Drinking and Driving in Germany: Behavioural Patterns and Influencing Factors—a temporal and cross-cultural comparison

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Introduction

A comparison of the time series of alcohol-related accidents and of those not caused by drinking and driving, reveals a much greater decrease in alcohol-related accidents than would have been expected based on the usual method of consideration: compared to 1980, alcohol-related accidents in the old federal states (i.e. in west Germany) decreased by 33 % in 1990, whereas the accidents not involving alcohol dropped by only 7 %. A corresponding clear difference was also found in the number of fatalities.

This relatively favourable development among alcohol-related accidents is accompanied by a slight drop in alcohol consumption: 11.8 l pure alcohol per capita was consumed in 1990—compared to 1980, a decrease of 10 %. In addition, a steady increase in soft drinks was found: from 405.2 l in 1980 to 513.0 l in 1990, i.e. an increase by 26.6 %. 1)

In the German Democratic Republic up to 1989, the trend of the development of alcohol-related accidents was similarly favourable: compared with 1980, 14 % less alcohol-related accidents were counted in 1989 and 25 % less fatalities in alcohol-related accidents, whereas the number of casualty accidents not involving alcohol even rose by 3 % in that time. The number of fatalities also decreased, but, with 8 %, the decrease was clearly lower than in the alcohol-related accidents. 2)

Considering the development of alcohol-related accidents in both German states, the different legal BAC limits (still effective today) are of special

1) The increase in hit and run accidents by drunken drivers and undetected cases in general probably do not decisively affect the favourable development.

2) The year of 1990, in which the number of alcohol-related accidents and accident fatalities rose considerably in the GDR, cannot be used for comparison purposes because of the opening up of the borders and the atypical traffic conditions associated therewith; up to now this negative development has not been stopped.
interest: in the old federal states, a legal BAC limit of 80 mg / 100 ml has been effective since 1973 whereas, in the GDR, a BAC limit of 0 mg / 100 ml was in force and has still not been changed in the new federal states.

A comprehensive representative survey of the population of the Federal Republic of Germany, undertaken by Federal Highway Institute (BASt) in 1979 - 80 (Kretschmer-Bäumel, Karstedt-Henke, 1986) for the first time, contributed greatly to clarifying the background of the typical orientation and behavioural patterns of a society in the drinking and driving conflict. In spring of 1990, this survey was repeated in the old federal states of the Federal Republic of Germany (n = 3,000). At the time of German unification in autumn of 1990, an interview survey of this nature was also undertaken in the east of Germany (n = 5,000), although it had to be performed in a reduced version for reasons of method.

We have therefore now the data necessary to compare not only the structural conditions in a time period of 10 years but also those within different contexts of society.

Results

Behaviour in the drinking and driving conflict

From the replies of drivers to the question of how they resolve the drinking and driving conflict, the following emerges:

In the west, now as before, more than half of the male and female drivers (60 %) drive under the influence of alcohol and less than half believe to have violated the legal BAC limit of 80 mg / 100 ml in doing so. Compared with the reported behaviour in the drinking and driving conflict in 1979 - 80, no statistically significant change has taken place (p > 0.01) thus far.

In the east, a comparatively soft approach to questioning about driving under the influence of alcohol was used because in view of the legal BAC limit of 0 mg / 100 ml a question about driving at a BAC of 80 mg / 100 ml would most probably have yielded a much greater number of untruthful answers due to social desirability. Despite this moral obstacle, about a fourth of the driving population (27 %) in the east admitted to having driven under the influence of alcohol.

Factors determining behaviour in the drinking and driving conflict—a temporal comparison

For 1979 - 80, the multi-variate analyses--following the approach of Grizzle, Starmer and Koch (1969)--revealed the following results:

The solution to the drinking and driving conflict is decisively influenced by:
attitude to the legal BAC limit of 80 mg / 100 ml
evaluation of the risk arising from drinking and driving
evaluation of excessive alcohol consumption and
sex of the driver.

These factors of influence were fully confirmed by the 1990 findings for the west German driving population. To the contrary, clearer and more definite structural relationships also emerged, i.e. showing a greater stability on the whole (for 1990 a model resulted which exclusively consists of main effects, no longer pointing to any conditional effects as it did in 1979 - 80) and yielding model estimations much better fitting the empirical distributions (p = 0.62 versus p = 0.32).

In view of the fact that a steady improvement of alcohol-related accidents has been observed since 1980, it can be concluded that the problem awareness concerning the solution to the drinking and driving conflict has sharpened. This fits in with the general change in values in the ecological awareness, setting in from the beginning of the 1980ies. A clear indicator of these changes is not only the disproportionate increase in the consumption of soft drinks but also the fact that 17 % of the target population in 1990, when questioned about the kind of drinks consumed at the last drinking occasion outside their homes, answered that exclusively soft drinks had been consumed, compared with 4 % in 1979 - 80 (p < 0.0001).

These structural changes manifest themselves most clearly in the juvenile and female population:

Among juveniles (below 25 years), the proportion of those only drinking soft drinks at drinking occasions is clearly higher than in the group of the elderly (20 % versus 12 %, p < 0.001). In the group of young male and female drivers, the proportion of those stating that they never drive at a BAC of 80 mg / 100 ml or over is also clearly higher (69 % versus 54 %, p < 0.001). These survey results have been confirmed by the positive developments reflected in the accident statistics, especially as far as juvenile drivers (male and female) are concerned. Compared with the elderly, where the proportion of accidents caused by drinking and driving has dropped by 16 %, it went down by as much as 24 % among male and female drivers aged between 18 and 24 years.

Among women, the percentage of those with the least probability of driving under the influence of alcohol has doubled: these are women who advocate a lowering of the legal BAC limit of 80 mg / 100 ml and condemn excessive alcohol consumption, even in exceptional cases, and additionally rate the risk involved in drinking and driving as extremely high. Meanwhile one in two female drivers (54 %) pleads for a more stringent BAC limit, compared with one in three (34 %) ten years before. In the male driver population, this proportion only increased from 27 % to 36 %.

Although some sex-related differences clearly still persist or increased, how above demonstrated, the radical changes towards a gradual diminishment of the internal determinants, which started to be felt already ten years ago, have
manifested themselves more strongly now: although women still drive under the influence of alcohol more seldom than men, the difference has decreased. The decisive factors are now influencing both men and women in the same manner and with the same influencing impact.

Factors determining behaviour in the drinking and driving conflict in comparison of east and west Germany

The different BAC limits and the different cultural values and habits in the east and west of Germany raise the question as to whether or not behaviour in the drinking and driving conflict in the east is shaped by the same determining factors as in the west and as to the structures and groupings that can be identified in the driving population of the east.

At first it was found that, also in the east, behaviour is shaped by the same influencing factors as in the west of Germany. However, the "best" model in the east did not turn out to be a main-effects-model but a model with conditional effects (it fits the experimental distribution by as much as \( p = 0.82 \)).

A role of particular importance is played by the structure of the determining factors: in east Germany, the attitude towards the legal BAC limit affects the decision whether to drive under the influence of alcohol to a much greater extent than in west Germany. Attitudes pointing to a stricter obedience to the law were already found in other studies. The influence of a strict attitude to the BAC limit (demand for a limit of 50 mg or 0 mg per 100 ml) is actually so strong that whether one condemns excessive alcohol consumption or not does not really any longer play a role for the decision. However, the attitude to alcohol consumption is still of great importance for those rejecting a more stringent limit than 80 mg / 100 ml (conditional effect).

In contrast to west Germany, the sex of a driver is of no importance in the east concerning the question whether to drive under the influence of alcohol or not. But the kind of influence exerted by attitudes strictly abiding by the law on the decision whether to drive under the influence of alcohol does depend on the sex of drivers: law-abiding attitudes have a stronger impact on women than on men, about as strong as on the group aged 18 to 29 years in west Germany.

The evaluation of the risks arising from driving under the influence of alcohol additionally plays a considerably greater role in the east than in west Germany, especially for those with a tolerant attitude to excessive alcohol consumption. This implies that the impact of a person's attitudes to the legal norm is still reinforced by his or her orientation according to that which is intended by this norm, namely that driving under the influence of alcohol is dangerous.

The largest groups of men and women in east Germany were identified as those advocating a legal BAC limit of 50 mg or 0 mg / 100 ml and rating the risks involved in driving under the influence of alcohol as very high, but who do not condemn excessive alcohol consumption. Among the men with these
characteristic features, only one in five can be expected to drive under the influence of alcohol and only one in nine women of this group.

Compared to west Germany, the persons marked by characteristics (rejection of a low legal BAC limit, a tolerant attitude to alcohol consumption and who rate the risks arising from drinking and driving less high than others do) decisively influencing drinking and driving (depending on the sex, the probability varies between 82 % and 98 % in the west) are still clearly in the minority in east Germany. Among male drivers in west Germany, the persons marked by these characteristics meanwhile represent the largest group.

Summary and Conclusion

This model to explain the behaviour of the driving population in the drinking and driving conflict, which was determined ten years ago, was found to be still valid. It was further possible to confirm that, also in east Germany, the same determining factors are influence on the decision whether to drive under the influence of alcohol as in the west.

Nevertheless, the following structural differences have been established:

In west Germany, attitudes towards excessive alcohol consumption—meaning an orientation embedded in a specific lifestyle (a conduct of life determined by a greater ecological awareness)—have clearly gained in influence. This change is most noticeable among women: the percentage of women with strict attitude patterns towards drinking and driving and excessive alcohol consumption has doubled. For the young drivers of the west, their orientation towards the legal norm plays the most important role in their decision whether to drive under the influence of alcohol and not so much an internalization of "moral" values.

In the east, too—just like in the west for the young driver population—the legal BAC limit plays the most important role, but reinforced, in this case, by the rating of the risks involved in drinking and driving.

With respect to the discussions about raising the legal BAC limit of 0 mg / 100 ml in the east, the following radical difference between east and west Germany is of paramount importance: whereas in the west driving under the influence of alcohol is part of the normal pattern of behaviour, this is not at all so in the east—the ones behaving in this manner are rather—still—in the minority.

These favourable traffic safety conditions in east Germany should be taken into greater consideration than has been done hitherto in weighting the arguments for or against lowering the legal BAC limit of 80 mg / 100 ml (for the introduction of a uniform legal BAC limit in the whole of Germany).
References
