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THE EFFECTS OF IMPULSIVENESS AND ALCOHOL ABUSE ON TRAFFIC CODE VIOLATIONS

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Abstract

This paper examines the contribution of the facets assessed by the I₇ Impulsiveness Questionnaire (viz., impulsiveness, venturesomeness and empathy), and of alcohol abuse, to the prediction of traffic rule violations controlling for the effect of variables such as age and annual mileage. To this end, a study was conducted on a sample of 535 drivers aged 20–73 years and the results were examined separately by gender. Based on them, impulsiveness and venturesomeness account for a substantial proportion of traffic violations reported by males and females, even if the effects of other variables such as age or annual mileage are considered. By contrast, empathy is relevant only for male drivers. The results also reveal a strong relationship between alcohol abuse and Highway Code violations, which significantly increases the predictive ability of personality variables in both males and females. These results support the need to consider the drivers' personality in the design of interventions for driving offenders, whereas programs which are focused only on road safety education may be insufficient. Results also evidence the need to highlight the role in the intervention of alcohol abuse and its relationship with driving behaviours.

Keywords: impulsiveness; venturesomeness; empathy; driving behaviour; violations; alcohol abuse.

Resumen

En este trabajo se analiza la contribución de las facetas evaluadas en el Cuestionario de Impulsividad I₇ (impulsividad, afán de aventuras y empatía) y el abuso de alcohol en la predicción de las violaciones de las normas de tráfico, después de controlar variables como la edad o el número de kilómetros conducidos en el último año. Para ello se ha realizado un estudio con una muestra de 535 conductores con edades comprendidas entre los 20 y los 73 años y se han analizado de forma separada los datos para hombres y mujeres. Los resultados mostraron que la impulsividad y el afán de aventuras contribuyen a explicar una parte significativa de las infracciones de tráfico informadas por hombres y mujeres aún después de controlar los efectos de otras variables como la edad o la cantidad de kilómetros conducidos al año. Sin embargo, la empatía sólo se mostró relevante en el caso de los varones. Los resultados también pusieron de manifiesto una alta relación del abuso de alcohol con la violación de las normas de tráfico, contribuyendo a incrementar de forma significativa la capacidad predictiva de las variables de personalidad tanto en hombres como en mujeres. Estos resultados apoyan la necesidad de considerar las características de personalidad de los conductores a la hora de diseñar las intervenciones dirigidas a infractores, mostrándose insuficientes los programas que se centran exclusivamente en la educación vial. Los resultados también evidencian la importancia que se le debe conceder al abuso de alcohol y su relación con el uso del vehículo en este ámbito de intervención.

Palabras clave: impulsividad; afán de aventuras; empatía; conducta del conductor; violaciones; abuso del alcohol.

Introduction

Does our driving behaviour reflect what we are or do we transform like Dr. Jekyll into Mr. Hyde when we drive? Are “bad drivers” as per the definition of Ross and Antonowicz (2004) “bad people” or genuine “road chameleons”? The suggestive assertion of Tillman and Hobbs (1949) that “a man drives as he lives” has tipped the debate towards the advocates of a relative trans-situational stability of some personality traits and promoted a vast amount of research into their role in explaining and predicting driving behaviours. A number of variables have been assessed as potential correlates for risky driving behaviours (Beirness 1993; Elander, West, & French, 1993; Lawton & Parker, 1998) among which sensation seeking and impulsiveness play a central role.

Impulsiveness has been conceptualized in various ways within the framework of Eysenck’s theory. Initially, impulsiveness and sociability were regarded as two components of extraversion (Eysenck & Eysenck, 1963). Subsequently, Eysenck and Eysenck (1977) argued that Impulsiveness was not a single factor, but rather a combination of four which they called strict impulsiveness, risk seeking, no planning and liveliness as revealed by a factor analysis of items from various scales. A new conceptual change in Impulsiveness was introduced following the analysis by Eysenck and Zuckerman (1978) of its relationship to the Sensation Seeking scales. Since then, Eysenck’s construct comprises two facets, namely: impulsiveness in the sense of doing and saying things without thinking, and venturesomeness, where the items pertaining to risk seeking are supplemented by others related to sensation seeking. These authors assessed their construct by means of their I_7 scale, which consists of 63 items that not only examine impulsiveness and venturesomeness, but also offset the effects of some biased responses. In addition, the I_7 scale has proved useful for studying the relationships of personality to some types of antisocial behaviour (Alonso, Sanmartin, Esteban, Calatayud, Alamar, López, & Pastor, 2007; Eysenck, 1993; Luengo, Otero, Carrillo-de-la-Peña, & Mirón, 1994).

There is ample evidence for the relationship between risky driving and sensation seeking. Some studies have shown that people scoring high in this variable take higher driving risks, drive more recklessly and are involved in more traffic accidents (Arnett, 1990; Clément & Jonah, 1984; Dahlen & White, 2006; Hovarth & Zuckerman, 1993; Iversen & Rundmo, 2002; Jonah, Thiessen, & Au-Yeung, 2001). Impulsiveness has also

been related to highway code violations (Dahlen, Martin, Ragan, & Kuhlman, 2005; Mayer & Treat, 1977; Ryb, Dischinger, Kufera, & Read, 2006; Stanford, Greeve, Boudreaux, & Mathias, 1996); however, the results have not always been consistent and some variables such as gender, degree of involvement in driving behaviours or driver age may have concealed the actual relationship (Fernandes, Job, & Hatfields, 2007; Gulliver & Begg, 2007).

Alcohol abuse is one other highly important variable in relation to driving safety which has been related to these personality traits and to risky driving behaviours. A number of studies have confirmed the close relationship of impulsiveness and sensation seeking to alcohol abuse (Arnett, 1990; Zuckerman, 1993, 2009; McAdams & Donellan, 2009). Others have related alcohol abuse to accidentability and risky behaviour in drivers (Dobson, Brown, Ball, Powers, & McFadden, 1999; Hole, 2007; Lonezak, Neighbors, & Donovan, 2007), but few have examined these variables jointly and established to what extent the effects of alcohol abuse on risky behaviours are independent of those of variables such as impulsiveness and sensation seeking.

The aim of this work was to relate impulsiveness as assessed in the I7 questionnaire to risky driving behaviours in a sample of drivers from the general population, and also to establish to what extent the relationship between alcohol abuse and Highway Code violations is independent of the effects of the personality variables examined. Because the variables studied differed by gender, the results were examined separately for males and females.

Method

Participants

The study was conducted on a sample of 535 drivers from the general population, taken from a driving assessment centres located in different towns of Galicia (NW of Spain). All they had a driving licence for at least two years ($M = 18.97$, $SD = 10.37$). The participants' age ranged between 20 and 73 years, with a mean of 39.6 ($SD = 11.49$); 288 (53.9%) were females and 247 (46.1%) males.

Instruments

We used the reduced version of Eysenck's I₇ Questionnaire (Eysenck, Pearson, Easting, & Allsopp, 1985) developed by Aluja and Blanch (2007), which consists of 24 items classified in three subscales (viz., impulsiveness, venturesomeness and empathy) and uses Yes/No answers. The Cronbach alpha value for each subscale was .73, .80 and .68, respectively.

Driving behaviours and traffic violations were assessed with the Highway Code Violations subscale in the Driver Behaviour Questionnaire (DBQ) (Reason, Manstead, Stradling, Baxter, & Campbell, 1990) as adapted to Spanish by Gras, Sullman, Cunill, Planes, Aymerich, & Font-Mayolas (2006). This subscale consists of 9 items which are scored on a Likert-type scale from 0 (*never*) to 4 (*many times*) depending on the frequency with which each driver has adopted the behaviour in question in the past year. The subscale exhibited adequate internal consistency (Cronbach's $\alpha = .75$).

Alcohol abuse was assessed via an item which asked the participants how frequently they had had more than 6 alcoholic drinks at a time during the previous year. Responses were scored on a Likert-type scale from 0 (*never*) to 4 (*more than 6 times*).

In addition, participants were asked to provide socio-demographic data and information about their driving history: experience (year they obtained their driving licence), exposure (average annual mileage), number of fines (speeding, alcohol, using a mobile phone while driving) and accidents (with and without casualties) over the previous 5 years.

Procedure

Data were collected individually and at random from 18 driving assessment centers in Galicia. On their visits, drivers were invited to take part in the study and assured of anonymity and confidentiality of their data. Each questionnaire included specific instructions and the scoring scale to be used in response to the different questions.

Data analysis

Data were subjected to gender comparison via Student's *t*-test and, then to correlation analysis of all variables for both males and females. Also, hierarchical regression analysis was used to identify the specific personality-related variables predicting traffic violations by males and females, and the role of alcohol abuse in each type of behaviour. The potential effects of age and exposure on the previous relationships were considered by introducing these two variables in the first step of the equation.

Results

Table 1 shows the participants' scores for the different I₇ subscales and the gender differences in each. Males scored significantly higher on the venturesomeness scale than did females and the opposite was true for the empathy scale. No significant differences between genders on the impulsiveness scale were found, however.

Table 1. Scores by gender and t-test by gender on the I₇ subscales.

	α	Males		Females		<i>t</i>	<i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Impulsiveness	.77	1.78	1.95	1.86	1.84	<i>ns</i>	-0.04
Venturesomeness	.80	3.47	2.66	1.77	1.96	8.46***	0.73
Empathy	.71	6.53	1.77	7.28	1.12	-5.86***	-0.51

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 2 exhibits the means, standard deviations and gender differences in the major variables related to driving behaviours. As can be seen, males reported driving a greater mileage, receiving more fines and having more accidents (with and without casualties) than females. Also, males exhibited greater levels of alcohol abuse and committed more traffic violations.

Table 3 displays the correlations found by gender. As can be seen, the drivers having the highest mileages were also those committing the greatest numbers of traffic violations, having the most accidents and receiving the most fines. In addition, mileage was positively correlated with impulsiveness and venturesomeness, but only in males. Driver age and driving licence age were negatively correlated with impulsiveness and

venturesomeness in males, but only with the latter in females. The older drivers, both males and females, reported fewer episodes of alcohol abuse and traffic violations.

Table 2. Mean, standard deviation and differences between genders in driving behaviour variables.

	Males	Females	<i>t</i>	<i>d</i>
	<i>M (SD)</i>			
Mileage	4.09 (1.40)	3.09 (1.46)	7.90***	0.70
Fines	1.37 (1.68)	0.53 (1.08)	6.90***	0.59
Accidents with casualties	0.24 (0.57)	0.11 (0.37)	3.22***	0.27
Accidents without casualties	1.28 (1.19)	0.83 (0.98)	4.79***	0.41
Alcohol abuse	1.04 (1.46)	0.32 (0.76)	7.29***	0.62
Rule violations (DBQ)	0.83 (0.03)	0.58 (0.42)	6.14***	0.84

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

The analysis of correlations with the I_7 scales revealed a significant relationship between impulsiveness and venturesomeness –neither, however, was correlated with empathy. impulsiveness and venturesomeness were additionally correlated with alcohol abuse and traffic violations in both genders, and with fines in males alone. The only significant correlation as regards traffic accidents was that between Impulsiveness and accidents without casualties in males. Empathy was negatively correlated with risky driving behaviours, accidents and fines, but only in males.

Alcohol abuse was closely related to traffic violations in both males and females, and to fines –again, only in females.

Table 3. Correlations between variables.

	17							Accidents			
	Mil.	EXP	Age	IMP	VENT	EMP	Alcohol	VIOL	Fines	With cas.	Without cas.
Mil.											
EXP	.00										
Age	-.06										
IMP	.85**										
VENT	-.05	.95**									
EMP	.16*	-.14*									
Alcohol	.16*	-.40**	-.46**								
VIOL	.16*	.01	.04	.22**							
Fines	-.09	-.25**	-.27**	-.03	-.09						
With cas.	.09	-.27**	-.31**	.15*	.19**	-.10					
Without cas.	.25**	-.27**	-.31**	.34**	.34**	-.23**	.36**				
	.16*	.06	.03	.23**	.14*	-.16*	.10	.32**			
	.18**	-.05	-.09	.17**	.12	-.15*	-.02	.11	.00		
										.22**	.34**
										.09	.33**

Note. Values below the diagonal (males) or above it (females); IMP = Impulsiveness; VENT = Venturesomeness; EMP = Empathy; Mil. = Annual mileage; EXP = Experience, VIOL = Rule violations (DBQ); With cas. = accidents with casualty; Without cas. = accidents without casualty; * $p < .05$, ** $p < .01$.

.Self-reported traffic violations were positively correlated with fines in both genders, and also with number of accidents in males. The relationship between accidents and fines was also restricted to males.

Table 4. Hierarchical multiple regression analyses predicting rule violations (DBQ).

Variable	β	R^2	ΔR^2
Males			
Block 1			
Age	-0.12	0.10	0.10***
Mileage	0.10	0.13	0.03**
Block 2			
Impulsiveness	0.23***	0.21	0.08***
Empathy	-0.16**	0.25	0.04***
Venturesomeness	0.15*	0.27	0.02*
Block 3			
Alcohol abuse	0.30***	0.35	0.08***
Females			
Block 1			
Age	-0.16**	0.07	0.07***
Block 2			
Venturesomeness	0.15*	0.12	0.05***
Impulsiveness	0.16**	0.15	0.03***
Block 3			
Alcohol abuse	0.24***	0.20	0.05***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 4 lists the results of the multiple linear regression analysis used to predict traffic violations with the DBQ. We used a hierarchical process including age and mileage in the first block, the I_7 scales in the second and alcohol abuse in the third. Each block was subjected to a stepwise procedure in order to select variables for inclusion in the prediction model. The differences thus found between males and females confirmed the suitability of separate analyses.

As can be seen from Table 4, age and exposure (annual mileage) accounted for 13% of the variance in self-reported traffic violations by males. Introducing the I_7

variables and alcohol abuse in the model raised the explained variance to 27 and 35%, respectively.

Mileage in the female subsample was uncorrelated to traffic violations. On the other hand, age accounted for 7% of the variance in traffic violations by this gender. Venturesomeness and impulsiveness increased the predictive ability of the model by 8% and alcohol abuse by a further 5%, so the final model accounted for 20% of the total variance in traffic violations by females.

Discussion

Our results confirm the usefulness of the 24-item version of the I_7 proposed by Aluja and Blanch (2007). Thus, internal consistency was adequate for all scales except empathy for females –which was also the case in previous studies using the whole questionnaire (Eysenck & Eysenck, 1978) or the reduced version (Aluja & Blanch, 2007). As regards the accuracy of the instrument, the gender differences in venturesomeness and empathy, the absence of differences in Impulsiveness and the strong correlation of impulsiveness and venturesomeness with age are consistent with theory and with previous studies (Abbey, Saenz, & Buck, 2005; Eysenck et al., 1985; Luengo, Carrillo, & Otero, 1991; Mirón, Otero, & Luengo, 1989; Renner & Anderle, 2000; Silva, Martorell & Clemente, 1987).

There were also differences in self-reported drivers' data between genders. Thus, males reported more fines and accidents (with and without casualties) and gave significantly higher scores in the Traffic Violations subscale of the DBQ. These results are consistent with official statistics and with other studies based on self-reports (Castellà & Pérez, 2004; Lajunen & Summala, 2003; Mesken, Lajunen, & Summala, 2002; Oltedal & Rundmo, 2006; Reason et al., 1990). The differences, together with those in the correlations between variables for males and females separately, justify using a different predictive model for each gender.

The results provided by the regression equations testify to the importance of the personality variables studied towards explaining risky driving behaviours. Thus, impulsiveness and venturesomeness accounted for 8% of the variance in self-reported traffic violations in females and 12% in males after controlling for the effects of other variables such as age or mileage. These results are consistent with those of a previous study on young female undergraduates where the facet Sensation-seeking in the NEO-

PI-R was among the most important variables towards predicting aberrant driving behaviours (Gómez-Fraguela & González-Iglesias, 2010), as well as with those of previous studies by Owsley, McGwin and McNeal (2003); Rimmo and Aberg (1999); Schwebel, Severson, Ball, and Rizzo (2006); and Wickens, Toplak, and Wiesenthal (2008).

In our study, Empathy proved relevant to risky behaviours in males and contributed by 4% to the predictive ability of the model. The role of this variable in predicting risky driving behaviours remains largely unexplored despite its significance, acknowledged by authors such as Vassallo et al. (2007), who conducted a longitudinal study where they found low self-reported empathy scores for teens in mid-adolescence (12–14 years) to correlate with risky driving at 19–20 years. These results suggest that traffic safety prevention programs should emphasize the development of empathic attitudes and rule abidance based on interpersonal criteria (Gaymard, Allain, Osiurak, & Le-Gall, 2011; Pérez, Lucas, Dasi, & Quiamzade, 2002)

Our results also reveal a prominent role of alcohol abuse in the prediction and explanation of many aberrant driving behaviours. Alcohol not only reduces or impairs drivers' perception of traffic signs and marks, and increases their response times, but also, seemingly, reduces sense of responsibility and prudence, thereby raising the likelihood of adopting risky driving behaviours (Montoro, Alonso, Esteban, & Toledo, 2000).

Some of our conclusions are subject to constraints that should be addressed in future work. Thus, whether the little contribution of the variable Empathy to explaining traffic violations by females is a consequence of poor reliability of the scale or simply an irrelevant result should be confirmed. Also, traffic accidents should be assessed in a more accurate manner, and a distinction made between those caused by the driver or someone else. In addition, our data should be contrasted with those of other studies using assessment techniques other than those based on self-reports since some results may have been influenced by the specific method used (Nesbit, Conger, & Conger, 2007).

Clearly, risky driving behaviours and their consequences involve complex phenomena that require more comprehensive models including variables of diverse nature and allowing mediating effects and interactions between variables to be

considered. Only by using appropriate designs towards this goal will we be able to understand the complex facts underlying risky driving behaviours.

References

- Abbey, A., Saenz, C., & Buck, P. O. (2005). The cumulative effects of acute alcohol consumption, individual differences and situational perceptions on sexual decision making. *Journal of Studies on Alcohol*, *66*, 82–90.
- Alonso, F., Sanmartín, J., Esteban, C., Calatayud, C., Alamar, B., López, B., & Pastor, J. C. (2007). *La Conducta social en el tráfico: Práctica y valoración de la población española* [Social behaviour in traffic: Practice and assessment of the Spanish population]. Valencia, Spain: Instituto Universitario de Tráfico y Seguridad Vial.
- Aluja, A., & Blanch, A. (2007). Comparison of impulsiveness, venturesomeness and empathy (I7) structure in English and Spanish samples: Analysis of different structural equation models. *Personality and Individual Differences*, *43*, 2294–2305. doi: [10.1016/j.paid.2007.07.019](https://doi.org/10.1016/j.paid.2007.07.019)
- Arnett, J. (1990). Drunk driving, sensation seeking, and egocentrism among adolescents. *Personality and Individual Differences*, *11*, 541–546. doi: [10.1016/0191-8869\(90\)90035-P](https://doi.org/10.1016/0191-8869(90)90035-P)
- Beirness, D. (1993). Do we really drive as we live? The role of personality factors in road crashes. *Alcohol, Drugs, and Driving*, *9*, 129-143.
- Castellà, J., & Pérez, J. (2004). Sensitivity to punishment and sensitivity to reward and traffic violations. *Accident Analysis and Prevention*, *36*, 947–952. doi: [10.1016/j.aap.2003.10.003](https://doi.org/10.1016/j.aap.2003.10.003)
- Clément, R., & Jonah, B. A. (1984). Field dependence, sensation seeking and driving behaviour. *Personality and Individual Differences*, *5*, 87–93. doi: [10.1016/0191-8869\(84\)90141-7](https://doi.org/10.1016/0191-8869(84)90141-7)
- Dahlen, E. R., & White, R. P. (2006). The big five factors, sensation seeking, and driving anger in the prediction of unsafe driving. *Personality and Individual Differences*, *41*, 903–915. doi: [10.1016/j.paid.2006.03.016](https://doi.org/10.1016/j.paid.2006.03.016)
- Dahlen, E. R., Martin, R. C., Ragan, K., & Kuhlman, M. M. (2005). Driving anger, sensation seeking, impulsiveness, and boredom proneness in the prediction of

- unsafe driving. *Accident Analysis and Prevention*, 37, 341–348. doi: [10.1016/j.aap.2004.10.006](https://doi.org/10.1016/j.aap.2004.10.006)
- Dobson, A., Brown, W., Ball, J., Powers, J., & McFadden, M. (1999). Women drivers' behaviour, socio-demographic characteristics and accidents. *Accident Analysis and Prevention*, 31, 525–535. doi: [10.1016/S0001-4575\(99\)00009-3](https://doi.org/10.1016/S0001-4575(99)00009-3)
- Elander, J., West, R., & French, D. (1993). Behavioral correlates of individual differences in road-traffic crash risk: An examination of methods and findings. *Psychological Bulletin*, 113, 279–294. doi: [10.1037/0033-2909.113.2.279](https://doi.org/10.1037/0033-2909.113.2.279)
- Eysenck, S. B. G. (1993). The I7: Development of a measure of impulsivity and its relationship to the superfactors of personality. In W. G. McCown, J. L. Johnson, & M. B. Shure (Eds.), *The impulsive client: Theory, research, and treatment* (pp. 141-149). Washington, DC, US: American Psychological Association. doi: [10.1037/10500-009](https://doi.org/10.1037/10500-009)
- Eysenck, S. B. G., & Eysenck, H. J. (1963). On the dual nature of extraversion. *British Journal of Social and Clinical Psychology*, 2, 46–55. doi: [10.1111/j.2044-8260.1963.tb00375.x](https://doi.org/10.1111/j.2044-8260.1963.tb00375.x)
- Eysenck, S. B. G., & Eysenck, H. J. (1977). The place of impulsiveness in a dimensional system of personality description. *British Journal of Social and Clinical Psychology*, 16, 57–68. doi: [10.1111/j.2044-8260.1977.tb01003.x](https://doi.org/10.1111/j.2044-8260.1977.tb01003.x)
- Eysenck, S. B. G., & Eysenck, H. J. (1978). Impulsiveness and venturesomeness: Their position in a dimensional system of personality description. *Psychological Reports*, 43, 1247–1255. doi: [10.2466/pr0.1978.43.3f.1247](https://doi.org/10.2466/pr0.1978.43.3f.1247)
- Eysenck, S. B. G., Pearson, P. R., Easting, G., & Allsopp, F. J. (1985). Age norms for impulsiveness, venturesomeness and empathy in adults. *Personality and Individual Differences*, 6, 613–619. doi: [10.1016/0191-8869\(85\)90011-X](https://doi.org/10.1016/0191-8869(85)90011-X)
- Eysenck, S. B. G., & Zuckerman, M. (1978). The relationship between sensation-seeking and Eysenck's dimensions of personality. *British Journal of Psychology*, 69, 483–487. doi: [10.1111/j.2044-8295.1978.tb02125.x](https://doi.org/10.1111/j.2044-8295.1978.tb02125.x)
- Fernandes, R., Job, R. F. S., & Hatfield, J. (2007). A challenge to the assumed generalizability of prediction and countermeasure for risky driving: Different factors predict different risky driving behaviors. *Journal of Safety Research*, 38, 59–70. doi: [10.1016/j.jsr.2006.09.003](https://doi.org/10.1016/j.jsr.2006.09.003)

- Gaymard, S., Allain, P., Osiurak, F., & Le-Gall, D., (2011). The conditions of respect of rules in young and elderly drivers: An exploratory study. *The European Journal of Psychology Applied to Legal Context*, 3, 11-28.
- Gómez-Fraguela, J. A., & González-Iglesias, B. (2010). El papel de la personalidad y la ira en la explicación de las conductas de riesgo al volante en mujeres jóvenes [The role of personality and anger in the explanation of youth women's risky driving behaviours.]. *Anales de Psicología*, 26, 318–324.
- Gras, M. E., Sullman, M. J. M., Cunill, M., Planes, M., Aymerich, M., & Font-Mayolas, S. (2006). Spanish drivers and their aberrant driving behaviours. *Transportation Research: Part F: Traffic Psychology and Behaviour*, 9, 129–137. doi: [10.1016/j.trf.2005.09.004](https://doi.org/10.1016/j.trf.2005.09.004)
- Gulliver, P., & Begg, D. (2007). Personality factors as predictors of persistent risky driving behavior and crash involvement among young adults. *Injury Prevention*, 13, 376–381. doi: [10.1136/ip.2007.015925](https://doi.org/10.1136/ip.2007.015925)
- Hole, G. (2007). *The psychology of driving*. Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Horvath, P., & Zuckerman, M. (1993). Sensation seeking, risk appraisal, and risky behavior. *Personality and Individual Differences*, 14, 41–52. doi: [10.1016/0191-8869\(93\)90173-Z](https://doi.org/10.1016/0191-8869(93)90173-Z)
- Iversen, H., & Rundmo, T. (2002). Personality, risky driving and accident involvement among Norwegian drivers. *Personality and Individual Differences*, 33, 1251–1263. doi: [10.1016/S0191-8869\(02\)00010-7](https://doi.org/10.1016/S0191-8869(02)00010-7)
- Jonah, B. A., Thiessen, R., & Au-Yeung, E. (2001). Sensation seeking, risky driving and behavioral adaptation. *Accident Analysis and Prevention*, 33, 679–684. doi: [10.1016/S0001-4575\(00\)00085-3](https://doi.org/10.1016/S0001-4575(00)00085-3)
- Lajunen, T., & Summala, H. (2003). Can we trust self-reports of driving? Effects of impression management on driver behaviour questionnaire responses. *Transportation Research Part F: Traffic Psychology and Behaviour*, 6, 97–107. doi: [10.1016/S1369-8478\(03\)00008-1](https://doi.org/10.1016/S1369-8478(03)00008-1)
- Lawton, R., & Parker, D. (1998). Individual differences in accident liability: A review and integrative approach. *Human Factors*, 40, 655–671. doi: [10.1518/001872098779649292](https://doi.org/10.1518/001872098779649292)

- Lonczak, H. S., Neighbors, C., & Donovan, D. M. (2007). Predicting risky and angry driving as a function of gender. *Accident Analysis and Prevention*, *39*, 536–545. doi: [10.1016/j.aap.2006.09.010](https://doi.org/10.1016/j.aap.2006.09.010)
- Luengo, M. A., Carrillo, M. T., & Otero, J. M. (1991). The components of impulsiveness: A comparison of the I₇ Impulsiveness Questionnaire and the Barrat Impulsiveness scale. *Personality and Individual Differences*, *12*, 657–667. doi: [10.1016/0191-8869\(91\)90220-6](https://doi.org/10.1016/0191-8869(91)90220-6)
- Luengo, M. A., Otero, J. M., Carrillo-de-la-Peña, M. T., & Mirón, L. (1994). Dimensions of antisocial behaviour in juvenile delinquency: A study of personality variables. *Psychology, Crime & Law*, *1*, 27–37. doi: [10.1080/10683169408411934](https://doi.org/10.1080/10683169408411934)
- Mayer, R. E., & Treat, J. R. (1977). Psychological, social and cognitive characteristics of high-risk drivers: A pilot study. *Accident Analysis and Prevention*, *9*, 1–8. doi: [10.1016/0001-4575\(77\)90002-1](https://doi.org/10.1016/0001-4575(77)90002-1)
- McAdams, K. K., & Donnellan, M. B. (2009). Facets of personality and drinking in first-year college students. *Personality and Individual Differences*, *46*, 207–212. doi: [10.1016/j.paid.2008.09.028](https://doi.org/10.1016/j.paid.2008.09.028)
- Mesken, J., Lajunen, T., & Summala, H. (2002). Interpersonal violations, speeding violations and their relation to accident involvement in Finland. *Ergonomics*, *45*, 469–483. doi: [10.1080/00140130210129682](https://doi.org/10.1080/00140130210129682)
- Mirón, L., Otero, J. M., & Luengo, A. (1989). Empatía y conducta antisocial [Empathy and antisocial behaviour]. *Análisis y Modificación de conducta*, *15*, 239–254.
- Montoro, L., Alonso, F., Esteban, C., & Toledo, F. (2000). *Manual de seguridad vial: El factor humano* [Handbook of road safety: The human factor] Barcelona: Ariel.
- Nesbit, S. M., Conger, J. C., & Conger, A. J. (2007). A quantitative review of the relationship between anger and aggressive driving. *Aggression and Violent Behavior*, *12*, 156–176. doi: [10.1016/j.avb.2006.09.003](https://doi.org/10.1016/j.avb.2006.09.003)
- Oltedal, S., & Rundmo, T. (2006). The effects of personality and gender on risky driving behaviour and accident involvement. *Safety Science*, *44*, 621–628. doi: [10.1016/j.ssci.2005.12.003](https://doi.org/10.1016/j.ssci.2005.12.003)
- Owsley, C., McGwin, G., & McNeal, S. F. (2003). Impact of impulsiveness, venturesomeness, and empathy on driving by older adults. *Journal of Safety Research*, *34*, 353–359. doi: [10.1016/j.jsr.2003.09.013](https://doi.org/10.1016/j.jsr.2003.09.013)

- Pérez, J. A., Lucas, A., Dasi, F., & Quiamzade, A. (2002). La desobediencia masiva al código de circulación. Normas heterónomas frente a normas inter-individuales [Drivers' massive disobedience to traffic laws. Heteronomous versus inter-individual norms]. *Psicothema*, *14*, 788–794.
- Reason, J. T., Manstead, A., Stradling, S., Baxter, J. S., & Campbell, K. (1990). Errors and violations on the roads: A real distinction? *Ergonomics*, *33*, 1315–1332. doi: [10.1080/00140139008925335](https://doi.org/10.1080/00140139008925335)
- Renner, W., & Anderle, F. -G. (2000). Venturesomeness and extraversion as correlates of juvenile driver's traffic violations. *Accident Analysis and Prevention*, *32*, 673–678. doi: [10.1016/S0001-4575\(99\)00103-7](https://doi.org/10.1016/S0001-4575(99)00103-7)
- Rimmö, P., & Åberg, L. (1999). On the distinction between violations and errors: Sensation seeking associations. *Transportation Research Part F: Traffic Psychology and Behaviour*, *2*, 151–166. doi: [10.1016/S1369-8478\(99\)00013-3](https://doi.org/10.1016/S1369-8478(99)00013-3)
- Ross, R. R., & Antonowicz, D. H. (2004). *Antisocial drivers: Prosocial driver training for prevention and rehabilitation*. Springfield, MA: Charles C. Thomas Publisher.
- Ryb, G. E., Dischinger, P. C., Kufera, J. A., & Read, K. M. (2006). Risk perception and impulsivity: Association with risky behaviors and substance abuse disorders. *Accident Analysis and Prevention*, *38*, 567–573. doi: [10.1016/j.aap.2005.12.001](https://doi.org/10.1016/j.aap.2005.12.001)
- Schwebel, D. C., Severson, J., Ball, K. K., & Rizzo, M. (2006). Individual difference factors in risky driving: The roles of anger/hostility, conscientiousness, and sensation-seeking. *Accident Analysis and Prevention*, *38*, 801–810. doi: [10.1016/j.aap.2006.02.004](https://doi.org/10.1016/j.aap.2006.02.004)
- Silva, F., Martorell, M. C., & Clemente, A. (1987). El cuestionario I₆ (junior): Adaptación española [The I₆ Questionnaire: Spanish adaptation]. *Evaluación Psicológica*, *3*, 55–78.
- Stanford, M. S., Greeve, K. W., Boudreaux, J. K., Mathias, C. W., & Brumbelow, J. L. (1996.) Impulsiveness and risk-taking behavior: Comparison of high-school and college students using the Barratt Impulsiveness Scale. *Personality and Individual Differences*, *21*, 1073–1075. doi: [10.1016/S0191-8869\(96\)00151-1](https://doi.org/10.1016/S0191-8869(96)00151-1)
- Tillmann, W. A., & Hobbs, G. E. (1949). The accident-prone automobile driver: A study of the psychiatric and social background. *American Journal of Psychiatry*, *106*, 321–331. doi: [10.1176/appi.ajp.106.5.321](https://doi.org/10.1176/appi.ajp.106.5.321)

- Vassallo, S., Smart, D., Sanson, A., Harrison, W., Harris, A., Cockfield, S., & McIntyre, A. (2007). Risky driving among young Australian drivers: Trends, precursors and correlates. *Accident Analysis and Prevention*, *39*, 444–458. doi: 10.1016/j.aap.2006.04.011
- Wickens, C. M., Toplak, M. E., & Wiesenhal, D. L. (2008). Cognitive failures as predictors of driving errors, lapses, and violations. *Accident Analysis and Prevention*, *40*, 1223–1233. doi: 10.1016/j.aap.2008.01.006
- Zuckerman, M. (1993). Sensation seeking and impulsivity: A marriage of traits made in biology? In W. G. McCown, J. L. Johnson, & M. B. Shure (Eds.), *The impulsive client: Theory, research, and treatment* (pp. 71–91). Washington, DC: American Psychological Association.
- Zuckerman, M. (2009). Sensation seeking. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 455–465). New York: Guilford Press.

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