

# Alcohol and Drug Use by Professional Drivers in Spain

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## Key words

Alcohol, medication, health status, professional drivers, Spain

## Abstract

The self evaluation of health status, the presence of pathological processes and the consumption patterns of medicaments and alcohol in a sample of Spanish professional drivers is analyzed in this study. 13% of professional drivers claim to suffer a pathological process, while 12.75% say they are taking medicaments. 46% of professional drivers drink alcohol every week, with an average consumption of  $16.8 \pm 11.8$  grams of pure alcohol per day, and 8.7% have a score of 8 or more points in the AUDIT test. These results show that the presence of pathological processes, the consumption of medicaments, of alcohol and its related problems is frequent in Spanish professional drivers.

## Introduction

The use of alcohol, and to a lesser extent of medicinal drugs, is common in the population (1-4). Earlier studies have also shown frequent consumption of these substances among drivers. There is, however, little information regarding professional drivers, either in Spain or elsewhere.

Alcohol consumption has been identified as the most important factor in road traffic accidents (1). The relationship between the level of alcohol in the blood and the risk of accidents has been known for a long time now and it is estimated that driving under the effects of alcohol is responsible for 30-50% of accidents with fatalities, 15-35% of those with light injuries and 10% of those without injury (2). More recently, the role of medicinal drugs in traffic accidents has attracted growing attention (3,4). Finally, current European legislation does not permit the issuing or renewal of a driving licence for those who do not possess adequate driving ability. The Council Directive 91/439/CEE on driving licences establishes, in Annexe III, the minimum standards of physical and mental fitness for driving a motor vehicle, in which several medical conditions are included.

The objective of the study was to assess alcohol and drug use by Spanish professional drivers.

## Methods

This study was carried out between January and July 2001 on a sample of Spanish vehicle drivers who attended one of 23 official driver testing centers (see the acknowledgements)

situated in different parts of the country, in order to undergo an evaluation of their psycho-physical capacity to drive, as set down by Spanish and E.U. law.

A total of 2,272 interviews were carried out, of which 2,233 were considered valid, 1,904 corresponding to non-professional drivers and 329 to professional drivers (5). The latter (sometimes known as commercial drivers in other countries) were those with driving licences in the C, D or E categories (the second group of driving licences). The distribution of the sample was weighted for the distribution of the total number of Spanish drivers in accordance with the type of licence, sex and age; the final total of the sample being 2,000. As female professional drivers only represent 2.0 % of professional drivers, the results are presented with respect to the total and by age range.

Four aspects have been analyzed in this study:

i) Self-evaluation of the health status of professional drivers.

ii) Pathological processes mentioned by the drivers: The drivers were asked about the different illnesses they suffered, whether they had had to stop driving or change their driving habits due to an illness they had suffered, and whether their doctor had warned them of the effect of their illness on their capacity to drive.

iii) Medicinal drugs taken: The drivers were asked about the different medicaments they were taking at the time of the interview, and whether their doctor had warned them that it was advisable not to drive while under the effects of any of the medicinal drugs they were taking.

iv) Alcohol consumption patterns: In this respect, the frequency of the consumption of alcohol in the previous six months was first of all analyzed; a weekly drinker being considered as one who stated s/he consumed alcoholic drinks at least once a week; while daily drinkers were those who admitted to consuming alcoholic drinks every day of the week, and who are also included in the figures of weekly drinkers.

Furthermore, the amounts of alcohol intake have been expressed in terms of absolute alcohol consumed per day, in accordance with the alcohol content of Spanish drinks and the volume of intake of each of the different drinks.

In order to classify the patterns of alcohol consumption, it is not only necessary to know the average levels of consumption, but it is also highly useful to classify this consumption in different ranges. For this study, two different groupings have been made. In the first, distinctions have been made between those who do not drink at all, those who consume between 1-39 grams/day of absolute alcohol (light drinkers), between 40-79 grams/day (moderate drinkers), and those who consume 80 or more grams/day (excessive drinkers)(5). In the second grouping drinkers were classified, with regard to their drinking level, as low consumption/low risk (females: < 14 units/week; males: < 21 units/week); moderate consumption/intermediate risk (females: 15-35 units/week; males: 22-50 units/week); high consumption/high risk (females: > 35 units/week; males: > 50 units/week)(1 unit = 10 grams of pure alcohol; 5,6).

The AUDIT test arose out of a World Health Organization project (7) carried out in different countries for the early detection of the harmful consumption of alcohol. It consists of a scale of ten questions. The cut-off point is established at 8 or more points. Here, the officially translated version to Spanish has been used (5).

The SAS program, version 6.12, has been used for the statistical analysis of the data.

## Results

**Self-evaluation of health status:** 35.7% of professional drivers considered their health status to be “very good”, 60.0% "good" and 4.5% considered it to be “fair”; none of those interviewed considered their health to be “very bad”. The percentage of those who considered their health to be "very good" decreases with age: 40.9% of those under 30, 34.2% in the 30-49 year old age group and 28.0% of those aged 50 or over. The distribution by age group for the answer “good” was 52.3%, 64.4% and 60.0%, respectively. "Fair" was the answer of 6.8% of those under 30, while only 1.4% of professional drivers between 30 and 49 said so, but 12.0% of those aged 50 or over gave this answer.

**Pathology and vehicle driving:** 13.0% of professional drivers suffer some kind of pathological process: 8.9% of those under 30 years of age, 10.1% of those aged between 30 and 49, and 30.8% of those aged 50 or over.

Most professional drivers, 78.9%, suffering a pathological process admitted to suffering from only one. Two pathological processes were admitted to by 15.8% and three by 5.3%. With respect to age, it can be seen that no professional driver under 50 admitted to suffering three pathological processes. The same was not true for the over 50s as 12.5% admitted to suffering three.

The most common illnesses referred to by professional drivers were high blood pressure (15.3%), followed by allergies (8.7%) and back pain (7.7%).

To the question of whether they had had to stop driving or change their driving habits due to the illness, 78.9% of professional drivers who suffered some kind of pathology answered "no". 10.5% said “yes, I have had to stop driving”, 5.3% said "yes, my driving ability has been affected negatively" and 5.3% said "yes, I try to drive less". On the other hand, 26.3% said they had been warned by their health professionals about the effects of their illness on their ability to drive.

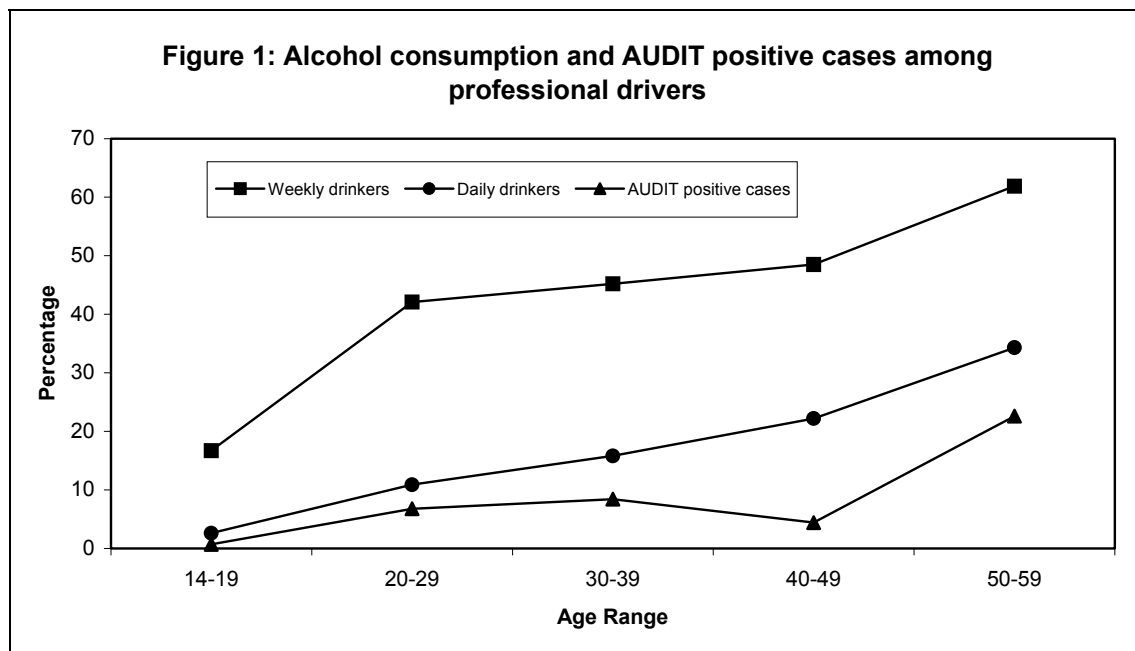
**Patterns of consumption of medicaments:** 12.75% of professional drivers were taking some kind of medicine at the moment of carrying out the study. Analyzing the distribution by age group, it can be seen that there is an important increase in the percentage of drivers who take medicinal drugs from the age of 50 upwards (34.6%, as opposed to 6.5% of the 30-49 age group, and 8.9% of the under 30 age group).

8.0% were taking only one medicament, 3.35% two medicaments and 0.7% three. Of those taking two medicaments at the same time, only 2.2% were under 30 and 1.3% were between 30 and 49. In these two groups nobody referred to consuming three medicaments simultaneously. In the over 50s group, 11.5% were taking two medicaments at the same time and 3.8% were taking three.

The most frequently consumed medicaments belonged to those to treat heart diseases (16%), followed by those for treating the digestive and metabolic apparatus (12%), hormone therapy (12%), and the respiratory apparatus (12%).

With respect to the warning by health professionals concerning the effects of the medicaments on the ability to drive, 70.7% of professional drivers said they had not received information “at any time” from the doctor about whether it was advisable to drive under the effects of any of the medicaments they were taking. 28.2% answered "yes, sometimes" and 1.1% answered "yes, fairly frequently".

**Alcohol consumption and its related problems:** 46% of the professional drivers interviewed said they were ‘weekly drinkers’, while 17.9% said they were ‘daily drinkers’. The distribution of ‘weekly’ and ‘daily’ drinkers is shown in Figure 1. It should be remembered, as pointed out in the methodology, that ‘daily’ drinkers are a subgroup of the ‘weekly’ drinkers. 10.2% said they never drank, 1.5% said they had stopped drinking, and 42.3% said they drank occasionally, that is, they drank alcohol less frequently than once a week.



The average amount of alcohol consumed, expressed in grams of pure alcohol per day is of  $16.8 \pm 11.8$ . Mean grams of pure alcohol was 11.6 among those aged less than 25 years of age, 15.9 among those aged 25-34, 15.1 among those aged 35-44, 15.2 among those aged 45-54, and 22.6 among those aged 55-64.

On analyzing the amount of alcohol consumed expressed in different levels, it can be seen that 30.2% did not consume alcohol in the week before the interview, 68.5% consumed between 1 and 39 grams of pure alcohol per day and 1.3% consumed between 40 and 79 grams/day. It must be pointed out that no professional driver referred to a consumption of alcohol above 80 grams/day.

As pointed out in the methodology, a second classification of alcohol consumption has been used in which different categories are established by considering different levels of consumption for males and for females. The week prior to the interview, 30.2% said they had consumed no alcohol, 67.7% admitted to a “low consumption” of alcohol and 2.1% referred

to a “moderate consumption” of alcohol. No professional driver would have a “high consumption” of alcohol.

With respect to the evaluation of the AUDIT test, 8.7% would be AUDIT positive. Figure 1 shows the distribution by age.

### **Discussion**

The present study shows that Spanish professional drivers possess a good opinion of their health status, as 60% consider their health status to be ‘good’. 13% suffer from some kind of pathological process and 12.75% are currently taking some kind of medication. Also in this study (5), among the non-professional drivers, the percentages were 16.1% and 17.1%, that is, professional drivers show a lower presence of pathological processes and consumption of medicaments than do non-professionals.

Although not all illnesses, or medicaments, affect the capacity to drive safely, it should be pointed out that doctors had only warned 26.3% and 29.3% of professional drivers who said they suffered from a pathological process or that they were taking medicaments, respectively, about the influence of the illness, or the medication, on their capacity to drive.

With respect to alcohol consumption, 46% of professional drivers are ‘weekly drinkers’ as opposed to 41.4% of non-professional drivers (5). That is, the habit of consuming alcohol is as, or more, frequent among professional drivers than among non-professionals. However, professional drivers show a lower consumption of alcohol (average of pure alcohol 16.8 as opposed to 21.1 grams/day), a lower frequency of drinkers of  $\geq 80$  gr/day (0% as opposed to 0.6%) and high consumption (0% as opposed to 0.7%), as well as a slightly lower frequency of positive AUDIT cases (8.6% as opposed to 9.1%) than non-professional drivers (5). Given the legal and professional repercussions (withdrawal of driving license) of driving under the effects of alcohol, it is logical to find lower levels of alcohol consumption among professional drivers. Nevertheless, the high frequency of consumption and positive AUDIT cases shows how frequent the consumption of alcohol, and its related problems, is among Spanish drivers.

The differences between professional and non-professional drivers may be real, or they may be due to the fact that the study was carried out in a situation where the evaluation of the health status could affect the result of the decision to give a driving license or not. In any case, the data shows that a sizeable percentage of professional drivers suffers some kind of pathology, is taking medication or consumes alcohol.

Because professional drivers usually drive more frequently and more km/year than non-professional drivers, the characterization of their patterns of substance use is of relevance regarding traffic safety.

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