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Karl Peltzer

Avoiding drunk driving: the behaviour of South African general drivers

Summary

The aim of this article is to examine the degree to which drivers participate in activities aimed at avoiding drunk-driving victimisation, and to assess protective behaviour in relation to drunk driving. The sample included 100 black and 100 white drivers drawn from the general public of an urban area in the then Northern Province of South Africa. 59% reported having practised three out of four self-protective behaviours and 68% having practised all four other-protective behaviours in the preceding twelve months. Some evidence was found to support the fear-and-victimisation model, since one or more individual factors were related to each of the four self-protective behaviours and three of the four other-protective behaviours. Important gender and racial differences were also found.

Vermyding van dronkbestuur: die gedrag van Suid-Afrikaanse motorbestuurders

Die doel van hierdie artikel is om die mate waarin bestuurders deelneem aan gedrag om viktimisasie weens dronkbestuur te vermy, na te vors en om gedrag wat fokus op beskerming teen dronkbestuur te meet. Die proefgroep het bestaan uit 100 swart en 100 wit motorbestuurders, getrek uit die algemene publiek in 'n stedelike gebied in die destydse Noordelike Provinsie, Suid-Afrika. Die resultate dui daarop dat 59% van dié persone aan drie van die vier moontlike voorkomende, selfbeskermende optredes deelgeneem het, terwyl 68% al vier ander-beskermende optredes geopenbaar het in die loop van die afgelope twaalf maande. Daar is ook bevind dat die vrees-vir-viktimisasiemodel bevestig is. Die bevinding berus daarop dat daar 'n verband vasgestel is tussen een of meer persoonlike faktore en elkeen van die vier selfbeskermende optredes asook met drie van die vier ander-beskermende optredes. Belangrike geslags- en rasseverskille in hierdie verband is waargeneem.

Prof K Peltzer, Health Behaviour Research Unit, University of the North, Private Bag X1106, Sovenga 0727; E-mail: peltzerk@unin.unorth.ac.za

According to the Directorate of Traffic Safety (1998: 10-5), more than 50% of all fatal road traffic accidents in South Africa are due to drinking and driving. South Africa's 1991 road death rate of 11.7 per 100 million kilometres travelled is more than 10 times that of the USA (International Road Federation 1991: 25f).[1] Alcohol is strongly associated with traffic-related injuries. Multi-centred, random alcohol surveys have been done bi-annually for the Directorate of Traffic Safety since 1975, and offer an index of alcohol usage in the general population of at-risk drivers and pedestrians. These surveys have consistently shown that approximately 5.5% of drivers stopped at road blocks between 20:00 and 24:00 hours have a blood alcohol content in excess of the legal limit of 0.08g/100ml (Directorate of Traffic Safety 1990: 3). A study of all traffic-related trauma patients (drivers, passengers and pedestrians) presenting to Addington Hospital, Durban, in 1993 assessed 530 patients for alcohol intoxication and marijuana use at the time of presentation. The results indicated that 52% were over the legal limit for alcohol, 35% had traces of marijuana in their urine and 19% tested positive for both substances (Hedden & Wannenburg 1994: 1074).

Under the new National Traffic Act, No 93 of 1996, the blood alcohol (BAC) levels for "any driver" other than a professional driver are as follows: for blood alcohol: 0.05g/100ml; for breath alcohol: 0.24mg/1000 ml. The Traffic Act was amended to include new blood alcohol and breath alcohol levels for general and professional drivers, bringing South African law into line with that in most developed countries. Since breathalyser test results have been accepted by the Attorneys General as admissible in court it is now much easier for traffic officers to check drivers and take intoxicated drivers off the road immediately. The names of drivers caught drinking and driving are now also published in local newspapers (Peden & Butchart 1999: 7f).

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Most researchers, as reviewed by Moskowitz (1989: 56), concur that the legal definition of drinking and driving behaviour based on the BAC level has opened more loopholes than it has closed. First, they argue that there is no absolute threshold below which there is zero driving impairment since driving-related skills can be impaired even at low BAC levels. Secondly, people can be dissuaded from committing themselves to the initiative against drinking and driving if they believe will be swiftly, certainly and severely punished (Ross 1992b).

Initiatives to counter drinking and driving, including deterrence techniques such as raising the legal age for purchasing alcohol, lowering BAC limits, confiscating the licence of a driver whose BAC is at or above the legal limit, and setting up road blocks to check for alcohol-impaired drivers, have unfortunately met with little long-term success (Butchart & Peden 1997: 3, Grasmick *et al* 1993: 61f). As a result of the limited efficacy of deterrence, Ross (1992a: 16ff) has advanced arguments for a broad social policy approach which would reduce the incidence of death and injury associated with drunk driving. Brown (1997: 55) investigated the prevalence and effectiveness of personal self-regulatory techniques to avoid drunk driving. Of the most popular self-regulatory techniques: "limiting drinks to a predetermined number", "organizing another driver", "catching a taxi", and "spontanously delaying or avoiding driving after alcohol has been consumed", only "limiting drinks to a predetermined number" was associated with a reduced likelihood of drunk driving. Nelson *et al* (1999: 407) found that the presence of a wife or girlfriend was a predictor of successful avoidance of drunk driving.

Despite the attention that has been devoted to drinking and driving, there is a lack of research examining the extent to which citizens or general drivers engage in preventive behaviour to avoid victimisation by drunk drivers (Baum 2000: 689). There is a particular dearth of studies addressing different cultural variables. Applegate *et al* (1999: 324) found among an adult population of Americans that a substantial proportion of citizens took precautions to avoid becoming victims of drunk driving: 72.2% reported having taken one or more self-protective steps, 72.7% took steps to protect others, and 86.3% reported having exhibited at least one self-protective or other-

protective behaviour in the twelve months preceding the study. The most prevalent other-protective action was warning someone to drive carefully. However, warning someone who has had too much to drink that he or she should not drive may typically be interpreted as threatening by the potential drunk driver (Gusfield *et al* 1984: 57). Such an appraisal calls into question the person's ability to handle his or her alcohol, to control a car, and to determine for him or herself when he or she has drunk too much. There is also the argument that people take action to help themselves or others when they believe that agents of the criminal justice system are incapable of providing them with protection.

Applegate *et al* (1999: 333) produced some evidence in support of the fear-and-victimisation model (Keane 1992: 215), in that fear of becoming a victim of a drunk driver was related to avoidance activities, perceptions of risk of victimisation and vicarious victimisation.

This study seeks to investigate the actions that general drivers from various cultural backgrounds take to protect themselves and others. It is expected that drivers from different cultural backgrounds may also have different avoidance behaviours. Furthermore, it should be noted that both self-protection and other-protection are potentially relevant to the reduction of drunk driving fatalities and injuries (Applegate *et al* 1999: 325).

The aim of this study is

- to examine the degree to which drivers participate in activities aimed at avoiding drunk-driving victimisation, and
- to assess protection behaviours related to drunk-driving.

Applegate *et al* (1999: 326f) refer to two theses which have been proposed to explain why some people participate in protective or preventative behaviours, namely the theory of "collective security" and the fear-and-victimisation model. The collective security hypothesis contends that people are more likely to take steps to avoid victimisation when their confidence in the ability of formal and informal agencies to provide protection is low (McDowall & Loftin 1983: 1146). The second explanation proposes that individuals who have been victimised or who fear crime are more prone to participate in activities aimed at crime prevention (Lab 1990: 467).

1. Methods

1.1 Sample and procedure

The sample included 100 black and 100 white drivers drawn from the general public in an urban area in the then Northern Province of South Africa. These were 50 male and 50 female blacks and 51 male and 49 female whites. Respondents' ages ranged from 20 to 67 (M age 37.3 years, SD=11.0) for blacks, and 18 to 68 (M age 40.4 years, SD=13.1) for whites. Blacks had a mean number of years of formal education of 10.9 (SD=4.0) and Whites of 12.5 (SD=3.5).

The participants were 200 motor vehicle drivers recruited from three shopping centres and three petrol stations randomly chosen within Pietersburg. As cars entered the site and drivers stopped, they were invited to participate in a short interview. They were assured of complete anonymity. The interviewer was a black female, a trained research assistant with a Masters degree in Psychology. Interviews were conducted in English since all respondents were able to communicate in English.

1.2 Measuring tools

- An 8-item questionnaire on the incidence of behaviour aimed at avoiding drunk driving victimisation in the past twelve months; rated with "yes" or "no" (see Table 1) (Applegate *et al* 1999: 327f). The first four items refer to behaviours related to individuals personally taking steps to avoid victimisation, and the next four behaviours involve "vicarious" avoidance, in the sense that they are actions taken to help prevent the victimisation of someone else.
- A 2-item scale on collective security, namely "How effective do you think the police (and judges, in question two) are in helping to reduce drunk driving in your community; scored 1=none to 4=very much" (Applegate *et al* 1999: 327f).
- A 6-item scale on fear and victimisation, namely

  (i) "Worry": How often do you worry about being hit by a drunk driver when you drive after dark? (1=none to 4=very much).

(ii) "Accident risk": Over the next two years how likely is it that you will be in an accident caused by a drunk driver? (1=unlikely to 3=very likely).

(iii) "Car risk": Over the next two years how likely is it that your car will be hit by a drunk driver while it is parked on the street? (1=unlikely to 3=very likely).

(iv) "Personal victim": Have you ever been in an accident caused by a drunk driver? ("yes" or "no").

(v) "Vicarious victim": Has a family member or close friend ever been in a car accident caused by a drunk driver? ("yes" or "no").

(vi) "Vulnerability": If you were in a car accident and bruised pretty badly, how long do you think it would take for you to heal? (1=a short time to 3=a long time) (Applegate *et al* 1999: 327f).

- Demographic items including age, sex, formal education and race.

2. Results

2.1 Avoidance behaviour

Regarding self-protective behaviour the most prevalent was refusing to be driven by someone who was drunk (80%), followed by changing lanes (74%), parking the car in a different place (62%) and staying at home because of drunk drivers on the road (38.5%). More advanced older age and female gender were identified as independent predictors for the items "refused ride" and "stayed home", as were being male for "changed lanes", being white for "refused ride" and being black for "stayed home"; formal education was not significant.

Regarding other-protective behaviour the most prevalent was warning a person to drive carefully because of drunk drivers on the road (90%), followed by warning a person not to drive because of his/her own drunkenness (89%), driving a friend home because he/she was drunk (76.5%) and refusing to provide alcohol since this could lead to drunk driving (74.5%). Youth, higher formal education and being white were identified as independent predictors for "drove a friend", being female for "refused to buy", and being white for "don't drive" and "drive carefully" (see Table 1).

Table 1: Drunk driving avoidance behaviours practised in the past twelve months by race and logistic regression coefficients for age, sex, formal education and race

Avoidance behaviour	Blacks 'yes'	Whites 'yes'	Age	Sex	Educa-tion	Race
	%	%	*B*	*B*	*B*	*B*
Self-protective behaviour						
1. Parked your car in a different place (eg in the driveway, away from a bar) because you were afraid it might be hit by a drunk driver [Parked car]	65	59	ns	ns	ns	ns
2. Changed lanes while you were driving because you were afraid another driver on the road was drunk [Changed lanes]	69	79	ns	0.69*	ns	ns
3. Stayed home, or drove home early, because you were afraid that drunk drivers might be on the road that night (eg weekend, holiday) [Stayed home]	47	30	0.05***	-1.63***	ns	-0.81*
4. Refused to drive with someone because you were afraid they were drunk and might cause an accident [Refused a ride]	68	92	0.05**	-0.85*	ns	1.93***
Other-protective behaviour						
1. Warned a person to drive carefully because you were afraid that drunk drivers might be on the road [Drive carefully]	85	95	ns	ns	ns	1.45***
2. Refused to give or buy someone a drink because you were afraid that they were getting too drunk to drive home safely [Refused to buy]	71	78	ns	-1.20***	ns	ns
3. Warned someone not to drive because you were afraid that they were too drunk to drive home safely [Don't drive]	83	95	ns	ns	ns	1.39***
4. Drove a friend home because you were afraid that they were too drunk to drive themselves home safely [Drove a friend]	68	85	-0.04*	ns	0.13**	1.27***

***$p<.001$; **$p<.01$; *$p<.05$

2.2 Collective security, fear and victimisation

Table 2 indicates the ratings on collective security and fear-and-victimisation in relation to drunk driving.

Table 2: Collective security and fear and victimisation in relation to drunk driving in percentages and by formal education and race

Collective security	None	A little	Much	Very much	*r* (Educ)	X^2 (Race)
Police effectiveness	24	63	9	3	0.11	0.878
Judiciary effectiveness	11	32	45	12	0.09	1.804
Fear and victimisation	Never	Occasio-nally	Much	Very much	*r*	X^2
Worry	4	35	42	20	0.05	6.52
	Unlikely	Likely		Very likely		
Accident risk	26	61		13	0.00	15.77***
Car risk	23	53		24	0.12	5.28
	A short	A fair amount of		A long time		
Vulnerabilty	14	47		39	0.19**	2.91
	Yes		No			
Personal victim	50		50		0.03	1.18
Vicarious victim	90		10		0.18*	0.01

***p<.001; **p<.01; *p<.05

Collective security was rated fairly low, especially for the police. The majority felt that the police were ineffective (24%) or only slightly (61%) effective, while under half (43%) felt that judges were ineffective (11%) or slightly (32%) effective in helping to reduce the incidence of drunk drivers in their community. There were no significant differences regarding educational level or race.

Half the participants (50%) said that they had been in an accident caused by a drunk driver and 90% had a family member or close friend who had been in such an accident. Most (86%) felt considerably vulnerable to motor accidents, saw a likely or very likely risk of themselves and their car's being involved in an accident in the next two years, and were also often worried about being hit by drunk driver after dark. Although blacks (54%) had more often than whites (46%) been in an accident caused by a drunk driver, they saw a significantly lower accident risk for themselves than whites did.

Table 3 indicates the logistic regression of collective security, fear, vulnerability and victimisation on self-protective behaviour (parked car, changed lanes, stayed home and refused ride).

Table 3: Logistic regression coefficients of self-protective behaviour for perceived collective security, fear, victimisation, and vulnerability

Variables	Parked car	Changed lanes	Stayed home	Refused ride
	B	*B*	*B*	*B*
Collective security				
Police effectiveness	ns	ns	ns	-0.71*
Judicial effectiveness	ns	0.44*	ns	ns
Fear and victimisation				
Worry	ns	ns	ns	1.21***
Accident risk	ns	0.85**	ns	ns
Car risk	0.59*	ns	ns	ns
Personal victim	1.18***	ns	1.06**	ns
Vicarious victim	ns	ns	ns	ns
Vulnerability	0.53*	ns	0.85**	ns
Control variables				
Age	ns	ns	ns	0.06**
Sex (male = 2)	ns	ns	-1.34***	ns
Formal education	ns	ns	ns	1.61***
Race (Whites = 2)	ns	ns	-0.71*	ns

***p<.001; **p<.01; *p<.05

Collective security (judicial effectiveness) was sufficient to explain the self-protective behaviour (avoidance) of changing lanes because of drunk drivers, while collective insecurity (police ineffectiveness) sufficed to explain the self-protective behaviour of refusing to drive with someone who was drunk. Participants' perceptions of the effectiveness of the police and judiciary in controlling drunk driving were unrelated to practising two of the four avoidance behaviours, namely "parked car" and "stayed home". Overall, it appears that the collective security perspective was unable to explain the avoidance of drunk drivers.

The fear-and-victimisation model got more support. Participants who reported worrying often about drunk drivers were more likely to refuse a ride with someone who was drunk and to "stay home" when they had experienced personal victimisation and vulnerability. Assessments of potential risks to their car, victimisation and vulne-

rability were positively related to parking their cars off the street, while assessment of their accident risk was related to changing lanes in order to avoid a driver who might have been drunk. Vicarious victimisation, however, was not related to any of the self-protective activities.

Table 4 reports the results of regression analyses using the independent variables on other-protective behaviour. Since no item (neither police nor judicial effectiveness) was related to any of the other-protective behaviours, the collective security hypothesis could not be confirmed. Moreover, the fear-and-victimisation model received only marginal support from the other-protective behaviour. Often "worrying about being hit by a drunk driver" was positively related to "telling others to drive carefully". Having experienced any vicarious victimisation, worrying often and being female were significantly related to "refusing to give or buy someone a drink because you were afraid that they were getting too drunk to drive home safely". Perceptions of higher accident risk, being white and higher formal education related to taking a friend home when they were perceived to be too drunk to drive safely (see Table 4).

Table 4: Logistic regression coefficients of other-protective behaviour for perceived collective security, fear, victimisation, and vulnerability

Variables	Drive carefully	Refused to buy	Don't drive	Drove a friend
	B	B	B	B
Collective security				
Police effectiveness	ns	ns	ns	ns
Judicial effectiveness	ns	ns	ns	ns
Fear and victimisation				
Worry	1.74***	0.76**	1.11**	ns
Accident risk	ns	ns	ns	1.35***
Car risk	ns	ns	ns	ns
Personal victim	ns	ns	ns	ns
Vicarious victim	ns	1.42*	ns	ns
Vulnerability	ns	ns	ns	ns
Control variables				
Age	ns	ns	ns	-0.06**
Sex (male = 2)	ns	-1.44***	ns	ns
Formal education	ns	ns	1.46*	0.15**
Race (Whites = 2)	1.33*	ns	ns	1.16*

***p<.001; **p<.01; *p<.05

3. Discussion

Many of the participants in this study had had experiences with drunk driving: half said that they had been in an accident caused by a drunk driver and 90% had a family member or close friend who had been in such an accident. This finding seems to relate to high prevalence rates of drunk driving in South Africa (Directorate of Traffic Safety 1998: 10f).

This study set out to achieve two aims, namely

- to examine the extent of general driver participation in measures aimed at reducing the risk of victimisation by drunk drivers, and
- to assess protective behaviour relating to drunk driving, in particular, whether avoiding drunk driving was explained by collective security or by the fear-victimisation model (see also Applegate *et al* 1999: 330).

It was found that a substantial proportion of the general drivers took precautions to avoid becoming victims of drunk drivers, which concurred with a study by Applegate *et al* (1999: 331) who investigated the same phenomenon among American residents. In fact, 59% reported having practised three out of four self-protective behaviours, and 68% having practised all four other-protective behaviours in the preceding twelve months.

In line with the study by Applegate *et al* (1999: 332) it was found that the collective security model of protective behaviour, relating to perceptions of police and judicial effectiveness in controlling drunk driving in the community was either inconsistently related to self-protection and other-protection, or non-significantly related. Thus the findings do not support the argument that people take action in order to help themselves or others when they believe that agents of the criminal justice system are incapable of providing them with protection.

There seems to be some evidence that the fear-and-victimisation model is supported, since one or more individual factors related to each of the four self-protective and all three of the four other-protective behaviours. A similar result was found by Applegate *et al* (1999: 333) among American residents. The factors derived from the fear-victimisation model which were associated with two self-

protective behaviours were "personal victimisation" and "vulnerability", while the factor "worry" was related to three other-protective behaviours. Assessment of accident risk to themselves and their cars was only related to one of the self-protective behaviours. So, too accident risk was only related to one of the other-protective behaviours.

Important gender and racial differences were also found. All these findings are relevant in order to the implementation of a culturally and gender-sensitive, theory-driven prevention/intervention programme on drinking and driving.

Bibliography

APPLEGATE B K, F T CULLEN, P J RICHARDS, L LANZA-KADUZE & B G LINK
1999. Avoiding drunk drivers: the level and sources of protective behavior. *Violence and Victims* 14: 323-36.

BAUM S
2000. Drink driving as a social problem: comparing the attitudes and knowledge of drink driving offenders and the general community. *Accident Analysis & Prevention* 32: 689-94.

BROWN S L
1997. Prevalence and effectiveness of self-regulatory techniques used to avoid drunk driving. *Journal of Behavioral Medicine* 20: 55-66.

BUTCHART A & M PEDEN
1997. Injury and trauma. *The South African Health Review* 25: 1-5.

DIRECTORATE OF TRAFFIC SAFETY
1990. Walking the straight and narrow. *Robot* 5(5): 3.

1998. *White paper on the Road Accident Fund*. Pretoria: Government Printers.

GRASMICK H G, R J BURSIK & B J ARENKLEV
1993. Reduction in drunk driving as a response to increased threats of shame, embarrassment, and legal sanctions. *Criminology* 31: 41-67.

GUSFIELD J R, P RASMUSSEN & J A KOTARBA
1984. The social control of drinking-driving: an ethnographic study of bar settings. *Law and Policy* 6: 45-66.

HEDDEN F J & P J D WANNENBURG
1994. Results of a survey on use of marijuana and alcohol amongst accident victims attended to at Addington Hospital Accident and Emergency Unit. *Trauma & Emergency Medicine* July/Aug: 1074-8.

INTERNATIONAL ROAD FEDERATION
1991. *World road statistics*. Washington, DC: International Road Federation.

KEANE C
1992. Fear of crime in Canada: an examination of concrete and formless fear of victimization. *Canadian Journal of Criminology* 34: 215-24.

LAB S P
1990. Citizen crime prevention: domains and participation. *Justice Quarterly* 7: 467-91.

MCDOWALL D & C LOFTIN
1983. Collective security and the demand for legal handguns. *American Journal of Sociology* 88: 1146-61.

MOSKIWITZ J M
1989. The primary prevention of alcohol problems: a critical review of the research literature. *Journal of Studies on Alcohol* 50(1): 54-67.

NELSON T F, N E ISAAC,
B KENNEDY & J D GRAHAM
1999. Factors associated with planned avoidance of alcohol-impaired driving in high-risk men. *Journal of Studies on Alcohol* 60: 407-12.

PEDEN M & A BUTCHART
1999. Trauma and injury. *The South African Health Review* 17: 1-15.

ROSS H L
1992a. Confronting drunk driving: social policy for saving lives. New Haven: Yale University Press.

1992b. The law and drunk driving. *Law and Society Review* 26: 219-30.