

Alcohol and Illegal Drug Use While Driving by Recreational Drug Users in Germany

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Abstract

In 1998 a field study funded by the Federal Highway Research Institute of Germany (BAST) was conducted with drivers at discotheques. These subjects were contacted by researchers from the Center of Traffic Sciences, Wuerzburg (IZVW) and asked to participate in a short interview concerning drugs and driving. N = 2,779 subjects were included in the study. Of these, N = 1593 were driving at the evening of the study („current drivers“). The remaining N = 1186 were not driving at the evening of the study but had been driving at similar occasions („potential drivers“).

Comparing these two groups gives an indication whether people who use illegal drugs or alcohol are more likely to refrain from driving or not. The results show that alcohol strongly influences the decision to drive as the percentage of subjects with alcohol is much larger in potential drivers than in current drivers. For subjects using drugs, no difference is found between current and potential drivers indicating that drug use does not stop these subjects from driving. Subjects who had consumed both drugs and alcohol were found more often in potential drivers than in current drivers. As this effect is comparable in magnitude to the effect of alcohol, alcohol use and not drug use is the factor hindering these subjects from driving.

Introduction

Few studies worldwide have tried to estimate the frequency of driving under the influence of drugs. In Germany, data have been gathered in the course of the German Roadside Survey 1992-1994 (1,2) by means of saliva samples which were obtained from a representative sample of 2066 drivers (3,4). The analyses indicated that cannabis was the illegal drug used most often. However, cannabis was found in only 0.57% of all trips investigated. These figures illustrate the problem of finding drivers under the influence of drugs by means of a roadside survey. In the study presented here, another approach was chosen: By means of expert interviews locations were chosen where drug use was suspected and where the majority of people use a car to visit these locations. Using this approach, a large number of drivers under the influence of drugs was found and valuable information about these drivers was gathered. The results with regard to performance and attitudes are presented elsewhere in this volume (5,6). With regard to prevalence rates, estimating the frequency of drivers under the influence of drugs is not possible, as the subjects were not selected using a random sampling plan. However, comparisons within the sample give interesting insights into the problem of driving under the influence of drugs: By comparing drivers and potential drivers, who refrained from using the car at the evening of the investigation, factors may be found which are important for the decision to drive.

Method

The study was conducted in three larger cities in Bavaria, Germany (Munich, Nuremberg and Wuerzburg). In and around these towns, 29 discotheques were selected where a large part of the visitors attended by car and where experts rated drug use as highly probable. Between July and November of 1998, 66 events were visited. 54.5% of those were so-called Techno-Parties where amphetamines and ecstasy were supposed to be the dominant drugs. The other 45.5% consisted of Heavy Metal, Independent and various events with cannabis as the dominant drug. Due to this selection of locations, the frequency of the different drugs as reported below does not give representative consumption patterns for recreational users but patterns typical for these events. 62 of the events took place on Friday or Saturday night. Depending on the time schedule of the discotheques, the investigation times were either between midnight and 6 a.m. or between 10 p.m. and 4 a.m.

For the investigation, a camper van was used where a driving simulator was installed. Additionally, two tents were erected for an extended interview and a medical examination. A research team consisted of 6 researchers. Two of these conducted short interviews with potential subjects in order to select participants for the intensive investigation. One researcher performed an extended interview, another attended the driving simulator. A fifth researcher provided coordination between the different researchers. A physician took blood, urine and saliva samples and conducted a short medical examination.

In order to find the subjects of interest, different selection criteria were defined: First of all, when researchers contacted a group of incoming or leaving people, they asked who the driver was and selected him or her for the short interview. If no driver was present, people were asked if anybody was driving regularly at comparable events (but just not today). Thus, either a driver or a potential driver was selected for the short interview. In this interview, subjects were asked about drug use and driving under the influence of drugs. The answers provided the basis for the second step of the selection process which is described elsewhere in this volume (6). For the present paper, only the results from the short interview are analyzed.

Overall, 3081 subjects were selected for the short interview and 2779 participated (90.2% responder rate). 2555 of these subjects provided a breath alcohol sample and were willing to describe their illegal drug use. 1472 of these were drivers, 1083 potential drivers. Table 1 gives a description of the sample. Drivers and potential drivers do not differ with regard to sex and age. Most of the subjects are male (76.7% in drivers and 76.8% in potential drivers) and quite young (nearly 40% of the subjects are between 18 and 21 years of age).

Table 1: Description of the sample with regard to sex and age. The numbers given are percentages of drivers and potential drivers.

		Driver	Potential Driver
Sex	Male	76.7	76.8
	Female	23.2	23.0
Age	18-21	39.4	39.8
	22-24	23.5	26.1
	25-30	25.5	25.6
	31 and more (57 max)	11.4	8.4

Results

By comparing drivers and potential drivers, factors responsible for the decision to drive at the evening of the investigation may be examined. If the presence of a variable influences the subjects in their decision to drive, the percentage of subjects with this variable should differ between drivers and potential drivers. This is clearly the case for drug use, as Figure 1 shows. While 12.4% of the drivers are under the influence of drugs, 21.7% drug users are found in potential drivers. This difference is also found for drug use in the last month, last year and even for lifetime drug use, indicating that at least a part of all drug users refrain from driving under the influence of drugs. This difference is not due to the drivers being less willing to admit driving under the influence of drugs: In a sample of 324 subjects who provided a urine or blood sample the percentage of subjects not admitting drug use but with a positive test result was quite comparable between drivers and potential drivers.

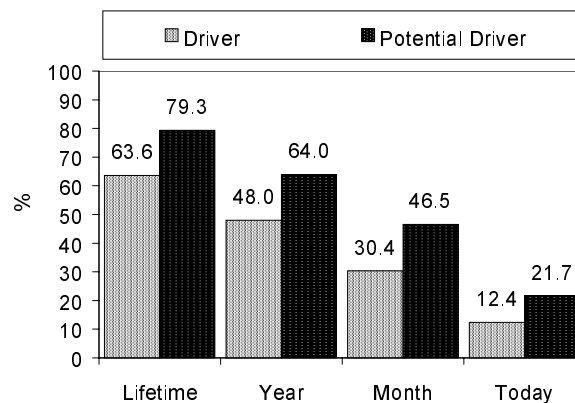


Figure 1: Percentage of drug use by drivers and potential drivers during lifetime, within the last year, last month and today.

A difference similar in direction but much larger is found for alcohol measured by means of Draeger Alcotest 7410 (breath alcohol analysis) (see Figure 2). While 68.8% of all potential drivers have consumed alcohol, only 30.2% of all drivers are under the influence. This difference is dependent on dosage: For BACs below 0.03%, no difference is found. The difference increases with rising BAC. This is a clear indication that the larger the impairment due to alcohol is, the less likely are the people to drive.

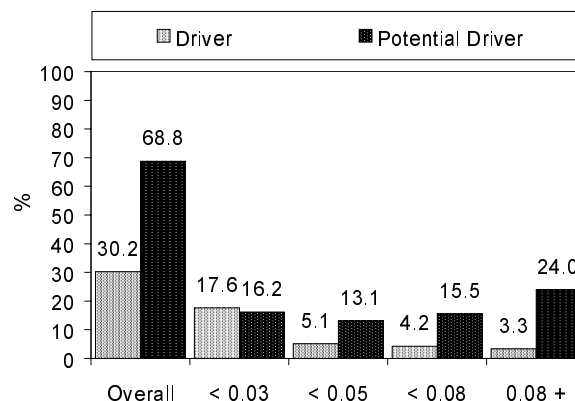


Figure 2: Percentage of drivers and potential drivers under the influence of alcohol. The first bars give the overall percentage of people under the influence. The other bars give the results for different BAC categories.

The picture changes, when both alcohol and drugs are taken into account. The percentage of subject with drugs only is nearly identical in drivers (6.7%) and potential drivers (6.2%). For alcohol use the difference remains very large: Only 24.5% of all drivers were under the influence of alcohol as compared to 53.3% of all potential drivers. Finally, 5.8% of all drivers and 15.5% of all potential drivers had consumed alcohol and drugs. Thus, drug use per se does not influence the subjects' decision to drive. Alcohol is the important factor to prevent subjects from driving. This is also true for subject who have consumed alcohol and drugs. The difference in drug use between drivers and potential drivers as depicted in Figure 1 is thus due to the large number of subjects who consume alcohol and drugs.

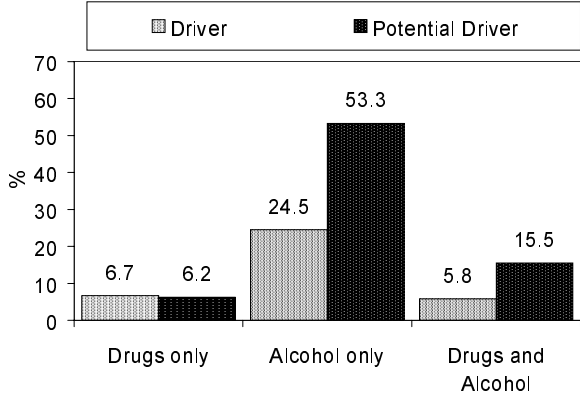


Figure 3: Percentage of drivers and potential drivers with only drugs, only alcohol and both alcohol and drugs.

This pattern of findings is also valid for different drugs. Figure 4 gives the numbers for drug use with and without alcohol. For all drugs, the percentages of drivers and potential drivers are very similar. With the exception of ecstasy and multiple drugs, the percentages are even slightly larger for drivers than for potential drivers indicating that drug use does not hinder the drivers from using the car. When drugs are combined with alcohol, larger percentages are found in potential drivers reflecting the influence of alcohol. The effect seems largest for cannabis. However, cannabis is used most frequently especially in combination with alcohol. Thus, if one examines cannabis use regardless of alcohol consumption, cannabis users seem to refrain from driving. However, this is only due to the fact that a large number of cannabis users do also consume alcohol and do not drive because of their alcohol consumption.

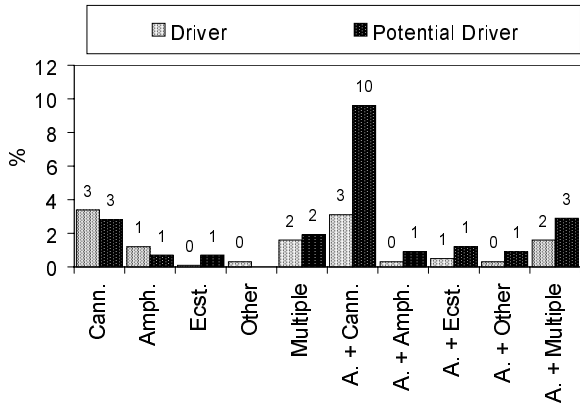


Figure 4: Percentages of drivers and potential drivers for different drug groups without (left part) and with (right part) alcohol.

Discussion

The study presented gives an indication about drug use and driving within a population of mobile recreational drug users. Within this sample, alcohol use is about three times as frequent as drug use. The study examined whether the use of drugs or alcohol influenced the subjects' decision to drive by comparing drivers and potential drivers. For alcohol, a strong influence is demonstrated: The percentage of alcohol use in potential drivers is more than double that of drivers. Moreover, the magnitude of the BAC is an important factor: The larger the BAC, the larger is the difference between drivers and potential drivers. For drug use without alcohol, no difference was found indicating that drug use does not influence the decision to drive. This is true for different drugs and combination of drugs. However, when alcohol is consumed additionally, the percentages are larger in potential drivers.

The results show that drug use is not an important factor in the decision to drive. There are different reasons for this: Drug use is not perceived as impairing the ability to drive and drug use is hardly ever detected by the police. With regards to the first argument, the results from laboratories and the present study (see (6) in this volume) seem to support the drug users view: Large impairments are found especially when drugs are taken in combination with other drugs or alcohol. Taking into account these findings and the experiences of drug users it will be difficult to convince them that driving under the influence of drugs alone is harmful. The argumentation would be easier if a moderate drug use while driving (comparable to one beer being allowed in countries with BAC limits of 0.05) was allowed. The other alternative is to increase drug detection by the police. However, the necessary technical requirements are still missing (easy to use screening tests) and the legal basis for other procedure (taking blood samples) is not given.

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