceptably high at 1.24 million per year (WHO, 2013). Lithuania is a fifth country in European Union according to the number of fatalities in road traffic accidents (for 1 million people 82 deaths).



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Also, State Road Transport Inspectorate (2014) states that one third of all dangerous traffic conditions on Lithuanian roads are created by traffic offenders who behaves disorderly while driving. There are various reasons why traffic offenders intentionally violate road traffic rules and loose the driving license. However, in Lithuania like in other European countries (Cyprus, Belgium, Slovenia etc.) the main reason of road traffic rules violations is driving under the influence of alcohol or other psychoactive substances (Lithuanian Police Department under the Ministry of Internal Affairs, 2014). Therefore, the analysis of psychological variables, related to behavior on the road in traffic offenders group still remains significant.

Risky driving – is a specific behavior model that is associated with road traffic violations as well as the increasing risk of accidents and injuries (Endriulaitienė et.al., 2013; Jessor, 1987). Research shows that the main reason of accidents and injuries on the road happen because of unsafe drivers' behavior (Nordfjærn et.al. 2012; Staysafe Committee, 2008). Scientists agree that young male drivers (18-29 years), and drivers who have more than 12 years of driving experience tend to drive in more risky manner and do more road traffic rules violations than drivers, who have less than 12 years of driving experience (Rauch et.al., 2010; Vardaki, & Yannis, 2013). However, the analysis of drivers, who violated road traffic rules and have lost their driving license, became a priority in risky driving research field. There are some investigations about psychological risky driving causes of traffic offenders, who have lost their driving license because of driving under the influence of alcohol once (Hubicka et. al., 2010; Osilla et. al., 2012; Schmitz et. al., 2014) or repeatedly (Carlson et. al., 2011; Lapham et. al., 2007; Rauch et. al., 2010). Still, it remains unclear what psychological factors are the most important in predicting speeding and other road traffic rules violations such as not using seat belt or reckless driving.

Even though, the decisions, that driver makes while driving, are determined by motivational aspects like positive attitude towards risky driving (Nordfjærn et. al., 2012; Ulleberg, & Rudmo, 2002; Yilmaz, & Celic, 2004; Zhang et. al., 2011) and risky driving motives (e.g. motive to drive fast and risk taking) (Boudrifa et. al., 2012; Hoo, & Gee, 2008). However, drivers' personality traits still are analyzed as the main and the most important psychological factors in explaining risky behavior on the road. Research shows that personality can influence how individuals approach and behave in certain driving situations (Wundersitz, 2008). Also, personality traits influence the perception of the consequences of intentional road traffic rules violations (Morisset et. al., 2010). Previous studies have found that intentional road traffic rules violations are committed by drivers who are more impulsive (Marengo et. al., 2012; Nayum, 2008), aggressive (Anitei et. al., 2014; Šeibokaitė et. al., 2014), who have higher expression of sensation seeking (Akaateba, Amoh-Gyimah 2013; Nordfjærn et. al., 2010) and neuroticism (Dahlen, & White, 2006; Sümer et al., 2005). These drivers have lower expression of consciousness (Ferreira, Martinez, & Guisande, 2009; Jovanovic et. al., 2011), agreeableness (Dahlen et. al., 2012; Marengo et. al., 2012; Taubman-Ben-Ari, & Yehiel, 2011) and openness (Sümer et. al., 2005). It is found that drivers, who have an expression of mentioned personality traits tend to commit road traffic rules violations such as drive under the influence of alcohol, exceed the speed and use mobile phone while driving (Ferreira, Martinez, & Guisande, 2009). Therefore, it could be assumed that personality traits can help to explain risky driving style.

It is stated that drivers' personality should not be analyzed as the individual and distinct contribution of each personality traits. Different personality traits all together as a combination (personality profile) could be more useful in predicting risky driving (Ulleberg, 2002). However, only several studies present different theoretical approach in order to understand individual differences in risky driving. A few research were conducted in order to identify personality profiles of young drivers, who have license to drive (Lucidia et. al., 2010; Ulleberg, 2002). The results show that there are two types of personality, those are significantly related to more risky behavior on the road (more intentional road traffic rules violations), more negative consequences (higher number of traffic accidents) (Lucidia et. al., 2010; Ulleberg, 2002). Drivers with high – risk personality profile tend to disobey rules and have positive attitude towards risky driving (Lucidia et. al., 2010). Although, studies show that traffic offenders have higher expression of aggression, impulsiveness (Rauch et. al., 2010) as well as higher hostility and sensation seeking (Donovan, & Marlatt, 1982). However, there is a lack of studies in which personality profiles of traffic offenders would be identified by Big five personality traits and other usually analyzed personality traits. Also, it still remains unclear if there are differences in personality profiles of females and males traffic offenders.

According to Problem Behavior Theory, usually a socially undesirable behavior (e.g. alcohol use) often is accompanied by other deviant behavior (e.g. risky sexual behavior) (Bingham, Shope, 2004; Jessor, & Jessor, 1977; Tucker, Martinez, Ellickson, & Edlen, 2008; Van Hout, 2011). Empirical studies in risky driving field confirm this premise and shows that usually risky driving, especially road traffic rules violations, are related to alcohol consumption (Endriulaitienė et. al., 2013; Malley, & Johnston, 2013). It is found that higher number of caused accidents on the road is significantly related to more frequent and binge alcohol consumption (Marcotte et. al., 2012). But there is an assumption that only certain personality could behave in more than one antisocial and unconventional way. Previous research shows that nonconformity, independence, impulsivity and hyperactivity (Hosier, & Cox, 2011; Nayum, 2008; Taubman - Ben Ari, & Yehiel, 2011), sensation seeking (Dahlen, & White, 2006; Kim, & Kim, 2012) and aggressiveness (Jovanovic et.al., 2010; Rauch et.al., 2010) are personality characteristics, which predict more frequent driving under the influence of alcohol, more accidents on the road as well as future alcohol-related problems (harmful alcohol consumption or even alcohol dependency) (Hubicka, Laurell, & Bergman, 2008). However, these presented tendencies mostly are found in young drivers group, but not in those, who committed road traffic rules violations and have lost driving license. Even more, there are no studies that identify the relation of drivers' personality profile and alcohol consumption.

2. Research Aim and Questions

The main aim of this study is to identify the personality profiles of Lithuanian traffic offenders and to investigate how traffic offenders with different personality profiles tend to consume alcohol. For this aim three research questions are formulated:

a) Is it meaningful to identify personality profiles in both traffic offender groups (males and females)?

b) Do traffic offenders (males and females separately) with different personality profiles commit certain road traffic violations?

c) Do traffic offenders with expressed certain personality profiles tend to problematic alcohol consumption?

3. Research Methods

3.1. Sample

The study was conducted in Kaunas and Vilnius (two biggest cities in Lithuania) driving schools, which have license to organize additional driving courses for traffic offenders. All respondents were invited to take part in the study on voluntary basis. 764 traffic offenders who have lost driving license participated in our study. However, data of 683 traffic offenders (611 males and 72 females) was analyzed. Final sample size decreased because of the statistical analysis of normal distribution (excluded data of 58 respondents) and social desirability effect (data of 23 respondents). Demographical features of traffic offenders are presented in Table 1.

Table 1. Characteristics of the study population.

Characteristic	Male N = 611	Female N = 72
Age	31.69 ± 11.17	30.69 ± 11.14
Mean ± SD, (min–max) years	(18 – 79)	(19 – 64)
Driving experience	10.83 ± 9.75	7.93 ± 8.40
Mean (min–max) years	(1 month – 50)	(5 month – 37)
Type of road traffic rules violations		
N (%)		
Driving under the influence of alcohol	332 (54.3)	31 (43.1)
Speeding	184 (30.1)	30 (41.7)
Other road traffic rules violations	95 (15.5)	11 (15.3)
All respondents of this study were licensed to drive vehicle (B category).		

The majority of the respondents were male traffic offenders, averagely 32 years old, who have averagely 11 years of driving experience and have lost their driving license because of driving under the influence of alcohol. There were no significant difference comparing age of different genders ($p=0.48$) and committed road traffic rule violations ($\chi^2(2) = 4.29, p=0.117$). However, males had significantly higher driving experience than females ($p=0.008$).

3.2. Measures

Personality profiles were composed from different seven personality traits. Big Five Inventory (BFI) (John et. al., al., 2008; Benet-Martinez, & John, 1998) consists of 44 items and measures five different personality traits: *extraversion, agreeableness, neuroticism, conscientiousness and openness*. Impulsiveness was measured by 11 items of the motor-impulsiveness subscale of Barratt impulsiveness

scale (BIS-11) (Patton, Stanford, & Barratt, 1995). A tendency to be rude, impolite and aggressive with others was evaluated by 10 items Aggression scale (Markšaitytė, & Endriulaitienė, 2010).

Additionally, alcohol consumption was measured by AUDIT (*The alcohol use disorders identification test*) (Saunders, Aasland, Babor, de la Fuente & Grant, 1993). 10-item test evaluates four levels of alcohol consumption: *non-problematic* (Total score 0 – 7), *hazardous* (Total score 8 – 15) and *harmful* alcohol consumption (Total score 16 – 19) as well as *alcohol dependence* (Total score 20 and more).

In order to evaluate tendency to give socially acceptable answers, a Lie subscale from Eysenck Personality Questionnaire (Eysenck Personality Questionnaire 1986) was used. Also, demographic data was obtained and it included gender, age and driving experience. Participants were asked to name road traffic rules violations they made, which was the reason of their lost driving license.

Table 2. Characteristics and internal validity of the used questionnaires.

	Items	Range	Mean ± SD	Cronbach α (of this study)	Cronbach α (of original author)
Big Five Inventory					
Extraversion	8	17 – 40	28.9 ± 4.4	0.63	0.88
Agreeableness	9	23 – 45	33.7 ± 4.5	0.59	0.79
Neuroticism	8	8 – 32	19.9 ± 4.5	0.62	0.84
Conscientiousness	9	21 – 45	34.4 ± 4.8	0.64	0.82
Openness	10	20 – 50	35.1 ± 6.1	0.76	0.81
Motor-impulsiveness					
Aggression	10	10 – 18	12.4 ± 2.0	0.59	0.83
AUDIT test	10	0 – 25	5.8 ± 4.2	0.76	0.86
Social desirability	22	0 – 19	11.7 ± 3.9	0.78	0.79

All measures were translated into Lithuanian. All Lithuanian questionnaires versions were adapted following the standard translation and back translation procedure. Personality traits measures were scored on a 5-point or 4-point Likert scale ranging from ‘strongly disagree’ to ‘strongly agree’. AUDIT test were administrated by different answers categories, which indicate the frequency of alcohol consumption or experienced problems, related to alcohol consumption (for more see Saunders, Aasland, Babor, de la Fuente & Grant, 1993). Higher scores of all measures indicated higher expression of personality traits and riskier level of alcohol consumption. The characteristics and internal validity of measures are presented in Table 2.

3.3. Procedure

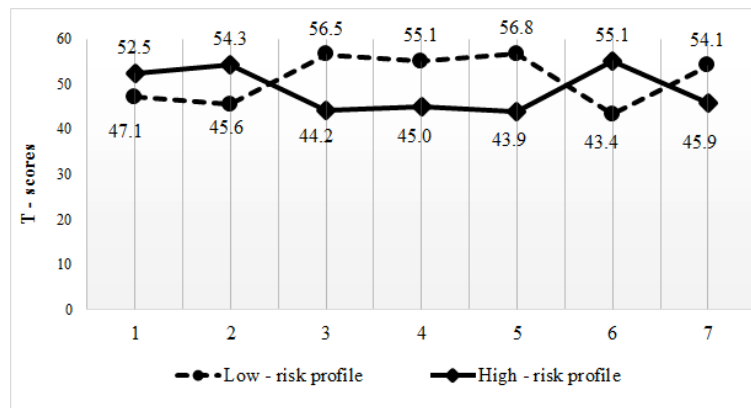
The study was conducted in Lithuania (two the biggest cities Vilnius and Kaunas) driving schools, which have a license to organize additional driving course for those, who have lost their driving license because of committed road traffic rules violations. Traffic offenders were asked to participate in the study voluntarily. Those, who agreed to fill a self-administered questionnaire were informed about the aim of the study and that anonymity and confidentiality is ensured. The data was collected and further analyzed.

3.4. Data analysis

Statistical analysis was performed using the SPSS 17.0 statistical package. The Kolmogorov-Smirnov test was used for the assessment of normal distribution in quantitative data. The effect of social desirability was evaluated by the mean plus two standard deviations of the Lie scale. Descriptive statistics was used to present study sample characteristics. Both gender groups of traffic offenders were compared according to the main indicators of this study by using T-test for independent groups. Cluster analysis was made in order to classify respondents according to personality traits. Clusters were made automatically, with no pre-determining the number of clusters. Crosstabs analysis was used to analyze if respondents with different personality profiles tend to commit different road traffic rules violations. Lastly, binary regression model (enter method) was conducted in order to investigate if traffic offenders with certain personality profile tend to consume alcohol in more risky way. Statistical significance level $p < 0.05$.

4. Findings

Before the main analysis, the comparison of psychological variables in females and males groups was made. Results showed that males had higher expression of aggression ($p=0.011$) and agreeableness ($p=0.006$) than females. However, females tend to express more openness ($p=0.014$) than males. Males had higher scores of AUDIT test ($p=0.0001$), but females had higher scores of lie scale ($p=0.008$). Females and males had no differences in expression of extraversion ($p=0.0111$), neuroticism ($p=0.064$) and conscientiousness ($p=0.063$). Since there were significant differences in expression of different personality traits in males and females groups, the main two-step cluster analysis was made in both gender groups separately. Two-step cluster analysis was made in order to classify respondents according to the most expressed personality traits. The difference between distribution of personality traits in two clusters were significant ($p < \alpha$). The results are presented in Fig. 1 and Fig 2.

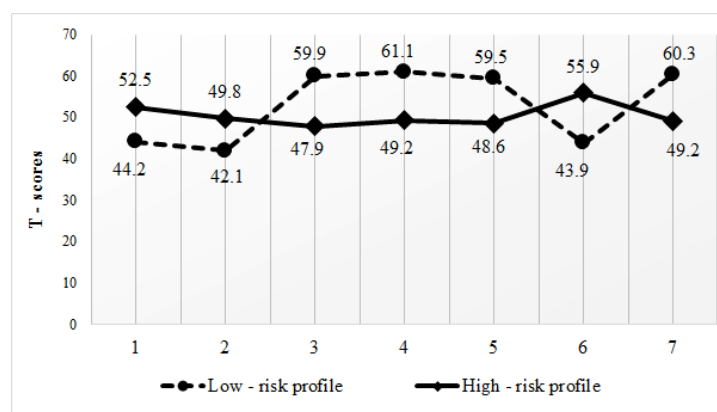


* 1 – Impulsiveness; 2 – Aggression; 3 – Extraversion; 4 – Agreeableness;
 5 – Conscientiousness; 6 – Neuroticism; 7 – Openness;

Fig. 1. Personality profiles in male traffic offenders' group.

According to T – scores of expressed personality traits, the first cluster was formed by higher expression of extraversion, agreeableness, conscientiousness and openness, but lower expression of impulsivity, aggression and neuroticism. Also, the results showed that the second cluster was opposite, formed by higher expression of impulsivity, aggression and neuroticism, but lower expression of extraversion, agreeableness, conscientiousness and openness.

Previous researchers found that drivers, who have higher expression of personality traits of the first cluster, possess good self-control and tend to adapt to various road traffic conditions more quickly (Anitei et. al., 2014). Therefore, the first cluster could be characterized as low – risk personality profile. It was found that drivers, who have expression of personality traits of the second cluster, could be characterized as emotionally unstable, less attentive while driving and spontaneous, hostile drivers (Dahlen, & White, 2006). These drivers possess lack of control and follow their impulses in an unrepressed manner (Deffenbacher et. al., 2003). Therefore, the second cluster could be defined as high – risk personality profile.



* 1 – Impulsiveness; 2 – Aggression; 3 – Extraversion; 4 – Agreeableness;
 5 – Conscientiousness; 6 – Neuroticism; 7 – Openness;

Fig. 2. Personality profiles in female traffic offenders' group.

Results (Fig. 1) showed that 50.4 % of male (N=303) traffic offenders got into first cluster and 49.6% of male (N=308) traffic offenders formed the second cluster. Also, it was found that 31.9% of female (N=23) traffic offenders got into the first cluster and 68.1% of female (N=49) traffic offenders formed the second cluster (Fig. 2).

The aim of the further analysis was to assess if traffic offenders with different personality profiles committed different road traffic rules violations. The analysis (see Table 3) was conducted according to personality profiles and type of committed road traffic rules violations.

Table 3. Personality profiles analysis according to committed road traffic violations.

Groups of traffic offenders	Personality profile	Driving under the influence of alcohol	Speeding	Other road traffic rules violations	Total N
Males	Low-risk profile	48.5% (N=161)	42.9% (N=79)	41.1% (N=39)	279
	High-risk profile	51.5% (N=171)	57.1% (N=105)	58.9% (N=56)	332
Females	Low-risk profile	29.0% (N=9)	33.3% (N=10)	36.4% (N=4)	23
	High-risk profile	71.0% (N=22)	66.7% (N=20)	63.6% (N=7)	49

* $\chi^2_{\text{males}} (2)=2.438, p=0.295$; $\chi^2_{\text{females}} (2)=0.246, p=0.884$

** Significance level $p < 0.05$

The results showed that males despite their personality profiles equally violated road traffic rules by driving under the influence of alcohol, speeding and doing other road traffic rules violations. The same non – significant results ($p > \alpha$) was found in females' group. However, findings showed a tendency that females with high-risk personality profile are twice as likely to violate road traffic rules in comparison to females who had low-risk personality profile. Two-thirds of females, who have highly expression of impulsivity, aggression and neuroticism altogether committed road traffic rules by driving under the influence of alcohol (71% of 100%), speeding (66.7% of 100%) and doing other road traffic rules violations (63.6% of 100%)

Finally, binary regression analysis was conducted in order to find if there are differences in alcohol consumption according to different traffic offenders' personality profiles. Also, other aim was to investigate how committed road traffic rules violations and demographic variables are related to higher – risk personality profile in a traffic offenders group. In binary regression model, personality profile (1 – low risk; 2 – high risk) was used as the dependent variable. Three groups of committed road traffic rules violations (1 – driving under the influence of alcohol; 2 – speeding; 3 – other road traffic rules violations), each dimension of alcohol consumption (1 – non –problematic; 2 – hazardous; 3 – harmful; 4 – alcohol dependence), gender (1 – male; 2 – female), age (years) and driving experience (years) was used as independent variables in regression model.

Binary regression analysis revealed that regression model were statistically significant (Chi-square (5) = 47.596, $p < 0.0001$). *Cox & Snell R Square* was 0.069 and *Nagelkerke R Square* was 0.092. *Hosmer & Lemeshow Test* ($\chi^2 (8) = 12.820, p=0.118$) showed that predictions made by the model is consistent and fit perfectly with the data. Logistic regression model prediction accuracy is 62.4 %.

Table 4. Prediction of high – risk personality profile by alcohol consumption, committed road traffic violations and demographic variables.

	Independent variables	B	p	Exp (B)
Step 1 ^a	Alcohol consumption	0.897	0.0001	2.452
	Committed road traffic violations	0.193	0.084	1.213
	Gender	-0.724	0.009	2.062
	Age (years)	0.001	0.940	1.001
	Driving experience (years)	-0.022	0.225	0.978

*Significance level $p < 0.05$.

The results (Table 4) revealed that only alcohol consumption and gender of traffic offenders were significant variables in predicting high – risk personality profile ($p < \alpha$) (committed road traffic violations ($p=0.084$), age ($p=0.940$) and driving experience ($p=0.225$)). Hazardous or harmful alcohol consumption as well as alcohol dependence was significantly related to probability to be high – risk personality driver. Also, the probability of being high – risk personality profile is higher for traffic offenders males than females.

5. Discussion and Conclusions

González-Iglesias et. al. (2014) states that one-fourth of all road accidents in Europe each year has been estimated as the result of driving under the influence of alcohol. Most research agrees that driving under the influence of alcohol and other risky behavior like alcohol consumption could be explained by psychological factors (Akaateba, & Amoh-Gyimah, 2013; Endriulaitienė et. al., 2013; Nordfjærn et.al. 2012). However, the analysis of psychological risky driving aspects usually is conducted in the group of drivers who have license to drive. Therefore, the aim of this study was to analyze some psychological aspects of traffic offenders: to identify personality profiles in the sample of traffic offenders and to find if there are differences in alcohol consumption according to different personality profiles.

Some researchers have avoided focusing on personality, since it is considered a stable variable that is resistant to change (Constantinou et. al., 2011). However, it could be stated that personality traits are distal factors influencing accident proneness. Personality traits are significant in describing certain stable behavior model in specific driving situations (Šeibokaitė et. al., 2014). So, the results of this study show that there are two personality profiles in traffic offenders' group. According to combination of mostly expressed personality traits these personality profiles could be characterized as low – risk and high – risk. Lower – risk personality profile characterize those drivers, who possess good self-control, express more assertiveness, empathy, altruism (John et. al., al., 2008). So, personality traits of low risk personality profile predict higher activity, more reasoned decisions as well as greater tolerance while driving. As the result, road traffic rules may be violated by doing more unintentional driving errors (Anitei et. al., 2014). On the contrary, drivers, who have high – risk personality profile are more

emotionally unstable, hostile to others, they tend to express their anger and anxiety while driving (John, et. al., 2008). Also, these drivers lack self-control so they are less likely to engage in long-term planning and are more susceptible for deviant temptations in the short-term plans (Sloan et. al., 2014). Because of expressed aggression, neuroticism and especially impulsiveness, drivers may have inability to anticipate the consequences of their risky behaviour, they have difficulties in focusing attention on one task and they are not capable to stop already initiated risky action (Endriulaitienė et. al., 2013; Jakubczyk et. al. 2013). So, drivers with high – risk personality profile tend to drive more recklessly and usually they violate road traffic rules intentionally (Lucidi et al., 2010; Nayum, 2008).

Dahlen et al. (2012) proposed that certain personality traits (e.g. sensation seeking or impulsiveness) could predict both risky driving behavior and accidents (Guo et. al., 2016). However, the results of our study are contradictory. Unexpectedly, results reveal that traffic offenders' males, despite their personality profile, almost equally violate road traffic rules by driving under the influence of alcohol, speeding and doing other road traffic rules violations. Therefore, it can be assumed that male drivers tend to drive more risky not because of dominant personality traits, but maybe because of gender roles socialization. The road traffic rules violations are supposed to be one of the few ways to demonstrate masculinity and aggression in contemporary societies (Constantinou et. al., 2011). Also, surprisingly, this study shows that traffic offenders' females with high-risk personality profile are twice as likely to violate road traffic rules (drive under the influence of alcohol, exceed the speed or do other road traffic rules violations). Recent studies confirm these results and conclude that in many countries, driving under the influence of alcohol rates among female have increased during the past three decades while there has been stabilization or decrease in male drivers group (Tsai, Anderson, & Vaca, 2010). Usually it is stated that female drivers are more cautious and less aggressive than male drivers (Zhang et. al., 2014). But the results of this study show that traffic offenders' females tend to demonstrate socially undesirable behaviors perhaps in order to achieve certain goals. So, it could be stated that female traffic offenders are more risk tolerant and more present-oriented drivers, therefore they are more likely to engage in behaviors that others would avoid (Sloan et. al., 2014).

The main results of this study reveal that those traffic offenders, who have high – risk personality profile, consume alcohol in hazardous or harmful way. Consequently, high – risk personality profile may be viewed as disposition that fuels the driver's motivation for risky behavior on the road, which in turn leads to negative driving outcomes (Constantinou et. al., 2011), e.g. committed road traffic rules violations and lost driving license. This may be happens because people with high – risk personality profile have lower perception of risk behavior. People adapt their behaviors according to perceived risk. It is found that impulsive and aggressive people usually do not consider or anticipate cost and benefit of risky behavior while making decisions (Nayum, 2008). Because of lower risk perception any risky behavior (e.g. risky driving or frequent alcohol consumption) is interpreted as appropriate. Therefore, drivers with low level of risk perception are not likely to take personal responsibility of risky behavior (Boudrifa et. al., 2012). Even more, traffic offenders, especially those, who have a heavy and binge alcohol consumption do not strongly endorse the fact that alcohol impairs driving ability. Then, the decision to drive under the influence of alcohol may be influenced by the perceived probabilities of the range of possible adverse consequences of such behavior (MacLeod et. al., 2015).

So, personality profile could be important factor in predicting those drivers, who will probably take risky decisions on the road as well as who will do it because of problematic alcohol consumption.

Moreover, it is stated that males are indeed the high risk group for road traffic accidents, mostly due to aggressive and self-interested way in which they drive (Constantinou et. al., 2011). As it was expected, the results of this study confirm this premise. It is found that despite age, driving experience or committed road traffic rules violations, traffic offenders' males could be identified as having high – risk personality profile (highly expression of aggression, impulsivity and neuroticism). This is perhaps because males are often overconfident and less likely to comply with traffic laws when driving and therefore, they tend to be less cautious about the risk of dangerous driving behaviors (Zhang et. al., 2014; Shinar, & Compton, 2004), especially the outcomes of road traffic rules violations.

Limitations

This study has certain strengths as well as some limitations. Firstly, our findings are significant for deeper understanding of risky behaviour on the road in those traffic offenders' who committed various road traffic rules violations and lost their driving license. However, the sample of male traffic offenders was excessive, which may be the source of bias. More research should be performed in order to get more convincing results concerning female traffic offenders.

Also, the results of this study make significant contribution in identification of personality profiles not only in young drivers (Lucidia et.al., 2010; Ulleberg, 2002), but also in very specific drivers' group – traffic offenders. These results are complementary in understanding drivers' risky behavior in a holistic approach when various personality traits are equally important in explaining certain aspects of driving style. But, certainly not all personality traits were included in identifying personality profiles. Recent studies show that personality traits like Narcissism, Machiavellianism and Psychopathy (or Dark Triad) are related to risky driving (Claudia et. al., 2016; Flexon et. al., 2016). So, for future studies Dark Triad traits should be taken into account.

Finally, the results of this study promote development of new ideas why traffic offenders tend to behave in a risky manner not only on the road, but also in other areas. So it could be assumed that there are set of personality characteristics or traits (personality profiles) that allow early establishment of both risky driving and the onset of alcohol problems. Still the design of this study does not allow making causality statements between personality profiles and alcohol consumption. Also, the data of this study is self – reported. Therefore, for future research objective measures of the data (especially level of alcohol in the blood) should be taken into account.

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