

# Drunk Driving of Young Road Users: Epidemiology and Prevention

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## Abstract

This article presents a chronological steps model of drunk driving prevention among young road users. At each step leading to the violation process, formal and informal control of behaviour are presented and analyzed.

## Introduction

Alcohol is one of the main factors of traffic accidents, for young as well as for adult drivers.

Our researches on this topic have lead us to the following model : various phenomena lead a young person to return home on weekend evenings under the influence of drink, they form a chronological sequence :

- 1) a decision to spend an evening in a place where drink is sold ;
- 2) the management of alcohol consumption during the evening (quantity, how often, food intake) ;
- 3) deciding whether or not to drive ;
- 4) once this decision has been made, the behavioural consequences of this decision (risk-taking, compensation of risk).

At each of this four stages, some prevention strategies may be efficient (each stage does not require the same type of preventive action).

At each of this four stages, preventive action can reflect the intervention of two general types of actors :

*Formal social control of behaviour is operated by professionals involved in accident prevention (police, justice, educational, research, etc. workers) and is formalized by laws, rules, norms, procedures.*

*Informal social control of behaviour is operated by the proximal environment of the subject (parents, friends, girlfriends, spouses, barmen, DJ's, colleagues, etc.) and is not formalized but mediatized by social stigma, social support and groups subjective norms.*

*In the past, only formal social control was supposed to be effective, today, more and more, we may think that informal social control is as much effective ...*

So, if we come back to our risk sequence, drunk driving countermeasures could be distributed according to the following scheme :

### **Chronological steps model of prevention**

1) a decision to spend an evening in a place where drink is sold

#### *Formal social control of behaviour*

Restricting the minimum age for drinking

Pricing of alcohol

#### *Informal social control of behaviour*

The social stigma

The social support : educating parents, training peers

2) the management of alcohol consumption during the evening

#### *Formal social control of behaviour*

Legal B.A.C. restrictions for young drivers

Restricting the minimum age for drinking

Pricing of alcohol

Media campaigns

Educational actions

#### *Informal social control of behaviour*

Server intervention training

The designated driver

Breathalyzers diffusion

The social stigma

The social support : educating parents, training peers

3) deciding whether or not to drive

#### *Formal social control of behaviour*

Legal B.A.C. restrictions for young drivers

Ignition interlocks

Disco buses

Media campaigns

Educational actions

#### *Informal social control of behaviour*

Server intervention training

The designated driver

Breathalyzers diffusion

The passengers intervention

The social stigma

**Policies regarding alcohol and the effect of alcohol availability**  
**Formal social control**

*Restricting the minimum age for drinking*

The idea of fixing an age at which people can start drinking is as old as Plato! He suggested a law that banned drinking before 18 and permitted only moderate consumption between 18 and 40 ... One shudders to think what he would have advocated after 40 ...

Much has been written about what happened in the United States, where the minimum age for purchasing alcohol was originally 18, the age of majority, and was then raised to 21 by President Reagan, but subsequently brought back down to 18 in certain states (1, 2). The raising of the minimum age for buying alcohol from 18 to 21 resulted in a reduction in consumption by the young and a drop in alcohol-related accidents. When the findings of various research studies were collated, the overall conclusion was that there had been a reduction of 10 to 15 per cent in fatal accidents among 18-21-year-olds, which is not negligible (3).

Finally, the literature also provided interesting details about the way in which the young procured alcohol illegally, from the forging of identity cards to getting friends, or even parents, to buy it for them (4). We thus discovered how the system for getting hold of alcohol operates ...

*In conclusion, raising the minimum age for drinking in the U.S.A. from 18 to 21 seems to have a preventive effect. However, this type of measure does seem to be acceptable in Europe where 18 years is the civil majority in every country.*

*The price of alcohol*

Scandinavian countries have for a long time applied the econometric model of price elasticity, or the relationship between the consumption of alcohol and its cost. This elasticity takes the form of an inversely proportional relationship: if the price rises, consumption declines ; if the price falls, consumption goes up. For example, an elasticity of  $-0.5$  for beer means that a 10 per cent rise in the price of beer will, other things being equal, result in a 5 per cent fall in beer consumption.

Consumption among the young has been found to be sensitive to movements in prices, and in particular there is what one might call a differential sensitivity according to the type of drink (5, 6).

As far as the impact on road safety is concerned, an increase in alcohol prices was found to have a short-term effect in 25 out of 38 American states between 1960 and 1975 (7). Across the United States, there was found to be a correlation between the price of beer and

fatal accidents among the young (8) : the states with the highest rates of taxation on beer had the lowest rates of fatal accidents among the young and the states with the lowest taxation had the highest accident rates.

However, we must notice that the main element of evidence of a correlation between the price of alcohol and traffic safety is still lacking, that is random breath testing surveys in different areas with different prices ...

### **Informal social control**

#### *Passengers intervention*

At any age, passengers represent a significant road safety problem, accounting for between one-third and one-half of those killed. So, contrary to the usual tendency of road safety campaigns, half the problem of danger on the roads is not due to the active users of a vehicle behaving dangerously, but quite simply to people that happened to get into a car one day when they should not have done. An English princess was just one recent example. Again, the difference between what is legal and what is dangerous is quite clear : being drunk in the back of a car is perfectly legal but may also be very dangerous because one cannot assess the state of the driver who is to take one home. So in the end, those most directly concerned in reducing the amount of drinking and driving are the passengers themselves. Every passenger, whether young or adult, must thus assess the state of the driver who is going to take him or her home, and that assessment is usually made in difficult conditions (noise, smoke, darkness, fatigue, very rapid decision-making). Moreover, the biggest distortion that can take place in that assessment arises from the state of the passengers themselves. A recent American study (9) evaluated the number of occasions on which passengers could have intervened prior to fatal, alcohol-related accidents : while passengers are often much the same age as the driver and while they have often been drinking themselves (80% of cases), in an estimated 5 to 10 per cent of fatal accident cases, a sober or only slightly inebriated passenger could have intervened had he been educated to do so. While 5 per cent of fatal accidents seems a modest goal, it represents a significant number of lives that could be saved ...

Another piece of research that is even more recent (10) demonstrated the role of passengers' informal social control by comparing the practices of young drivers in West Germany and the former East Germany during the period of reunification. The very unusual heightening of legal B.A.C. in East Germany, from 0 to 0.8, did not lead to an increase in blood-alcohol levels among adult drivers but to a deterioration on the part of young drivers. However, when the driver has been drinking, social pressures against his taking the wheel are much less common in East Germany than in West Germany. Passengers must thus become a target group for preventive action so they can effectively exert the influence they might have on drivers and the responsibilities that are theirs. Lastly, the German researchers went as far as to suggest that passengers should be made legally responsible in the event of an accident. As one might imagine, that proposal sparked off a lively debate ...

### *Disco buses*

Disco buses is a substitutive night-time transport ; the development of this action deals not only with accident prevention but also with sexual harrasment and crime prevention. Germany is probably one of the countries where this action has been more frequently developed and a nationwide survey has been conducted on 1359 disco-goers (11).

The main conclusions of the survey were :

- due to the scattered and decentralized location of the leisure places, the users of public transport have to accept considerable restrictions with respect to accessibility, bus timetables, connections, etc.
- although the level of information on the disco bus offer is quite high, about two thirds of the interviewees have never made use of it : the reason lies mainly in the fact that they are not dependent on it. Those who use the disco bus, however, explain this by the lack of alternatives. They are mostly young people who, due to their age, do not have a driving license as yet.
- dangerous traffic situations occurring during leisure-time driving at night-time and, especially for young women, the experience of sexual harrasment, attacks and criminal acts do not seem to incline people to the usage of disco buses. Though, at least 15% of the disco bus users are car drivers who, after drinking, prefer to leave their car and take the bus.
- disco buses are primarily a means of mobility for non-motorized people. However, the development of its full safety potential presupposes a considerable improvement of the transport offer and, in addition, information campaigns emphasizing that taking the disco bus is a perfectly normal thing.

Following that same process of mobility offers, an evaluation of the Student Pass for public transport introduced in 1991 in the Netherlands showed that it has been a factor contributing to the diminution of car ownership among young Dutch people, and so to the diminution of kilometers driven and so to the diminution of accidents (reduction of 15% for non students, and of 8% for students in 1991).

### **Conclusion**

The first obvious conclusion is that to keep on running isolated actions seem to be of little use concerning young people drunk driving prevention : for example, publicity campaigns launched without any other joined action have never shown any significant result ; samely, random breath testing enforcement by the police, if not heavily publicized, will not have positive outcomes (because the perceived probability of arrest is not modified). Or, running isolated actions is precisely what is often done ... So, it is clearly the complementarity, the synergy between various measures and actions which is efficient. Each type of action affect has different effects according to various subgroups of drivers, and each type of action does not intervene at the same moment of the risk process.

One example of combination for young road users could be to match a zero B.A.C. the first year of driving with mobility offers like disco buses, in order to keep a social life which is part of their lifestyles.

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