

## ALCOHOL-RELATED ROAD ACCIDENTS IN THE FEDERAL REPUBLIC OF GERMANY

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(Paper presented by Ekkehard Brühning)

### DATA FROM THE FEDERAL REPUBLIC OF GERMANY (WEST)

In the period from 1975 to 1990 in the Federal Republic of Germany (West) alcohol related injuries and fatalities in road traffic decreased continuously:

• The alcohol related accidents with injuries decreased obviously (32%) (see Table 1 and Figure 1). On the contrary the non alcohol-related accidents with injuries increased between 1975 and 1990 (6%).

TABLE 1 Time series of alcohol-related road accidents with injuries versus road accident with injuries in the period from 1975 - 1990 in West Germany, and in 1991 in West and East Germany

accident category \ years	1 9 7 5	1 9 8 0	1 9 8 5	1 9 9 0	1 9 9 1 <sup>1)</sup>
road accidents with injuries	337 732	379 235	327 745	340 043	385 147
alcohol-related road accidents with injuries	48 346	49 210	35 775	32 814	41 603
share of alcohol-related road accidents with injuries	14 %	13 %	11 %	10 %	11 %

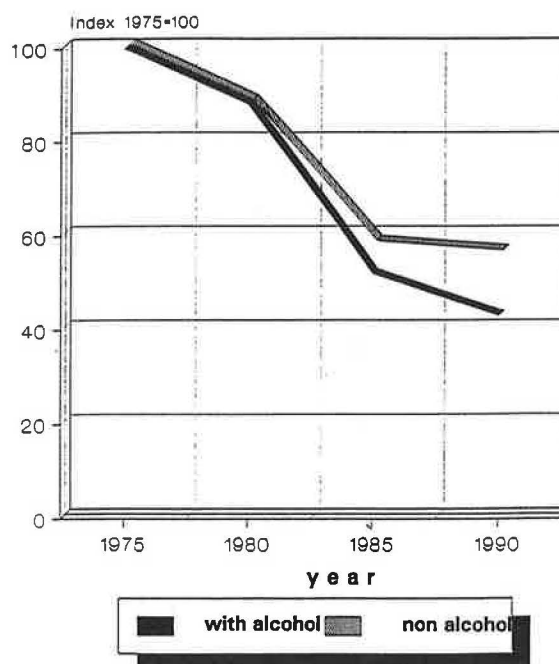


Figure 1 Road accidents with injuries, Federal Republic of Germany/West.

• The alcohol-related injuries also decreased dramatically in this period (37%), meanwhile the non alcohol-related injuries only decreased slightly (4%) (see Table 2).

TABLE 2 Time series of alcohol-related injuries in road accidents versus injuries in road accidents in the period from 1975 - 1990 in West Germany, and in 1991 in West and East Germany

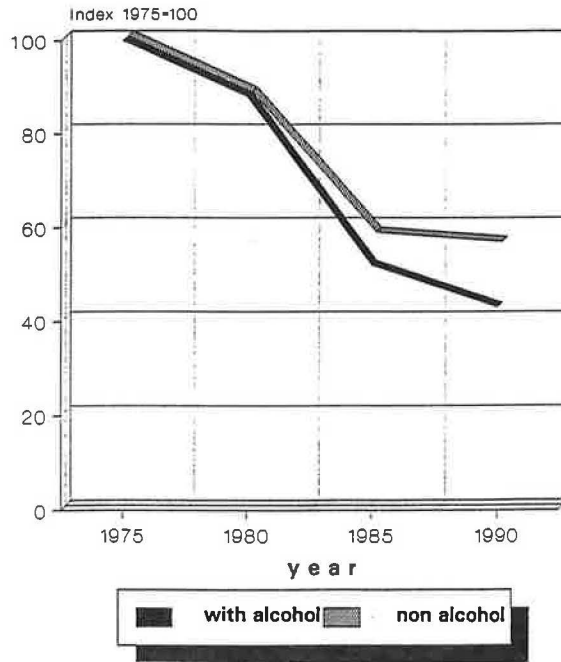
accident category \ years	1 9 7 5	1 9 8 0	1 9 8 5	1 9 9 0	1 9 9 1 <sup>1)</sup>
injuries in road accidents	472 667	513 504	430 495	456 064	516 835
alcohol-related injuries in road accidents	72 444	71 353	49 764	45 936	58 609
share of alcohol-related in road accidents	15 ‰	14 ‰	11 ‰	10 ‰	11 ‰

• The alcohol-related fatalities in road accidents decreased from 1975 to 1990 more (57%) than the total amount of fatalities in road accidents (44%) (see Figure 2 and Table 3).

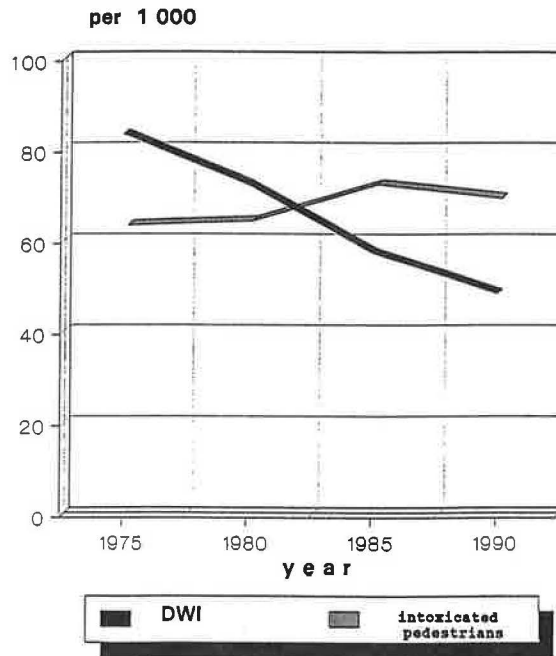
TABLE 3 Time series of alcohol-related fatalities in road accidents versus fatalities in road accidents from 1975 -1990 in West Germany, and 1991 in West and East Germany

accident category \ years	1 9 7 5	1 9 8 0	1 9 8 5	1 9 9 0	1 9 9 1 <sup>1)</sup>
fatalities in road accidents	14 870	13 041	8 400	7 906	11 300
fatalities in alcohol-related road accidents	3 318	2 919	1 719	1 414	2 229
share of alcohol related road accidents	22 ‰	22 ‰	20 ‰	18 ‰	20 ‰

In 1973, the critical BAC-limit of 0,8 permille was introduced as an offence which by statutory definition carries a fine (§ 24a Road Traffic Act, StVG). In this year 83 of 1,000 injured vehicle drivers and 60 of 1,000 injured pedestrians were intoxicated by alcohol (Statistisches Bundesamt, 1991). Since this time the figure decreased until 1990 to 50 intoxicated of 1,000 injured drivers and increased on the other hand to 69 per 1,000 injured pedestrians (see Figure 3).



**FIGURE 2** Fatalities in road traffic, Federal Republic of Germany/West.



**FIGURE 3** Intoxicated drivers and pedestrians per 1,000 injuries, Federal Republic of Germany/West.

## COMPARISON WITH DATA OF THE FORMER GERMAN DEMOCRATIC REPUBLIC

In the German Democratic Republic up to 1989, the trend of the development of alcohol-related accidents was similarly favorable: compared with 1980, 14% fewer alcohol-related accidents were counted in 1989 and 25% fewer 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 only by 8%, clearly less than in the alcohol-related accidents. (The year of 1990, in which the number of alcohol-related accidents and accident fatalities rose considerably in GDR, cannot be used for comparison purposes because of the opening up of the borders and the atypical traffic conditions associated therewith). (Kretschmer-Bäumel).

The relation between alcohol related accidents with injuries and non-alcohol related accidents with injuries was nearly the same as in West Germany (10%) in the three years before the unification (1986 to 1989). The relation between alcohol related fatalities and fatalities in road accidents also was similar (FRG 18%; GDR 17%).

These figures are very surprising considering the different legal BAC limits in both former German states (FRG: 80 mg/100 ml; GDR: 0 mg/100 ml) and the different police enforcement strategies. Since January 1993, all parts of Germany have the same BAC-limit of 80 mg/100 ml is legal.

But the road accidents increased dramatically in the New Länder (former GDR) after the unification. The alcohol related road accidents with injuries increased 72 percent from 1989 to 1990; by comparison the overall road accidents with injuries increased 44 percent.

In the first 4 months of 1991 in the New Länder, 77 of 1,000 drivers who were involved in an accident with injuries were intoxicated by alcohol. By contrast, in West Germany 49 of 1,000 drivers in accidents were intoxicated.

## CONCLUSION

In the period from 1975 to 1990 there can be seen a favorable and continuous drop of alcohol-related road accidents in Germany. This relatively favorable development among alcohol-related accidents is accompanied by a slight drop in alcohol consumption: 11.8 liters of pure alcohol per capita were consumed in 1990-compared to 1980, a decrease of 10%. In addition, a steady increase in soft drinks was found: from 405.2 liters in 1980 to 513.0 liters in 1990, i. e. an increase of 26.6% (Kretschmer-Bäumel).

Since the unification in 1990, in the New Länder, accidents in general and especially those concerning alcohol, have increased. The recent figures, for 1992, which are still not official, show a stabilization and slight improvement in the New Länder.

## PERSPECTIVES

In this situation once more the effectiveness of police controls, legislative and educational measures and above all their interaction should be considered. Alcohol as a drug has been known for thousands of years and intensively consumed for centuries. The motor vehicle has been in use for about one hundred years, and on a widespread basis for only about forty years. In Germany it has seriously affected the lifestyles of not more than two generations. The process of social reorientation to change dominant attitudes and to practice new behaviour modes of drinking-driving control will presumably be long and difficult.

In view of the complicated structure of social control, a solution to the problem may be found by concentrating on primary prevention. Most drivers (up to 95 percent) today probably remain below the legal BAC limit of 80 mg/100 ml (Stephan, 1989; Müller, 1993). A denser network of police controls would probably not increase the "yield" of undetected offenders much beyond the present level - according to surveys not higher than to 2 percent (Kerner, 1985).

Present efforts in the Federal Republic of Germany toward a more systematic integration of driver improvement programs into the existing legal and administrative framework seem to provide a more promising route to traffic safety in the medium term than do demands for radical changes in sanctions (Winkler, Kroj, 1993). Driver improvement programs can already be considered as making an important and irreplaceable contribution to road safety in the Federal Republic of Germany. However, they cannot be seen as a substitute for legal sanctions and measures.

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