

Young drivers and self-reported driving under the influence of alcohol: A Comparison between Romanian and French drivers

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Abstract: Driving under the influence of alcohol is considered one of the most serious road offences and, in the same time, an extremely dangerous behaviour. The situation is even more critical for young drivers. By using the theory of planned behaviour, a questionnaire based survey was administered to 184 Romanian and 106 French young drivers. The results show that subjective norms are good predictors of both self-reported and intention to drive under the influence of alcohol and confirm the importance of intention and perceived behavioural control. These results highlight the importance of subjective norms and social pressure in the case of driving under the influence. Young drivers seem to be especially vulnerable to perceived social pressure.

Key words: young drivers, driving under the influence of alcohol, theory of planned behaviour, subjective norms

I. Introduction

Road traffic injuries are a major public health challenge that require concentrated efforts for effective and sustainable prevention. Each year, 1.2 million people lose their lives in car crashes and as many as 50 million are injured all over the world. Projections show there will be an increase of 65% in the number of car crashes in the next 20 years, and the greatest concern is being placed on low and middle income countries (Peden et al., 2004).

Within the European Union, according to The European Traffic Safety Council (2003), 97% of all transport deaths are caused by road crashes. It was assessed that, for the EU in 2001, the annual costs of road traffic related injuries exceeded 180 billion Euros. This sum exceeds the costs of congestion and pollution or cancer and heart disease.

In France, in 2003, 90.220 car crashes were registered in which 5.731 persons lost their lives and 115.929 were injured. The largest part of the car crashes happened in built-up areas (60.162), in June (9.004), during work days (52.580), on dry surfaces (75.546) and by daylight (63.341). Even if fewer, the car crashes during darkness were more severe: 9.74%

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individuals being killed compared to 5.11% in daylight (European Traffic Safety Council, 2003).

In Romania, the same year, 6.654 car crashes were registered with 2.235 killed and 5.538 injured. Over four per cent (4.4%) of these car crashes were alcohol related. As in France, the largest part of these car crashes happened within built-up areas (5.354), in October (702) or August (691), during the work week (3.726), on a dry surface (6.388), and during daytime (4.293). Even if there were fewer, car crashes during darkness were more severe: 39.67% of the persons involved were killed compared to 29.07% during daytime (European Traffic Safety Council, 2003).

It can be noticed that, generally, the same pattern of car crashes is present both in Romania and France. However, the severity of car crashes, in terms of people killed, is much higher in Romania (33.58%) than in France (6.35%). Therefore, the Romanian population of drivers should be analysed and the causes for these differences identified.

Young drivers and alcohol related crash risk

As stated previously, car crashes represent one of the greatest concerns regarding public health. Without denying the severity of the situation, it must be acknowledged that certain categories pose more problems than others. Young drivers are considered to be much more at risk than any other driver category. In France, in 2003, the number of young drivers who died after a car crash represented 24.3% of all drivers killed that year. In Romania, for the same year, young drivers represented 15.82% of all drivers killed in car crashes. The situation is made worse because of the limited percentage of population these drivers came from. All over the Europe, the young population represents a reduced segment of the overall population. In France, young people represent 9.1% of the population and in Romania 10.7% (European Traffic Safety Council, 2003).

Several factors have been identified as responsible for increasing the risk of having a car crash. Speed and driving under the influence of alcohol have often been linked to the probability of having a car crash and to the increased severity of the crash (World Health Organisation, 2009) . However, the real effects of driving under the influence of alcohol are difficult to assess because many alcohol related incidents go unreported (World Health Organisation, 2009).

The blood alcohol concentration or BAC, is used to define intoxication and gives a measure of impairment. The blood alcohol concentration represents the milligrams of alcohol per 100 millilitres of blood. A BAC of .02% (20 milligrams of alcohol per 100 millilitres of blood) leads to relaxation, some loss of judgment, an altered mood, and it affects one's driving by declining visual functions and the ability to perform two tasks at the same time (CDC 2011, Moskowitz & Fiorentino, 2000). At

.05%, the behaviour modifies significantly, the judgment can be considered impaired, and a possible loss of small muscle control can appear together with significantly lower alertness. The driving task is affected by reduced coordination and ability to track moving objects. Individuals may experience difficulty steering and reduced response to emergency driving situations (Finnigan & Hammersley, 1992; Hindmarch, Bhatti, & Starmer, 1992). Finally, at .08% (80 milligrams of alcohol per 100 millilitres of blood), muscle coordination becomes poor; one's judgment is impaired and accompanied by a release of inhibitions and a sense of good feeling. Regarding the driving task, individuals may experience short term memory loss, reduced information processing capability (signal detection, visual search), reduced peripheral vision, reduced divided attention performance but also difficulty to concentrate and keep control of the speed (Moskowitz & Fiorentino, 2000). Driver simulator and on road course studies have revealed poorer parking performances, poorer driving at slow speeds and steering inaccuracy (Finnigan & Hammersley, 1992; Hindmarch et al., 1992). Damkot, Toussie, Akley, Geller, and Whitmore (1975) also identified an increased deterioration in speeding and braking performances.

Blomberg, Peck, Moskowitz, Burns, and Fiorentino (2002) showed, in a case study, that the risk of having a car crash increases from a BAC as low as .02%, and it becomes significant after .04%. The results are sustained by Zador, Krawchuk, and Voas (2000) who concluded that the risk increases at least six times at a BAC between .05% and .079% and eleven times for a BAC between .08% and .09%.

Young drivers are especially at risk. Studies have shown that risk for a fatal injury increases much more quickly along with each drink. More, Keall, Frith, and Patterson (2004) identified that the risk doubles with each 20 mg/dl of alcohol ingested. Preusser (2000) confirms these findings by highlighting that young drivers, at a .02% BAC, have 1.79 times greater crash risk than a driver aged over 35. According to Preusser's (2000) findings, the risk increases to 2.48 when a young driver has a BAC of .04% - .05% compared to a driver over 35 years of age. Generally, studies show that driving under the influence of alcohol increases the risk for serious and fatal crashes, single vehicle crashes as well as for younger people. The situation is extremely sensitive for young drivers, especially since, in the presence of sleep deprivation, even low doses of alcohol can severely impair their driving performance (Horne, Reyner, & Barrett, 2003).

The reasons why young drivers are so vulnerable to the effects of alcohol are multiple and complex. Factors like alcohol tolerance, driving experience and lower social inhibition play a significant role. First of all, they are not very used to drinking alcohol, therefore their tolerance is lower (OECD 2006). Even a small quantity of alcohol can lead to an important

alteration in their state of mind. Another issue comes from lack of experience. Alcohol significantly alters the capacity to divide attention and vigilance. Consequently, as novice drivers try to allocate more attention to the driving task, their driving performance deteriorates more severely than for more experienced drivers. Not least, alcohol can lower social inhibition and lead to more euphoric and impulsive behaviours, especially due to less well developed self-control mechanisms of younger people (OECD, 2006).

Theory of planned behaviour

In their effort to explain and predict a drivers' behaviour, including driving under influence of alcohol, many researchers have used Ajzen's theory of planned behaviour (Ajzen, 1991). The theory of planned behaviour represents a modification of Fishbein and Ajzen's theory of reasoned action (Fishbein & Ajzen, 1975) created in the 80s.

Briefly, the theory considers intentions to be the proximal determinant of actual behaviour, representing the individual's motivation to engage in that behaviour. The motivation is understood as a conscious plan or decision to exert effort in order to enact the behaviour. Intention is predicted by attitudes towards the behaviour (behavioural beliefs and their importance), subjective norms (perceived social pressure by significant others to engage or to refrain from engaging in that behaviour), and perceived behavioural control (the extent to which the subject considers that he or she can successfully perform that behaviour, that he or she controls it). Perceived behavioural control is the only concept added to the theory of reasoned action following the received criticism and, in contrast to attitudes and subjective norms, is considered to be the predictor of both intentions and behaviour (Ajzen, 2011).

Attitudes are considered to emerge from behavioural beliefs and outcome evaluations (Ajzen, 2012). Behavioural beliefs are expectations that individuals have held regarding outcomes of performing certain behaviours and are considered to represent the cognitive part of the attitude. Outcome evaluations assess the importance of each behavioural belief and could be regarded as the affective evaluation of the attitude. Attitudes are one of the most important predictors of intention to perform behaviours. Studies like Hrubes, Ajzen, and Daigle (2001) and Vallerand, Deshaies, Cuerrier, Pelletier, and Mongeau (1992) agree with this affirmation.

Subjective norms are considered to be a function of salient normative beliefs. While subjective norms relate to perceptions of general social pressure, underlying normative beliefs are concerned with the likelihood that specific individuals or groups (referents), with whom the individual is motivated to comply, will approve or disapprove of the behaviour (Ajzen, 2012). Subjective norms have long been considered as the weakest concept of the theory as Sheppard, Hartwick, and Warshaw's (1988)

findings indicate. However, findings from more recent meta-analysis, highlight that when appropriately measured, subjective norms can significantly predict intention (Armitage & Conner, 2001; Manning, 2009).

Perceived behavioural control, such as attitudes and subjective norms, is considered to emerge from readily accessible beliefs about resources and obstacles that can facilitate or interfere with performance of a given behaviour (Ajzen, 2012). Perceived behavioural control is assessed through the subjective probability or belief that a certain factor is present and its perceived power to facilitate or inhibit performance of behaviour. Studies have shown that perceived behavioural control is a significant predictor of both intention and behaviour (Armitage & Conner, 2001; Cheng, Lam, & Hsu, 2005; Twisk, 2007).

Finally, the core statement of the theory of planned behaviour is that behaviour is guided by intentions. This statement implies that there is a strong relation between the two concepts and that when intentions change, behaviour changes to. There is strong support for this affirmation coming from meta-analysis, correlations between 0.44 and 0.62 being reported between intention and self-reported or measured behaviour (Armitage & Conner, 2001; Sheeran, 2002).

The theory of planned behaviour is intensively used in many domains (Armitage & Conner, 2001) and has proved to be successful when it comes to predicting different behaviours (Conner & Armitage, 1998). In the domain of traffic behaviour, the theory of planned behaviour has been used to predict speeding (Åberg & Wallén Warner, 2008; Conner et al., 2007; Mark A, 2010; Paris & Broucke, 2008; Wallen Warner, Ozkan, & Lajunen, 2009), the use of safety helmets (Ahmed, Ambak, Raqib, & Sukor, 2013; Quine, Rutter, & Arnold, 1998; Ross et al., 2011), phone use while driving (Castanier, Deroche, & Woodman, 2013) and seatbelt use (Ali, Haidar, Ali, & Maryam, 2011; Şimşekoğlu & Lajunen, 2008; Tavafian, Aghamolaei, Madani, & Gregory, 2011; Torquato, Franco, & Bianchi, 2012).

Aim

The aim of this article is to identify the best set of predictors for self-reported and intention to driver under the influence of alcohol in two populations of young drivers: Romanian and French. The novelty of this article comes from the approach chosen, by using both direct and indirect measures of each concept and by comparing the two populations.

II. Method

To achieve our goal we used a questionnaire based approach. Following Ajzen's instructions (Ajzen, 2010) in creating a theory of planned behaviour questionnaire we obtained two versions of the

questionnaire : one for Romanians and one for French drivers. Each concept was assessed using two types of evaluation: direct and indirect. This approach was also used by Vallerand et al. (1992) in his study.

In order to identify each population’s beliefs regarding driving under influence of alcohol, a pre-test was carried out. Thirty young Romanian drivers and thirty French drivers answered questions regarding their behavioural, normative and control beliefs in relation to driving under the influence of alcohol. Their answers were ordered according to their frequency, and the most frequent behavioural and control beliefs were entered in the final questionnaire. This pre-test served us to identify the most important reference groups from the two populations – peers and parents- which helped us construct the normative belief evaluation.

Participants

One hundred eighty-four Romanian drivers and 106 French drivers answered the questionnaire. Among the Romanian participants 50.5% are women, while for the French participants, 77.4% are women.

	Romania		France	
	M	S.D.	M	S.D.
Age	21.89	2.16	20.88	2.18
Driving licence	2.88	2	2.49	2
Km/year	7212	8785	8178	12433
Fines	.60	1.55	.34	.86
Accidents	.75	.99	.32	.59

Table 1: Socio-Demographic Characteristics of the Participants

Design and procedure

All participants received a version of the questionnaire according to the population from which they came from (an online version). They were asked to fill in the questionnaire and offer some socio-demographical information. Participation in this study was voluntary and no reward was offered.

Measures

Self-reported driving under influence of alcohol was assessed through two items. The response scale ranged from 1 (never) to 5 (almost all the time): *You drove under the influence of alcohol* and *You drove even if you realized that you surpassed the legal limit of alcohol*. The mean value of the two items was used in the analysis.

All answers for the scales of intention, attitude, subjective norms and perceived behavioural control range from 1 (I do not agree) to 4 (I agree completely).

Intention to drive under the influence was assessed through one item asking the participant if he/she intends to drive under influence during the next week.

Attitudes toward driving under influence of alcohol are assessed through four *direct* items and six *behavioural beliefs* for the Romanian population and three for the French population. For each behavioural belief, the participants were asked to rate how important that belief is to them. For the direct assessment of the attitude toward driving under influence of alcohol the answers for each item were taken into account. For the behavioural beliefs, each answer was multiplied with the outcome evaluation of that particular behavioural belief.

Subjective norms are assessed through two *direct* items and two *normative beliefs* for the Romanian and French population. The normative beliefs were computed by multiplying normative beliefs with the intention to comply.

Perceived behavioural control is assessed through one *direct* item and three *control beliefs*. For each control belief, participants were asked to rate how likely is that belief to influence their performance when driving under influence of alcohol. For the control beliefs, each answer was multiplied with the probability that that control belief inhibits or facilitates the performance of behaviour.

Scale	Type of measure	Romania	M	SD	France	M	SD
A	Direct	Utility	1.10	.37	Utility	2.25	.70
		Safety	2.37	1.45	Safety	2.16	.53
		Fun	2.39	1.26	Fun	2.44	.76
		Agreeable	2.40	1.41	Agreeable	2.39	.76
	Behavioural beliefs	Increase the confidence	4.60	3.54	Return home	6.69	3.97
		Excitement	3.34	3.18	Slower reactions	13.54	3.59
		Make proof of courage	3.33	3.26	Have a car crash	14.49	3.04
		Slower reactions	7.94	4.35			
		Make mistakes	12.81	4.11			
		Have a car crash	14.27	3.25			

		Others	1.05	.26	Others	1.12	.43
SN	Direct	Perceived pressure from others	1.08	.31	Perceived pressure from others	1.14	.50
		Normative beliefs	Parents	1.01	.07	Parents	1.06
		Friends	1.18	.48	Friends	1.34	.58
	Direct	Success	1.43	.80	Success	1.44	.82
PBC	Control beliefs	Driving experience	6.34	4.46	Road quality	10.4	.12
		Weather conditions	7.66	5.25	Police	7.80	3.80
		Type of car	5.45	3.54	Carrying passengers	7.68	2.39
I			1.11	.40		1.13	.43
	Self-reported driving under the influence of alcohol		1.27	.59		1.37	.75

Table 2: Measures and descriptive statistics for each variable

Note: A – Attitude; SN - Subjective norms; PBC - Perceived behavioural control; I – Intention;

III. Results

Table 2 summarizes the means and standard deviations for each construct measure of the theory of planned behaviour. Both Romanian and French young drivers perceive driving under the influence of alcohol as being agreeable and fun, while Romanians see it as less useful but safer than French drivers do. They report similar levels of perceived social norms and behavioural control (success).

For both populations multiple regressions using the stepwise method were performed. This method was chosen due to the character rather than exploratory character of this study (Field, 2009). However, it must be taken into account the fact that stepwise method may increase the risk of type I error and it is very likely that we will obtain a model with low replicability, adequate for these samples only. First, we intend to identify the best set of predictors for the self-reported driving under influence of alcohol behaviour and then for the intention to perform this behaviour. In order to achieve our goals, all the variables were introduced in a single step in the analysis. The first analyses that we are going to present are those on the Romanian population followed by those on the French population.

Romanian drivers

For the first regression self-reported driving under influence of alcohol was used as dependent variable. Direct and indirect measures of attitude, subjective norms and perceived behavioural control as well as the intention to drive under influence were entered as predictors.

	R ²	R ² change	β
Model 1	.20		
Intention			.45
Model 2	.25	.06 ^{***}	
Intention			.40
Norms others			.25
Model 3	.29	.03 ^{**}	
Intention			.39
Norms others			.20
Perceived behavioural control success			.20
Model 4	.31	.01 ^{**}	
Intention			.36
Norms others			.16
Perceived behavioural control success			.17
Norms perceived pressure from others			.15

Table 3: Summary of Stepwise Multiple Regression Self-reported driving under the influence of alcohol; *** p<.01; ** p<.05

The fourth and final model is able to explain 31% of the variance of self-reported driving under influence of alcohol of young Romanian drivers. As expected, the best predictor is the intention to perform this behaviour closely followed by one of the direct evaluation of subjective norms, others norms. Perceived behavioural control success contributes significantly to the regression as well as the perceived pressure from others. Finally, the model retained two types of direct evaluation of norms (others and perceived pressure from others), one direct evaluation of perceived behavioural control (success) and the intention to drive under influence. It is worth noting that none of the attitudes in the evaluation is present in the final model.

Next, *intention to drive under the influence* was used as a dependent variable while direct and indirect measures of attitude, subjective norms and perceived behavioural control were entered as predictors.

	R ²	R ² change	β
Model 1	.06		
Model 2	.08	.02**	
Normative belief friends			.25
Perceived behavioural control type of car			.24
Model 3	.10	.02**	
Normative belief friends			.19
Perceived behavioural control type of car			.15
Norms perceived pressure from others			.15

Table 4: Summary of Stepwise Multiple Regression Intention to drive under the influence of alcohol Romania; ** p<.05

The third model explains only 10% of the variance of intention to drive under the influence of alcohol for young Romanian drivers. The best predictors of intention to drive under the influence, according to the final model, are the normative beliefs of friends followed by the perceived behavioural control type of car and perceived pressure from others. The model retained a measure from both direct (perceived pressure from others) and indirect (normative belief friends) subjective norms evaluation and one of indirect perceived behavioural control (perceived behavioural control type of car). Again, as in the case of self-reported driving under influence of alcohol, none of the attitude evaluation is present in the final model.

French drivers

For the first regression *self-reported driving under the influence of alcohol* was used as a dependent variable. As predictors, direct and indirect measures of attitude, subjective norms and perceived behavioural control as well as and intention to drive under influence of alcohol were entered.

Young drivers and self-reported driving under the influence of alcohol

	R ²	R ² change	β
Model 1	.35		
Perceived behavioural control success			.60
Model 2	.43	.08**	
Perceived behavioural control success			.43
Intention			.33
Model 3	.50	.07**	
Perceived behavioural control success			.34
Intention			.38
Behavioural belief return home			.28
Model 4	.53	.02**	
Perceived behavioural control success			.31
Intention			.35
Behavioural belief return home			.25
Norms perceived pressure from others			.17

Table 5: Summary of Stepwise Multiple Regression Self-reported driving under the influence of alcohol France; ** p<.05

The fourth model is able to explain 53% of the variance of self-reported driving under the influence of alcohol for young French drivers. The best predictor is perceived behavioural control success closely followed by intention to driver under the influence of alcohol. The next predictor is behavioural belief related to returning home followed by the subjective norms scale perceived pressure from others. Finally, the model retained a direct measure of perceived behavioural control (perceived behavioural control success), the intention, an indirect measure of attitudes (behavioural belief return home) and a direct measure of subjective norms (perceived pressure from others).

Next, the *intention to drive under the influence of alcohol* was used as a dependent variable while direct and indirect measures of attitude, subjective norms and perceived behavioural control were entered as predictors.

	R^2	R^2_{change}	β
Model 1	.23		
Normative belief friends			.49
Model 2	.37	.14**	
Normative belief friends			.39
Perceived behavioural control success			.38
Model 3	.40	.03**	
Normative belief friends			.41
Perceived behavioural control success			.27
Control belief road quality			.21

Table 6: Summary of Stepwise Multiple Regression Intention to drive under the influence of alcohol France; ** $p < .05$

The third model is able to explain 40% of the variance of intention to drive under the influence of alcohol for young French drivers. The best predictors of intention to drive under the influence of alcohol are normative beliefs friends followed by perceived behavioural control success and control belief road quality. Finally, the model retained one indirect evaluation of subjective norms (normative belief friends), one direct (perceived behavioural control success) and indirect (control belief road quality) evaluation of perceived behavioural control.

IV. Discussion

This present study confirms previous findings and contributes additional evidence that suggests the importance of social influence in young drivers' behaviour. The main aim of this paper was to investigate the predictors of self-reported and intention to drive under the influence of alcohol by using the perspective of the theory of planned behaviour in a sample of young Romanian and French drivers.

A comparative approach allowed us to make some extremely intriguing observations regarding similarities and differences between the two populations of drivers. The similarities were noticeable from the analysis of the questionnaire. Both populations reported similar means for direct measures from all the concepts of the theory of planned behaviour. However, indirect measures permitted a more accurate assessment of beliefs, underlying attitudes and perceived behavioural control concepts in each population. Here, significant differences appeared. For the Romanian population, driving under the influence of alcohol is related to excitement and serves as a proof of courage and a boost of confidence, suggesting a certain amount of sensation seeking (Zuckerman, 1971). Also, behaviours

emotionally charged (prove courage, increase confidence) are more likely to emerge as behavioural beliefs linked to driving under the influence of alcohol. Concerning the French population, a more instrumental picture emerged. For young French drivers, driving under influence of alcohol is seen as having an instrumental purpose (returning home) rather than a fun one.

Both populations elicited the same negative consequences (having a car crash and slower reactions), which proves that they have basic information regarding the risks they undertake when performing this behaviour.

Control beliefs emphasize another series of differences between Romanian and French drivers. If, for the French control beliefs are rather linked to factors that are more likely to refrain the individual from performing this behaviour (passenger and police presence), for the Romanians, these beliefs are associated to factors more likely to favour the performance (type of car and driving experience). In the Romanian case, control beliefs can be seen as connected to the behavioural beliefs: the car is seen as a mean to satisfy the need to impress and to have fun.

In this current study, we obtained significant models that predict self-reported driving under the influence of alcohol among young drivers. Both models are able to explain a significant proportion of the self-reported behaviour variance, the French model being slightly better than the Romanian one.

As expected, intention and perceived behavioural control are good predictors of self-reported driving under the influence of alcohol in both population demonstrating the predictive utility of the theory of planned behaviour for traffic violations (Åberg & Wallén Warner, 2008; Castanier et al., 2013; Chorlton, Conner, & Jamson, 2012). For both populations, intention to drive under the influence is the best predictor of self-reporting behaviour closely followed by the direct measure of perceived behavioural control. The relation between intention and self-reporting behaviour is well documented in the literature and our findings concur (Armitage & Conner, 2001; Beck, 1981; Conner & Armitage, 1998).

Both young Romanian and French drivers are more likely to engage in driving under influence of alcohol if they perceive that it is a behaviour they successfully could perform and if they intend to. A possible explanation for this might be that Romanian and French drivers feel they have good control over their ability to drive under the influence of alcohol, and such perception significantly increases self-reported driving under the influence of alcohol. Another possible explanation for the importance of perceived behavioural control is that driving under the influence of alcohol represents a behaviour that is not impossible to perform, nor extremely easy,

and therefore perceived self-efficacy becomes crucial when the individual has to decide whether to engage in it (Ajzen, 2012).

Somewhat unexpected was finding subjective norms as a direct predictor of self-reported driving under the influence of alcohol. Subjective norms have been repeatedly identified as the weakest predictor explaining intention to drive under the influence of alcohol (Marcil, Bergeron, & Audet, 2001; Moan & Rise, 2011; Ravis, Abraham, & Snook, 2011) and intentions in general (Armitage & Conner, 2001). However, our findings suggest that subjective norms, more exactly perceived pressure from others, significantly predict self-reported driving under influence of alcohol. An explanation for the importance of subjective norms can be linked to the fact that drinking, especially among young people, is a social activity (Huchting, Lac, & LaBrie, 2008; LaBrie, Kenney, Mirza, & Lac, 2011). Most frequently, young people drink as a result of peer pressure and generally end up drinking more than they had planned to (Lu, Engs, & Hanson, 1997). Our result is somewhat similar to the one that Chan, Wu, and Hung (2010) found in their study. They found that subjective norms significantly increase positive attitudes and perceived behavioural control, therefore the intention to drive under the influence of alcohol. Our result suggests an even more direct influence of norms that can be explained and by the importance of social environment for young people, where acceptance and positive image within the group is extremely important (Allen & Brown, 2008).

Another noteworthy finding is the absence of attitudes from the predictor list in the Romanian population. Attitudes have been constantly reported as good predictors of driving under the influence of alcohol (Chan et al., 2010; Marcil et al., 2001) and alcohol consumption in general (Duncan, Forbes-Mckay, & Henderson, 2012; Hagger et al., 2012; van der Zwaluw, Kleinjan, Lemmers, Spijkerman, & Engels, 2013). It is possible that the absence of attitudinal predictors can be explained by the lack of accessibility to behavioural beliefs, especially consequences, linked to driving under the influence of alcohol (MacDonald, Zanna, & Fong, 1995).

For the French population, attitudes significantly predicted self-reported driving under the influence of alcohol. Being able to return home is extremely important, even more important than perceived pressure from others. The differences between the two countries could be responsible for these results. In Romania, distances between party places (pubs, clubs, etc.) and homes are generally not extremely large, and taxis are very cheap (50 cents/km), in contrast to France. So, young Romanian drivers have the possibility to choose among leaving their car home and using taxis to get there and to leave, leaving the car in some parking and returning home by taxi as well as driving after having consumed alcohol. In France, even if the

Noctilien¹ system exists, it is very restrictive in terms of trajectory and time schedules; distances between party places and home are usually larger than in Romania. Young French drivers may find themselves in situations where returning home from a party after having consumed alcohol beverages is a possible only if they drive themselves. This can be a real difficulty for them, and our analysis indicates that it overpasses peer influence.

The following two regression models were used to predict intention to drive under the influence of alcohol in both populations. The Romanian model performed significantly poorer than the French one, being able to explain only a very small variance of intention to drive under the influence of alcohol. In this case differences between legislations could help explain why. In Romania it is forbidden to drive after having consumed alcohol, the legal BAC level being 0%. At a BAC of 0.05% the driver is considered as having committed a felony and might be prosecuted. Therefore it may be more difficult to identify the psychological variables that could predict the formation of the intention to drive under the influence of alcohol. On the other hand, in France, the legal limit of BAC is 0.05%, and the psychological variables may play a significant role in predicting a driver's driving influence under alcohol.

For both populations, normative beliefs from friends have significantly predicted the intention to drive after having consumed alcohol. This finding highlights, once again, the importance of norms in explaining driving under influence of alcohol for young drivers. Peers can significantly influence the decision of the young driver to drive after having consumed alcohol, which, in turn, will significantly influence his/her behaviour. Taking that into account, as we said earlier, drinking among young people takes place in social contexts; peers can also be intoxicated, therefore, being either unable to oppose this kind of behaviour or more inclined to encourage it. It is worth noting, that for both populations, perceived normative beliefs from the part of the peers was the best predictor of intention to drive under the influence of alcohol. More young drivers perceive the approval of their friends more they will have the intention to perform this behaviour.

For Romanian young drivers, the intention also depends on another normative influence, perceived pressure from others. Young Romanian drivers have proven to be significantly more sensitive to subjective norms than French drivers. In predicting self-reported and intention to drive under the influence of alcohol we identified two types of subjective norms as predictors, suggesting they are particularly aware of social influences.

¹ Buses that run regularly on several routes after public transportation network no longer functions, usually after 1.00 A.M.

Perceived behavioural control plays an important role in both populations. Romanian and French drivers' intentions to drive under the influence of alcohol rely on their perceived self-efficacy. More they consider that they can manage and successfully perform the behaviour, more they intend to do it. For young French drivers both success and quality of the road scales were predictive of intention to drive under the influence of alcohol, while for Romanian drivers, the only type of car scale was predictive. This suggests, on the one hand that perceived behavioural control plays a greater role in determining the intention to drive under the influence of alcohol for French drivers, and on the other hand that their intentions are more likely to be influenced by personal factors (perceived self-efficacy) over normative factors.

It is interesting that self-reported behaviour was likely to be predicted by a direct type of measures while intentions were likely to be predicted by indirect measures. Direct types of measures are more general, and therefore can cover a greater range of variance while indirect types of measures are specific and more suited for finer observations and cover a smaller range of variance.

These findings have important implications for the development of tailored interventions to specific needs of young drivers. Reducing driving under the influence of alcohol among young drivers can represent a big challenge. However, several recommendations can be made using these results as starting point.

Prevention campaigns have to consider accentuating direct and immediate consequences of driving under influence in addition to targeting rare events, such as accidents and contraventions. Our study has indicated that even if young drivers are aware of the consequences for driving under the influence of alcohol, these consequences (having a car crash or receiving a contravention) have no protective power. Accidents and contraventions are more serious than more minor consequences like loss of muscle control or difficulties with coordination, but they rarely occur to individuals, therefore are rarely remembered or taken into account, as our study demonstrates. Studies have shown that when the consequences are more easily accessible to individuals they tend to have a greater predictive power (MacDonald et al., 1995). So, messages targeting immediate consequences of alcohol consumption on driving ability but also the possibility of having a car crash or receiving a contravention should be made available and visible in every pub, bar or other place that sells alcohol.

Also, prevention campaigns should consider offering viable alternatives to not drive after having consumed alcohol. Studies have shown that when young people are not provided realistic alternatives to a particular behaviour (even a risky behaviour), prevention campaigns remain without

significant results (Arnett, 1992; Jessor, 1991). Most drivers find themselves in the situation where there is no other way/alternative to getting home, so they have to drive even if they had consumed alcohol. The French government has already implemented a potential solution in order to minimize these situations (Sam, the designated driver¹) similar to those proposed in the United States, where one of the persons has to abstain from consuming alcohol during a social gathering in order to get everybody safely home. This could also be a potential approach for Romania. Another possibility could be to offer transportation discounts for drivers who had too much to drink and want to get home by taxi. A different approach could be to train waiters and persons who work in bars or pubs to recognize certain individuals who have surpassed the legal amount of alcohol and to refuse to give them more to drink and to advise him/her to take a taxi home. However, the clear advantage of the solution proposed by the French and United States government is that it covers all social gatherings where alcohol could be consumed, not only bars or pubs.

Another aspect that could serve to better tailor prevention campaigns for reducing driving under influence among young drivers is converting this behaviour into something socially disapproved, especially by one's peers. This observation is particularly important for Romanian drivers, for whom driving under the influence of alcohol is seen as an act of courage, a source of positive emotions. By targeting these specific outcomes and by turning driving under the influence of alcohol into something undesirable and disapproved, it could be possible to lower the pressure that young drivers feel from the part of their peers to drive even after they have consumed alcohol. In order to maximize the effect of these campaigns, the focus should be on high schools, and the speakers or trainers should be their peers. The results from different studies indicate that, especially for young people, the messages are better received and have greater impact if they come from people closer in age (in this case, from their peers) (Hepworth, Rooney, Rooney, Strom-Gottfried, & Larsen, 2009).

Limitations and future research

These data must be interpreted with caution because the study has several limitations. First of all, the sample size was small. With a bigger sample, we could have expected some theory of planned behaviour variables to have a greater predictive power in the self-reported and intention to drive under the influence of alcohol. Also, it is important to mention that the French sample consisted mostly of women, and future research should try to balance the gender variable. This limitation must be considered especially

¹ <http://www.ckisam.fr/>

due to the fact that it does not replicate the situation in the population of drivers. Our conclusions remain valid nonetheless and can be used to plan future studies on drivers' motivations to drive under the influence of alcohol.

Like many other authors who have used the theory of planned behaviour as a theoretical framework, we relied solely on measures of behavioural intention and self-reported behaviour, not on measures of actual behaviour, which we found extremely difficult to obtain. In future research, it would be necessary to improve the methodology by applying the theory of planned behaviour to those observed driving under the influence in order to shed more light on the relation between intention, self-reported behaviour and actual behaviour.

More research on this topic needs to be undertaken before the association between driving under influence and social environment is more clearly understood. One possible direction is to further investigate social triggers and specific sources of social pressure that influence self-reported behaviour of driving under the influence of alcohol. Another possibility is to obtain police records of fines and crashes involving driving under the influence of alcohol, to only contact those drivers and invite them to a study. This way it would be possible to get a clearer image of the context and factors that lead to driving under the influence. Finally, a third possibility is to investigate the concept of "tolerated deviance", a concept proposed by Boncu (1998), in relation to driving under the influence of alcohol.

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