

# **THE ATTITUDES OF YOUNG DRIVERS TO RISK TAKING, ROLE MODELLING, DRINK DRIVING AND COUNTERMEASURES**

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The Attitudes of Young Drivers to Risk Taking, Role Modeling, Drink Driving and Countermeasures.

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**Abstract**

This report examines youth's attitudes to drink driving, risk taking, role modelling and drink driving countermeasures. The study was conducted in western Sydney, NSW. Field interviews and a questionnaire were used to identify adolescents' knowledge and experience of drink driving, and the countermeasures perceived to be effective. The results suggest that risk taking such as excessive drinking, drink driving and speeding are serious problems experienced by youth, with males having greater incidence of risk taking than females. Twenty four percent of respondents indicated that they went out with the intention of binge drinking and fifty one percent reported over the limit drink driving as normal or careless. The community is especially at risk from the young drink driver on weekends. Licence suspension was an ineffective deterrent for drink driving offenders. Age mediated the effects of peer pressure on risk taking. Respondents considered that better law enforcement, earlier education and community service work for offenders were partly the solution to the drink driving problem.

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**Keywords**

Young Drivers, Risk Taking, Role Modeling, Drink Driving and Countermeasures

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Note: In the qualitative examples provided in this report, the respondents' actual words, sentence construction and spelling remain faithful to their actual speech or written English provided.

## EXECUTIVE SUMMARY

### 1. Introduction

In the Australian society, a complex web of social interactions supports a milieu which many Australian youth perceive as sanctioning drink driving and other risk taking behaviours. Given that attitudes often precede behaviour it is plausible that attitudinal problems among the young may underlie much drink driving, the result of which, for some, tragically ends in misery, injury and significant years of productive life lost. Car accidents remain the leading cause of death in the western Sydney metropolitan health region, with the 5-14 year old, 15-24 year old and the 25-44 year old male death rate being double the rate for females. In Australian high schools, alcohol usage is increasing. Most students have tried alcohol and many students report using it weekly, and more commonly than any other drug.

Adolescence for many Australian youth is characterised by periods of uncertainty, inexperience, experimentation, life in the fast lane and fast cars. They perceive that they are often excluded from much that they believe is adult. Adolescents are products of a system which emphasises the importance of adult status symbols. They live in a country which has been in recession for three years, which has produced high unemployment, easy access to alcohol and a drug using sub-culture. No doubt many of these factors have led to erosion of family life, with one in three marriages ending in divorce, and de facto living arrangements and risk taking becoming acceptable. In the Australian vernacular, friends gather in pubs, clubs, sporting venues, discos and other entertainment sites where alcohol is available. Double standards by some parents in the home and peer pressure may encourage young people to drive with an illegal blood alcohol concentration.

Unknown is the total impact on youth of many mass media alcohol campaigns such as television, magazine or billboard advertising. Alcohol advertisements often portray images of promise, good times, friendship, relaxation, desirability, success, freedom, and other pleasures which appear readily attainable by purchasing the advertised product.

Vehicular accidents in NSW alone in 1989 accounted for 20,500 years of productive life lost. This is second only to cancer and does not include productivity lost to disabling injury (ages 15-60 years). Over the last 10 years the cost of traffic accidents to the Government and NSW services has been approximately \$20 billion (Roads and Traffic Authority, 1991). This does not in any way reflect the costs in human

suffering, pain, grief and the emotional scarring of victims, their families and friends. Further, young males are heavily over represented in accident statistics, and a high percentage of drivers and riders have blood alcohol concentrations which are double and triple the legal limit.

In the study reported herein, over 900 young people were asked about their attitudes towards alcohol consumption, road safety, drink driving, peer and parental influence, their desire to live, relationships with peers, traffic law enforcement and the risk of being apprehended while infringing driving regulations, and about risk taking in general. They were also asked to record details about their alcohol consumption and drink driving behaviours for the week prior to the study.

The inception of this project evolved from a general concern for youth, particularly the youth of western Sydney, and their high morbidity and mortality which results from road accidents. Little has been written in the Australian literature which specifically addressed adolescents' attitudes and actual usage of alcohol related to their driving behaviours in any typical week. Nor has much information been available concerning countermeasures, that is, drink driving prevention strategies, that youth considered effective.

The general aim of the study was to identify adolescents' knowledge and experience of drink driving in particular. Further, we wanted to discover the influence of peers and family on risk taking behaviours. We also sought to determine countermeasures which youth endorsed as deterrents to over the limit drink driving.

## **2. The Study**

The investigation comprised a pilot study of face to face audio-taped field interviews with 34 respondents, and the completion of a questionnaire by a further 43 respondents. The major study involved 858 volunteers at six Roads and Traffic Authority sites in western Sydney, and at one major Leagues Club also located in western Sydney. Interviewing and surveying at these sites provided access to a sample of adolescent drinkers and drivers.

## **3. Sample Profile**

We drew our sample from a population of RTA and Leagues Club patrons, some of whom were alcohol consumers, drivers and drink drivers. Seventy-five percent of these recorded that they drank alcohol. Fifty-one percent were male and 49% were female. One hundred and six different suburbs in Western Sydney were represented in

the post codes. The average age was 22 years and six months and the most commonly recorded age was 18 years.

Sixty-three percent of the total sample reported that they were Australian, 27.6% reported that they were unemployed, 10.7% of the sample received unemployment benefits, a further 3.7% reported being on a pension or sickness benefit and 6.6% of the total sample indicated that they received the Austudy tertiary education allowance. Eleven percent of the sample agreed or strongly agreed that they would "rather die than go on living". About one third of respondents indicated that they earned \$19,000 or less per annum (pre-tax). Almost 78% reported that they held a full driver's licence and 13% indicated that they held a provisional licence, and 9% reported possessing a learner's permit. The average time of driver's licence possession was just over four years and 32% of drivers had been driving for less than two years.

#### **4. Results**

Some of the main findings are summarised below:

- Youth in the study expressed a general concern for road safety.
- For many young people of western Sydney alcohol consumption is an acceptable aspect of Australian lifestyle.
- 25% of respondents reported zero alcohol consumption.
- 24% of the sample reported going out with the intention of binge drinking.
- Males were significantly more likely to report that they drank alcohol than females.
- Reported alcohol consumption for males was significantly higher than for females.
- More than half of the drinkers drank three drinks or more on their last drinking occasion away from home.
- Nearly two-thirds of alcohol consumption diary respondents reported consuming at least three drinks on at least one occasion during the weekend.
- Of the diary respondents (ie, 44% of the sample), males on average consumed three drinks or more in the one day over a weekly period nearly twice as often as females.

- Nearly half of the alcohol consumption diary respondents reported consuming six or more drinks on one occasion at least once per week.
- More than 10% of diary respondents reported drinking six or more drinks per day on at least three occasions in the week prior to the study.
- On average, males consumed six drinks or more on any one day over a weekly period approximately twice as often as females.
- There is an apparent tendency for risky levels of alcohol consumption among very low income earners.
- Unemployed people appear more likely to drink at risky levels than employed people.
- 22% of respondents regarded themselves as risk takers.
- Almost twice as many men (29%) as women (16%) regarded themselves as risk takers, and males also reported taking more risks than women when driving with friends.
- The youngest respondents, 16-19 year olds, and those with one year or less of driving experience were most likely to regard themselves as risk takers.
- Male respondents, respondents aged from 16 to 19 years, those with less than a year's driving experience, and those with a previous licence suspension due to drink driving, all reported more frequently than other groups that they enjoyed defying authority.
- 49% of respondents with a previous licence suspension for drink driving regarded themselves as risk takers. They were also most likely to take risks on the road when driving with friends compared with those not having a suspension.
- 31% of respondents perceived a nil or slim risk of being caught by police while driving with more than the legal BAC (blood alcohol concentration), whereas 30% perceived the risk of apprehension as likely or extremely likely.
- 33% of respondents perceived a nil or slim risk of having an accident while driving with a higher than legal BAC, compared to 35% of respondents who perceived the risk of an accident to be likely or extremely likely.



- Respondents who had experienced licence suspension were more likely to think there was a "slim risk" or "no risk" of having an accident when driving with a higher than legal BAC compared with respondents who had not had a licence suspension.
- Almost twice as many men (41%) as women (25%) stated that the accident risk was zero to slim if they drove while "a bit" over the legal BAC for driving.
- Older respondents, respondents with increasing income and greater educational attainment perceived a lower risk of having an accident.
- Significantly more women than men worried when they were dependent for transport on a driver with an illegal BAC.
- Conviction for drink driving does not eliminate individuals' drink driving behaviour.
- Approximately one in six respondents (16%) reported that they often take risks while driving, with three times as many men (25%) as women (8%) reporting this.
- 19% of respondents reported more years of driving experience than licence possession, which suggests that many young people are driving well before they are licensed.
- Those aged 16-19 years most often reported that they take driving risks (40%). This proportion decreased to (9%) in the older age groups (26 years and above).
- Private motor vehicle transport was the most popular means of transport to and from entertainment venues where drinking occurred.
- Respondents who drank at a friend's place were more likely to have a BAC of 0.05% or more, and those who drank at an RSL club were likely to have a BAC of 0.08% or higher, compared with those who drank at other drinking venues.
- 40% of drinkers spent an hour or less drinking alcohol when they last drank away from home.
- Relatively few young people allowed sufficient time for alcohol to clear from the blood before departing from the drinking venue. Most drinkers left their most recent drinking venue soon after their last drink.

- Respondent's BAC at the time of departure from their reported most recent drinking occasion was calculated by the researchers and 26% of drinkers' calculated BACs were over the legal limit for driving at the time of leaving the drinking venue.
- Respondents with a calculated BAC of 0.08% or higher at the time of leaving their most recent drinking venue tended to leave that venue within an hour of the last drink.
- Males had significantly higher calculated BAC than females upon leaving their most recent drinking venue.
- Males were more likely than females to have a higher estimated blood alcohol concentration (BAC) than the prescribed limit for driving at the time of leaving their most recent drinking venue.
- Males and females were equally likely to have an estimated BAC of from 0.05% to 0.08%, while males were more likely than females to have an estimated BAC of 0.08% or higher at the time of leaving their most recent drinking venue.
- Approximately 30% of respondents incorrectly judged the legality of their BAC for driving (as estimated by the researchers) at the time of leaving their most recent drinking venue. Most of the errors in judgement were over-estimations of BAC: respondents tended to believe that they had exceeded the legal BAC for driving when they were estimated to be under the legal limit.
- The relationship between calculated BAC legal status and reported licence suspension was significant, ie, those people who had experienced licence suspension were more likely to be over the legal BAC for driving.
- 40% of risky drinkers reported having their licence suspended for an alcohol related offence compared with 8.3% of heavy drinkers, 13.6% of moderate drinkers, 5.3% of light drinkers and 4.2% of very light drinkers.
- Taxis were the most popular method of public transport home from drinking venues, being chosen by nearly 40% of respondents with a calculated BAC of more than 0.05% at the time they departed from their most recently attended drinking venue.
- 18% of respondents with a calculated BAC of between 0.05% and 0.08% reported that they drove themselves home from their most recently attended drinking

venue. Approximately 19% of respondents with a calculated BAC of more than 0.08% reported that they drove themselves home.

- Car occupants with elevated BACs were just as likely to be the driver as a passenger who was driven by a friend.
- 73% of the sample believed that a breath testing unit should be a feature of all cars. This device would prevent the ignition from working when the driver is over the legal limit.
- 31% of respondents believed that increasing the legal driving age to 21 years would reduce road accidents related to over the limit drink driving.
- 65% of respondents indicated that people who are known to be heavy drinkers should not be allowed to hold a driver's licence.
- A high majority of respondents (84%) believed that cars should be required to have more in-built safety devices to prevent or reduce injury.
- 85% of the sample believed that most people will drive when they are over the legal limit at some time regardless of whether it is right or wrong to do so.
- The major risk that respondents reported taking, apart from drink driving, was that of speeding whilst driving.
- Interview data suggest that graphic portrayal of accidents would be an effective deterrent from drink driving.
- 42% reported that they currently smoked cigarettes, 45% have used marijuana or other illegal drugs and 26% reported that they were currently using illegal drugs.
- 93% of the pilot study sample considered themselves to be a careful driver.

## **5. Conclusion**

We conclude that many youth in this study have engaged in unsafe driving practices, given that many regularly consumed alcohol and many reported more years of driving experience than years of licence possession. Many of the younger respondents indicated that they take risks while driving. Within the Australian culture there appears to be a youth sub-culture where alcohol consumption is encouraged and considered part of the norm. It remains paradoxical that youth are enabled to drink alcohol and commence driving motor vehicles almost simultaneously, that is, while

they are still in their developmental stage of transition from adolescence to adulthood. Respondents who have experienced licence suspension appear to continue risk taking. This finding suggests little, if any, behavioural change since licence suspension.

From the drink driving diary we learned that 20% of respondents have a heavy or risky level of alcohol consumption. Two thirds of drink diary respondents reported drinking three or more drinks on the one occasion at least once per week. Nearly half of diary respondents reported drinking six or more drinks on the one occasion at least once per week. Females' reported alcohol consumption was less than that for males. Twenty-five percent of respondents were reportedly non-drinkers. Risky alcohol intake was reported for almost 10% of those aged over 20 years. Friday, Saturday and Sunday were the major times for high alcohol consumption. In summary, most young people in our study could have been at risk of driving with an illegal BAC at least once a week if they decided to drive shortly after consuming alcoholic beverages.

Respondents believed that negative peer pressure often preceded risk taking, with younger adolescents continuing to be influential in encouraging risky behaviour related to driving when over the legal BAC for driving. However, older peers reported being more protective towards their friends by taking their car keys, sharing cab rides or insisting on driving for their friends when they believed themselves to be within the legal BAC. The two most commonly reported risk taking behaviours were drink driving and speeding. However, 93% of the sample indicated that they considered that they were careful drivers.

Other findings from the investigation into risk taking suggest a greater confidence in driving ability with increased age, or that young people lack experience or information about the increased risks of driving whilst over the legal alcohol limit.

Advertising campaigns featuring well known personalities idolised by young people (eg, racing car drivers or other sporting identities) could emphasise the distinction between skilled driving and risk taking, and therefore effectively shape driving attitudes.

Joy riding remains practised by 13-16 year olds. However, its purpose has changed from thrill seeking to car stripping for financial gain. Given the recession and high unemployment, perhaps this change in purpose is not surprising.

The vast majority of countermeasures perceived by respondents as useful could be categorised as either educational measures or enforcement measures. The mass media were recognised as having a central role in educating the general public and in shaping

attitudes against drink driving, as well as publicising law enforcement strategies. Increased fines, heavier jail sentences and, to a lesser extent, community service work for young offenders were seen as deterrents to drink driving by many respondents in the field interviews. A strong case emerged for adopting a zero blood alcohol level for drivers with a history of drink driving and possibly for all drivers under 20 years of age.

Most respondents nominated and supported increased random breath testing and increased police visibility on roads, particularly at weekends. Respondents believed that police should patrol a diversity of back roads. As about one third of respondents incorrectly judged the legal status for driving of their BAC (as calculated from responses), and about one quarter of respondents' calculated BACs exceeded 0.05% upon leaving their most recent drinking venue, educating young people about estimating their BAC and the factors which affect it may assist young people to make appropriate decisions about whether they should drive after drinking.

Youth appeared to accept that Government and its agencies should enforce limits on drink driving. However young people's attitudes towards road safety must be shaped in the formative years, that is, much earlier than high school.

Computer driving simulations could be developed as enjoyable driver education games for young people. The simulations could demonstrate the deterioration in driving skills which are associated with elevated BAC (eg, by increasing the game's reaction time or by reducing vehicle tracking ability). The simulations could be distributed to educational and other institutions in which computers are available to youth. An effective educational process needs to commence early in the home and, importantly, in primary school where total health concepts need to be instilled and safety consciousness become a way of life.

### **Summary of Recommendations**

It was considered that death and injury caused by road accidents could be reduced by implementing the following:

- Raising the minimum driving age to eighteen years.
- Adopting a zero blood alcohol level for drivers under the age of 20 years and those who have been convicted of drink driving.

- Increased random breath testing, both in absolute frequency and in the diversity of locations, eg, on back roads as well as on main roads.
- Enhanced longitudinal educational campaigns in the schools and through the media, and directed especially at young males. These campaigns would address issues of alcohol consumption itself as well as drink driving.

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# **1. INTRODUCTION AND BACKGROUND**

## **1.1 Background to the Study**

Australian society appears to be complacent about the 2,000 or more annual deaths that occur on the roads and highways. Greater public attention has been focused on diseases such as AIDS where the death rate to date is lower than road traffic mortality. The Federal Department of Transport and Communication has indicated that:

*"Road crashes remain the largest single cause of death for people aged under 45 years, with eight people killed and eighty seriously injured on average each day in road crashes around the country. For Australians aged 15-24 years there are almost three times as many deaths from road crashes as from the next largest cause of death, namely suicide,"* (Road Crash Statistics Australia, 1988).

Road deaths in New South Wales alone accounted for 49% (n=960) of all accidental deaths for the state. Heavily over represented in this group are Australian youths aged 15 to 24 years, with male deaths (n=675) more than double the road deaths for females (n=289) (Roads and Traffic Authority, 1990). Annual accident figures compiled by the Roads and Traffic Authority NSW, indicated trends in road accidents related to sex, age, time of driving and accident locations at black spots which are renowned for fatalities. The more serious accidents occur on a Friday or Saturday night to young male drivers, usually aged under 20 years. Males hold more driving licences in New South Wales and tend to drive longer distances than females. Behavioural scientists have reported that young drivers tend to take risks more often than older drivers, are inclined to speed, drive too closely to the car ahead and drive under the influence of alcohol (Huntingdales, 1991).

A behavioural scientist from the NRMA recently wrote that, the reasons for increased risk taking among the young, included their expression of aggression, seeking of peer approval, enhancing self esteem and their underestimation of the risk of death.

Further, the New South Wales Parliament's Staysafe Committee indicated that there is a "gross over involvement of young people in traffic accidents". While 17-20 year old youth hold 6.5% of driver's licences, they account for 17% of involvement in fatal accidents.

## 1.2 The Study Area

Greater Western Sydney comprises 8,860 square kilometres and is large enough to hold the city of Brisbane, the city of Adelaide and some of Perth within its borders. It represents 73% of the Sydney metropolitan region. It comprises urban, rural and protected bushland, which in part explains the extraordinary range of population densities. The population of western Sydney is approximately 1.2 million and continues to grow rapidly. It is only in the older Local Government areas (LGAs), for example, Auburn, Holroyd, Fairfield and Parramatta, that the density averages 1750 persons per square kilometre. For the remainder of the West, however, the figure is just 114 persons per square kilometre (Horvath, Mills & Mee, 1989).

The western Sydney study area comprised the cities of Blacktown, Parramatta, Penrith and Fairfield (See Appendix 1). Each city recorded 21 or more road traffic accident fatalities during 1989 (Roads and Traffic Authority, 1990). The leading cause of death among adolescent and young adults in the Western Sydney Health Area was motor traffic accidents, with Blacktown, Holroyd and Parramatta each reporting a disproportionately higher mortality rate than the rest of Sydney (Bernard, 1988).

The Western Sydney Area Health Service (WSAHS) administers five Local Government Areas (LGAs) including Auburn, Baulkham Hills, Blacktown, Holroyd and Parramatta which contain a diverse, rapidly growing population experiencing specific socio-economic and health problems. Between 1986 and 2001, a population increase of approximately 35% is expected, with motor vehicle accidents being the fourth leading cause of death. People living in the area have a 2.4% higher premature mortality rate compared with the rest of Sydney (Western Sydney Area Health Service, 1991).

Car accidents remain the leading cause of death in the Western Sydney Metropolitan Health region for 5-14 year olds, with the male death rate for the 15-24 year and 25-44 year olds being more than double the female rate. For 15-24 year olds living in this area the death rate due to accidents more than quadruples, with the female death rate being 1.8% compared to males, whose rate was 6.4% (Bernard, 1988).

Smith, Wilson, Leeder, Sullivan, Chey, O'Toole and Webb's (1991) study, concerning physical health risks, reported that 20% of men and women in WSAHS were hypertensive, and 85% of men and 70% of women drank alcohol. Thirty-four per cent of men and 27% of women were cigarette smokers, and they smoked an average of 20 cigarettes per day. He noted that 34% of males, and 29% of females reported having no exercise in their leisure time in the two weeks preceding the study. These statistics

indicated a high prevalence of health risk factors for people living in this area, even though many individuals living in the study area see themselves as being healthy.

Compared to the rest of Sydney, the WSAHS population is relatively young. Blacktown comprises 38.2% and Baulkham Hills 39.3% of people under the age of 19 years. The population pyramid for Blacktown shows that there is a relative excess of persons under 25 years and in the 35 to 49 year age group, compared with the rest of the New South Wales (Western Sydney Area Health Service, 1991).

## 2. LITERATURE REVIEW

### 2.1 Alcohol Use and Attitudes To Drink Driving

Australia has been ranked 15th out of 31 nations in alcohol use, and first among the English speaking nations by the Dutch Drinkers Association. By year eleven at high school, alcohol had the highest proportion of weekly users compared with other drugs, and nearly all students had consumed alcohol.

Table 2.1 below shows the rate for drink driving convictions for selected LGAs in western Sydney compared with the rest of Sydney.

Table 2.1: Drink Driving Convictions 1986 (NSW)

Local Government Area, NSW	Rates per 1,000 people > than 15 years old
Auburn	2.96
Baulkham Hills	3.01
Blacktown	4.23
Holroyd	3.00
Parramatta	3.11
Rest of Sydney	2.85

Figures extracted from Bernard (1988, pp 22-27).

Table 2.1 shows that the Blacktown and Parramatta areas rated well above the rest of Sydney for drink driving convictions during 1986. Recent statistics related to road traffic accidents demonstrated that young drivers are still most at risk on the roads. The extent to which young drivers' attitudes to road use cause this problem remains unclear (MacKenzie, 1990).

DiBlasio (1986) commented that *"the attitudes and beliefs of adolescents are influenced by the norms of primary groups such as family and close friends"*. This suggests that the attitudes of young drivers to road use are influenced by, or learned from, peers and family members. Only one adolescent driver reported minimal experience of driving under the influence of alcohol in contrast to a large proportion who reported regular drink driving. Flaherty, Homel and Hall (1991) reported that *"most alcohol related problems occur in persons who would be regarded by most Australians as social drinkers"*.

It appears that youth aged 10 to 19 years take their personal well-being for granted. This is possibly due to their limited experience of illness and disability. They tend to assess their health in terms of immediate needs and benefits, and particularly developmental demands (Franzkowiak, 1988). There are subtle differences between males and females in attitudes to alcohol which may be attributed to many influences. Freebody, Papadakis, Moore and Connor's (1989) study suggested that an individual's gender identity can be learned from role modelling and stereotyping. For example young women, although becoming more assertive in diverse roles, may be under less social pressure to drive after drinking and to speed.

Shanks (1990) reported that children may be more likely to acquire a problem drinking habit from parents who hold extreme views about alcohol usage, for example, by conspicuously misusing alcohol or totally prohibiting it. However, the later development of drinking habits is influenced by peer pressure. By the age of fifteen, adolescents are more likely to be drinking with friends than at home with the family. However, DiBlasio (1986) pointed out that adolescents are not overwhelmed by the coercion of momentary peer pressure but instead act in a way consistent with their definition of appropriate behaviour.

Hays, Stacy and Dimatteo (1987) suggest that alcohol use is a multivariate function of personality, perceived environment and behavioural factors. They indicated that attention needs to be directed to cognitive personality factors such as models for alcohol use and the functional relationship between the use of alcohol and other behaviours. Young drivers may deny the risks of driving after excessive drinking. They may rationalise their behaviour and say, "I'm not drunk and I'll be extra careful" (Basch, De Cicco and Malfetti, 1989). Some young people appear to lack decision making skills concerning drink driving and they view drinking as normal practice, thereby increasing the predisposition to drive under the influence of alcohol. Learning to drive safely requires much more than having technical skills. It also requires social skills, ie, being able to make decisions which are acceptable to the community (Freebody et al., 1989).

Drink driving is an unwelcome consequence of two major forms of adult sanctioned leisure for young people, namely, cars and alcohol (Freebody, et al., 1989). Adolescents can gain a full driver's licence at 17 years and can legally drink at the age of 18 years. Therefore, most adolescents are beginning to drink alcohol at the same time as gaining the beginning skills of driving a motor vehicle. These skills are often considered as part of learning the adult roles (DiBlasio, 1986; Shanks, 1990).

According to Basch et al. (1989), ignorance about the relationship between alcohol consumption, levels of alcohol and intoxication is widespread.

Evidence suggests that while school based educational programs could increase knowledge about alcohol, they are unlikely to influence attitudes or lead to a change in drinking behaviour (Shanks, 1990). It is thought that the apparent lack of success in educating young people about alcohol may be a consequence of failure to select information relevant to the specific drinking experience of youth.

Further it is a commonly held belief that advertising influences people's drinking behaviour, especially that of young people. It is demonstrable, according to Shanks (1990) that young people are aware of alcohol advertising and that the alcohol industry spends a huge amount targeting youth. The effect of advertising on alcohol consumption and attitudes must be accounted for when the perceptions and behaviours of novice drivers are considered.

### **2.1.1 Observational Learning**

Observing real life experiences can strongly influence learning without the dangers or costs involved in personal experimentation. Bandura (1971) has described four interrelated processes that determine the influence of modelling through observational learning on behaviour:

- 1. *Attentional Processes:*** Before social learning can occur, the observer must be capable of "discriminative observation". Simply exposing the observer to modelled behaviour will not necessarily activate the attentional processes required to analyse the behaviour. The use of incentives, motivational and other psychological characteristics of the observer influence the onset of "discriminant observation".
- 2. *Retention Processes:*** The observed information is most efficiently retained in a symbolic form allowing accurate recall of behaviour. There are two systems of symbolic representations: imaginal and verbal. Imaginal representations are images that arise in response to a stimulus, for example, the name of a town may stimulate images that are strongly associated with a previous experience in that town. Verbal representations are a series of verbal codes of visual information. Taking traffic directions is an example of observational learning by reducing visual information to verbal codes, eg, complex descriptions of landmarks and street names may be reduced to "Left, then left again, then right", or even the simpler "LLR".



3. ***Motoric Reproduction Processes:*** Complex behaviours can be exhibited after learning a series of simpler individual component behaviours by symbolic representation. Motoric reproduction processes determine an individual's ability to reproduce the learned behaviours.
4. ***Reinforcement and Motivational Processes:*** The presence or absence of reinforcement and motivational forces ultimately determines whether a behaviour learnt through modelling is finally reproduced. If, for example, a young man observes a peer drinking heavily immediately before he dies violently in a road accident, the incentive to behave similarly is likely to diminish.

## 2.2 Risk Taking and Drink Driving

In the current study, youth's perception of "risk" refers to the subjective assessment of the probability of an aversive event. The rights of individuals to take risks limits the type and degree of intervention society can use to control risk taking behaviour. The right of the person to refuse to avoid risks (eg, refusing to quit smoking) is an example of rights which need to be considered when behaviour modification is attempted. On the other hand, the Government allows the conduct of some activities which may put people at risk, eg, the transportation of dangerous substances through populated areas. The Government also requires people to take risk-averse actions such as the wearing of seat belts.

It is recognised that adolescents in their transition to adulthood will want to take risks. On the other hand, many adolescents are unable to evaluate the true level of risk associated with their behaviour, eg, a young driver may not realise how his or her driving will deteriorate when alcohol has been consumed. Risk taking during adolescence is common and many of the risks taken pose a threat to the health of the adolescents. Franzkowiak (1987) has described three functions of health risk taking in adolescents:

1. Health risk taking as a symbol of status and maturity.
2. Health risk taking as an expression of conformity and an attempt at coping.
3. Health risk taking for a thrill: as an instrument of release and individual transformation.

Adolescents who smoke and drink conceive the accompanying "risks" more in terms of conflicts with adult authorities rather than as a potential risk to their health. Issues of

adolescent coping with developmental demands include learning how to deal with substances such as tobacco and alcohol and acquiring risk related expertise.

Johnson and White (1989) found risk taking orientation to be the strongest predictor of driving while intoxicated. They suggested that impaired driving may be part of a global syndrome of risk taking behaviour and that those who frequently use alcohol and other drugs to cope with problems are risk takers generally. Barry (1973, cited in Grey, Triggs & Haworth, 1989) explained that alcohol consumption can have a sedative, or alternatively, a disinhibitory effect. The sedative effect may cause inattention and drowsiness, whereas the disinhibitory effect can increase driver risk taking behaviour characterised by impulsive actions. Consequently, those who drink excessive amounts of alcohol are likely to be risk taking drivers when they are sober as well as when they are under the influence of alcohol, particularly when the disinhibitory effects of alcohol consumption are experienced.

Smith and Remington (1989) found that the prevalence of drinking and driving was highest among men, young adults and divorced or separated persons. In Binns, Knowles and Blaze-Temple's (1987) study, drink driving was found to occur commonly among adult males aged 17 to 30 years, with 58.5% reporting occasional to regular drink driving. Knowledge concerning the relationship between alcohol intake, driving ability and blood alcohol concentration was also poor. In research conducted by Hennessy and Saltz (1990) beer was perceived as less risky than stronger liquor (especially with male drinkers) and preference for drinking beer was strongest in men who were heavy drinkers.

The perception of the risk of being caught by the police while drink driving was related to drink driving frequency, with the majority of respondents perceiving a low risk of being caught. Finn and Bragg (1986) found that young drivers perceived their own chances of an accident to be significantly lower than those of both their peers and those of older male drivers. Research into risk perception has found that many people feel that, although the risk of having an accident in particular situations does exist, it will not happen to them (Svenson, Fischhoff & MacGregor, 1985, cited in Grey et al., 1989). These findings are of particular significance for adolescents, whose stage of development is often characterised by rebelliousness against authority, and an air of indestructibility such that they expect that accidents will happen to others and not to them.

According to Brown and Groeger (1988) young drivers underestimate certain traffic hazards and overestimate their own driving abilities. Grey et al. (1989) claim that the driver needs to be regarded as a creator of traffic situations and not just as a responding

agent. The driver does not always give his or her best to avoid accidents (Naatanen & Summala, 1976, cited in Grey et al., 1989). The road user's behaviour is seen as reflecting a balance between personal motives (thrills, speed, making headway etc.) and the subjective risk of being involved in a motor vehicle accident.

In a study about the public's perceptions of the risks and benefits of alcohol consumption, Hall, Flaherty and Homel (1992) found that motor vehicles and other accidents were well down the list of health and social consequences of alcohol. They suggested that a change in public opinion about the relative contributions made to premature mortality and morbidity by alcohol was required to bring about understanding and acceptance of the recommended levels of safe alcohol consumption. The concept of risk taking and aggressiveness in driving were seen to be closely associated. According to Klein (1971, cited in Grey et al., 1989) risk taking and aggressiveness are valued by our society.

Lack of subjective risk and the extra motives of road users are considered among the major causes of the failure of many drink driving countermeasures. The types of possible 'extra' motives that drivers may have include:

- (a) the driver's schedule, eg, hurrying from one place to another to keep appointments.
- (b) the influence of others, eg, the driving norms of one's peer group.
- (c) the driver's need to prove his/her skill as a driver.
- (d) the pleasurable aspects, such as the excitement of speed, or the exhilaration of taking a risk when driving.
- (e) risk taking in driving as the expression of an increased willingness to take chances, eg, behaviours engaged in purely for the enjoyment of driving dangerously (ie, risk taking for the sake of risk taking).
- (f) emotional factors, eg, emotional crises involving quarrels with significant others.

The concept of risk homeostasis has been applied to research and discussion about driving a motor vehicle, with conflicting results emerging. This concept implies that road users always operate at the maximum level of risk they are prepared to accept, and it assumes that the driver is aware of and desires the level of risk he or she is taking. The level of risk that the individual driver is prepared to take is the only factor that will influence driver risk taking behaviour in the long term according to Wilde

(1982, cited in Grey et al., 1989). The level of risk accepted by the driver is determined by cognitive and motivational states which, in turn, are influenced by other factors such as cultural values, attentiveness, fatigue, and emotional state. Travelling at speed may reduce biological drives, or tension. Stress from other sources may also increase risk taking behaviours by inducing bad temper or it may lead to suicide attempts.

## **2.3 Countermeasures to Drink Driving**

Enforcement of countermeasures has moved from offence detection to deterrence. The change illustrates the community's decreasing tolerance of drink driving (Johnston, 1986). Drink driving countermeasures being enforced in New South Wales include legislation for random breath testing, reducing the legal limit for blood alcohol content (BAC), lower permitted BACs for novice drivers, reducing alcohol advertising, education in schools and the rehabilitation of drivers convicted of driving with more than the legal BAC.

### **2.3.1 Random Breath Testing (RBT)**

The Australian approach to controlling alcohol-impaired driving places a high reliance on RBT. Berger, Snortum, Homel, Hauge and Loxley (1990) stated that in New South Wales, about one million random breath tests are given annually for a population of three million drivers. Cairney and Carseldine (1989) identified almost universal community acceptance for RBT, with 95% of respondents indicating that it should continue in New South Wales and 71% acknowledging its success in reducing the road toll. Johnston (1986) stated that the effectiveness of RBT is linked to its intensity and the public education supporting the whole program. Intensity, as Johnston conceived the term, refers to a high level of enforcement by the police, who are visible and seen to be doing this type of work.

Homel (1983) supported this strategy with his research being carried out over the period when RBT was introduced into New South Wales. He predicted that the marked reduction in casualties due to drink driving found in the early period after RBT's introduction would not continue. A law enforcement campaign, particularly if accompanied by publicity, has the initial effect of causing people to overestimate their chances of being caught but, with experience, drivers learn that the risk of punishment is negligible.

Paciullo (1983) suggested that the success of RBT is mainly due to law enforcement by the police force and especially highway patrol visibility. Any reduction in police activity would therefore lead to an increase in drinking and driving.

### **2.3.2 Reducing the Blood Alcohol Content (BAC) Legal Limit and Availability of Alcohol**

The adverse influence of alcohol on road safety is reflected in 1987 road fatality statistics. Thirty-eight percent of drivers and motorcyclists killed in road accidents had BACs over 0.05%, as did a quarter of seriously injured drivers (Federal Office of Road Safety, 1990). The lowering of the maximum legal BAC from 0.08% to 0.05% and the reduction of the novice driver's permitted BAC to 0.02%, are attempts to reduce serious accidents and deaths caused by drunken driving.

Smith's (1987 cited in Homel et al., 1988) study into the effects of lowering the maximum legal BAC to 0.05% showed no statistically significant findings. However his 1986 studies about the effects of lowering the BAC limit for novice drivers found that, although results were positive, they should be regarded as a promising rather than proven countermeasure for alcohol related accidents among young people (cited in Homel et al., 1988).

The availability of alcohol also affects drink driving habits. The hours available for selling alcohol are lengthy, outlets close late and the minimum legal drinking age is now 18 years. Alcohol is available from clubs, hotels and bottle shops, and supermarkets stock low alcohol content beverages such as coolers. Alcohol may be commonly obtainable in a young person's home. The ready availability of alcohol would obviously affect the amount of alcohol consumed and the timing of accidents and deaths due to drinking and driving.

### **2.3.3 Raising the Legal Drinking Age or Driving Age**

MacKinnon and Woodward (1986) studied the effect of raising the drinking age across three states in the USA. Their findings indicated a significant, immediate reduction in fatalities among 21 year old and younger drivers. Assuming similarity between Australian and USA conditions, raising the legal drinking age in Australia might yield a result equally successful to that of America.

#### **2.3.4 Media Influences**

Prime time television often portrays dangerous and illegal driving, yet death and injury rarely ensue (Job, 1990). Media coverage and programs portraying dangerous and illegal driving on television may cause "immunisation" to the message of danger, and the viewer may adopt an attitude of "it won't happen to me", (McGuire, 1962, cited in Job, 1990). Presently, some television advertising campaigns attempt to paint a grim picture to young adults concerning the results of using alcohol and its dangers when used in combination with driving.

One recent television commercial presents a basketball player who says "drink in moderation". However the meaning of moderation is ill-defined. Guidelines for safe drinking need to be determined and made available in a language style which is readily understood by youth and possibly aired at the same time as alcohol advertisements are presented. Job (1990) questions the effectiveness of media coverage of severe accidents in deterring risk taking. He suggested that this type of media coverage may instil overconfidence in young drivers, who believe they must be good drivers because they have not had an accident. He indicated that this may lead youth to take greater risks, which can cause injury and possibly death.

The mass media have a significant and central role in promoting community awareness of social issues. However the Directorate of the Drug Offensive (1990) has stated that the use of mass media campaigns should be seen as only one strategy to address the problems associated with alcohol misuse.

#### **2.3.5 Legislation, Law Enforcement and Penalties**

More severe penalties for drunken driving were introduced at the same time as RBT was implemented. Australia has tough penalties for drivers who are apprehended with an excessive BAC. Despite these penalties, imprisonment for driving with a BAC exceeding the 0.05% legal limit is uncommon. When studying the effect of increased penalties on drinking driving practices, Homel (1990) found that the penalty which accompanied the introduction of RBT in New South Wales had a small effect as a deterrent, independent of RBT itself. He commented that the effects were short lived.

The present penalties for driving with more than the permitted BAC include fines from five hundred to two thousand dollars, imprisonment from six to twelve months and possible disqualification from driving from six months to five years (CEIDA, 1989). However, as previously noted, imprisonment is rarely imposed.

### 2.3.6 Education

**Education in Schools:** In 1988 the New South Wales Directorate of the Drug Offensive released their school-based program - 'Neighbours'. This 'stay in control campaign' was aimed at alerting young people to the many issues relating to alcohol misuse. It particularly emphasised issues such as peer pressure, health consequences of getting drunk, under age drinking, advertising and parental responsibilities.

The Directorate recommended that alcohol education programs be ongoing and relevant to student needs, interests and developmental stage (Directorate of the Drug Offensive, 1990). The New South Wales Directorate of Special Programs, Department of Technical and Further Education developed a curriculum-based drug and alcohol education program as a result of a survey conducted in 1987.

**Health Education and Rehabilitation Programs:** Sanson-Fisher, Redman and Osmond (1986) noted that rehabilitation programs have been implemented across Australia. They believed, however, that there had been little documentation of the scope and effectiveness of programs. Kivlahan, Marlatt, Fromme, Coppel and Williams (1990) from the University of Washington carried out a controlled evaluation of an alcohol skills training program designed for young college students at risk of alcohol problems. The skills program included training in blood alcohol level estimation, limit setting and relapse prevention skills. The young adults reported a significant reduction in alcohol consumption overall. However most respondents continued to report occasional heavy drinking.

Rehabilitation programs are aimed at increasing awareness of the effects of alcohol to prevent the risk of further conviction and to reduce the incidence of road accidents. Homel, Carseldine and Kearns (1988) noted that rehabilitation programs are under-utilised and poorly attended. Therefore, the potential effectiveness of these programs for reducing deaths due to drink driving is significantly reduced.

### 2.3.7 Modification of the Physical Environment

Johnston (1986) suggested that environmental change, such as passive restraints in vehicles, high mounted brake lights, roadside hazard management and ignition interlocks, needs to be considered to support other deterrent strategies. Ignition interlock devices have also been recommended for vehicles owned by previous drink driving offenders.

However, Cunningham's (1986) study concerning the usefulness of the efforts by the State of Victoria to reduce the road toll by removing roadside hazards found that after a ten year period, the level of road toll reduction was "unimpressive" in reducing the toll (cited in Homel et al., 1988).

Johnston (1986) pointed out that the difficulty with countermeasures is that there is little evidence to clearly indicate the best countermeasure. He also believed there were few established criteria for evaluating the effectiveness of countermeasures. Consequently, competition between countermeasure programs occurred, resulting in a lack of integration and a thin spreading of finances. Therefore, few programs operate at peak effectiveness. It could be said that the multiplicity of programs itself detracts from their individual effectiveness. Moreover, careful monitoring and evaluation by the Government of the full range of countermeasures and their costs within a set time is needed if effective road safety countermeasures are to be achieved.

The results of Bergeron and Joly's (1987) study emphasised "that to improve presently employed countermeasures against drink driving, it is important to consider the attitudes and other motivational factors which underlie young people's decision to take the wheel in a state of inebriation." An in-house study, by the New South Wales TAFE Drug and Alcohol Education Program (1989), reported that virtually all respondents to their questions on attitudes towards drink driving admitted to changes in their attitudes. This was evident since the introduction of RBT. Many students in this study believed, however, that over time, and given the generally predictable location of "booze buses", people were drifting back into their old habits of drinking and driving.



### **3. METHODOLOGY**

The primary aim of this study was to develop a frame-work for the range of attitudes, perceptions, beliefs and experiences regarding risk taking, role modelling and drink driving.

The following key words were used to focus the development of the questionnaire:

- Young Drivers
- Drink Driving
- Role modelling
- Risk Taking
- Road Safety Countermeasures

**The Objectives:** were to:

**1. Identify youth's behaviours concerning:**

- drinking
- driving
- drinking and driving
- family and peer group influences on drink driving.

**2. Examine youth's attitudes to drink driving and their suggestions for deterring drink driving.**

#### **3.1 QUALITATIVE METHODS**

##### **3.1.1 The Interviews: Procedure**

Prior to the development of the questionnaire, face to face open ended interviews (n=33) were conducted within the study region using a stratified convenience sampling method. Volunteers were individually approached by members of the research team in shopping malls and at train and bus stations. Initially, individuals were approached

and asked whether they were interested in participating in the study, then a full explanation of the aims and objectives was given. Individuals were approached who were preferably aged from 17 to 25 years and who were experienced at either drinking alcohol and/or driving a motor vehicle. The questions posed were open ended, semi-structured and focused on youths' attitudes to drinking and driving, role modelling by friends and family, and risk taking when under the influence of alcohol. Respondents' recommendations for drink driving prevention strategies were recorded as well as their demographic data.

A hand-held microphone was used in audio-taping the responses. Most interviews were focused and short, lasting for approximately ten minutes. The aim was to capture critical concepts of respondents and their perceptions, knowledge, attitudes and opinions about drink driving related to the study objectives. The major purpose of the field interviews was to capture a range of youth's perceptions and experiences about drink driving and to enable the researchers to identify key issues of concern to guide the development of the questionnaire.

Table 3.1 lists sample sizes for gender and age, and specific characteristics such as whether the respondent drinks alcohol and their driving behaviours.

Table 3.1: Data From Field Interview Sample

	Age <20	Age >20-30	Drinks Alcohol	Drives Vehicle	Drink Drives	Lost Licence
Male (n=22)	12	10	20	18	10	2
Female (n=11)	6	5	7	6	2	0
Total (n=33)	18	15	27	24	12	2

### **3.1.2 Analysis: Qualitative Interviews**

The audio-taped interviews were transcribed into written text and stored on computer disk. The "NUDIST" (Non-numerical Unstructured Data Indexing, Searching and Theorising) qualitative data analysis software package was used to analyse the written data.

The process of qualitative analysis included line by line coding of each interview. This included reading and re-reading of the data, browsing and inspecting the on-line data documents in the process of searching for actual patterns of words, sentences or phrases. Categories were developed which expressed emerging themes.

## **3.2 QUANTITATIVE METHODS**

### **3.2.1 The Pilot Questionnaire**

A pilot questionnaire was developed to evaluate the appropriateness of questions, the sequencing of the themes, layout and length of time taken to complete the questionnaire. We also wanted to examine any difficulties or ambiguities reported by the pilot sample, thereby improving the potential validity of the final questionnaire design. The pilot questionnaire was designed to take less than 15 minutes to complete. The last page was offered for thoughts, opinions or advice on any important issue about which respondents felt strongly, or extra information that was not covered in the questionnaire. A stratified convenience sampling method was employed for questionnaire distribution. The pilot questionnaires were distributed outside the offices of the Roads and Traffic Authority (RTA) at three western Sydney locations, namely Parramatta, Blacktown and Penrith. The aforementioned locations were selected because of the high incidence of alcohol related driving offences in these districts recorded by the Australian Bureau of Statistics. The survey sites were each located within the nominated local government areas in the study region.

### **3.2.2 Pilot Study Results**

Forty-three respondents completed the pilot questionnaire. Fifty-three percent of those were male (n=23) and 46% were female (n=20). Whilst the majority were employed (n=28), about 35% of respondents identified themselves as being unemployed (n=15), which is higher than the NSW average. Eighty-four percent of individuals held a current driver's licence (n=36) and of these, three reported having had their driver's licence suspended as a result of alcohol related offences. Almost 19% of the sample

believed that it was safe for them to drink until they are over the legal blood alcohol and drive when “there is someone in the car to help them if needed, if they drive carefully and slowly, if they feel sober enough to drive and if they drive along the back streets”. Twenty-eight percent of the sample (n=12) agreed that they took more risks on the road when they drove with friends. Fourteen percent reported that they enjoyed defying authority (n=6) and almost 19% regarded themselves as being a risk taker.

In answer to the question, “How do you describe the behaviour of drink drivers who are over the 0.05% legal limit?”, 58% of the pilot sample regarded the behaviour as “careless” rather than “criminal”. Sixty-one percent drank alcohol and 12% reported that they drank away from home on multiple occasions during the week. This was in comparison to almost 19% who said that they drank alcohol away from home less than once a month (n=8). Thirty percent of pilot respondents believed that there was a 50-50 chance of being caught by the police when they “were over the legal alcohol limit” and another 30% indicated that they were “likely to be caught” and 35% believed that they were likely to have an accident. Sixty-one percent of people (n=26) believed that “most people will drive when they are over the legal limit” and almost as many pilot subjects reported that they “often go out with the intention of getting drunk”. More than 16% of the sample believed that “joy riding and risk taking were acceptable behaviours” (n=7) while the majority of the sample, 93%, reported that they considered themselves to be a careful driver (n=40).

The distribution of questionnaires at the RTAs, was a successful way of recruiting participants who were drivers living in western Sydney. It confirmed our commitment to use this type of setting for the major study. Individuals often spent 10-20 minutes waiting at the RTA office for the processing of driver’s licences and other services. This enabled access to a larger number of individuals in the required age range and who also drove a motor vehicle. It was cost effective and time efficient to distribute and collect the questionnaires on the same day.

### **3.3 THE QUESTIONNAIRE: “A SURVEY OF DRINK DRIVING”**

A self completion 67 item questionnaire (see Appendix 2) was designed on the basis of pilot study results, fieldwork interviews, literature review and following consultation with experts in questionnaire design.

The following areas were explored in the questionnaire:

**Attitudes:** toward drinking habits, legal blood alcohol limits.

**Beliefs:** about the effects of alcohol on driving performance, parental concern about drink driving, and beliefs about parent - adolescent relationships.

**Role modelling:** peer, parental and societal influences on drink driving behaviours.

**Risk taking:** situations and times when young people may take unnecessary risks, and their perception of risks.

**Alcohol knowledge:** whether young people are aware of the amount of alcohol they must consume to exceed the legal blood alcohol level.

**Drink driving:** general drinking behaviour, drinking patterns and drinking behaviours in differing social contexts.

**Countermeasures:** strategies that young people consider as effective counter-measures against drink driving behaviours.

### 3.3.1 Types of Questions in the Questionnaire

The following types of questions featured in the questionnaire:

- Eleven Yes / No response questions, eg, "I am capable of driving when I am a bit over the legal limit if there is someone in the car to help me".
- Twenty four-point Likert scale response questions, eg, "I believe that beer affects some people's blood alcohol limit more than others". Response anchors ranged from Strongly Disagree, to Disagree, then to Agree and Strongly Agree.
- Nineteen questions allowing open-ended answers, eg, The last time I drank alcohol away from home I was at (respondents recorded the venue).
- Seven qualitative data analysis questions, eg, "If your driver's licence was suspended for 12 months would this seriously affect your lifestyle"?
- A seven day diary for which respondents were requested to document their drinking habits for the previous week. The diary recorded the number and type of drinks consumed each day.

Respondents also recorded information about their sex, living arrangements, country of birth, age, residential postcode, whether a driver's licence was currently held, the class of the driver's licence, the number of years of driver licence possession, the number of years of driving experience, the occurrence of alcohol related licence suspension, average kilometres driven per week, their employment status, average annual income, and their highest level of education. Whether the respondent received a pension, sickness or other social security benefit, a student allowance or unemployment benefit was also recorded.

Variables such as the respondent's religion, height and weight were deleted from the demographics section in the pilot questionnaire. Three new variables were added to the final questionnaire. Respondents indicated the type of licence held, ie, a provisional licence, a learner's permit, or a "full" licence.

Results indicated that no other major changes to the questionnaire were necessary. The demographics section was moved to the back of the questionnaire ensuring that respondents addressed the central issues of concern first.

### **3.3.2 Sampling Procedure**

Respondents sampled ideally were young adults aged between 16 and 25 years of age. The researchers approached people whose age was estimated to be between 16 and 25 years. Obviously on some occasions this led to respondents being outside the preferred age range (n=100). Their data was included to allow a comparison of attitudes examined in the study, across age categories. A stratified convenience sampling method was employed, this method being the most practical to the nature and population used in the study. Participants were volunteers. They were introduced to the aims and objectives of the study before being asked to fill out a questionnaire. Data collection was carried out between the hours of 9 am and 4 pm, Monday to Friday, for a two week period. The questionnaires were distributed by nine research assistants outside RTA offices at Parramatta, Blacktown, Mt Druitt, St Marys, Penrith, and Fairfield. One hundred and nine questionnaires were also distributed in the foyer of a western Sydney Leagues Club. Data collection at the Club took place on a single Tuesday and Thursday evening between 6pm and 9pm (n=109).

A problem which occurred in the Fairfield area was the inability of many potential respondents to speak English or read the questions. As a consequence, most individuals whom researchers approached were unable to participate in the study. In

both Fairfield and Auburn about one third of the population (20,251) can be described as speaking English poorly.

A total of 858 respondents were sampled in the survey.

### **3.3.3 Qualitative Analysis**

Reading and re-reading of the six open ended questions on the survey by members of the research team facilitated immersion in the respondents' lived experiences. Constant comparison was the method used to examine the content of the data using IN VIVO coding (Strauss and Corbin, 1990). Codes and clusters of codes were each defined until broad themes emerged which were then named. Validation of the themes was undertaken by referring back to the respondent's original responses and each code's description.

Examination and explanation were required for any code that proved atypical to determine how it fitted with the macroscopic or more global view. Here our purpose was to illuminate the meaning of drink driving and risk taking held by youth. Further, we wished to discover their views concerning the effectiveness of existing drink driving countermeasures and to capture any new ideas for prevention strategies.

From the pilot study interviews a temporal, conceptual framework was developed (see Appendix 3). The framework was based on the respondents' experiences in the pre and post drink driving phases which were related to their beliefs and experience in risk taking and from which they experienced physiological, psychological and social consequences. Additionally, they gave examples of prevention strategies which, on reflection, they believed were useful as drink driving countermeasures.

## 4. RESULTS AND DISCUSSION

### 4.1 Qualitative Results

In the field work interviews, respondents reported that joy riding is still practised largely by 13-16 year olds rather than by older adolescents who have their license. They explained that its purpose has changed from thrill seeking to car stripping for financial gain.

More than 50% of the sample stated that their lifestyle and financial situation would be seriously affected if their driver's licence was suspended for 12 months. For instance, respondents reported that economic hardship would be experienced by not being able to either get to or from employment (n=169) or that they could not carry out their work role without a driver's licence. As one respondent explained, *"I would not be able to get to work and maybe would become unemployed"* (male, aged 19 years, employed). Another said, *"...my source of income depends on a car"*.

Social deprivation would be experienced by many individuals in the form of difficulties in getting to sporting events, doing the shopping, getting to their place of education and transporting the family. For example, one respondent said, *"My parents need me to drive them about, as my father is unable to drive, due to injuries and my mother doesn't have a licence"* (female, student, 18 years). Respondents who reported that their lifestyle would not be seriously affected if their licence was suspended for 12 months said that they could possibly use other forms of transport such as friends or public transport. Some (n=28) explained that they did not yet drive a motor vehicle. However, only one respondent reported that for him *"public transport was easier and safer when he felt tired"* (male, 19 years, employed).

When asked, "What other measures do you believe would discourage you from drink driving?", respondents indicated that a broad range of strategies must be employed rather than any single measure. This, they believed, would be more effective in deterring over-the-limit drink driving behaviour. Suggested strategies included, increased penalties, gaol sentences and disqualification of driver's licence. Several respondents suggested harsher punishments. For example, a 26 year old male said, *"Cut off (the offender's) left hand"*. A female who held a full licence and was aged 20 years explained that the risk of losing her licence was a sufficient deterrent. Another 22 year old female believed that *"community service work (and) larger fines"* would discourage drink driving. A large proportion of the respondents (n=128) who



indicated that punishment would deter them from drink driving were males in the 20-25 year age group.

The use of realism in television commercials, such as the re-creation of accident scenes, was a major theme in the responses (n=106). Respondents reported being discouraged from drinking and driving when they saw on television the results of drink driving accidents such as *"seeing dead and mutilated bodies from accidents"* (21 year old, male) and *"serious accidents which cause (the) death of friends"*, as described by a 21 year old female who held a full licence.

When asked to describe a "road safety poster", "radio or television commercial" which they believed would increase young drivers' awareness of road safety, responses varied and focussed on the modes of advertising, the content of the advertisements which they judged to be effective and their perceptions of the effectiveness of advertisements being used to reduce the road toll.

The vivid portrayal of accident scenes which showed the accident victim maimed or killed as a result of either speeding, drink driving or non-defensive driving, was reported as being the most effective way of capturing an audience's attention. As one 24 year old male who held a full driver's licence commented, *"The more blood and guts, the better"*. From statements such as this it seems that people in this age group are psychologically affected by viewing car smash accident scenes.

Another way in which they felt this message can best be communicated is by showing the serious effects on either the victim or their family or close friends of accidents. One 24 year old male stated, *"The ads that appear on Sky Channel that depict [the] graphic responses of the relatives of [the] dead..."*.

The use of multiple mass communication advertising strategies rather than any single approach was believed necessary to teach people more about road safety. Media such as Sky Channel at clubs, advertisements at cinemas, television commercials, posters, road signs and radio advertisements were recognised as being effective in alerting the community to the acute need for safer road practices. Our results suggest that single advertisements alone are not enough to reduce or prevent drink driving behaviour and that a multiple strategy campaign is essential. Twenty-five percent of those who responded to this question suggested that the present advertisements are not effective. One male, with a full licence said, *"None [no single advertisement is effective], I am twenty-one years old and I believe most young drivers are not affected by the ads"*. Interestingly, the idea of vivid accident scenes acting as a strong deterrent to drink driving predominantly came from those in the 25 years or younger age group.

In summary, the comments from most respondents indicated that the use of graphic accident scenes used in advertising effectively alerted those aged 25 years and under to the dangers of drink driving. Almost half the sample recalled a particular advertisement which they found to be effective. This advertisement was, *"The poster where a young guy drinks and drives, has an accident and loses his leg"*. From comments such as these it may be seen that with the youth of the 1990's the softer, more subtle approach to preventing drink driving is not working. It appears that the use of realism, related to the outcomes of drinking over the limit and driving such as death, disease and disability, may be a more powerful deterrent than the previously believed educational approaches incorporating explanation and rationale.

Fifty respondents also explained how personal experiences had influenced their drink driving opinions. One female, aged 26 years, stated that *"the fear of death"* discouraged her from drinking and driving. Others explained that their fear of losing someone close to them was a sufficient deterrent. A 19 year old male shared his experience, as did many other youths who had a similar experience: *"(I) had five friends killed by a drunk driver ... (it) scares me enough..."*.

Sixty respondents believed that setting a legal blood alcohol limit acted as a deterrent to drink driving. Generally respondents felt that the present legal blood alcohol limit should be increased. Only five responses indicated that it should be reduced. Four of these recommended zero blood alcohol concentration (BAC) levels for all drivers. Two other interesting suggestions for preventative measures were the compulsory installation of breath testing units at the doors of all pubs and clubs, and free soft drinks for the drivers of motor vehicles. Many also indicated that they would appreciate an increased police presence on the roads and that more random breath testing should be carried out. In order to reach the youth of our community it is clear that an effective mass communication medium such as television and Sky Channel should be more fully used. However other options, such as road sign warnings, video education and publishing the road toll statistics, were perceived as effective strategies which could be implemented to change or deter over the limit drink driving behaviours. One respondent recommended that, *"Road signs which note how many road deaths have been caused by drink driving"* would be an effective countermeasure (23 year old female).

Family support and a network of interested individuals were each seen as important in reducing over the legal limit drink driving behaviour. *"Strong parental guidance"* was why one 18 year old male stated he did not drink and drive. Six respondents stated that their friends influenced their behaviour, for example, a 19 year old female said she

needed her friends and family members around her. Alternative social activities were suggested as a substitute for the typical drinking environment. Others indicated that their religion influenced their alcohol intake.

Respondents believed that more appropriate education in the area of drinking alcohol and its effects on driving is warranted. Increased public transport, especially late at night, was also voiced as a central issue of concern. Respondents also indicated that a *"better and safer public transport system"* (male, 21 years) and a system that will provide *"late night buses"* for commuters was needed. Forty-eight respondents believed that there was little that could be done to prevent individuals from drinking and driving, and some (n=28) indicated that drink driving didn't concern them. In summary, respondents identified a variety of methods to prevent over the limit drink driving by youth. Two major themes dominated the respondents' recommendations. These were, increasing punitive measures because they work as deterrents against drink driving behaviour, and the graphic portrayal of realistic scenes from road accidents. Our results suggest that the more vivid the portrayal of the message, the greater the likelihood that the message will be remembered.

Respondents were asked to indicate whether they "often take risks whilst driving". Those who answered "yes" were asked to complete an open-ended question about the risks they took, and where and when they took them. Speeding was the most common response. One 19 year old unemployed male holding a full driver's licence identified that his risk taking was *"Speeding most of [the] time."* Interestingly, "speeding" made up 43% of the responses to the question and 42% of the respondents reported that they took risks when they were speeding. A further 23% of respondents indicated that they took risks by driving the way they wanted to and engaging in behaviours which they named as:

"sky larking"

"fishtails and schreechies"

"running [through] give way signs and red lights"

"drive [ing] like a maniac, doing burnouts everywhere".

Some respondents also said that they just took "little risks", eg, *"driving without a licence at times"* or *"only drink driving"*.

A few people in our study believed they were risking their lives just by driving on the roads. However, 21 respondents indicated that they took risks under conditions such as the following quoted examples: "late at night", or "in the rain", or "on quiet streets or on freeways" or "when in a hurry" and "all the time". Only two respondents stated

they didn't take risks when drinking. It is clear that speeding is a common risk taken by males especially those under 25 years. From the comments provided and examined with respondents' demographic data, it appears that males across all age groups are more likely to engage in risk taking behaviour such as speeding and drinking and driving when over the legal blood alcohol limit.

Respondents were asked to provide an example of a recent experience which involved drink driving and to state why they chose to drive on that occasion. There were 361 responses to this question.

The social need to "get home" was a major theme supporting respondents' desire to drive when under the influence of alcohol (n=47). Driving was also considered the *"cheapest and easiest way home"*, and some had *"driven to the venue at which they had drunk and therefore needed to get themselves and the car home"*. Other reasons for driving included that it was 'safe to drive' because home was just one kilometre away. Other respondents indicated that they were so far away from their home that they had no option other than to drive. Four respondents indicated that public transport was neither an available nor a viable option for them late at night.

Other respondents explained that they were able to judge whether they were fit and capable of driving and that they knew how many drinks they could have. As one 29 year old male said, *"I was just over [the legal blood alcohol limit] but I know it was not affecting me..."*.

The concept of "getting caught" was another theme in the responses. Some described how and under what conditions they were pulled over by the police. One group described how they had been well over the legal blood alcohol limit but were not pulled over by passing police. An 18 year old female said *"... I didn't feel drunk so I drove ... [I was] breath tested, I was over [the] 0.02 legal limit..... but they [the police] never said anything about it"*. Generally, respondents were confident of their ability to judge the effects of alcohol on their ability to drive. Five respondents indicated that they had been so intoxicated that they were really incapable of driving and that they couldn't remember driving home.

Another described himself as being the best choice of driver out of all his friends. He said, *"At a party, every one was over the [legal blood alcohol] limit, I was the least over the limit, so I drove home"* (male, 22, employed, full licence). However, 43 respondents indicated that they had not drunk alcohol and then driven a motor vehicle, and only 58 respondents reported they had no drink driving experiences to share.

Respondents were invited to use the space provided at the end of the questionnaire to give their thoughts on the survey and on any important issues concerning drink driving. Interestingly, 308 respondents provided written comment which covered a diversity of themes. Respondents indicated that they appreciated the opportunity to express their point of view on issues which they felt affected them.

This opinion was illustrated by a 17 year old female who wrote, *"I think this survey is important to people who do drink drive, if I had ever drink driven then I would take a second thought about it in the future"*. One respondent expressed his support for the research *"...if the results are actually used ...."*.

In summary, in the final open ended section, respondents recommended the introduction of harsher laws for drink driving offences. Suggestions included licence suspension, licence cancellation, greater penalty enforcement or gaol for drink drivers. A twenty year old male said, *"People who drink drive should have their licence taken off them and [be] locked up"*. One 24 year old female explained that *"anyone who is caught drink driving on more than three occasions should never be allowed to drive again"*.

Only a few respondents felt that the present penalties were already heavy enough, as one 24 year old male said, *"... the penalties at the moment are quite sufficient, fines and suspension of licence will make people who drink and drive be more aware"*. Six percent of the respondents focused on youths' educational needs and they wrote about the need to improve community awareness concerning the risks of drinking alcohol and driving. For example a 23 year old female suggested that, *"... teaching kids in school about the risks would help"*. Also, a 21 year old male believed that *"youth's awareness of the effects of alcohol needed to be increased"* and suggested that television would be a good medium for this role.

Twenty respondents held the view that the blood alcohol concentration limit for driving should be increased. A 24 year old female pointed out that *"... the blood alcohol level should be much higher than it is. I think it should be up to the individual to judge whether they're capable or not of driving their car. If they are then that should be legally OK, but only if they've had no prior convictions for drink driving and causing an accident or smashing their own car. I think the limit of 0.05 should be abolished"*. When matched with comments about their recent drink driving experience, for example, *"I was too drunk to remember"* (male, 16, unemployed, holding a learner's permit), the previous statement suggests that some individuals are naive and incapable of judging the legality of their blood alcohol concentration for driving.

Overall, the respondents presented mixed views on reasonable blood alcohol limits. Suggestions included prohibiting alcohol consumption before driving, to lowering the legal blood alcohol limit to 0.02% for all drivers. Some respondents believed that more random breath testing was required. One 19 year old unemployed female stated, *"if they need to catch more drink drivers they have to increase random breath testing. In the 2 years I have had my licence not once have I been pulled over for breath testing"*. One respondent suggested that fitting cars with a device which prevents a driver with illegal BAC from starting the vehicle would assist in reducing drink driving (27 year old female).

Other suggestions indicated that more police were needed on the roads. One 21 year old male said, *"Give police more funds for more patrols, this will strongly reduce the problem. It is my belief that the public will only stop illegal activities if they believe they could be apprehended"*. Another respondent suggested that one should not *"use scare tactics as it makes youth want to rebel"*. One 25 year old female, however, expressed the view that *"authorities can try as hard as they can but there are good people and bad and no matter how many restrictions, the bad will still defy laws because they are stupid"*.

Other suggested drink driving countermeasures were increasing the minimum age of obtaining a licence to 21 years and raising the legal drinking age. However, several respondents expressed the view that alcohol was not a road safety problem, and that crossing the road was "just as dangerous". Some respondents reported that excessive speed and the poor condition of our roads rather than drink driving were the major problems on our roads at present.

Peer pressure also emerged as a substantial theme. Peers reportedly influenced drink driving decision making, eg, *" ... I do drink and drive on occasions. I don't endorse what I do and would probably think twice if there was more pressure from my peers and a greater chance that I would get caught"* (22 year old, female). She explained that peers do make a difference in preventing drink driving. A 20 year old unemployed male who holds a provisional licence described his experience. He wrote, *"Well, I have been cort drink driving, and all I think I did it for was per preser you no, mates saying: come on you wont get cort. But thay were rong. I was suspended for 6 moth's and I got \$700.00 in fines, 5 and a 1/2 moth's later I was cort for driving, wholly suspended and got anave 6 moths sespen and a \$730.00 fine. So I believe it is not worf the trubel"*. This statement not only portrays this youth's drink driving experience but it also provides insight into the peer pressure experienced by some youth, many of whom are unemployed.

Respondents openly shared their attitudes towards drink driving, drink drivers and their own personal experiences. For instance, a 22 year old female expressed her concern. She wrote, "... *I see drunks leaving venues all the time. It makes you worry about the sober ones [drivers and passengers] or taxis being hit by these idiots ...*". Others, however, were not concerned about the innocent person who may be injured or who may lose his or her life, as illustrated by this comment from a 20 year old male, "*I don't drink, so drink-driving doesn't concern me.*" It seems that this young man has distanced himself from the problem of drink driving. He did not see that it affected him, even though he is a potential victim of the drink driver.

Overall, there appeared to be many respondents who acted responsibly. For example, typical comments included, "*Drink driving is very stupid and dangerous. Generally if I'm going out, I always drive, so I don't drink alcohol at all. If I'm planning to drink, I don't bring my car ...*" (female, 26 years). Other respondents also displayed strong feelings of anger toward those who engaged in drinking and driving. "*I think they should all be shot,*" said a 24 year old male (full licence, employed). An emotional plea came from one young person who asked, "*Please do something, there are just too many deaths and accidents on our roads. Sometimes I feel scared to drive*". From responses such as these it appears that young people were concerned about dying on the roads. They felt that older persons, and not just the young, are drinking and driving. They believed that Government has a responsibility to provide more public transport for over the limit drinkers, at venues such as clubs in order to reduce individuals' need to drive with an excessive BAC.

## **4.2 Quantitative Results - Demographic Data for Survey Sample**

Nine hundred survey questionnaires were distributed in the study region. Completed questionnaires were received from 858 respondents, giving a response rate of 95%.

Seven hundred and twelve respondents recorded their residential postcode; 106 different suburbs were represented in the postcode list. Ten respondents came from interstate while the remainder of valid responses recorded a western Sydney postcode.

### **4.2.1 Age and Sex**

Of the 699 respondents who recorded their sex, 354 (50.6%) were male and 345 (49.4%) were female. Six hundred and ninety-three respondents recorded their age. Of these, the oldest was 49 years of age and the youngest was 14. The average age of

respondents was approximately 22 years and six months with a standard deviation of six months. The median age was 21 years and the most common age was 18 years, comprising 12.6% of the sample whose age was recorded.

Figure 4.1 below shows a breakdown of respondents' sex by age class intervals.

Figure 4.1

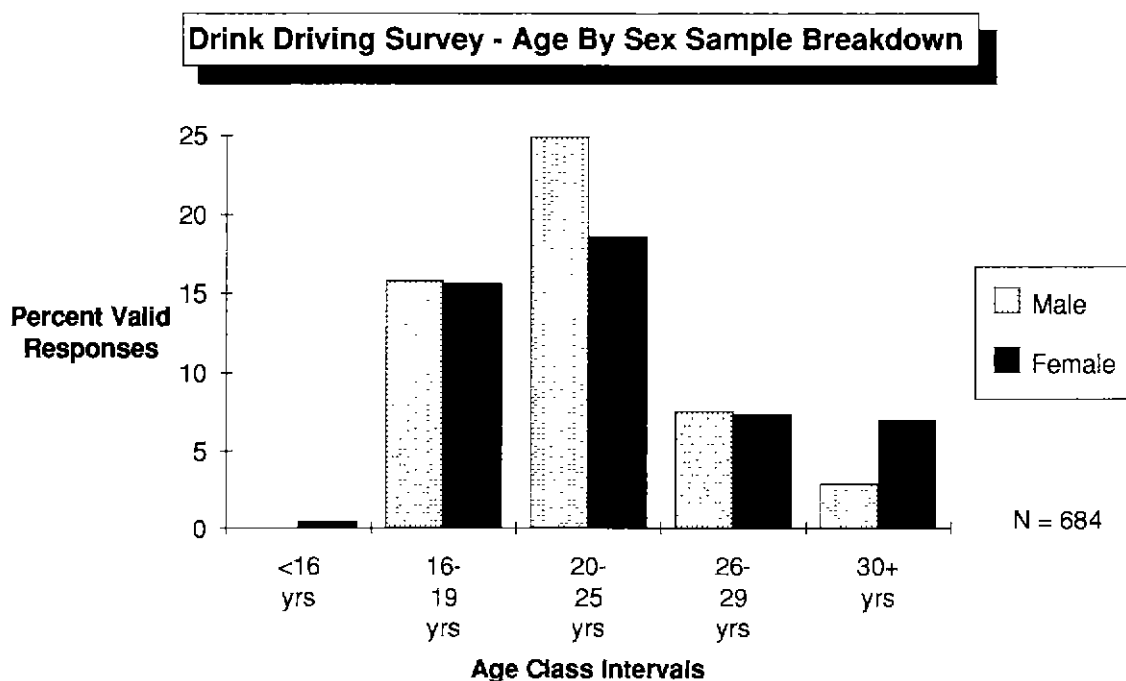


Figure 4.1 shows that the sexes were fairly evenly distributed for those respondents younger than 16 years, for those from 16 to 19 years of age and for the 26 to 29 year olds. There were more males than females in the 20 to 25 year old group, and more females than males in the 30 years old and over group.



#### 4.2.2 Location of Respondents When Surveyed

Respondents were surveyed either at a western Sydney Leagues Club or at any of six Sydney western suburban Roads and Traffic Authority Offices. The numbers of people sampled at each of the survey locations appear in Table 4.1 below.

Table 4.1: Respondents Sampled at Each Survey Location

Survey Location	Number of Cases	Percent of Total Sample
Western Sydney Leagues Club	109	12.7
Parramatta RTA	96	11.2
Fairfield RTA	16	1.9
Blacktown RTA	274	31.9
Mount Druitt RTA	177	20.6
St Mary's RTA	39	4.5
Penrith RTA	147	17.1
Total for RTAs	749	87.3
<b>Total</b>	<b>858</b>	<b>100.0%</b>

### 4.2.3 Respondents' Countries of Birth

The sample included a number of people who reported being born outside Australia. Table 4.2 below identifies countries and world regions, and the numbers of people in the sample who were born there.

Table 4.2: Respondents' Country of Birth

Country or Region of Origin	Number of Cases	Percent of Total Sample
Australia	541	63.1
Americas	9	1.0
Asia	31	3.6
Europe	21	2.4
Great Britain	44	5.1
New Zealand	8	0.9
South Pacific Isles	7	0.8
Other	26	3.0
Not Reported	171	19.9
<b>Total</b>	<b>858</b>	<b>100.0%</b>

The sample, as shown in Table 4.2, clearly reflects the ethnic and cultural diversity of western Sydney. However, the breakdown of country of origin is not proportionally representative of western Sydney. Many people of non-English speaking background did not complete the questionnaire or participate in the interview because of their inadequate English language skills. It must be added that many of the Australian born respondents may have been from various ethnic groups, for example, if their parents were born overseas.

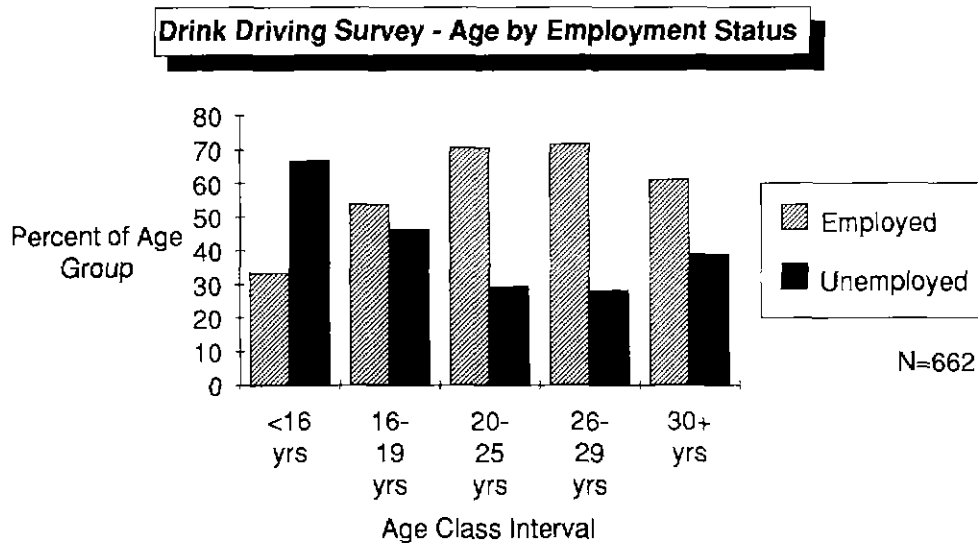
### 4.2.4 Employment Status of Respondents

Four hundred and thirty-two respondents (50.3%) reported that they were employed. Two hundred and thirty-seven (27.6%) reported being unemployed. The remainder did not respond to the question.

Of those who reported being unemployed, 28 people (3.3% of the total sample) reported being on a pension or sickness benefit, 92 people (10.7% of the total sample) reported that they received unemployment benefit, whilst 57 people (6.6% of the total sample) reported receiving the Austudy tertiary education allowance.

Figure 4.2 below compares the numbers of employed and unemployed people in the sample for age class intervals in the sample. Only data for valid responses are shown.

Figure 4.2



The most striking feature of Figure 4.2 is the high unemployment reported for all age groups, ranging from 66.6% of under 16 year olds to 28.3% of 26-29 year olds. The unemployment rate in western Sydney in January 1992 for 15-19 year olds was 44% and 21% for 25-34 year olds (WESTIR, 1992). The high unemployment rates in this sample may be a product of the survey sampling methods. Many people were surveyed during the working week when employed people were at work and inaccessible. However, many people were also sampled over lunch times, including in the Parramatta central business district. At this time many employed people may have been on the street and therefore available to be surveyed. Therefore, the reported unemployment rates may not accurately represent current unemployment rates in the *entire community*, although they may representatively sample people on the streets during a week day.

#### 4.2.5 Income of Respondents

Respondents' reported per annum pre-tax incomes are recorded in Table 4.3 below. Incomes were rounded to the nearest thousand dollars.

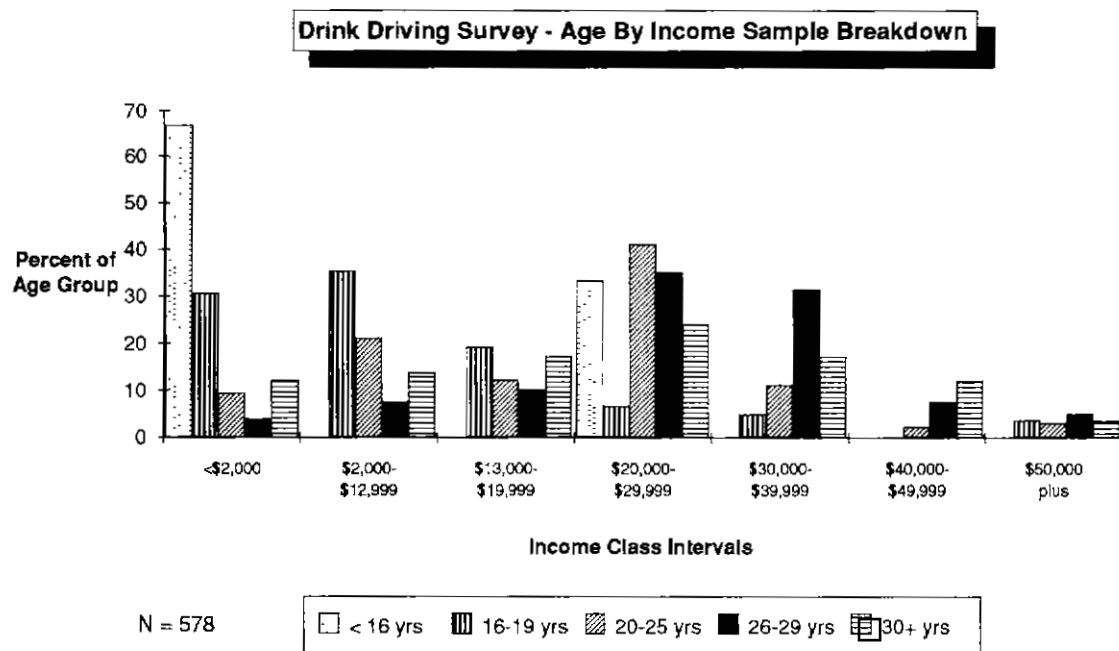
Table 4.3: Respondents' Pre-Tax Income

Pre-Tax Income	Number of Cases	Percent of Total Sample
Less than \$2,000	91	10.6
\$2,000 - \$12,000	133	15.5
\$13,000 - \$19,000	83	9.7
\$20,000 - \$29,000	165	19.2
\$30,000 - \$39,000	73	8.5
\$40,000 - \$49,000	19	2.2
\$50,000 or more	24	2.8
Not Reported	270	31.4
<b>Total</b>	<b>858</b>	<b>100.0%</b>

Table 4.3 shows that over a third of the sample had relatively low incomes, ie, \$20,000 per year or less. Relatively few respondents (5%) had high incomes (\$40,000) or more.

Figure 4.3 below shows the distribution of age groups for pre-tax income class intervals.

Figure 4.3



As might be expected, a large percentage (66.7%) of the under 16 year olds have little or no income, the remainder having an income of between 20 and 29 thousand dollars. Similarly, many (30.5%) of the 16 to 19 year olds have virtually no income or an income of less than \$20,000 per year (54.5%). Only the 26 to 29 year olds had an income of from 30 to 39 thousand dollars in substantial numbers (31.3%). Relatively few of the sample (6.8%) from any age group reported earning \$40,000 or more.

Of particular interest is the distribution of incomes among the 30 years and over group. Forty-three percent of this group reported earning \$19,000 or less per annum gross income. However it must be acknowledged that over 30 year olds were poorly represented in the sample. Responses from only 58 individuals are recorded in the over 30 year olds' section of Figure 4.3 and the majority were women. The relatively high proportion of people on low incomes in the survey sample compared to incomes of residents of western Sydney (WESTIR, 1992), may be due to the high numbers of unemployed people surveyed, especially in the under 16 year old, and 30 years and over age brackets (see Figure 4.2 above).

#### 4.2.6 Education Level of Respondents

Table 4.4 below records the education level which respondents reported as having attained.

Table 4.4: Reported Education Level of Respondents

Education Level	Number of Cases	Percent of Total Sample
Primary	13	1.5
Secondary Years 7-9	51	5.9
Year 10	197	23.0
Year 12	161	18.8
Technical & Further	135	15.7
College or Uni.	120	14.0
Not Reported	181	21.0
<b>Total</b>	<b>858</b>	<b>100.0%</b>

Table 4.4 suggests that the distribution of respondents across education levels was relatively even. Most of the sample had completed Year 10 or higher. Year 10 was the most common level of education. Nearly 30% of the sample had some tertiary education, either technical and further, or college or university.

#### 4.2.7 Driving Licence, Driving Experience and Driving Record

##### Possession of Driver's Licence

Five hundred and fifty-three people (64.5% of the total sample) reported possessing a driver's licence while 112 people (13.1% of the total sample) reported not having a licence. One hundred and ninety-three respondents did not provide a valid answer to the driver's licence question.

The survey form requested those who reported having a driver's licence to describe the licence type. Four hundred and sixty people (77.7% of valid responses) reported having a "full" (ie, non-learner, non-provisional) licence. Seventy-nine people (13.3% of valid responses) reported having a provisional licence and 53 people (9.0% of valid responses) reported possessing a learner's permit.

Table 4.5 below records the length of time that respondents had possessed a driver's licence.

Table 4.5: Years of Driver Licence Possession Reported by Survey Respondents

Years of Driver Licence Possession	Number of Cases	Percent of Valid Responses
Less than 1 year	136	19.2
1 year	146	20.6
2-3 years	126	17.7
4-5 years	112	15.8
6-10 years	128	14.9
More than 10 years	62	8.7
<b>Total Valid Responses</b>	<b>710</b>	<b>100.0%</b>

The mean number of years of licence possession was 4 years and 1 month. Thirty-one years was the longest reported duration of licence possession. The most commonly reported period of licence possession was 1 year. The median period was 3 years.

From Table 4.5 it is apparent that respondents were fairly evenly distributed across the intervals for years of licence possession.

### Years of Driving Experience

Table 4.6 below records the years of driving experience for 710 survey respondents who reported that they drove. Because only 82.8% of respondents reported that they drove, the sample percentages in Table 4.6 refer to the number of valid responses to the question.

Table 4.6: Years of Driving Experience Reported by Survey Respondents

Years of Driving Experience	Number of Cases	Percent of Valid Responses
Less than 1 year	141	19.9
1 year	84	11.8
2-3 years	139	19.6
4-5 years	124	17.5
6-10 years	149	21.0
More than 10 years	73	10.3
<b>Total Valid Responses</b>	<b>710</b>	<b>100.0%</b>

The mean number of years of driving experience was 4 years and 7 months (s.d.= 4 years and 8 months). The longest period of driving experience was 32 years. Zero years of driving experience was the most common response and three years was the median value.

From Table 4.6 it is evident that the survey sample included a large percentage of inexperienced drivers. Thirty-two percent of drivers in the sample had been driving for less than two years.

### Inferences About Unlicensed Driving

By comparing the data for duration of licence possession with data for the number of years of driving experience, it is possible to make inferences about the amount of unlicensed driving which occurs.

If the number of years of driving experience exceeds the number of years of licence possession, it is reasonable to infer that unlicensed driving has occurred, unless the respondent has been driving on private property or has spent a long time on a learner's permit.

Examination of the data found that 136 or 19% of the 710 respondents with valid answers to the relevant questions reported having had more years of driving experience



than years of licence possession. Thirty one percent of people having a licence for one year reported having two to three years driving experience. Twenty-seven percent of people having possessed a licence for two to three years reported having four to five years driving experience.

These results suggest that a substantial proportion of people having been driving for longer than they have possessed a licence. While driving experience gained on a learner's permit could account for some of the data from this comparison, further research could reveal how much unlicensed driving experience is being acquired on public roads and the age groups for which this is occurring.

### Driving Distance per Week

Table 4.7 below shows the reported distance driven each week by respondents.

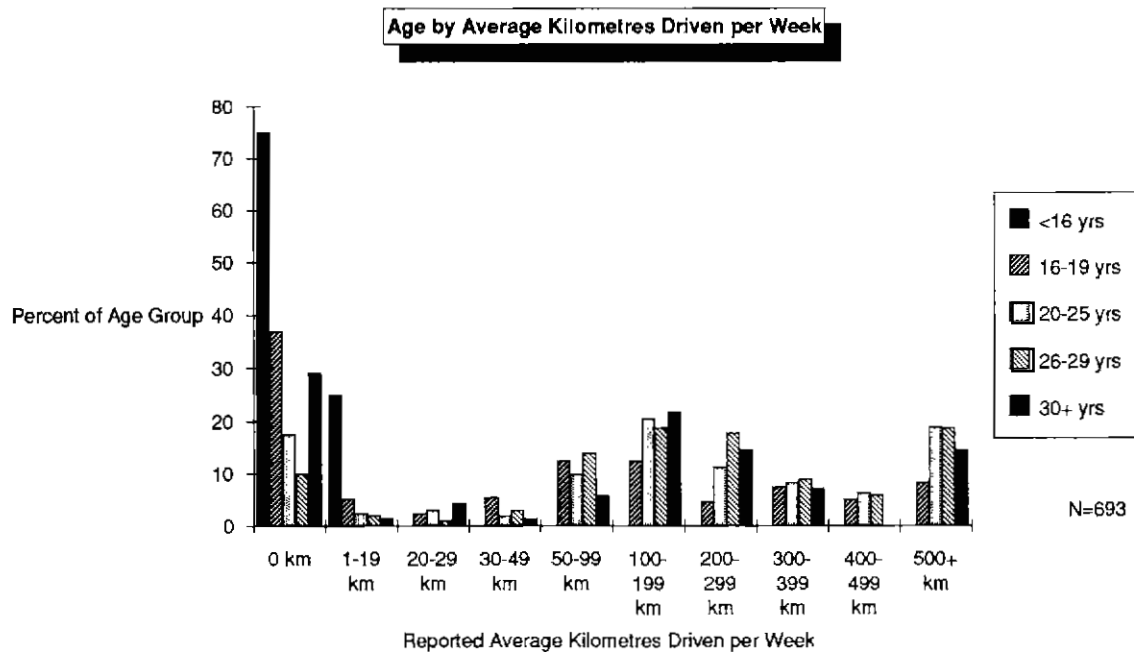
Table 4.7: Average Driving Distance Per Week Reported by Survey Respondents

Driving Distance	Number of Cases	Percent of Valid Responses
0 km per week	179	25.2
1-19 km per week	23	3.2
20-29 km per week	18	2.5
30-49 km per week	23	3.2
50-99 km per week	75	10.6
100-199 km per week	123	17.3
200-299 km per week	73	10.3
300-399 km per week	55	7.7
400-499 km per week	36	5.1
500+ km per week	105	14.8
Not reported	148	
<b>Total</b>	<b>858</b>	<b>100.0%</b>

The mean reported value for average distance driven per week was 202 kilometres (s.d.= 258 km). Thirty-five (4.9% of valid responses) people reported driving at least 1000 kilometres per week and 179 (25.2% of valid responses) reported not driving any distance at all, this being the most common response. One hundred kilometres per week was the median value.

Figure 4.4 below shows reported average weekly distances driven for each of five age class intervals.

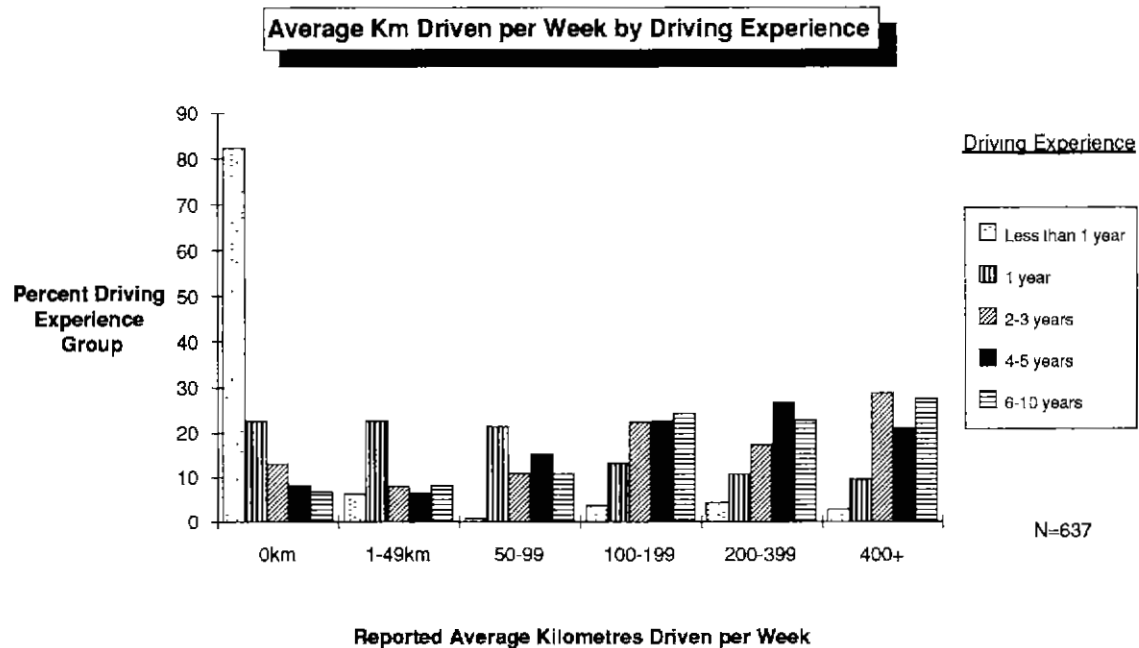
Figure 4.4



From Figure 4.4 it is apparent that many of the younger drivers, eg, 16 to 19 year olds, are not driving at all. Aside from this finding, there appears to be moderate uniformity in the estimates of weekly driving distance across the age class intervals. 16-19 year olds appear to drive a less than older drivers. This result is not surprising, given that many of the 16-19 year olds are likely to be attending school, and would therefore not have the need or the opportunity to drive long distances for much of the week.

Figure 4.5 below shows reported average weekly distances driven for class intervals of driving experience.

Figure 4.5



From Figure 4.5 it is apparent that the vast majority (82%) of drivers having possessed licences for less than 1 year claim to be not driving at all. Of those that do drive, only 14.% claim to be driving more than 30 kilometres per week.

For drivers having a licence for from one to two years, 23% claimed to not drive at all, while 61% stated that they drove more than 30 kilometres per week on average.

The proportion who reported driving more than 30 kilometres per week rose to 84% for those having possessed their licence for 2-3 years. Thus it appears that inexperienced drivers drive very little compared with drivers who have possessed their licence for longer.

The under-sixteen year olds, most of whom drive very little (see Figure 4.4), are not legally eligible to drive, and it was therefore surprising to find that 18% do drive.

### Previous Convictions for Driving Offences

Forty-nine respondents reported having had their licence suspended as a result of an alcohol related offence, while 585 reported not having had such a suspension. Two hundred and twenty-four people did not respond to the question.

Table 4.8 below shows reported licence suspension for alcohol related offence by respondents' sex. Observed counts for each sex by licence suspension contingency together with expected counts for independence of the two classifying variables are shown.

Table 4.8: Reported Incidences of Licence Suspension for Alcohol Related Offence by Respondents' Sex

<i>Licence Suspension</i>	Sex		Observed
	<i>Male</i>	<i>Female</i>	Row Totals
Suspended			
<i>Observed</i>	43	5	48
<i>Expected</i>	25	23	7.7%
Not Suspended			
<i>Observed</i>	283	295	578
<i>Expected</i>	301	277	92.3%
Observed Total	326	300	626
Column Totals	52.1%	47.9%	100.0%

232 missing cases

The relationship between sex and licence suspension categories was significant  $\chi^2=27.7$  ( $p<0.00$ )  $df=1$ . From Table 4.8 it is apparent that males were over-represented in the licence suspension category compared with females because more males reported having had their licence suspended than would have occurred if sex and licence suspension were unrelated.

#### 4.2.8 Reported Drinking Habits of Respondents

##### Do Respondents Drink at All?

The questionnaire asked respondents if they drank alcohol. Of those who answered the question, 75% (593 people) reported that they did and 25% (203 people) reported that they did not drink alcohol.

Twenty-four percent of respondents indicated that they went out with the intention of "binge" drinking.

### Reported Drinking for Males and Females

Table 4.9 below shows a breakdown by sex of responses to the question of whether or not alcohol was drunk.

Table 4.9: Reported Incidence of Drinking for Males and Females

Reported Drinking	Sex	
	Percent of Males	Percent of Females
<i>Drinks Alcohol</i>	78.6	71.7
<i>Doesn't Drink Alcohol</i>	21.4	28.3
<i>Number of Cases</i>	336	336

The relationship between respondents' sex and whether or not they drank alcohol was significant ( $\chi^2=3.85$ ,  $df=1$ ,  $p=0.05$ ). Table 4.9 shows that males were significantly more likely to report that they drank alcohol than females.

### Reported Drinking for Age Groupings

Figure 4.6 shows a breakdown by age class intervals for answers to the question of whether or not the respondent drank alcohol.

Figure 4.6

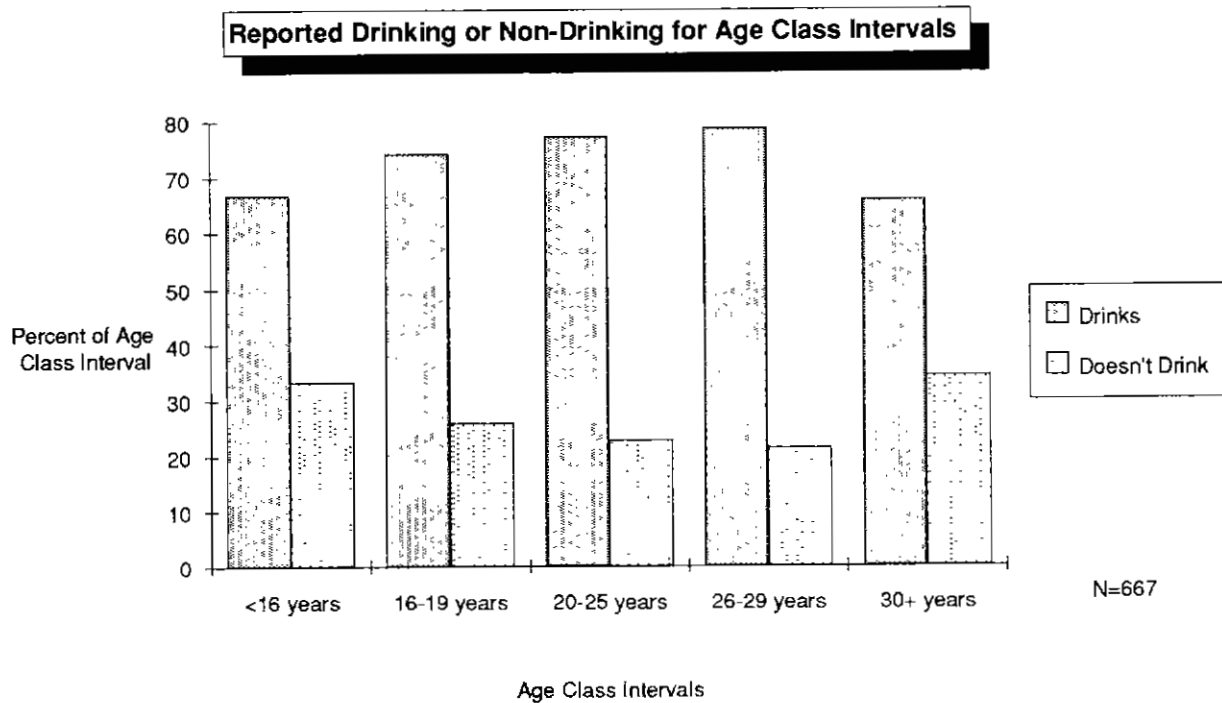


Figure 4.6 shows an increasing tendency for respondents to report that they drink as the age class intervals progress from the under 16 year olds to the 26 to 29 year olds. Respondents who were 30 years of age and over were less likely to report that they drink than the 26 to 29 year olds. However the relationship between age class intervals and whether or not the respondent reported that they drank was not significant ( $\chi^2=4.7$ ,  $df=4$ ,  $p=0.31$ ), suggesting that whether a person reported that they drank or not was unrelated to their age category.

#### 4.2.9 Drinking Behaviour - Results From Diary

##### Completing the Weekly Drinking Diary

Respondents were asked to record their alcoholic drink consumption for the preceding week. Of the 858 respondents in the total sample, 378 (44.1%) filled in the diary and 480 (55.9%) did not. The apparently low response rate for the diary could be attributed to the fact that 25% of the sample indicated in an earlier question that they were non-drinkers and would therefore not have needed to record details about their

drinking. Of the 347 respondents who filled in the diary and reported their sex, 194 (55.9%) were male and 153 (44.1%) were female. Alcohol consumption was recorded as quantities of standard drinks. For simplicity, schooners were recorded as standard drinks; therefore alcohol consumption for beer drinkers who prefer schooners to middies would be under-estimated in the following analyses.

### **Drinking Quantities Recorded in Diary**

The diary required respondents to record the number of drinks consumed on each day of the week. For the analysis, alcohol consumption was calculated separately for weekdays and weekends. Each respondent's average daily alcohol consumption was determined. The number of days with consumption of three or more drinks was calculated. Similarly, the number of days for which six or more drinks were consumed was calculated. Results of these analyses are presented below.

### **Drinks Consumed Monday to Friday**

An average of 8.1 alcoholic drinks were reportedly consumed for the Monday to Friday period referred to in the questionnaire, this being equivalent to a mean daily consumption of 1.6 drinks (n=267). The median value for daily alcohol consumption was four drinks (equivalent to 0.8 drinks per day). Seventy-one respondents (26.6% of valid responses) reported consuming zero alcoholic drinks from Monday to Friday, this being the most common response. The highest reported alcohol intake was 97 drinks, equivalent to an average daily consumption of 19.4 drinks. While such consumption is possible in principle, the accuracy of high consumption estimates is doubtful, it being probable that few very heavy drinkers would reliably recall their consumption over a period of days. (In an attempt to reduce the incidence of inaccurate responses in the data set, data was omitted for respondents who indicated that the accuracy of their recollection was less than 80%.)

The moderately high standard deviation of 12.3 drinks from Monday to Friday (2.5 drinks per day) indicates considerable variability in reported alcohol consumption. The 16 respondents who reported consuming 30 or more drinks over the five day period doubtless contribute to much of the variability in alcohol consumption.

### **Drinks Consumed on the Weekend**

Average reported alcohol consumption on the weekend under review was 8.9 drinks, equivalent to an average daily consumption of 4.5 drinks (n=95). The median value for weekend alcohol consumption was six drinks. This finding is important because it shows that 50% of respondents are consuming at least three drinks on at least one

occasion over the weekend. Such consumption might be enough to raise the respondent's blood alcohol concentration over the legal limit for drivers.

Only three respondents (3.2% of valid responses) reported zero alcohol consumption, showing that the remaining 96.8% of respondents with valid responses drink on the weekend. This finding could indicate that a large proportion of young people drink alcohol on the weekend. Thirteen respondents reported drinking 20 or more drinks on the weekend; the highest reported alcohol consumption for the weekend was 32 drinks (16 drinks per day). Three drinks over the entire weekend (1.5 per day) was the most common response, given by nearly 13% of respondents.

### **Average Drinks per Day for the Whole Week**

Average daily drink consumption for the whole week was 2.7 drinks with a standard deviation of 2.6 drinks ( $n=95$ ). The minimum value was zero, occurring for only one respondent. The maximum average reported daily alcohol consumption was 12 drinks per day. Table 4.10 below shows the distribution of frequencies for class intervals of average daily alcohol consumption.

**Table 4.10** Average Daily Alcohol Consumption

Average Daily Alcohol Intake (Standard drinks)	Number of Cases	% Valid Responses
None: 0-1 / week	3	3.2
Very Light: 2-<7/week	27	28.4
Light: 1-2 / day	19	20.0
Moderate: >2-4 / day	24	25.3
Heavy: >4-6 / day	15	15.8
Very Heavy: >6-8/day	0	0.0
Risky: >8 per day	7	7.4
<b>Total</b>	<b>95</b>	<b>100%</b>

Table 4.10 shows that most respondents' alcohol intake ranged from very light to moderate as defined in the table. However a substantial proportion (more than 20% of valid responses) reported a heavy or risky level of alcohol consumption. The relative lack of non-drinkers suggests that alcohol consumption is an aspect of life for most of these young people. However it must be born in mind that many non-drinkers would not have filled in the drinking diary, in accordance with the questionnaire instructions.



### Average Daily Alcohol Consumption for Males and Females

Average daily alcohol consumption for males and females is shown in Figure 4.7 below.

Figure 4.7

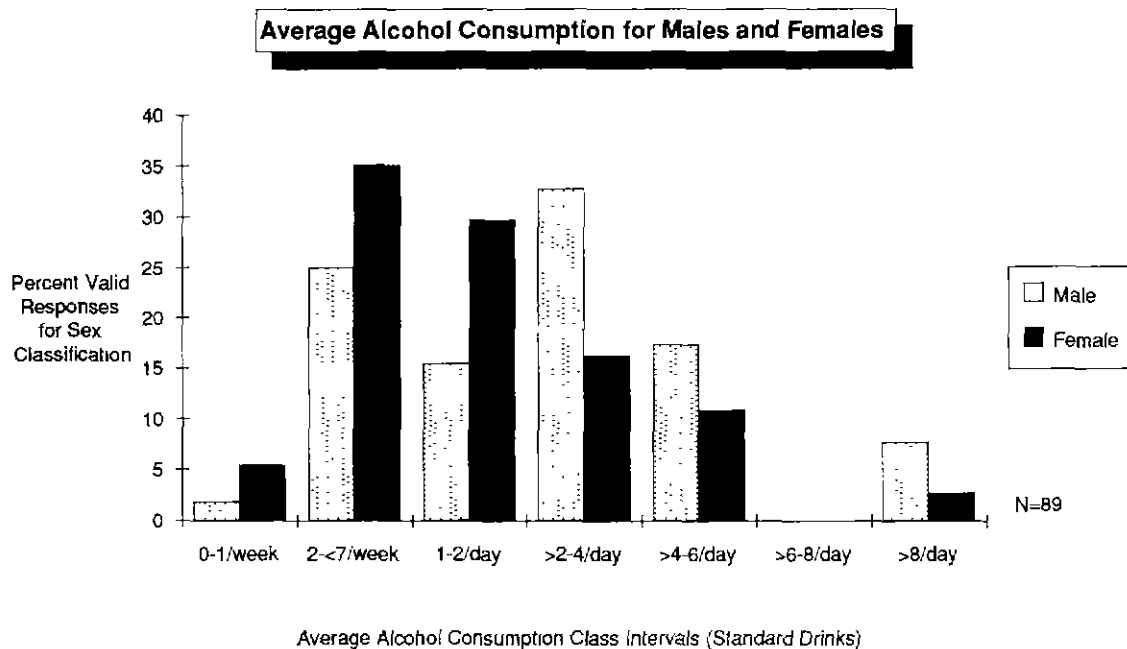


Figure 4.7 shows a clear trend: females appear more likely to be light, very light or non-drinkers than males, while males appear more likely than females to drink more than 2 drinks per day.

A t-test comparing weekly alcohol consumption for males and females was significant ( $t=2.06$ ,  $df=87$ ,  $p=0.042$ ). The mean number of drinks consumed in one week for males was 20.6, equivalent to an average daily consumption of 2.94 standard drinks. This level of consumption was significantly higher than the average for females of 13.3 drinks per week, equivalent to 1.9 drinks per day. Therefore it appears that males have a higher average weekly alcohol consumption than females.

### Average Daily Alcohol Consumption for Age Groups

Figure 4.8 below presents a breakdown of average alcohol consumption for age class intervals.

Figure 4.8

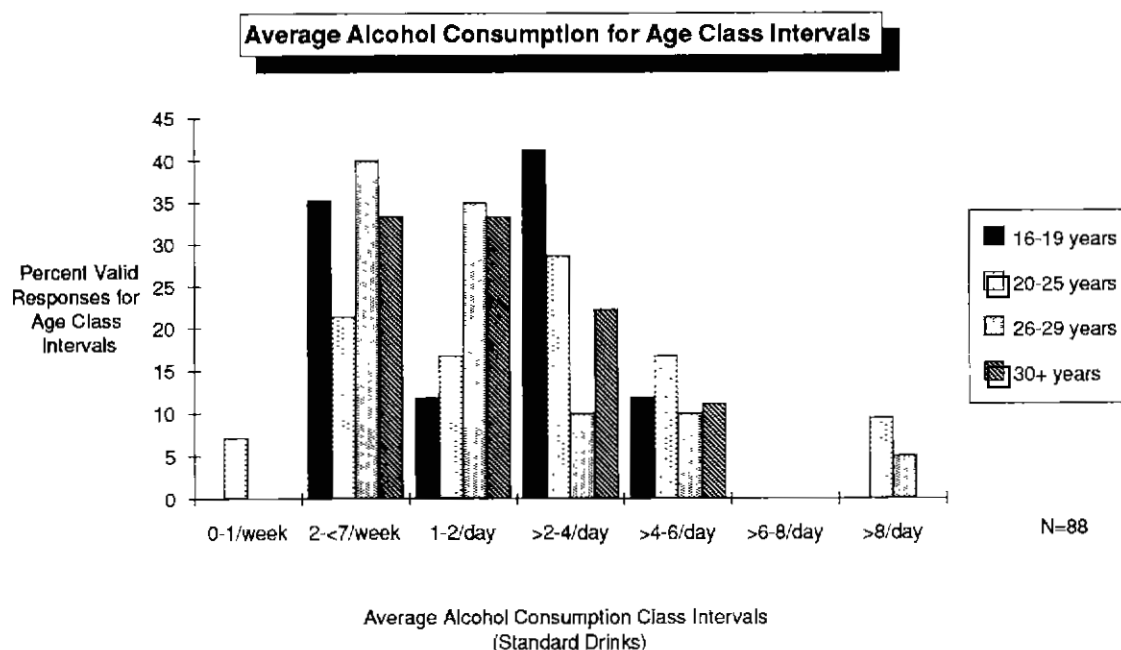


Figure 4.8 illustrates how relatively few young people reported being non-drinkers. Only 3.4% of the entire sample of valid responses were reportedly non-drinkers and all of these were in the 20-25 year age range. Alcohol intake ranged from very light to moderate for the majority of respondents in each age group. Risky alcohol consumption was reported for 9.5% of 20-25 year old respondents and 5% of 26-29 year olds.

A Chi-square test of independence for age and alcohol consumption categories was not significant ( $\chi^2=15.4$ ,  $df=15$ ,  $p=0.42$ ). In any event, there were too many cells with low expected frequencies to enable valid inferences from this test. Therefore, the data do not allow presumption of a relationship between age and alcohol consumption.

### Patterns of Alcohol Consumption

While average alcohol consumption provides information about general intake levels, it does not investigate the pattern of consumption. The following analyses examine changes in alcohol consumption over different days of the week, and identify how often respondents drank moderately or heavily.

Table 4.11 below shows mean consumption of standard drinks for each day of the week. The right hand column shows the difference between the mean value for that day and the mean for the week, thus enabling identification of days with higher or lower average consumption than the weekly mean: a positive value indicates a higher average daily consumption than the average for the week.

For Table 4.11, the weekly mean is calculated as the average of the seven daily means.

Table 4.11: Average Alcohol Consumption for Each Day of the Week

Day of Week and Sample Size for Day	Mean Consumption of Standard Drinks (standard dev.)		Difference Between Daily & Weekly Mean
Monday (n=318)	1.2	(3.6)	-1.4
Tuesday (n=312)	0.9	(2.9)	-1.7
Wednesday (n=308)	1.6	(4.0)	-1.0
Thursday (n=294)	1.5	(3.6)	-1.1
Friday (n=267)	4.0	(5.5)	+1.4
Saturday (n=219)	5.8	(5.9)	+3.2
Sunday (n=95)	3.1	(3.3)	+0.5
Means for Whole Week	2.6		0.0

As might be expected, average daily alcohol consumption was higher on Friday, Saturday and Sunday than for the other days of the week. Consumption on Friday, Saturday and Sunday was also higher than the weekly mean. Conversely, for Monday to Thursday, average daily alcohol consumption was lower than the weekly mean.

### Number of Days in Week for Which Three or More Drinks Consumed

As a rule of thumb, consumption of at least three standard alcoholic drinks in an hour is required to raise a typical person's blood alcohol concentration (BAC) to 0.05%, the legal limit for driving with a normal licence.

Therefore, calculating the number of days in a week for which a respondent consumed three or more alcoholic drinks provides an estimate of the number of times in a week that the respondent *could* have driven a vehicle with a higher than legal BAC, assuming he or she held a normal licence.

Table 4.12 below records how often in the week under review that respondents' reported alcohol intake reached or exceeded three drinks per day, and the number of respondents reporting such intake.

Table 4.12: Frequency of Consumption of Three or More Alcoholic Drinks per Day Over Weekly Period

No. Days in Week That 3 or More Drinks Consumed	Number of Cases	% Valid Responses
Zero Days	113	35.5
One Day	107	33.6
Two Days	58	18.2
Three Days	18	5.7
Four Days	11	3.5
Five Days	6	1.9
Six Days	2	0.6
Seven Days	3	0.9
<b>Total</b>	<b>318</b>	<b>100%</b>

Table 4.12 shows that nearly two thirds of respondents who filled in the drink consumption diary reported drinking three or more drinks at least once during the week under review.

The number of diary respondents who reported drinking three or more drinks repeatedly during the week diminished as the number of days increased. Few respondents reported consuming three or more drinks daily or almost daily.

The mean number of days per week in which three or more drinks were consumed was 1.18 (s.d.=1.21, n=318 valid responses). This finding suggests that most young people could be at risk of driving with an illegal blood alcohol concentration at least once a week if they choose to drive soon after short drinking sessions.

### **Males and Females Compared for Number of Days that Three or More Drinks Consumed**

Table 4.13 below compares males' and females' results for the number of days per week on which three or more standard drinks were consumed, averaged across respondents.

Table 4.13: Mean Days per Week in Which Three or More Drinks Consumed for Males and Females

	Sex	
	Males	Females
<i>Mean</i>	1.5	0.8
<i>Standard Deviation</i>	1.4	1.0
<i>Number of Cases</i>	165	129

Table 4.13 suggests that, on average, males consumed three drinks or more nearly twice as often as females. A t-test comparing males and females for the average number of days per week for which three or more drinks were consumed was significant ( $t=5.17$ ,  $df=290$ ,  $p=0.000$ ). Therefore it appears that males consume three or more drinks per day significantly more often than do females.

### **Age Groups Compared for Number of Days that Three or More Drinks Consumed**

Table 4.14 below shows the mean number of days per week in which six or more drinks were consumed for each of four age class intervals.

Table 4.14: Frequency of Consumption of Three or More Alcoholic Drinks per Day for Age Class Intervals

Age Class Interval	Mean No. Days	Standard Dev.
16-19 years (n=89)	1.1	1.0
20-25 years (n=139)	1.3	1.4
26-29 years (n=45)	1.1	1.4
30+ years (n=24)	0.7	1.1

Table 4.14 suggests that the over thirty year olds consumed three or more drinks in one day less often than the younger respondents. Respondents under 30 years of age consumed on average three or more drinks per day approximately once per week.

Respondents who were 30 years of age and over consumed three or more drinks per day less than once per week on average.

#### **Number of Days in Week for Which Six or More Drinks Consumed**

Although "binge" drinking may be arbitrarily defined in a number of ways, an alcohol intake of six or more drinks on any day may be considered as a heavy intake. A typical person consuming six drinks over a period of four hours or less could have a blood alcohol concentration exceeding 0.05%. Thus it is possible that drivers consuming six drinks or more could be seriously at risk of being under the influence of alcohol unless the drinking session was protracted, or a long period before driving elapsed, allowing alcohol to dissipate from the blood.

Table 4.15 below records the number of days per week that respondents reported drinking six or more drinks and the number of respondents reporting such intake.

Table 4.15: Frequency of Consumption of Six or More Alcoholic Drinks per Day Over Weekly Period

No. Days in Week That 6 or More Drinks Consumed	Number of Cases	% Valid Responses
Zero Days	165	51.9
One Day	84	26.4
Two Days	36	11.3
Three Days	22	6.9
Four Days	4	1.3
Five Days	4	1.3
Six Days	2	0.6
Seven Days	1	0.3
<b>Total</b>	<b>318</b>	<b>100.0%</b>

Table 4.15 shows that nearly half of respondents who filled in the diary consumed six or more alcoholic drinks at least once over the week under review. More than 10% of these respondents reported drinking six or more drinks per day on at least three occasions. The results suggest that a small but non-trivial proportion of young people regularly consume large quantities of alcohol.

The mean number of days per week for which six or more drinks were consumed was 0.87 (s.d.=1.22, n=318 valid responses). This result suggests that, on average,

respondents with valid responses to the relevant questions consume six or more drinks almost once per week.

### **Males and Females Compared for Number of Days that Six or More Drinks Consumed**

Table 4.16 below compares males' and females' results for the average number of days per week on which six or more standard drinks were consumed.

Table 4.16: Mean Days per Week in Which Six or More Drinks Consumed for Males and Females

	Sex	
	<i>Males</i>	<i>Females</i>
<i>Mean</i>	1.1	0.5
<i>Standard Deviation.</i>	1.3	0.9
<i>Number of Cases</i>	165	129

Table 4.16 suggests that, on average, males consumed six drinks or more approximately twice as often as females. A t-test comparing males and females for the average number of days per week for which six or more drinks were consumed was significant ( $t=4.91$ ,  $df=290$ ,  $p=0.000$ ). The data therefore show that males consume six or more drinks in one day significantly more often than females.

### **Age Groups Compared for Number of Days that Six or More Drinks Consumed**

Table 4.17 below shows the mean number of days per week in which six or more drinks were consumed for each of four age class intervals.

Table 4.17: Frequency of Consumption of Six or More Alcoholic Drinks per Day for Age Class Intervals

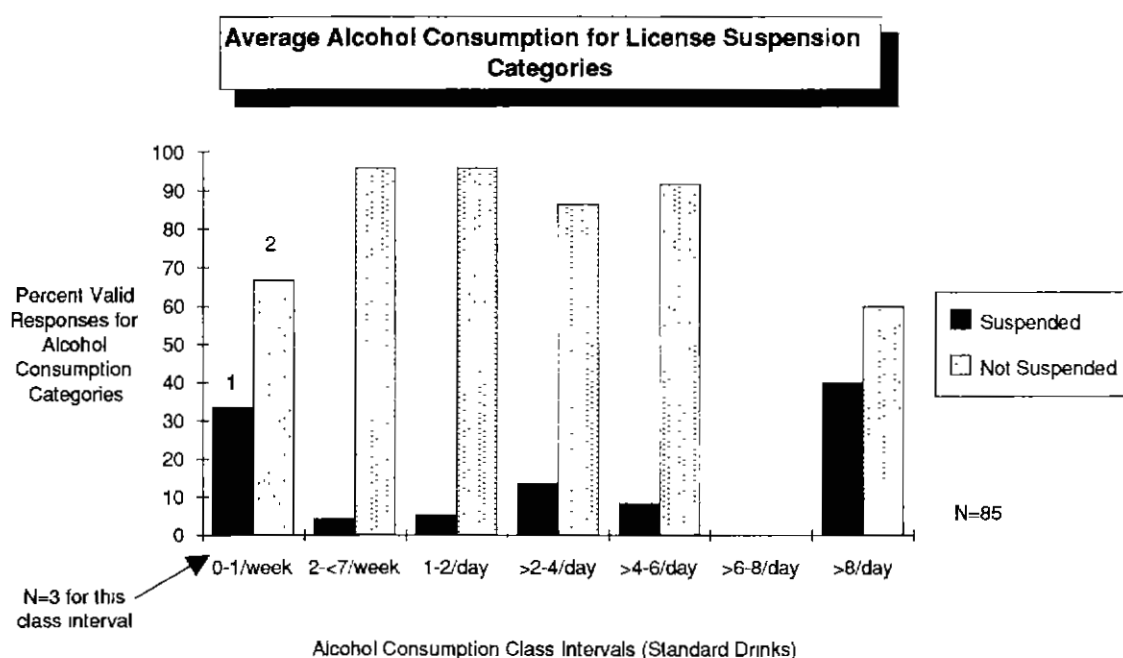
<i>Age Class Interval</i>	<i>Mean No. Days</i>	<i>Standard Dev.</i>
16-19 years (n=89)	0.8	1.0
20-25 years (n=139)	1.0	1.2
26-29 years (n=45)	0.8	1.3
30+ years (n=24)	0.4	0.9

Table 4.17 suggests that the over thirty year olds consumed six or more drinks in one day about half as often as the younger respondents. Respondents under 30 years of age drank at "binge" levels nearly once per week on average.

### Licence Suspension and Alcohol Consumption

Figure 4.9 below compares average alcohol intake for respondents who reported having had their driver's licence suspended for an alcohol related offence with alcohol intake for respondents reporting no such licence suspension.

Figure 4.9



The data for the 0-1 drinks per week class interval may be disregarded as there were only three respondents in this category, as indicated by the labelled arrow on Figure 4.9. For the other categories of alcohol consumption, there appears to be an increased occurrence of licence suspension for risky drinkers (more than 8 drinks per day) compared with lighter drinkers. For example, 40% of risky drinkers reported having had their licence suspended for an alcohol related offence compared with 8.3% of heavy drinkers (more than four to six drinks per day), 13.6% of moderate drinkers (two to four drinks per day), 5.3% of light drinkers (one to two drinks per day) and 4.2% of very light drinkers (two to seven drinks per week).

Despite the apparent trend, the relationship between reported licence suspension and alcohol intake class intervals was not significant ( $\chi^2=8.1$ ,  $df=5$ ,  $p=0.15$ ). Low expected frequencies in many cells compromised the Chi-square statistic for this



analysis. The relatively few non-drinkers and the low number of respondents reporting a licence suspension contributed to this problem.

### Employment, Unemployment and Alcohol Consumption

Figure 4.10 below shows the percentages of employed and unemployed respondents belonging to each of the alcohol consumption class intervals.

Figure 4.10



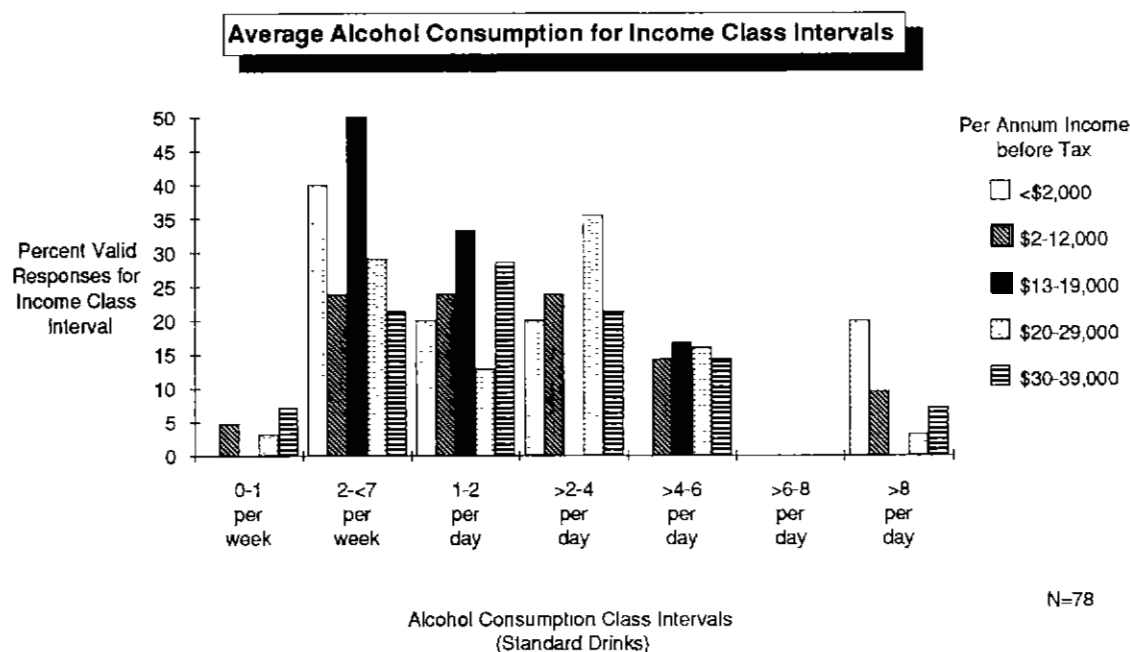
The data in Figure 4.10 for non-drinkers can be disregarded because the non-drinkers' sample consisted of only three respondents. Employed people appear more likely to drink moderately or heavily (>2-6 drinks per day) than unemployed people, and unemployed people appear more likely to drink at light levels than employed people.

Despite the appearance of trends in the data, the relationship between employment status and alcohol consumption class intervals was not significant by the Chi-square statistic ( $\chi^2=3.2$ ,  $df=5$ ,  $p=0.68$ ), the analysis being compromised by a high proportion of cross-tabulation cells with low expected frequencies. Therefore, a statistical relationship between employment status and alcohol consumption class intervals was not found.

## Income and Alcohol Consumption

Figure 4.11 below presents the proportion of respondents in each pre-tax income class interval belonging to a particular alcohol consumption class interval.

Figure 4.11



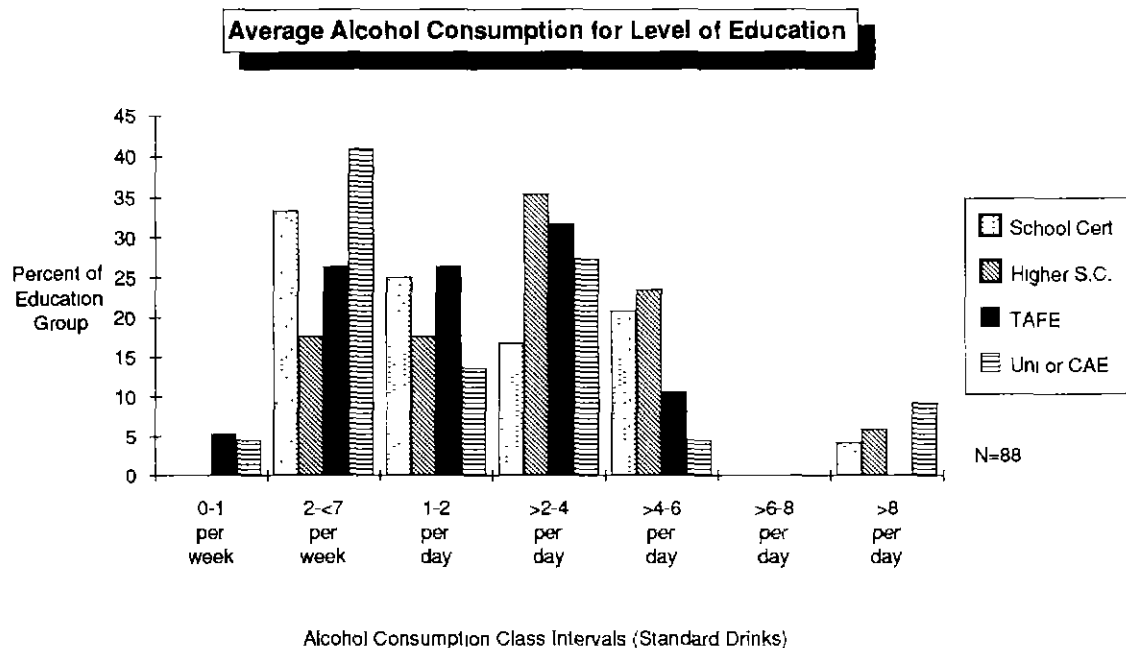
Once again, valid responses were only available for three non-drinkers; the results for this class interval cannot be regarded as representative. Alcohol consumption trends for various income levels are not evident in the graph other than, perhaps, an increased tendency for risky drinking among very low income earners (ie, less than \$2,000 per annum).

The lack of apparent relationship between income class intervals and alcohol consumption is reflected in the non-significant Chi-square for the relationship between these two variables ( $\chi^2=14.3$ ,  $df=25$ ,  $p=0.96$ ).

### Education and Alcohol Consumption

The relationship between alcohol consumption and education level is depicted in Figure 4.12 below. The percentage of respondents for each level of education who belong to a particular alcohol intake class interval is shown.

Figure 4.12



No relationship between education level and alcohol consumption class intervals is apparent in Figure 4.12. This interpretation of the graph is supported by the non-significant Chi-square of 26.6 (df=25,  $p=0.37$ ).

#### 4.2.10 Alcohol Consumption Away From Home

##### Most Recent Occasion When Alcohol Consumed Away From Home

The survey asked respondents to provide statements about the last occasion when they consumed alcohol away from home. Information about respondents' social behaviour, drinking and drink driving habits derived from these statements is provided in the following sections. It must be noted that in the survey, people who claimed that they did not drink were not requested to provide statements about their most recent drinking occasion away from home. Therefore, information about entertainment venues, time spent at the venue and modes of travel to and from the venues refer only to respondents who had already reported that they drink. The relatively high number of

missing data in the following sections probably reflects the lack of responses from non-drinkers.

### **Most Recent Away From Home Drinking Venue**

Respondents noted the type of place at which they last drank alcohol away from home. Table 4.18 below summarises the types of entertainment locations that respondents attended.

Table 4.18: Entertainment Locations Attended When Alcohol Last Consumed Away From Home

Venue	Number of Cases	Percent of Valid Responses
Friend's Place	56	9.8
Party	147	25.7
Disco	162	28.4
Sports Club	25	4.4
RSL Club	20	3.5
Hotel	82	14.4
Other	79	13.8
Not reported	287	
<b>Total</b>	<b>858</b>	<b>100.0%</b>

Parties and discos are the most popular entertainment venues for respondents who are drinkers according to Table 4.18.

### Transport To and From the Venue

Table 4.19 below presents a list of methods of transport followed by the number and proportion of people using that method of transport to travel to and from the entertainment location.

Table 4.19: Methods of Transport To and From Entertainment Venue

Type of Transport	Transport To Venue		Transport From Venue	
	<i>Number:</i>	<i>% of responses</i>	<i>Number:</i>	<i>% of responses</i>
Walked	54	9.5%	55	10.0%
Taxi	69	12.2%	83	15.1%
Bus	5	0.9%	3	0.5%
Train	11	1.9%	4	0.7%
Combined Public Transport	29	5.1%	19	3.5%
Drove Self	154	27.2%	137	25.0%
Friend Drove	224	39.5%	223	40.6%
Other	21	3.7%	25	4.6%
<b>Total</b>	<b>567</b>	<b>100.0%</b>	<b>549</b>	<b>100.0%</b>

From Table 4.19 it appears that private motor vehicle transport is the most popular means of transport to and from entertainment venues. Public transport appears to be less popular as a means of transport from the venue compared with travelling to the venue. Taxis appear to be more popular as a means of travelling from the venue compared with travelling to the venue.

### **Amount Drunk on Last Drinking Occasion Away from Home**

Respondents recorded the number of drinks consumed at the most recently attended away from home drinking venue. Table 4.20 below shows response frequencies for alcohol consumption class intervals.

Table 4.20: Alcohol Consumption When Alcohol Last Consumed Away From Home

Standard Drinks	Number of Cases	Percent of Valid Responses
Zero drinks	55	9.1
1 drink	108	17.9
2 drinks	89	14.7
3 drinks	60	9.9
4 to 6 drinks	133	22.0
More than 6 drinks	159	26.3
<b>Total</b>	<b>604</b>	<b>100.0%</b>

Although non-drinking respondents were not required to describe the most recent venue at which alcohol was consumed, 55 respondents (9.1%) who did describe the venue reported that they did not drink. This figure cannot be accepted as representing the proportion of young people who do not drink when at entertainment venues. It is merely representative of the proportion of alleged non-drinkers who chose to respond to the venue alcohol consumption question on the survey.

The average number of drinks consumed at the venue was 5.3 with a standard deviation of 5.7. The maximum reported alcohol consumption was 27 drinks. The most commonly reported amount was one drink. The median value was three drinks. Table 4.20 shows that many respondents drank in relative moderation. However more than half of the *drinkers* drank three drinks or more, enough to put them over the prescribed blood alcohol limit for motor vehicle drivers with normal licences if they left the venue immediately or soon after consuming their last few drinks.

### **Time Between First and Last Drinks**

Respondents differed greatly in the amount of time they spent drinking. The average time between first and last drinks was three hours. The most common response was for one hour between the first and last drinks. The longest sensible reported time interval was 24 hours between the first and last drinks.

Table 4.21 below shows the distribution of frequencies across class intervals of time between first and last drinks.

**Table 4.21: Time Taken Between First and Last Drinks at Most Recent Away From Home Drinking Venue**

Time Class Interval	Number of Cases	Percent of Valid Responses
Zero to 1 hour	235	39.0
>1 to 2 hours	66	10.9
>2 to 4 hours	159	26.4
>4 to 24 hours	143	23.7
<b>Total</b>	<b>603</b>	<b>100.0%</b>

Table 4.21 suggests that while many drinkers only spend a relatively short time drinking (1 hour or less), a substantial proportion also spend time on protracted drinking sessions. For example, 9.6% of valid responses indicated that the respondent spent five hours between the first and last drinks, and 7.1% spent six hours.

The numbers of respondents drinking for longer than six hours became rapidly smaller, as the number of drinking hours increased. The highest value for a given number of hours being 2.3% who spent seven hours between the first and last drink. Almost all respondents therefore spent six hours or less between their first and last drinks.

### **Time Between Last Drink and Leaving Drinking Venue**

The time between first and last drinks does not indicate whether the respondent drank until the time of departure from the venue or whether a period of non-alcohol consumption occurred prior to leaving the venue. A period without alcohol consumption would permit some reduction in blood alcohol content before the respondent commenced the journey home, possibly at the wheel of a car.

Table 4.22 below records the time spent by respondents between their last drink and leaving the venue.

Table 4.22: Time Taken Between Last Drink and Leaving Most Recent Away From Home Drinking Venue

Time Class Interval	Number of Cases	Percent of Valid Responses
Left Immediately	97	16.1
Up to 1 hour	401	66.4
>1 to 2 hours	55	9.1
>2 to 4 hours	33	5.5
More than 4 hours	18	3.0
<b>Total</b>	<b>604</b>	<b>100.0%</b>

Table 4.22 suggests that most drinkers left their entertainment venue soon after the last drink. Two hundred and ninety-two respondents (48% of valid responses) reported leaving the venue 15 minutes or less after their last drink. It is clear from this data that relatively few young people allow time for alcohol to clear from the blood before departing from the drinking venue.

### **Blood Alcohol Content Upon Leaving Venue**

Because the survey recorded the number of standard drinks consumed, the time period between first and last drinks, and the time period between the last drink and leaving the venue, it was possible to estimate respondents' blood alcohol concentration (BAC) upon leaving the venue. Whether or not a respondent was within the prescribed legal BAC could be ascertained.

Blood alcohol concentration was calculated on the basis that three alcoholic drinks in one hour would raise the drinker's BAC to the prescribed limit for drivers of 0.05%, and that one drink per hour afterwards would maintain the drinker's BAC at its then current level.

The data does not account for females' reduced capacity for alcohol consumption in order to keep within a given BAC compared with males. Nor does the data include the effects of other factors which may affect BAC. The BAC estimates are therefore no more than a rough guide to the legal status for driving of a respondent's BAC. Actual measurements of BAC from people leaving drinking venues would provide a superior measure to the presented values which were derived algorithmically.



Table 4.23 presents the numbers and sample percentages of respondents who were within the legally prescribed BAC limit for drivers, drivers who were just over the limit (BAC =0.05% to less than 0.08%) and drivers who were markedly over the limit (BAC more than or equal to 0.08%).

Table 4.23: Calculated Approximate Blood Alcohol Content at Time of Leaving Drinking Venue

Blood Alcohol Content	Number of Cases	Percent of Valid Responses
Less than 0.05%	444	73.6
0.05% - <0.08%	52	8.6
$\geq 0.08\%$	107	17.7
<b>Total</b>	<b>603</b>	<b>100.0%</b>

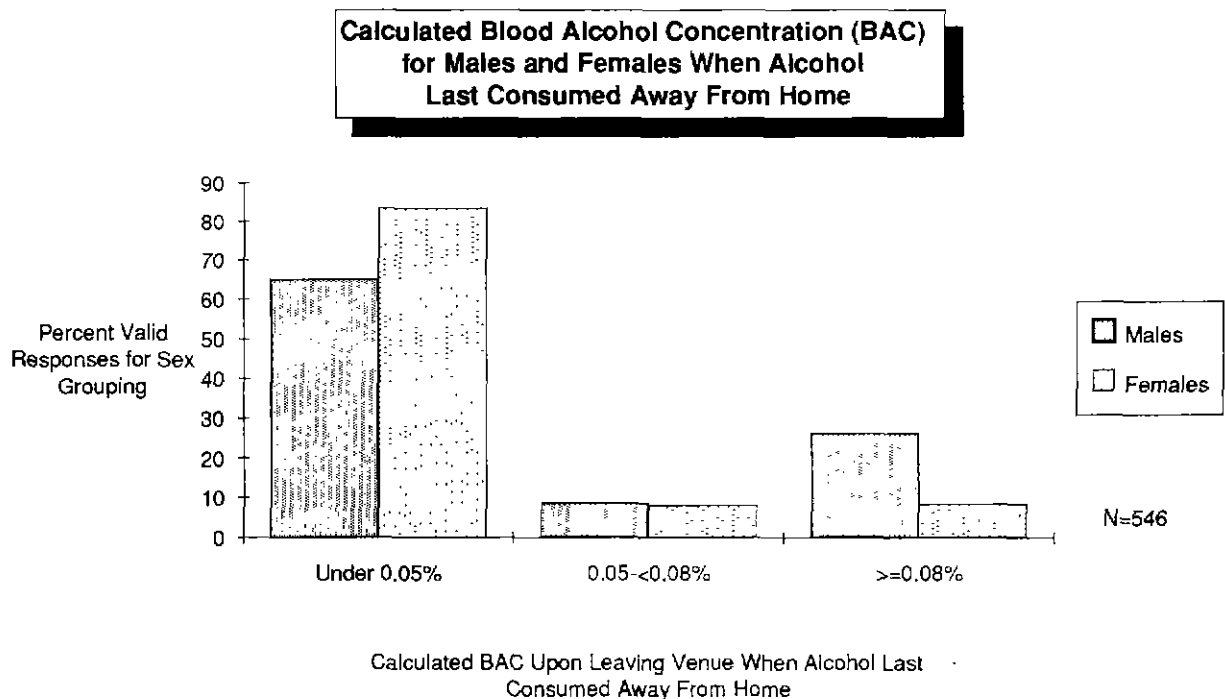
Table 4.23 suggests that the majority of respondents left their drinking venue with less than the prescribed BAC limit for motor vehicle drivers. However over a quarter of the respondents were calculated to be over the legal limit 0.05%. One in six respondents were calculated to be well over the prescribed BAC limit for drivers.

It should also be recognised that many of the 444 respondents whose calculated BAC was less than 0.05% may have had a BAC greater than the permitted BAC for holders of provisional licences in NSW when they departed from their drinking venue.

### Calculated BAC Upon Leaving Entertainment Venue and the Respondents' Sex

Calculated BACs for males and females were compared. The results are shown in Figure 4.13 below.

Figure 4.13



The relationship between respondents' sex and calculated BAC was significant ( $\chi^2 = 30.5$ ,  $df=2$ ,  $p=0.000$ ). Figure 4.13 suggests that females were more likely than males to have a calculated BAC of less than 0.05%. Males and females were equally likely to have a BAC of from 0.05% to 0.08%, while males were more likely than females to have a BAC of 0.08% or higher. Thus, results suggest that males are more likely than females to have a higher BAC than the prescribed limit for driving.

Estimated BAC between males and females was compared using a *t*-test. The result was significant ( $t=4.33$ ,  $df=523$ ,  $p=0.000$ ). Estimated BAC upon leaving the venue for males was equivalent to a consumption of 2.4 standard drinks in quick succession and no delay before leaving. For females, estimated BAC upon leaving the venue was equivalent to 0.2 standard drinks consumed with no delay before leaving. Although the absolute accuracy of these estimates may be questionable, this data, based as it is on reported drink consumption and time periods, suggests that males who consumed alcohol left the drinking venue with much higher BAC than females who consumed

alcohol. The average calculated BAC for males was ten times higher than the value for females.

### **Comparison of Calculated Blood Alcohol Content (BAC) and Respondent's Beliefs About BAC Legal Status**

Given that 25% of respondents were calculated to have more than the prescribed BAC upon leaving the entertainment venue, it is worthwhile to verify if respondents knew their BAC legal status.

The survey asked respondents to record whether they thought that their BAC was over or under the prescribed limit for driving when they left the drinking venue. Two hundred and sixty nine respondents (50.6%) reported thinking that they were under the limit and 263 (49.4%) thought that they were over the prescribed limit.

Table 4.24 below shows a cross-tabulation of calculated BAC and respondents' opinions regarding the legal status of their BAC. Again, these data ignore the BAC legal status of provisional licences and drivers on a learner's permit.

Table 4.24: Comparison of Calculated and Respondents' Estimated BAC Legal Status Upon Leaving Drinking Venue

Calculated BAC	Believed Under BAC Limit		Believed Over BAC Limit	
	<i>Number: Column %age</i>		<i>Number: Column %age</i>	
<0.05%	237	88.4%	146	55.5%
0.05-<0.08%	14	5.2%	34	12.9%
>=0.08%	17	6.3%	83	31.6%
<b>Total</b>	<b>268</b>	<b>100%</b>	<b>263</b>	<b>100.0%</b>

Just over 11% of respondents whose calculated BAC was higher than 0.05% thought that their BAC was within the legal limit for driving. More than half of respondents who believed that they were over the legal BAC were not.

Approximately 30% of respondents judged their BAC legal status incorrectly. However, they usually erred on the side of caution (regardless of the respondent's subsequent behaviour, ie, whether or not he or she drove a car after leaving the venue): 27.5% of the total sample of valid responses thought they were over the legal BAC limit when they were not, and only 5.8% of the total sample of valid responses thought

that they were under the legal BAC limit when they were calculated to have exceeded it.

### Blood Alcohol Content for Attendees of Different Entertainment Venues

It is worthwhile to examine whether people who attended different types of entertainment venues were more or less likely to have higher calculated blood alcohol contents than the legal limit for driving.

Figure 4.14 below shows a breakdown of calculated blood alcohol levels for the different types of entertainment venues which respondents reported attending when alcohol was last consumed away from home.

Figure 4.14

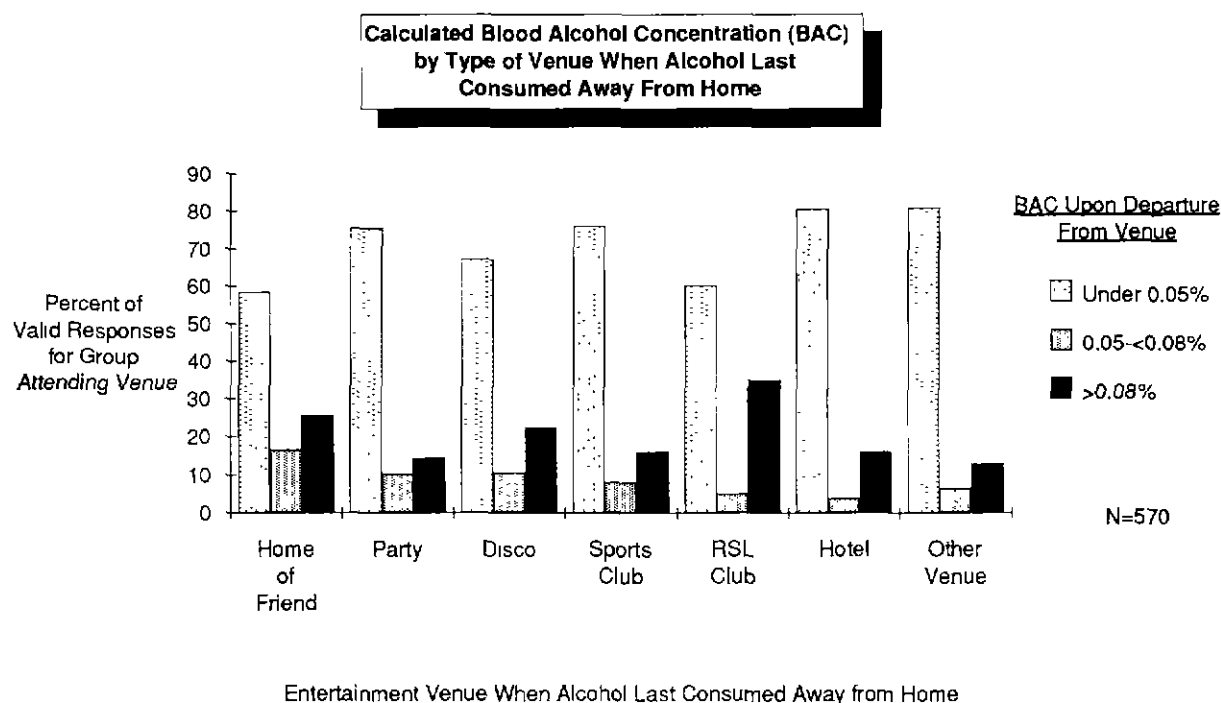


Figure 4.14 suggests that respondents were more likely to have a blood alcohol concentration of 0.05% or over if they drank at a friend's place rather than at other venues, and were more likely to have a BAC higher than 0.08% if they had been at an RSL club, compared with other venues. Figure 4.14 also suggests that respondents were less likely to have a higher BAC than the legal limit for driving if they had been to a hotel.

Despite these apparent trends in the data, the relationship between calculated BAC and the respondent's entertainment venue was not significant ( $\chi^2=20.6$ ,  $df=12$ ,  $p=0.055$ ).

Therefore a respondent's calculated BAC cannot be predicted from the type of venue attended. It appears that people who attend particular types of entertainment venues are equally likely to be over the legal BAC limit for driving.

The veracity of this conclusion is limited by the lack of non-drinkers who provided information about the venue they attended. It is possible that non-drinkers attend particular types of entertainment venue in greater numbers than for other types of venue, and this of course would reduce the proportion of people leaving that type of venue with an illegal BAC for driving compared with other types of venue. In further research, non-drinkers should be encouraged to describe their places of entertainment so their preferences may be compared with those of drinkers.

### BAC Related to Time Between Last Drink and Leaving Venue

Figure 4.15 below shows calculated BAC broken down by class intervals for the length of time respondents reported spending between their last drink and leaving the entertainment venue.

Figure 4.15

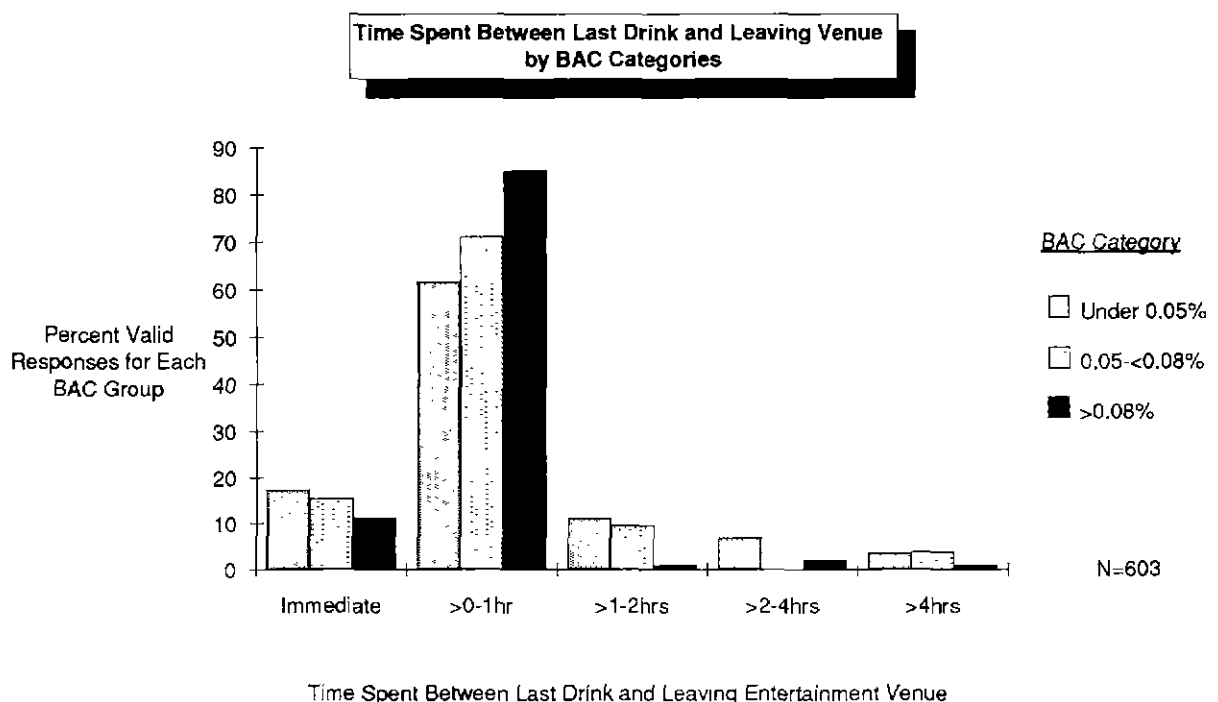


Figure 4.15 emphasises the strong tendency for respondents to spend one hour or less at the venue after their last drink. This overall finding was examined in detail in Table 4.22 on page 62.

The relationship between calculated BAC and the amount of time spent at the venue after consuming the final drink was significant ( $\chi^2=27.8$ ,  $df=8$ ,  $p=0.0005$ ). However, four of the fifteen cells in the cross-tabulation had expected frequencies of less than five, casting some doubt on the veracity of this finding.

At a descriptive level of analysis, Figure 4.15 suggests that respondents with a low calculated BAC were more likely to leave the venue immediately than respondents with a high calculated BAC. An apparently stronger trend appeared for respondents who did not leave the venue immediately but did leave up to one hour after consuming their last drink. Respondents with BACs of 0.08% or higher appear to be over represented in this group.

The observed frequency of respondents with a calculated BAC of 0.08% or higher, and who left the venue up to one hour after their last drink, was 28% higher than the frequency expected if BAC and the time between the last drink and leaving were unrelated. The actual number of respondents with BACs of 0.08% or more and who remained at the venue for longer than one hour was lower than the expected number of such respondents if calculated BAC and the time between the last drink and leaving were unrelated. This result suggests that respondents with a high BAC upon leaving the venue tended not to stay for a long period after their last drink. Twenty-two percent of respondents who did not leave the venue immediately but stayed up to an hour had a calculated BAC of 0.08% or more. Yet respondents with BAC of 0.08% or more comprised only 17.7% of the sample of valid responses. It appears that the time spent at a drinking venue following the last drink contributes to a person's BAC when they leave, probably in addition to other factors such as the amount of alcohol consumed.

## Occurrence of Driving With a Higher Than Legal BAC

The next analysis compared the mode of transport away from the entertainment venue for respondents with different BAC legal status. Of particular interest was the proportion of respondents with an illegal calculated BAC for drivers who nevertheless drove themselves away from the venue. This proportion is presented in Figure 4.16 below, which shows a breakdown of calculated BAC by method of transport away from the venue.

Figure 4.16

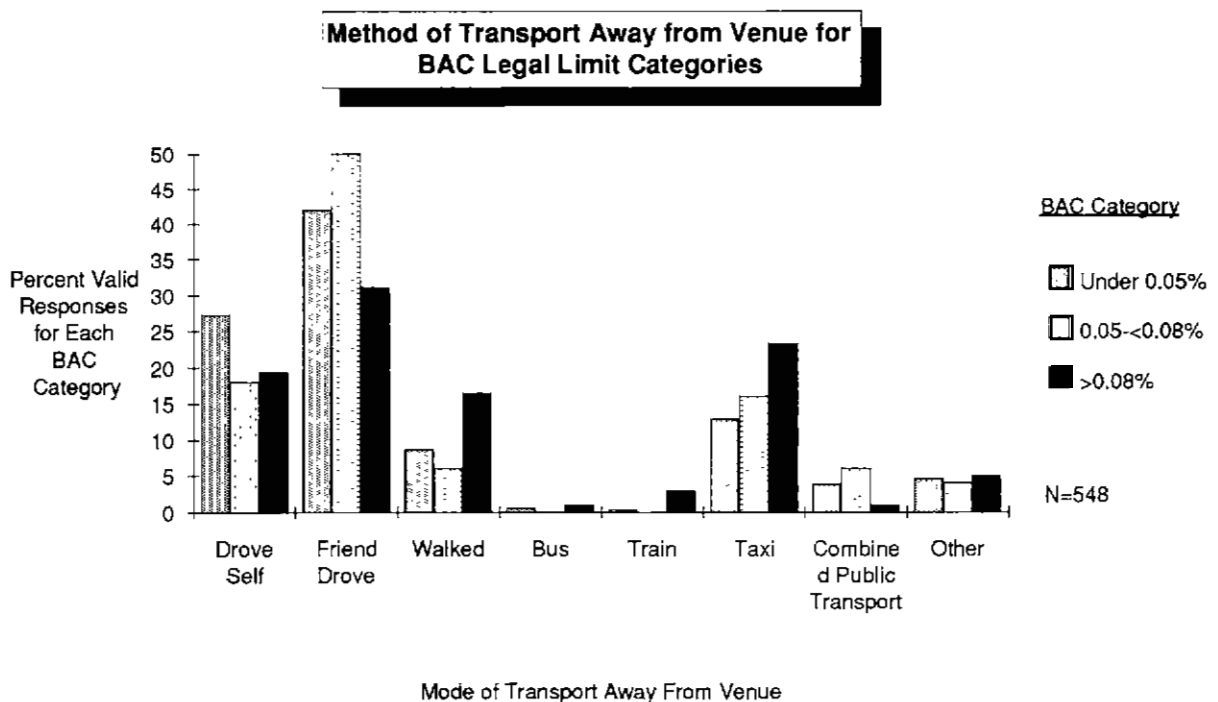


Figure 4.16 shows that a small but arguably important proportion of respondents with a calculated BAC exceeding the legal driving limit drove themselves. Eighteen percent of respondents with a calculated BAC of between 0.05% and 0.08% drove themselves. Just over 19% of respondents with a calculated BAC of more than 0.08% reported that they drove themselves. Just over 81% of respondents with a calculated BAC exceeding 0.05% were driven by a friend. The relative lack of use of buses and trains for travel away from the venue revealed in Table 4.19 on page 59 is also evident in Figure 4.16. Taxis were the most popular method of public transport, being used by nearly 40% of respondents with a calculated BAC of more than 0.05%.

The relationship between calculated BAC level and transport mode away from the entertainment venue was significant ( $\chi^2=30.5$ ,  $df=14$ ,  $p=0.007$ ). Examination of the

residuals from the cross-tabulation of calculated BAC and method of transport showed that respondents with a calculated BAC higher than 0.05% were about 25% less likely to drive themselves home than if BAC and transport mode from the venue were statistically unrelated. The data suggest that there is some disinclination to drive a car if one's calculated blood alcohol concentration is over the legal driving limit. However this conclusion can only be tentative as there could be factors influencing a person's decision to drive themselves other than BAC which might be coincidentally associated with BAC. Reorganising the data relating calculated BAC and transport mode away from the venue allows us to examine the percentages of respondents who had varying BAC levels and who were using a given method of transport home. The results of this reorganisation are presented below in Figure 4.17.

Figure 4.17

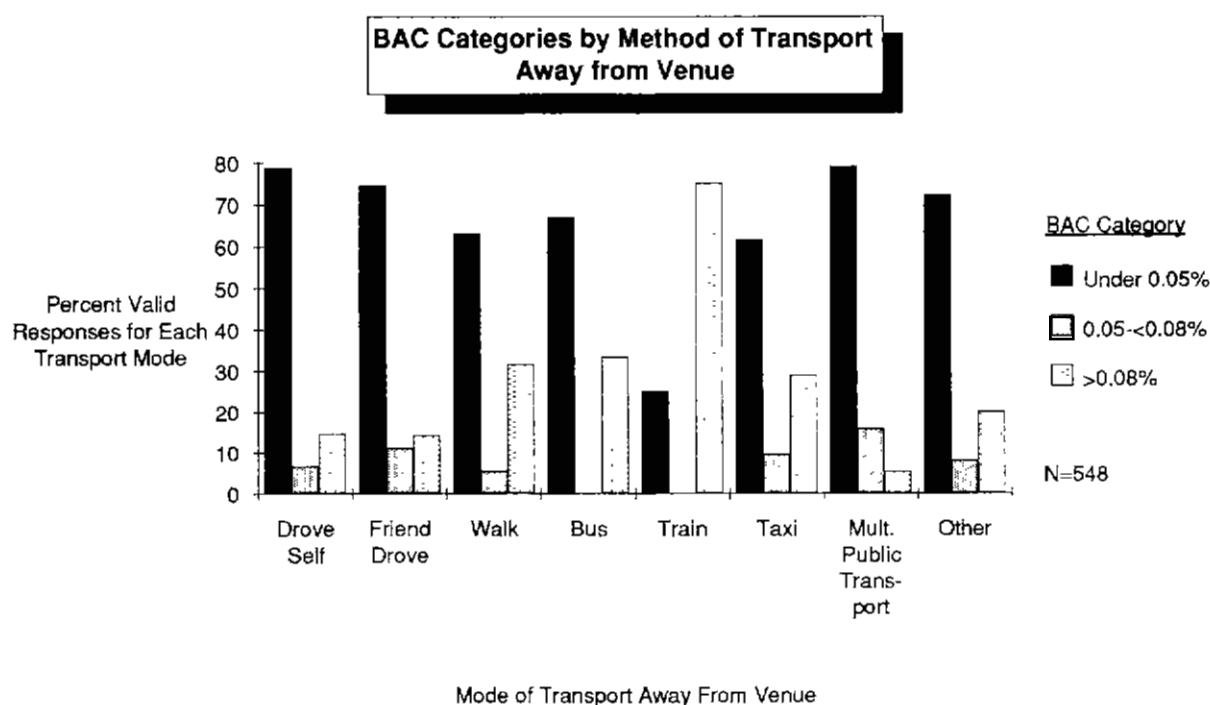


Figure 4.17 shows that 78% of respondents who reported driving themselves home had a calculated BAC of less than 0.05%. Of those travelling by taxi, 38.5% had a calculated BAC of 0.05% or more. In general, Figure 4.17 shows that, whilst the majority of travellers for each transport mode had a calculated BAC of less than 0.05%, the proportions of respondents with calculated BACs of 0.05% or more varied considerably for different transport modes.



The relatively high proportions of bus or train travellers with a calculated BAC of 0.05% or more suggests that this transport mode is popular with respondents having elevated BACs. However the small numbers of bus and train travellers in the sample of valid responses (three and four respectively) render this conclusion unreliable. The proportions of respondents with a calculated BAC of 0.05% or over and who drove themselves home were roughly the same as for those with a BAC of 0.05% or more and who were driven by a friend (20%-25% approximately). This finding suggests that car occupants with elevated BACs are just as likely to be the driver as a passenger.

### Calculated BAC and Licence Suspension

Categories of BAC legal status for driving were broken down according to whether the respondent reported a licence suspension for an alcohol related offence or not. The data from this analysis are presented in Figure 4.18 below.

Figure 4.18

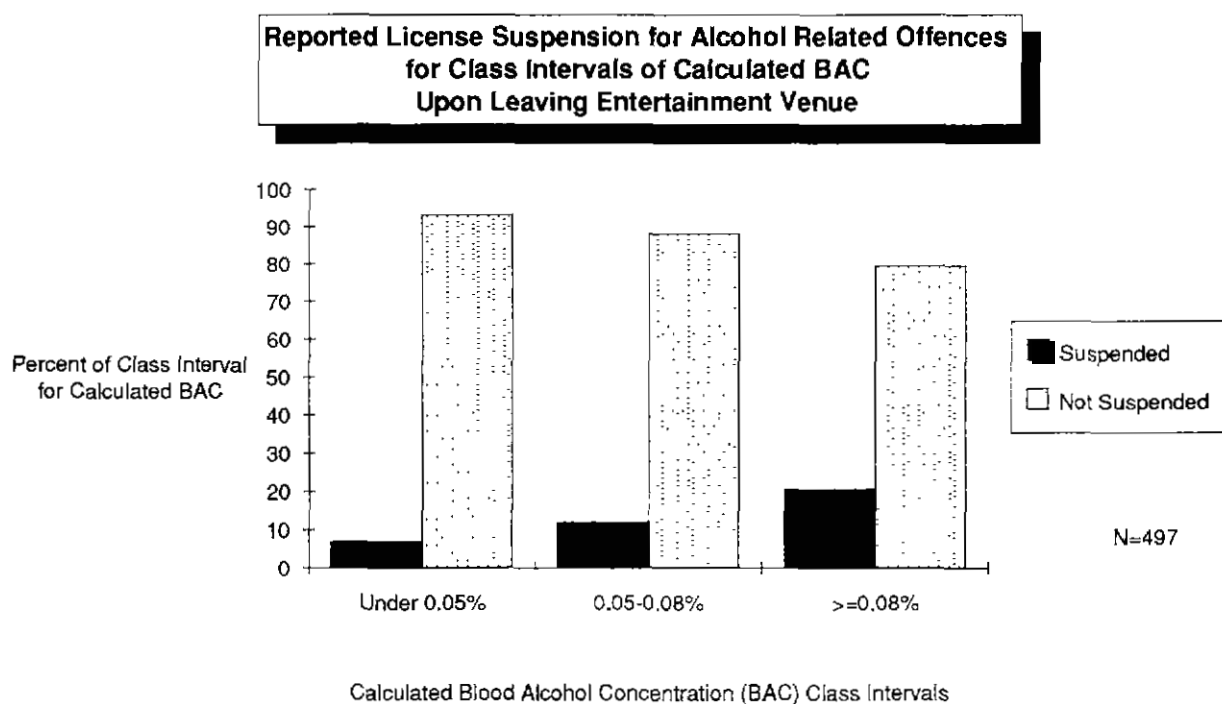


Figure 4.18 suggests that as calculated BAC increased, respondents were more likely to report having had their licence suspended for an alcohol related offence. It may be that respondents who left the venue with higher than legal BAC were more likely to have a history of licence suspension than respondents with a less than the maximum permitted BAC.

The relationship between calculated BAC legal status and reported licence suspension was significant ( $\chi^2=15.4$ ,  $df=2$ ,  $p=0.0005$ ), supporting the view that elevated BAC upon leaving the entertainment venue was associated with a history of licence suspension for an alcohol related offence.

#### **Non-Significant Relationships with BAC Upon Leaving the Entertainment Venue**

Relationships between various respondent variables and calculated BAC upon leaving the entertainment venue were examined. The relationship between BAC and class intervals for the respondents' ages was non-significant ( $\chi^2=14.8$ ,  $df=8$ ,  $p=0.06$ ).

Other non-significant relationships were found for BAC and class intervals for the number of years of licence possession ( $\chi^2=8.80$ ,  $df=10$ ,  $p=0.55$ ); class intervals for years of driving experience ( $\chi^2=6.68$ ,  $df=10$ ,  $p=0.75$ ); class intervals for the number of kilometres driven per week ( $\chi^2=8.86$ ,  $df=10$ ,  $p=0.55$ ); employment status ( $\chi^2=0.86$ ,  $df=2$ ,  $p=0.65$ ); income class intervals ( $\chi^2=17.7$ ,  $df=12$ ,  $p=0.13$ ); education ( $\chi^2=17.6$ ,  $df=10$ ,  $p=0.06$ ); the type of transport to the entertainment venue ( $\chi^2=17.75$ ,  $df=14$ ,  $p=0.21$ ); and class intervals for the time taken between the first and last drinks at the entertainment venue ( $\chi^2=12.23$ ,  $df=6$ ,  $p=0.06$ ).

### **4.3 Risk Taking Behaviours and Attitudes**

#### **Do Respondents Regard Themselves As Risk Takers?**

About one in five respondents (22%) regarded themselves as risk takers. Almost twice as many men (29%) as women (16%) agreed or strongly agreed that they were risk takers. Younger respondents were more likely to strongly agree that they were risk takers than older respondents, with 26% of the 16-19 year olds agreeing compared to 11% of the 26-29 year olds. Drivers with one year's experience or less were most likely to refer to themselves as risk takers (26%), with the frequency of this response decreasing with years of driving experience.

Respondents who did not describe themselves as risk takers were less likely than risk takers to agree that they would drive if they were a bit over the legal alcohol limit. Specifically, they did not believe that they were capable of driving when they suspected that they were a bit over the limit, even if they drove home along the backstreets, regardless of whether there was someone in the car to help them; whether they drove slowly and carefully; and regardless of whether they were feeling sober enough to drive.

Non risk takers were less likely than risk takers to agree that drink driving risks are acceptable behaviour. Non risk takers tended to disagree that they preferred to enjoy drinking and not think about driving home until the time came, and to disagree that when they go out to drink, they find it more convenient to drive themselves to and from the venue.

Respondents who regarded themselves as risk takers may have been indicating that the idea of risk taking itself was appealing as much as indicating that they really do take risks. That is, respondents may like to refer to themselves as risk takers, even though in practice they may not take risks. Regardless of whether respondents who described themselves as risk takers actually are risk takers, labelling themselves in this way may influence their behaviour, particularly in the case of adolescents subjected to strong peer pressure.

Advertisements could be designed to convey convincing messages that taking driving risks "to impress your mates" is low status behaviour; and advertisements which highlight the high status of skilful driving may assist in altering drivers' attitudes to risk taking. Well known racing car drivers, who are often idolised by adolescents, could appear in advertisements to emphasise that risky driving is not skilled driving. This is one way to convey the message that risky driving is held in low regard.

Kilometres driven per week was not associated with risk. However, quite a high proportion of risk takers drove many kilometres per week.

Interestingly, 49% of those with a previous licence suspension strongly agreed, or agreed that they were risk takers, in contrast to 18% of the other respondents who reported that they had not been suspended. It appears that risk takers' behaviour resists change, and perhaps this finding supports the case for a zero BAC to be adopted for offenders, and possibly that repeated offenders be banned from driving altogether.

Advertisements which emphasise the skill and professionalism of being able to drive long distances carefully and maintaining a high level of concentration and control, as professional car drivers do, may be effective in changing driving behaviour and attitudes.

### **Do Respondents Take More Risks on the Road When They Drive With Friends?**

Many respondents (29%) agreed that they take more risks on the road when driving with friends. Twice as many males strongly agreed they take more driving risks when with friends (16%) compared with females (8%). Forty percent of the younger respondents aged 16-19 years strongly agreed with this statement, compared to 26% of

the 20-25 year olds. Forty percent of those who had less than one year's driving experience were likely to take risks when driving with their friends, but as driving experience increased to more than five years, the likelihood of taking risks decreased.

Drivers reporting licence suspension on account of drink driving were also more likely to take risks on the road when driving with friends than drivers without such a history. Approximately half of the sample (52%) who identified themselves as being in the highest income group, and 42% of those in the lowest income group indicated that they took risks when driving with friends. This example of "showing off" behaviour, which displays lack of concern for others on the road, may be related to low self esteem or to an egocentric orientation.

#### **4.3.1 Defying Authority**

About one in six respondents (16%) agreed that they enjoy defying authority. Twice as many males strongly agreed (20%) compared to females (10%). As age increased, the likelihood of enjoying defying authority decreased. Twenty-one percent of those in the 16-19 year old age group strongly agreed, or agreed most often with this statement compared to 14% of the 20-25 year olds and 10% of the 26 year olds. Twenty-four percent of respondents with less than one year's driving experience were likely to report defying authority, followed by 18% of those with one year's experience. This response was less likely as driving experience increased, with only 9-10% of drivers with five or more years experience agreeing that they enjoy defying authority.

#### **4.3.2 Possibility of Being Random Breath Tested**

The majority of respondents, 58%, agreed that there was a strong possibility they would be random breath tested in the next month.

#### **4.3.3 Acceptability of Taking Drink Driving Risks**

Only 18% of the sample group believed that drink driving risks are classified as acceptable behaviour.

#### **4.3.4 Driving While Over the Legal BAC**

A significant relationship was found between those respondents who considered themselves to be risk takers and those who believed it was safe to drive when they are

a bit over the legal BAC if there is someone in the car to help them ( $\chi^2=59.43$ ,  $df=3$ ,  $p<0.0000$ ). A large percentage of respondents thought that there is either no risk of being caught (13%) or a slim risk of being caught (18%) by police when driving with over the legal BAC. The most common response was that there is a 50-50 risk of being caught, with 39% of the people in the sample responding in this way. The remaining responses totalled 30% and most of these thought there was a likely risk of being caught (18%), with only 12% of the sample believing that there was an extremely high risk of being caught by the police.

It is important to introduce strategies which increase the probability of risk takers being caught if they do drink and drive, whilst working at altering people's perceptions about the likelihood of being caught by the police. Deterrents such as more police patrols and harsher penalties only seem to be having an effect on the small percentage of people who think they will get caught, and it is therefore important to use educational measures to change people's attitudes towards drink driving and to focus on individuals internalising particular beliefs and values which will prevent drink driving behaviour.

In the current study there was a strong relationship between believing that it is safe to drive when a bit over the legal BAC limit and estimating the risk of having an accident as "no risk" or "slim risk" ( $\chi^2=64.38$ ,  $df=4$ ,  $p<0.0000$ ). The data suggest that those who considered it safe to drive when over the legal BAC believed the risk of having an accident to be less than did those who did not consider it safe to drive when over the legal BAC.

#### **4.3.5 Estimated Risk of Having an Accident When Driving Whilst Over the Legal BAC**

The percentage of respondents who perceived a likely or extremely likely risk of having an accident was 35% and this was slightly higher than the perceived risk of being caught by the police (30%). The responses to this question also revealed that there were slightly more people who thought there was either no risk (14%), or a slim risk of having an accident (19%), than the risk of being caught by the police. The most popular response was that the risk of having an accident was 50-50, with 31% of the sample answering in this way. It may be more successful to introduce strategies which would increase people's perceptions of the likelihood of having an accident whilst drink driving than to change their perceptions of the likelihood of being caught by the police.

These findings indicated that the respondents believed there was a slightly greater risk of being caught by the police than of having an accident whilst driving when over the legal alcohol limit. This result may support the case for higher visibility of police on the roads and it also provides indicators for the development of highly specific public awareness campaigns, eg, advertising and educational programs targeted specifically at youth and graphically portraying the outcomes of drink driving, such as death and disability.

Almost twice as many men stated that the risk of having an accident if they drove while a bit over the legal alcohol limit was zero or slim (41%) compared to women (23%). This result suggests that an educational campaign targeting men is probably needed to increase their awareness of the increased accident risk when driving whilst over the legal alcohol limit.

The percentage of the age groups who perceived no risk of having an accident when driving while a bit over the legal alcohol limit increased with increasing age. In the 16-19 year age group, 10% thought there was no risk of having an accident. In the 20-25 years group 13% reported no risk, and in the 26-29 year group this percentage was higher still at 18%. It was found that the older respondents do not take as many risks as the younger respondents, and this finding may explain why a higher percentage of the older respondents thought there was no risk of having an accident when driving over the legal BAC limit. The perception of slim risk of having an accident also increased with age when comparing the 16-19 year group (20%) with the 20-25 year group (26%). However the percentage then decreased to 13% for the 26-29 year age group. These findings may reflect the greater confidence in driving ability gained with age, or lack of experience or information amongst many young respondents about the increased risks of driving whilst over the legal alcohol limit.

There was not a consistent relationship found between the number of kilometres driven each week and the respondents perception of risk of having an accident. The same percentage of respondents, (14%) who don't drive and those who do drive over 500 kms per week, reported they perceived no risk of having an accident. Many people (53%) who drove 300-399 kms per week perceived there was no risk or a slim risk of having an accident whilst driving over the legal BAC. Perhaps there is a need to publicise the large number of people who do drive whilst over the legal BAC to convince drivers they need to drive very carefully and defensively.

A difference was found when comparing the risk perceptions of those who had been suspended as the result of an alcohol related offence with those not reporting a licence suspension. Those who had been suspended were more likely to think there was no

risk (23%), or a slim risk (30%) of having an accident compared to the rest of the sample group - 11% of whom perceived no risk, and 20% perceived a slim risk of having an accident.

The western Sydney Leagues Club group more frequently reported that they perceived there was no risk or a slim risk of having an accident (39%) compared to the rest of the sample (32%). The perception of the risk of having an accident tended to decrease with education higher than Year 10, with the highest frequencies in the "no risk" and "slim risk" categories occurring for respondents with the highest and at the lowest levels of education. These two groups contained greater percentages of risk takers than the other education categories. Respondent's perception of the risk of having an accident decreased as income increased. Campaigns and other countermeasures will therefore need to target those with higher incomes and those who have achieved high educational qualifications. Previous drink driving offenders also deserve particular attention to modify their attitudes and behaviours.

#### **4.3.6 Concern About Dependency for Transport On a Driver With Excessive BAC**

A significant gender difference was found in response to this question. More women strongly agreed they would be worried (66%) than men (55%) if they were dependent on a lift from someone drinking over the legal BAC. One explanation to partially account for this gender difference is that women are more likely to be driven to and from entertainment venues by men. The percentage of those who strongly agreed they would be worried increased with age. Twenty-five percent of those under 16 years reported they would be worried and this percentage increased to 75% of those over 30 years old. This finding may be due to differences in the amount of driving experience the older age group have had, or because people's perception of the dangers of drink driving increases after adolescence. Fewer of the unemployed agreed or strongly agreed that they would be worried to travel with a drink driver than the employed group. Those with alcohol related licence suspensions agreed or strongly agreed they would be worried less frequently than those without suspensions.

It is therefore important to target young people, particularly men, to increase their perception of the danger in accepting a lift from a driver over the legal BAC limit. The unemployed and those with previous drink driving suspensions could also be targeted.

#### 4.3.7 Respondents Who Often Take Risks While Driving

Approximately one in six respondents (16%) reported that they often take risks while driving. A significant gender difference was found. Three times as many men (25%) as women (8%) reported that they often take risks ( $\chi^2=35.94$ ,  $df=1$ ,  $p<0.0000$ ). Risk taking whilst driving was also found to be associated with the age of the respondent ( $\chi^2=14.74$ ,  $df=4$ ,  $p=0.005$ ). Respondents aged 16-19 years most often reported that they took risks (40%) and this decreased to 9% for the older age groups (26 years and above).

The relationship between the number of kilometres driven per week and reporting taking driving risks was not clear. Those who drove 300-399 kms per week, and those who drove over 500 kms per week most frequently reported that they often take driving risks (24% and 22% respectively), whereas reported risk taking while driving ranged between 9% and 17% for the other class intervals of driving distance. Respondents in the two highest income groups reported they took risks more frequently (30% and 26%) than respondents with lower incomes.

A similar pattern in reported risk taking for income groups was found in relation to levels of education. The overall relationship between educational attainment and reported risk taking was significant ( $\chi^2=18.74$ ,  $df=5$ ,  $p=0.002$ ). Risk taking was highest for the primary (50%), university (20%) and Year 12 (19%) education categories. However, there were too few respondents in the primary education group to draw conclusions about the relationship between reported risk taking and education level with confidence.

About three times as many respondents who had been convicted of a drink driving offence and who had their licence suspended reported taking risks (41%) compared with respondents without a licence suspension (14%) ( $\chi^2=22.40$ ,  $df=1$ ,  $p<0.0000$ ). This result suggests that conviction for drink driving does not reduce risk taking.

In summary, education and anti-drink driving campaigns will need to focus attention on those in the highest and lowest income groups, those with the highest and lowest levels of education, people who drive more than 300 kms per week, and those who have been convicted of drink driving in the past.



#### **4.3.8 Perception of Self as a Careful Driver**

Interestingly, almost all (93%) respondents considered themselves to be careful drivers. A significant gender difference was found. More women than men considered themselves to be careful drivers ( $\chi^2=8.28$ ,  $df=1$ ,  $p=0.004$ ). Drivers who had held a licence less than a year more frequently reported themselves as careful drivers. This is an interesting finding given that this group were also high risk takers. However, this result might suggest that their perception of careful driving varies greatly with others' perceptions of careful driving. It could also indicate that they are defining careful driving on the basis of their egocentric perceptions, whereas careful driving includes a greater awareness of other drivers' behaviour as well as one's own. Young, inexperienced drivers may consider that they are taking care by assessing whether they or their car can perform well enough to drive safely, whereas to appropriately assess the overall risk, consideration also needs to be given to factors other than personal driving competence, eg, road and weather conditions, and the time of day.

Overall, the relationship between years of experience and respondents' consideration of themselves as careful driver was significant ( $\chi^2=14.40$ ,  $df=5$ ,  $p=0.01$ ). The percentage of respondents who considered themselves to be careful drivers increased with increasing years of driving experience, rising to 99% for the most experienced drivers. Respondents with 2-3 years driving experience were the exception to the trend, apparently being the least careful group, with only 87% reporting being careful drivers.

The highest income group also reported the lowest percentage of careful drivers (87%). High income earners may take less care with their driving because they can afford to pay for the possible consequences of driving carelessly such as speeding fines, or car repair expenses. Once again, because perceptions of careful driving differ greatly between respondents, it would be helpful to ask people to define careful driving or to provide respondents with a definition of careful driving to ensure the responses can be interpreted appropriately.

#### **4.3.9 Smoking and Drug-taking**

According to Franzkowiak (1987) and Johnston (1986), risk takers are more likely to smoke tobacco, marijuana or take illegal drugs than non risk takers. Quite a high proportion of respondents engaged in these behaviours; 42% reported they currently

smoke cigarettes; 45% have used marijuana or illegal drugs and 26% reported they are currently using illegal drugs.

#### **4.4 Role Modelling**

Compelling forces often exert pressure on adolescents, influencing their behaviour in social situations. Two major competing influences are those of the family and the attitudes and behaviour of peers. A typical example is seen in this extract from one of the field interviews.

*Interviewer:* What do you think influenced your behaviour to drink drive?

*Respondent:* Oh, there's a lot of people who do it and never get busted and you think oh well, if they can do it and not get busted so can I...

*Interviewer:* What about your parents - do they play an active role in teaching you not to drink and drive?

*Respondent:* Yeah, ... Mum and Dad are both dead set against it, even the old man.

Eighty-seven percent of our respondents believed that they had a good, open relationship with their parents and that their parents would be concerned if they knew that their son or daughter was "a bit over the legal limit and then drove a vehicle home". For more than one eighth of the sample, parental concern was not evident in their family situation. They disagreed (n=111) that they had a good, open relationship with their parents. One tenth of the respondents indicated that their parents wouldn't be concerned about drink driving behaviour. One interpretation of the finding is that youth who are without parental support or guidance may be more vulnerable to taking increased risks, such as over the limit drink driving, when a caring network of friends or family is not present.

Sixteen percent of the sample reported that they knew that their "parents drink and drive". Whilst this group represented only a small proportion of the total sample, it must be recognised that youth who are coping with the demands of adolescence may be influenced by the behaviour of significant others. Parents who portray themselves on the one hand as authority figures or role models, and then break the law, could create uncertainty, confusion and doubt in their adolescent children concerning the need for responsible behaviour on the roads.

This situation may lead to irresponsible or occasional frivolous behaviour or the development of anti-social attitudes, such as youth believing that they, like their parents, can get away with breaking the law. The 34% of our respondents (n=283) who agreed or strongly agreed that they are "capable of driving when a bit over the legal alcohol limit if they drive slowly and carefully and the 21% who indicated that they "will drive home along the back streets if they suspect they are over the legal limit" may be demonstrating this undesirable behaviour.

Almost one third of the respondents disagreed that their "friends would find other transport home rather than drink and drive over the legal limit". One explanation for this response is that their experience with their friends at social or entertainment venues suggests that their friends have in the past taken the risk and driven when they were over the legal limit. Lack of public transport when and where adolescents need it may underlie this problem, as was discussed in earlier results. (See page 25.)

A part of the Australian culture is the intense dislike of "dobbers". Similarly, many believe that having "a few drinks at a barbie" and "one for the road" goes with mateship such as that which occurs at many Rugby Union, Rugby League and other sporting and family events each weekend.

It was surprising to find that 51% of the sample (n=406) indicated that the behaviour of drink drivers who are over the legal alcohol limit was "normal to careless" behaviour, whilst only 49% of the sample reported this type of behaviour as "criminal". Drink driving appears to have become acceptable within the Australian cultural context. When interpreting this finding, one must question whether it is caused by the respondent's lack knowledge about drinking driving or whether their acceptance of drink driving is solely a cultural phenomenon.

Twenty-three percent of the sample indicated that they would "rather enjoy drinking and not think about driving home until the time comes". Attitudes such as this may lead to increased risk taking, as they indicate irresponsibility concerning the planning of safe transport from social or entertainment venues. Therefore, intrinsic motivation to refrain from drink driving remains an important factor in ensuring that one's self, one's friends and family will travel safely following social get togethers, particularly at night and at weekends, when it appears that the propensity for youth to take risks such as drink driving is increased.

#### **4.5 Countermeasures for Drink Driving**

A majority of respondents in our study believed that increasing the legal driving age to 21 years would not reduce the road accidents related to being over the legal BAC limit. One explanation supporting this opinion is that respondents rely on their car for transport - some said they would continue driving whether or not they were permitted to do so. It is an essential means of transport for their job and for transporting family members such as children and aging parents. (See Section 4.1.)

Six hundred and three respondents agreed or strongly agreed that "cars should be required to have more built-in safety devices to prevent or reduce injury". One interpretation of this finding is that the community thinks that the Government should take a major and more dominant legislative role by requiring safety standards such as air bags, and ignition devices that prohibit over the limit BAC drivers from starting their motor vehicle. Whilst expecting the Government to play a more prominent role could be interpreted as "passing the responsibility buck" it nevertheless must be acknowledged that the Government could show more initiative by enhancing its partnership with the car manufacturing industry to improve vehicles' safety features.

It appears that driver's licence suspension remains one effective deterrent for the majority of respondents in our study. However, those who had already experienced suspension reported that they were more likely to take risks on the road, compared to the non-suspension group. Financial and social factors were major considerations for respondents who believed that licence suspension would seriously detract from their lifestyle.

Many respondents believed that countermeasures such as increased penalties, gaol sentences and driver's licence disqualification would discourage individuals from over the limit drink driving. However, it was recognised that current mass media strategies were also needed in order to reach target audiences. These campaigns would include education programs with messages that are designed to enhance young male drivers' awareness and comprehension of the social, economic, health and welfare problems attributable to road accidents caused by over the legal BAC drinking and driving.

Both in the field interviews and the survey, many respondents identified road safety commercials which they believed were effective in communicating the hazards of drink driving to youth. These commercials included: the one showing the child pedestrian knocked down by a motor vehicle and the mother's hysteria; seat belt commercials such as "click clack"; and the ambulance advertisement where a young man assists his brother from an ambulance, and the viewer sees that the brother is a

quadriplegic in a wheelchair. Adolescent females specifically recalled the "throwing up" television commercial. The so-called "rest-revive-survive" and "stop before you drink drive" and the "drink in moderation" commercials were also recalled and identified as effective media prevention strategies.

In summary, respondents recommended a range of countermeasures which could be categorised as either educational or enforcement measures. Environmental and engineering strategies were not identified as preventative strategies by respondents in this study.

## **5. CONCLUSIONS AND RECOMMENDATIONS**

Nine hundred and thirty-five respondents in our study provided responses which assisted in establishing a temporal analytic framework related to youth's attitudes and behaviours before and after drink driving. Given that the bulk of respondents reported alcohol use and driving experience, it was not surprising to distil from the written diary a propensity for youth to take risks in the form of over the limit drink driving and speeding.

Approximately half of the 318 drink diary respondents consumed six or more drinks in one day at least once a week. On average, the under 30 year olds consumed six or more drinks once a week. Clearly, many respondents binge drink often. Upon leaving their most recent away from home drinking venue, over 25% of respondents had a calculated BAC in excess of the legal limit for driving. Nearly 18% of respondents had a calculated BAC equal to or exceeding 0.08%. Respondents appeared complacent about the risk of apprehension for drink driving with many regarding the risk as minimal. However the majority of respondents thought that there was a strong possibility of being random breath tested within a month. It appears that young people's assessments of the risk of being caught while driving under the influence of alcohol are inconsistent and confused.

Many respondents were unable to accurately guess the legality of their BAC for driving following drinking alcohol. 55.5% of those who inaccurately guessed their BAC legal status erred on the side of caution; they over-estimated their BAC, thinking that they were over the legal limit when their calculated BAC was less than 0.05%. However 11.5% of those who inaccurately guessed their BAC legal status thought that their BAC was under the legal limit when their BAC, as calculated in the study, was over 0.05%. For those respondents with a history of licence suspension for alcohol related driving offences, the threat of further licence suspension appears to be an ineffective deterrent against drink driving and other risk taking. Younger respondents demonstrated a degree of ignorance concerning the health and welfare outcomes from road accidents in terms of death, long term disability, grief and sustained economic loss. It would be intriguing to discover more effective, successful structural constraints that youth believed would mitigate drink driving behaviours.

Arguably, it will take a greater sustained effort by individuals, as well as by governments, high school education programs, the media, the alcohol and hotel industries, the car manufacturing industry, parents, peers and the adolescent population working to achieve safer road user behaviours. This goal is achievable through a broader acquisition of knowledge and the continued shaping of cultural expectations

which encourage and endorse road safety initiatives which can be enthusiastically supported by communities committed to working together.

## **RECOMMENDATIONS**

To achieve a substantial decrease in youth morbidity and mortality due to road accidents we recommend the following:

- Raise the minimum driving age to eighteen years.
- Adopt a zero blood alcohol level for drivers under the age of 20 years and people who have been convicted for drink driving.
- Provide increased visibility of uniformed police on the roads.
- Increase random breath testing.
- Provide more road signs which warn drivers of police patrols in the locality.
- Use RBT on back roads rather than the predictable patterns seen on major roads.
- Develop an educational campaign targeting men to increase their awareness of the increased accident risk when driving whilst over the legal alcohol limit.
- Develop an educational campaign targeting the youngest people (particularly men), the unemployed and those with previous drink driving suspensions to increase their perception of the danger of accepting a lift from a driver who has exceeded the BAC limit.
- Implement an advertising campaign featuring well known racing car drivers who would emphasise the distinction between skilled driving and risk taking.
- Ban tobacco and alcohol advertising.
- Promote enhanced scrutiny of proposed alcohol advertising campaigns in the mass media.
- Encourage hotels and clubs to install machines which assist patrons to determine their level of alcohol consumption through breath analysis.

- Encourage hotels and clubs to develop "assist" programs which provide free transport home for those members who have had three or more drinks, or for the individual who believes they are over the legal blood alcohol limit.
- Provide funds to monitor through legislation effective safety provision in all cars manufactured or imported into Australia.
- Develop computer driving simulations in game format which demonstrate the deterioration in driving skills which are associated with elevated BAC, eg, by increasing control response latency, increased driver reaction time can be simulated.
- Develop education programs and anti-drink driving campaigns with themes which address those in the highest and lowest income groups, those with the highest and lowest levels of education, people who drive more than 300 kms per week, and those who have been convicted of drink driving in the past.
- Develop a campaign which educates higher income earners, those who have achieved high educational qualifications and drink driving offenders about the risk of vehicular accidents to drivers with excessive BACs.
- Encourage schools to develop driver education programs such as the inclusion of practical and theoretical units in the Higher School Certificate or its equivalent in other states.
- That youth who have experienced drink driving convictions or licence suspension be given community service work instead of fines. Many respondents indicated that it is the parents who end up being penalised as they usually pay the fines. Also that these young offenders be assigned to caring persons in the community, who agree to meet with them on a regular basis and who demonstrate continued interest and provide advice for goal achievement, motivation and strategies for new directions.



## **RECOMMENDATIONS FOR FURTHER RESEARCH**

We propose that the following be conducted:

1. Research and development into youths' attitudes to speeding and associated risk taking.
2. Continued research into safety engineering design for Australian cars for Australian environmental conditions.
3. Research into the effects of increasing the minimum driving age to 18 years.
4. Research into the effects of increasing the minimum drinking age to 20 years.
5. Research and development into the hotel industry and server intervention, process, outcomes and educational needs.
6. Research and development into more effective mass communication advertising strategies, targeted to reach youth, particularly young males, concerning the riskiness of drink driving.
7. Continued research into effective HSC education programs which target road safety education strategies, the short term and long term effects of alcohol consumption on lifestyle and effective drink driving countermeasures, as perceived by high school youth.
8. Research, development and follow up of youth who have had their driver's licence suspended as a result of speeding or drink driving offences.

9. Repeat this study in other areas of Sydney which experience high rates of youth morbidity and mortality due to over the limit drink driving and speeding.
10. Investigation of the accuracy of youth's perceptions of BAC levels following alcohol consumption.
11. Research into effective binge drinking prevention strategies.
12. Research into effective deterrent strategies for young drivers who have had their license suspended.

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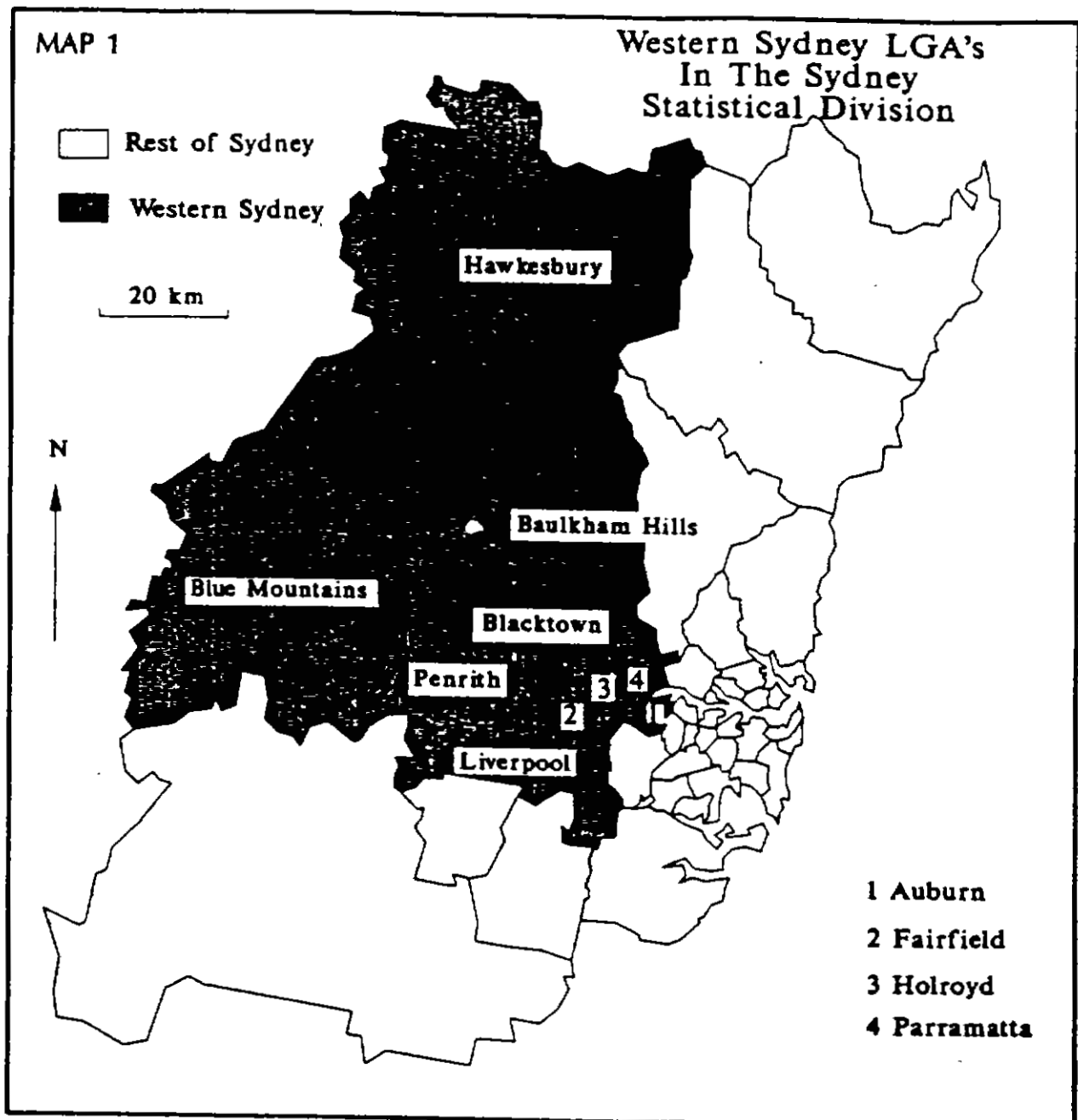
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## **APPENDIX 1**

### **The Study Area**



Source : Horvath et al, (1989)



## **APPENDIX 2**

### **Survey of Drink Driving**

## ***A SURVEY OF DRINK DRIVING***

In this questionnaire we are seeking your views on drinking and driving  
The information you provide will be treated as "**confidential**"  
Your views are valued.

### **INSTRUCTIONS:**

1. Read the instructions for each question carefully.
2. Complete **all** questions as **accurately as possible** without exaggeration.
3. Please use the **last page** to give us your thoughts, opinions or advice on any important issue you believe is relevant to drinking alcohol and driving.

Thank you for participating in this study.

Lyn Coulon : Principal Researcher  
Australian Catholic University  
40 Edward St ,  
North Sydney ,  
N.S.W., 2060

Phone: 954.2900

March, 1992

# IN OUR SURVEY WE ARE SEEKING YOUR HONEST VIEWS AND OPINIONS

Office  
use  
only

## SECTION A

1.) Please tick either yes or no for each of the following

- |                                                                                                                    |                 |                |
|--------------------------------------------------------------------------------------------------------------------|-----------------|----------------|
| i.) I am capable of driving when I am a bit over the legal alcohol limit if there is someone in the car to help me | Yes [     ] [1] | No [     ] [2] |
| ii.) I am capable of driving when I am a bit over the legal alcohol limit if I am driving slowly and carefully     | Yes [     ] [1] | No [     ] [2] |
| iii.) I will drive when I am a bit over the legal alcohol limit if I feel sober enough to drive                    | Yes [     ] [1] | No [     ] [2] |
| iv.) I will drive home along the back streets if I suspect I am over the legal alcohol limit.                      | Yes [     ] [1] | No [     ] [2] |

## SECTION B

2.) Please circle the number which best matches your response to each of the following statements.

- |                                                                                                                               | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|----------|----------------------|
| i.) I believe that beer affects some people's blood alcohol limit more than others                                            | 1                 | 2     | 3        | 4                    |
| ii.) I have a good open relationship with my parents                                                                          | 1                 | 2     | 3        | 4                    |
| iii.) My parents would be concerned if they knew that I was a bit over the legal alcohol limit and then drove a vehicle home. | 1                 | 2     | 3        | 4                    |
| iv.) I take more risks on the road when I am driving with friends                                                             | 1                 | 2     | 3        | 4                    |
| v.) I enjoy defying authority                                                                                                 | 1                 | 2     | 3        | 4                    |
| vi.) I regard myself as a risk-taker                                                                                          | 1                 | 2     | 3        | 4                    |
| vii.) I often feel that I'd rather die than go on living                                                                      | 1                 | 2     | 3        | 4                    |

**SECTION C**

Please tick one answer only

office  
use  
only3.) How do you describe the behaviour  
of drink drivers who are over legal alcohol limit?

Normal [    ] [1]    Careless [    ] [2]    Criminal [    ] [3]

4 ) Do you drink alcohol?

Yes [    ] [1]    No [    ] [2]

If you answered "NO" to question 4, please go to Section G on page 4

If you answered "YES", please continue

**SECTION D**

Please tick one box only to the following questions

5.) How many times in the last month have you drunk alcohol away from home?

- a. Daily [    ] [1]
- b. 2-3 times a week [    ] [2]
- c. About once a week [    ] [3]
- d. About once a fortnight [    ] [4]
- e. About once a month [    ] [5]
- f. Less than once a month [    ] [6]
- g. Never [    ] [7]

6.) What is your chance of being caught by the police if you drive when you are  
a bit over the legal alcohol limit?

- a. No risk of being caught [    ] [1]
- b. Slim risk of being caught [    ] [2]
- c. 50 - 50 risk of being caught [    ] [3]
- d. Likely risk of being caught [    ] [4]
- e. Extremely high risk of being caught [    ] [5]

7.) What is your chance of crashing if you drive when you are a bit over the  
legal alcohol limit?

- a. No risk of having an accident [    ] [1]
- b. Slim risk of having an accident [    ] [2]
- c. 50 - 50 risk of having an accident [    ] [3]
- d. Likely risk of having an accident [    ] [4]
- e. Extremely high risk of having an accident [    ] [5]

**SECTION E**

This is a diary about the alcohol you have drunk during the past week and where you drank it. office  
use  
only

8.) Please list in the space provided below the *type* of alcohol, the *amount* you drank and whether you drank it *at home* or *away* from home.

For Example:

	at home	away from home
<i>Friday</i>		
2 schooners of full strength (FS) beer and 3 stubbies of low alcohol (LA) beer	<input type="checkbox"/>	<input type="checkbox"/>
<i>Saturday</i>		
4 nips of spirits, half a bottle of wine and a standard (60mls) glass of port	<input type="checkbox"/>	<input type="checkbox"/>
<i>Sunday</i>		
NIL	<input type="checkbox"/>	<input type="checkbox"/>

	at home	away from home
<i>Monday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
<i>Tuesday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
<i>Wednesday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
<i>Thursday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
<i>Friday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
.....		
<i>Saturday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)
.....		
<i>Sunday</i>		
.....	<input type="checkbox"/> (1)	<input type="checkbox"/> (2)

9.) Please rate your ability to *accurately remember* the above details about your alcohol intake by ticking 1 box:

100% ACCURATE	[ ] (1)
80% ACCURATE	[ ] (2)
50% ACCURATE	[ ] (3)
Less than 50% ACCURATE	[ ] (4)

## SECTION F

Office  
Use  
Only

10.) Please **complete** the following statements about the *last* time you drank alcohol away from home.

The last time I drank alcohol away from home:

a.) I was at a: .....  
(a venue: eg.. party, nightclub, pub, etc..)

b.) My transport to the venue was.....  
(method of transport: eg. drove self, driven by friend, taxi, used public transport)

c.) I drank: .....  
(eg. beer, wine, spirits, etc.)

d.) The quantity I drank was.....  
(number of cans, glasses, nips etc.)

e.) How much time passed between your first and last drinks? ..... hour(s)

f.) How much time passed between finishing your last drink and leaving the venue?  
..... minutes

g.) My transport from the venue was: .....  
(method of transport: eg. drove self, driven by friend, taxi, used public transport)

h.) I believe that I was under the legal alcohol limit on that occasion: Yes[       ] [1] No[       ] [2]

## SECTION G

11.) If your drivers license was suspended for 12 months would this seriously affect your lifestyle? Please explain.

.....  
.....  
.....  
.....

12.) What other measures do you believe would discourage you from drink driving?

.....  
.....  
.....  
.....

## SECTION H

13.) Please circle the number which best matches your response to each of the following statements

office  
use  
only

	Strongly Agree	Agree	Disagree	Strongly Disagree
i.) I'd rather enjoy drinking and not think about driving home until the time comes	1	2	3	4
ii.) When I go out to drink I find it more convenient to drive myself to and from the venue	1	2	3	4
iii.) I know my parent(s) drink and drive.	1	2	3	4
iv.) I would be worried if someone on whom I was "dependent" for transport was drinking till they are over the legal limit.	1	2	3	4
v.) I go out with the intention of binge drinking	1	2	3	4
vi.) My friends would find other transport home rather than drink and drive over the legal limit	1	2	3	4
vii.) Whether it is "right" or "wrong" I believe that most people will drive when they are over the legal limit at sometime	1	2	3	4
viii.) There is a strong possibility that I will be random breath tested in the next month	1	2	3	4
ix.) Cars should be required to have more in-built safety devices to prevent or reduce injury	1	2	3	4
x.) People who are known to be heavy drinkers should not be allowed to hold a drivers licence	1	2	3	4
xi.) I believe that increasing the legal driving age to 21 years would 'not' reduce road accidents related to being over the legal limit	1	2	3	4
xii.) A breath testing unit should be a feature of all cars, preventing the ignition from working if the driver is over the legal limit	1	2	3	4
xiii.) Generally I believe that drink driving risks are acceptable behaviour.	1	2	3	4

## SECTION I

Please tick the box that corresponds best to your response.

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use  
only

14.) I often take risks whilst driving Yes [       ] [1] No [       ] [2]

If you answered "Yes", *what* risks do you take  
and *when* do you take them.

.....  
.....

15.) I consider myself to be a careful driver Yes [       ] [1] No [       ] [2]

16.) Do you currently smoke cigarettes? Yes [       ] [1] No [       ] [2]

If you answered "Yes", how many cigarettes  
do you usually smoke in one day?

..... cigarettes

17.) Have you ever used marijuana or any  
other illegal drugs at any time in your life? Yes [       ] [1] No [       ] [2]

If you answered "Yes", are you currently using these drugs?

Yes [       ] [1] No [       ] [2]

18.) Please describe a recent experience you had when you were over the legal blood alcohol  
limit, and *why* you chose to drive on that occasion

.....  
.....  
.....  
.....  
.....  
.....

19.) Please describe a "Road Safety" poster, radio, or television commercial that you  
believe increases young drivers awareness of road safety

.....  
.....  
.....  
.....  
.....



*We ask you to complete the following information to ensure we have a good variety of drivers.*

office  
use  
only

Please tick the appropriate box or complete the response in the space provided.

- i.) What sex are you? Female ☐ [0] Male ☐ [1]
- ii.) What is your status? Married ☐ [1] Living alone ☐ [2] Living in a relationship ☐ [3]
- iii.) In what country were you born? Australia ☐ [1] Other (specify) .....
- iv.) What is your age? ..... years
- v.) What is your home postcode? ..... .....
- vi.) Do you hold a current drivers license? Yes ☐ [1] No ☐ [2]  
If 'yes' please tick the type of licence you hold. "P" Plate ☐  
"L" Plate ☐  
Full license ☐
- vii.) a.) How long have you had this licence? ..... years  
b.) How long have you been driving? ..... years  
c.) Have you ever had your drivers license suspended as a result of an alcohol related offence? Yes ☐ [1] No ☐ [2]
- viii.) On average, how many kilometres(Km) would you drive per week? .....Km.
- viii.) What is your employment status? Employed ☐ [1] Unemployed ☐ [2]
- If you answered "Unemployed" to the previous question, do you receive:
- a. A pension or sickness benefit Yes ☐ [1] No ☐ [2]
- b. Social security ("the dole") Yes ☐ [1] No ☐ [2]
- c. A student scholarship or AUSTUDY Yes ☐ [1] No ☐ [2]

ix) On average, what is your annual income *before* tax?

Less than \$2,000	[    ]	[1]
\$2,000 to \$12,999	[    ]	[2]
\$13,000 to \$19,999	[    ]	[3]
\$20,000 to \$29,999	[    ]	[4]
\$30,000 to \$39,999	[    ]	[5]
\$40,000 to \$49,999	[    ]	[6]
\$50,000 or more	[    ]	[7]

office  
use  
only

x.) What is your *highest* level of education?

Primary school (Years 1 to 6)	[    ]	[1]
Three years or less of high school (Years 7 to 9)	[    ]	[2]
School Certificate (Year 10)	[    ]	[3]
Higher School Certificate (Year 12)	[    ]	[4]
TAFE	[    ]	[5]
College of Advanced Education / University	[    ]	[6]

**Please use this space to give us your thoughts on this survey  
or any important issue concerning drink driving**

**THANK YOU FOR YOUR PARTICIPATION  
IT IS APPRECIATED**

## **APPENDIX 3**

### **A Temporal Analytical Framework for Drink Driving Relationships**

## A TEMPORAL ANALYTICAL FRAMEWORK FOR DRINK DRIVING RELATIONSHIPS

