



Drug & Alcohol Services South Australia

**Risk perception and drug driving
among illicit drug users in Adelaide**

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EXECUTIVE SUMMARY

Aim

The aim of the current report was to gather information on local illicit drug users with regard to the characteristics of drug drivers, their risk perceptions, the prevalence of drug driving among the group, and the socio-cultural, geographic and other factors contributing to drug driving among illicit drug users in South Australia.

Characteristics of the sample

The participants were aged in their late 20's on average, and most had completed year 12 at high school. The participants were most likely to be living in their own homes and approximately half were receiving some form of government allowance as their main source of income in the previous month. While the majority of participants currently held a driver's licence, almost 20% did not, and males were proportionately less likely to hold a licence than females.

Recent drug use

Cannabis was used on a daily basis by approximately a third of all participants, while alcohol was used at least weekly by approximately two thirds of participants, in the previous 12 months. A quarter of all participants reported using methamphetamine at least monthly. Ecstasy was used at least monthly by approximately a quarter of the sample.

Knowledge and attitudes

Alcohol was perceived as the substance that was most likely to affect participants' ability to drive, with most participants reporting a belief that alcohol could adversely affect their driving ability. In contrast, approximately 40% of participants reported that cannabis and methamphetamine could contribute to at least a small degree of improvement in their driving ability. Few participants reported that heroin, LSD, ketamine, GHB and inhalants could improve driving.

Over half of all participants (58%) believed it was not at all dangerous to drive under the influence of cannabis and 40% of participants believed it was not at all dangerous to drive under the influence of methamphetamine.

Experiences

Almost all participants reported having driven within an hour or two of consuming an illicit substance in the 12 months prior to interview. Two thirds of participants reported they had done so in the last week. Most commonly, 88% of participants reported that they had driven within an hour or two of consuming cannabis in the previous 12 months, and a third of those had done so on an *at least weekly* basis. Almost 60% of the sample reported that they had driven after consuming methamphetamine within the previous 12 months, with a quarter of those reporting they had done so on an *at least weekly* basis.

The majority of participants were not overly concerned about their ability to drive safely after consuming an illicit drug and neither were they concerned about the possibility of being caught by police. Despite this, 22% reported having had an accident, or coming close to having an accident, while driving following illicit drug use, in the previous 12 months.

Reasons for drug driving

Reasons provided for driving after consuming illicit drugs were essentially mundane and demonstrated that the co-occurrence of drug taking and driving were not a cause for concern for the majority of the sample. Drug driving appears to be a widespread and fairly entrenched practice among this sample of illicit drug users, and seems to be maintained by beliefs that the effects of a number of drugs, cannabis and methamphetamine in particular, can actually improve driving ability.

1.1 Structure of the report

This report is divided into four sections. This introduction, incorporating a literature review providing the background and rationale for the present study, comprises Section One. Section Two describes the study methodology, Section Three presents the study findings, and Section Four provides a discussion of findings, concluding with a series of recommendations.

1.2 Overview

The link between drug consumption and motor vehicle accidents is acknowledged through a small but growing number of national and international studies (Athanaselis *et al.*, 1999; Sjogren *et al.*, 1997; Longo *et al.*, 2000a). Recent Australian studies have highlighted the risks being taken by young people with respect to driving under the influence of drugs and alcohol (Longo *et al.*, 2000a; AIHW, 2002; Kelly *et al.*, 2003). Investigations into sub-populations, particularly illicit drug user groups and police detainees, have revealed a high incidence of drink and drug driving or risky behaviour associated with drugs and motor vehicles (Darke *et al.*, 2004; Degenhardt *et al.*, 2004; Poyser *et al.*, 2002).

Very little information is available on drug driving within the South Australian (SA) population. The profile of illicit drug use within South Australia is very different to that of New South Wales. Unlike Sydney and Melbourne, Adelaide has no street-based drug culture and as such it is likely that South Australian users rely more heavily on cars to obtain drugs. There are also indications from a NSW study of injecting drug users (IDU) (Darke *et al.*, 2004), as well as from local research, that users administer drugs in vehicles, which may lead directly to a drug-driving incident. For example, findings from the 2003 SA Illicit Drug Reporting System (IDRS) survey indicated that 10% of IDU reported their *usual* location of injecting drugs was a car (Weekley *et al.*, 2004a). National IDRS data for the same year revealed that in comparison to NSW IDU, twice as many SA IDU respondents reported that their last location of injection (of any drug) was a car (Breen *et al.*, 2004a). In addition, the 2003 SA Party Drug Initiative (PDI) survey of ecstasy users revealed that 25% of respondents reported *usually* using ecstasy within a car, and 20% or more reporting *usually* using methamphetamine in a car, in the previous 6 months (Weekley *et al.*, 2004b).

As drug driving becomes a growing public health concern more research is being conducted into the prevalence of drug driving, as well as into illicit drug users' attitudes and behaviours in relation to driving under the influence of illicit substances. The following literature review examines a number of aspects of drug driving and focuses on Australian research. Most studies reviewed were reporting on these aspects of drug driving among sub-populations of illicit drug users, rather than among the general Australian population, as outlined below.

1.3 Prevalence

1.3.1 *Driving under the influence of an illicit drug*

The 2001 National Drug Strategy Household Survey (NDSHS) asked recent drug users which activities they had undertaken while under the influence of illegal drugs (AIHW, 2002). The activity most commonly reported was driving a vehicle. A quarter (24.8%) of those reporting illicit drug use in the previous 12 months reported driving under the influence of illicit drugs in that time. Males were more likely to report driving under the influence of illicit drugs than females (30.6% vs 16.8%).

Drug driving is more commonly reported in studies of sub-populations of illicit drug users in comparison to the wider population. A Sydney study of injecting drug users (IDU) found 87% of current drivers (64% of the total sample of 300 regular IDU) reported driving soon after consuming drugs in the previous 12 months (Darke *et al.*, 2004). In this study population, the most common drugs consumed before driving were cannabis (57%), heroin (56%), amphetamines (34%), cocaine (33%), and other opioids (32%) (Darke *et al.*, 2004). Similarly, a recent Queensland survey of 211 illicit drug users asked respondents what drugs they had used before driving in the 12 months prior to interview (Davey *et al.*, 2005). The majority reported they had driven under the influence of cannabis (77%), followed by heroin (42%) and amphetamines (41%). Also, 21% reported they had driven after using ecstasy, 5% after using cocaine and 2% after using LSD or other hallucinogens (Davey *et al.*, 2005).

Almost half (49%) the respondents in a recent Sydney study of 216 ecstasy users reported driving soon after using ecstasy, *ever* in their lifetime (Gascoigne *et al.*, 2004). Respondents in a Melbourne study of 273 nightclub attendees reported most commonly *ever* having driven under the influence of alcohol (57%) or cannabis (52%), followed by ecstasy (43%), methamphetamine powder ('speed')(42%), cocaine (28%) and crystal methamphetamine (26%) (Degenhardt *et al.*, 2004). Furthermore, over a quarter of the sample reported having driven under the influence of cannabis (28%) or alcohol (26%) *in the last month*, and almost a fifth reported having driven under the influence of ecstasy (19%) or 'speed' (18%) in the same period (Degenhardt *et al.*, 2004).

The annually conducted peak national survey of ecstasy and related drug using populations, the Party Drugs Initiative, asks participants where they 'usually used' a range of illicit substances, in the 6 months prior to interview (Breen *et al.*, 2004b). In 2003, approximately a quarter of the 101 South Australian respondents reported usually using ecstasy or methamphetamine in a vehicle in the six months prior to interview (Weekley *et al.*, 2004b). The following year, this question was modified and respondents were asked if they had 'usually used' in a vehicle as a passenger or as a driver in the previous six months. Twelve percent of the 100 South Australian respondents indicated they had 'usually used' ecstasy whilst driving and a slightly smaller proportion had 'usually used' methamphetamine base (10%) while driving (Weekley, *et al.*, 2005b). In 2004, specific questions were also asked about driving risk activities in the six months prior to interview. Of the 100 people interviewed, almost two thirds (61%) reported having driven within an hour of use of any drug (including alcohol, at an undetermined level). The most commonly reported as having been used within an hour prior to driving were ecstasy (43%), methamphetamine base (35%), cannabis (31%), alcohol (24%), methamphetamine powder (21%), and crystal methamphetamine (17%) (Weekley, *et al.*, 2005b).

A survey, conducted from 1999 to 2001 as part of the Drug Use Monitoring in Australia (DUMA) project in Western Australia, Queensland and New South Wales, found 71% of 561 people detained by police for traffic offences tested positive to at least one drug class, most commonly to cannabis (55%),

amphetamines (25%) or opiates (20%) (Poyser *et al.*, 2002). Another analysis of general police detainees interviewed as part of DUMA in the fourth quarter of 2001, and who nominated that they had driven a vehicle in the previous year, were asked what drugs they had used prior to driving during that time, as part of the DUMA addendum questionnaire on illicit drugs and driving. Almost half (49.7%) of those interviewed (n=312) reported having drug driven in the past 12 months, with 27.6% reporting they had done so once a week or more (Poyser *et al.*, 2002). In addition, a fifth (21%) reported driving soon after using an illicit drug in conjunction with alcohol, two fifths reported driving after using cannabis (41%), almost a third reported driving after using amphetamines (29%), and 11% reported driving after using heroin (Poyser *et al.*, 2002).

DUMA, as the national survey of police detainees, also surveys two sites within South Australia (Adelaide city and Elizabeth). Almost three quarters (73.5%) of the 279 detainees surveyed for the South Australian April-June 2003 quarter, reported driving after the use of one or more drugs (cannabis, cocaine, heroin, speed, benzodiazepines) or alcohol in the past 12 months (Turner, 2003). A similar percentage of detainees reported driving following use of one or more drugs in the 2004 April-June quarter (70.9%) (Turner, 2004). Cannabis and speed were the most commonly reported illicit drugs used before driving in both years (Turner, 2003; 2004). In 2003, more than half the Adelaide (52.7%) and Elizabeth (58.9%) detainees reported driving after using cannabis. Almost half the Elizabeth (47.3%) detainees reported driving after using speed compared to two fifths of Adelaide (40.9%) detainees. Despite slightly lower percentages of detainees reporting driving after using cannabis (50% for Adelaide and 46.8% for Elizabeth) and speed (38.4% for Adelaide and 38.1% for Elizabeth) in 2004, this data indicates a substantial proportion of this sub-population consistently drive under the influence of drugs.

It should be noted that the particular nature of the populations studied, especially the police detainees, means that the prevalence reported may not be relevant to the general driving population. The 2004 South Australian Health Omnibus (SAHO), however, included questions on drug driving in order to ascertain the prevalence of drug driving in the broader South Australian population (DASSA, 2005). As a general population survey (i.e. not illicit drug

users or police detainees) it has a similar capture to that of the NDSHS and as such, surveys a much larger sample than studies targeting sub-populations. Ten percent of the 2004 SAHO sample of 2,985 respondents reported ever drug driving during their lives. Most of those reporting drug driving were males (79.2%) and those over 25 years of age (76.5%). In terms of the *total* number of respondents, drug driving was significantly more likely to be reported by males (16.4%) compared to females (4.1%) and proportionally more drivers under 25 (13.3%) reported drug driving than those over 25 (9.5%) (DASSA, 2005).

1.3.2

Passengers of drug drivers

Both the Sydney IDU survey (Darke *et al.*, 2004) and the Melbourne nightclub attendee survey (Degenhardt *et al.*, 2004) asked respondents about their experiences as passengers of drug drivers. The vast majority (89%) of the Sydney IDU respondents reported having been a passenger of a drug driver, and close to a third (30%) reported being a passenger with a drug driver at least once a week, in the 12 months prior to interview. Over two thirds of respondents in the Melbourne nightclub study reported being a passenger with a driver who was under the influence of cannabis (69%). Furthermore, just under two thirds reported being a passenger with a driver under the influence of ecstasy (60%) and a similar percentage had been a passenger with a driver under the influence of speed powder (56%). More than a third had been passengers with drivers under the influence of crystal methamphetamine (39%) or cocaine (37%) and 18% had been a passenger with a driver affected by heroin (Degenhardt *et al.*, 2004).

A small but significant number of respondents in a study of Western Australian ravers reported travelling with drug drivers (Lenton & Davidson, 1999). In this study, sixty-six ravers (of 83 in the sample) reported driving or being driven to the most recent rave they had attended. Of these, almost a third (30%) reported they had been driven by a driver who had used drugs, but they considered that they had been safe to drive at the time. Twelve percent reported being a passenger with a driver who had definitely been under the influence of drugs. In addition, thirty respondents answered questions about driving or being driven *from* the most recent rave they had attended. Of these, over half (57%) reported that although the driver had consumed drugs or alcohol, they considered sufficient time had passed for them to be able to drive

safely. However, 30% reported the driver had been either under the influence of drugs or alcohol or too tired to drive safely (Lenton & Davidson, 1999).

The 2004 South Australian Health Omnibus also assessed the prevalence of being a passenger of a drug driver. As with the prevalence of driving under the influence of illicit drugs, males were significantly more likely to report being a passenger of a drug driver, as were those under 25 years of age (DASSA, 2005).

1.3.3

Frequency of Drug Driving

The Sydney study of IDU (Darke *et al.*, 2004) found that of those classed as current drivers (those who reported driving in the previous 12 months), a fifth (20%) reported drug driving on a weekly basis in the previous 12 months, and just under two thirds (59%) reported drug driving in the month prior to interview. The two drugs most likely to be associated with drug driving were heroin (22%), and cannabis (21%) (Darke *et al.*, 2004).

The 2003 SA DUMA June Quarterly Report stated that 49 police detainees in Adelaide city reported drug driving after cannabis use in the previous 12 months and almost half (n=21) had done so three or more times a week. At the Elizabeth site, 27 detainees reported having driven after cannabis use three or more times a week, of a total of 65 who had driven after cannabis use in the previous 12 months (Turner, 2003). Similar results were presented for 2004 (Turner, 2004). From the Adelaide site, twenty-two of 43 detainees reported having driven after cannabis use three or more times a week, as did 31 of 53 detainees at the Elizabeth site (Turner, 2004).

In contrast, from the general South Australian population sample, two thirds (67.2%) of those reporting having ever driven within an hour of using an illicit substance reported they had *not* done so during the previous 12 months. However, a fifth (approximately 20%) of those reporting driving within an hour of using an illicit drug, reported their most recent drug driving occurred in the month prior to interview (DASSA, 2005).

1.4 Harm related to drug driving

1.4.1 Road traffic accidents

A multi-centre case-control study conducted on road crashes in three Australian states found that, over a period of ten years, almost a quarter (23.5%) of drivers who were fatally injured in accidents in Victoria, New South Wales and Western Australia tested positive to at least one psychoactive drug (Drummer *et al.*, 2004). Of these, 13.5% tested positive for cannabis, 4.9% tested positive for opioids and 4.1% for psychostimulants (Drummer *et al.*, 2004). In South Australia, tests on 2500 non-fatally injured drivers found almost a quarter (23.5%) were positive for at least one drug including alcohol, and 10.3% were positive for at least one drug, not including alcohol (Longo *et al.*, 2000a). Positive tests for alcohol and cannabis were found in 3% of the sample, while 7.1% tested positive to cannabis alone, and 1.4% tested positive to stimulants alone or combined with other drugs (Longo *et al.*, 2000a). The relationship between drug driving and vehicle accidents indicate there is a tendency for drivers with higher levels of delta9-tetrahydrocannabinol (THC) to be more culpable for accidents than drug free drivers or those with a lower THC concentration (Drummer *et al.*, 2004; Longo *et al.*, 2000b). South Australian drivers testing positive to alcohol and benzodiazepines were proportionally more likely to be culpable than drug free drivers, as were drivers testing positive for a combination of alcohol and THC or benzodiazepines (Longo *et al.*, 2000b).

A third (32%) of drivers in the Sydney IDU study reported being involved in a vehicle accident as a result of drug driving (Darke *et al.*, 2004). Fifteen percent reported being in a drug driving accident that resulted in injury and 9% had been involved in drug driving accident in the 12 months prior to interview. Heroin (53%) was the most common drug used prior to the most recent accident, followed by cannabis (46%) and alcohol (42%). Forty-two percent had been in a vehicle accident when the driver was drug-intoxicated and 17% had been in an accident with a drug driver during the 12 months prior to interview.

Between 2001 and 2004, 112 ecstasy related deaths have been identified by the National Coronial Information System (NCIS) (Kinner *et al.*, 2005).

Although ecstasy was deemed to be a primary contributor in 51 (46%) of these,

MDMA was the sole drug present in only six (5%) of these deaths. Of interest is the finding that 28% of ecstasy related deaths occurred as a result of road traffic crashes. Also of note is that of 216 Sydney ecstasy users surveyed, 3% had been involved in a road accident, as the culpable driver, following recent ecstasy use (Gascoigne *et al.*, 2004).

1.4.2 *Drug driving and impairment*

Overview

Recognition of the effects of alcohol use on driving performance has led to educational interventions to prevent drunk driving, along with legal consequences for those found to be driving over the proscribed blood alcohol limit (Henry-Edwards, 2004). The establishment of levels of impairment according to amounts of alcohol consumed has allowed the setting of a legal limit, however, the effects of driving under the influence of illicit drugs is less clear (Henry-Edwards, 2004). All drugs (including illicit drugs) can cause different amounts of driver impairment at varying levels and at various times depending on the individuals tolerance, biochemistry, level of fatigue and consumption of other drugs (ACPR, 2001). This section focuses on available literature regarding how the use of cannabis, amphetamines, ecstasy, and combining drugs, including alcohol can impair driving ability.

Cannabis

In a recent review of the literature on cannabis and road safety, cannabis is considered to have a varied euphoric affect depending on the amount consumed and other environmental and personal attributes of users (Lenné *et al.*, 2004). In addition, alterations in spatial and temporal perception occur which impair the assessment of distance and time. Greatly increased impairment in driving performance has been observed under situations of high dose and continual use (NHTSA(a)).

Several studies in simulators and driving experiments, where drivers drove after consuming cannabis, indicated driving was not dramatically influenced as drivers appeared able to compensate for impairment (Lenné *et al.*, 2004; Berhaus *et al.*, 1995; Robbe, 1995). The ability to improve driving for short periods of time whilst under the influence of cannabis has been noted, as some drivers are able to overcompensate for the impairments they perceive in their

driving (NHTSA(a)). However, the effect of cannabis slows reaction times indicating that cannabis-affected drivers may be less able to make decisions and respond quickly where emergency conditions occur (Lenné *et al.*, 2004; Robbe, 1995; NHTSA(a)).

Methamphetamine

Methamphetamine also causes euphoria and excitement due to its stimulant effects (NHTSA(b)) and can also increase alertness, although all these factors vary according to the amount used and the length of time since use (NHTSA(b); ACPR, 2001). Impulse control can be decreased, while motor restlessness can increase, in the early phase of methamphetamine's effect. In the later phases it can cause restlessness, aggression and lack of coordination, which can also impair driving ability (NHTSA(b)).

The following driving impairments are associated with driving after using amphetamines; speeding, failure to stop, reduced attention when attending to multiple tasks, being impatient and inattentive and making risky driving decisions (NHTSA(b)). Amphetamines in low doses have few effects on cognitive functioning and may slightly enhance some driving-related psychomotor tasks especially in fatigued subjects. However, higher doses are associated with increased risk-taking (ACPR, 2001; NHTSA(b)). In the come-down phase, or when stimulants are no longer detectable but drivers are severely fatigued, it is likely that driving would also be negatively affected (ACPR, 2001; NHTSA(b)).

Ecstasy

Effects of MDMA (methylenedioxymethamphetamine, or 'ecstasy') can also include euphoria and other perceptual changes that can affect driving ability (NHTSA(c)). MDMA is thought to increase impulsive behaviour and make it difficult to maintain attention during complex tasks. The effects of MDMA on driving performance have been observed in simulated driving studies that have shown alterations in cognitive performance, including decreases in the ability to process information and increases in risk taking, along with moderate effects on vehicle control (NHTSA(c)).

In one study of driving under the influence of MDMA, subjects completed test drives in a simulator. Although a distinct reduction in ability to sense risk was observed, driving performance was not overly affected (Brookhuis *et al.*, 2004). The control group did not crash in any rides compared to those under the influence of ecstasy who crashed in 20% of all rides. However, 10% of ecstasy users crashed even when not under the influence, indicating their risky driving behaviours may be linked to higher risk taking in driving generally, a connection which has been noted in other drug driving studies (Brookhuis *et al.*, 2004; Fergusson & Horwood, 2000).

Poly Drug Use

Combining drugs, and combining drugs with alcohol, has a significant negative effect on driving performance (ACPR, 2001). The combination of cannabis and alcohol has been found to impair driver performance to a greater degree than cannabis alone, even when only small amounts of alcohol have been consumed (Lenné *et al.*, 2004; NHTSA(a)). Impaired driving performance has been noted in increased reaction time in relation to changes in other vehicles' speed, lane weaving and headway (Lenné *et al.*, 2004). Poly drug use was found to increase the likelihood of crashes in the driving simulator study mentioned above (Brookhuis *et al.*, 2004). Subjects who had completed drives in the simulator after consuming ecstasy alone, repeated their simulator drives after consuming additional drugs. The main additional drugs consumed were alcohol (90%) and cannabis (80%). In addition, 70% of the sample reported consuming additional amounts of ecstasy and 30% had consumed amphetamines. Crashes occurred in a quarter of all rides after multiple drug use (25%), compared to a fifth of all rides after ecstasy (20%) use alone (Brookhuis *et al.*, 2004).

1.5 Attitudes and beliefs about drug driving

1.5.1 Negative effects on driving

In the Sydney IDU study, respondents were asked about their perceptions of risk associated with drink and drug driving (Darke *et al.*, 2004). Driving under the influence of alcohol was perceived as the riskiest behaviour, by 84% of respondents, followed by driving under the influence of heroin (58%). Less than half the respondents perceived driving under the influence of inhalants

(45%) to be dangerous, and approximately a third perceived driving under the influence of cocaine (37%) or amphetamines (31%) to be dangerous. Less than a fifth perceived driving under the influence of cannabis (18%) to be dangerous. A large proportion (71%) of the Melbourne nightclub attendee survey respondents thought driving under the influence of heroin was 'very dangerous', and almost two thirds (59%) thought driving under the influence of alcohol was 'very dangerous' (Degenhardt *et al.*, 2004). Less than half considered driving under the influence of crystal methamphetamine, cocaine, or ecstasy to be 'very dangerous' (48%, 46%, and 44%, respectively). Driving under the influence of speed and cannabis were considered 'very dangerous' by over a third of respondents (39% and 36%, respectively) (Degenhardt *et al.*, 2004). Of the 49% of respondents in the Sydney ecstasy study who reported driving after ecstasy use, half (49%) considered the drug impaired their driving, while over two-thirds (38%) thought it did not influence their driving ability (Gascoigne *et al.*, 2004).

The South Australian DUMA addendum covering drug driving asked respondents about their perceptions of driving impairment due to the use of drugs, in the last 12 months (Turner, 2003). In both 2003 and 2004, a wide variety of responses were obtained for all drug categories and the study concluded that an individual's perceptions of their driving ability after using drugs varied significantly. In 2003, over half of the respondents from the Adelaide city site believed that illicit drugs, or alcohol only, consumed just prior to driving had no effect on driving ability. Of the 114 individuals across both sites who reported driving following use of cannabis, over two thirds (69%) believed that the drug had never affected their ability to drive, and of the 90 individuals who reported driving after use of speed, half (51%) also believed that the drug had not affected their driving ability (Turner, 2003). Similar proportions were found in the 2004 report, as more than half the detainees at Adelaide (67%) and Elizabeth (79%) considered that driving after cannabis use had never affected their driving. Of the 79 individuals across both sites who reported driving after using amphetamines, 58% considered their driving had never been affected (Turner, 2004).

1.5.2

Positive effects on driving

A study of 211 Queensland illicit drug users found some respondents believed their driving ability was improved by drug use (Davey *et al.*, 2004). These interviewees considered focus and confidence were enhanced, which improved driving ability. Amphetamine users described increased alertness and awareness as reasons for improved driving ability, whereas other drug users considered relaxation resulting in increased concentration and focus contributed to better driving. In addition some respondents considered driving increased the enjoyable effects of drug use by being relaxing or exciting (Davey *et al.*, 2003).

Forty nine percent of the respondents in the Sydney ecstasy study reported driving after ecstasy use and of these 12% thought it improved their ability to drive (Gascoigne *et al.*, 2004). The Western Australian raver study found that generally, respondents associated amphetamines and cannabis with comparatively safe driving (Lenton, 1999).

The brief improvement in driving performance after cannabis use which was noted above is considered to be an effect of the compensation behaviour drivers can exhibit due to their perception of their driving impairment (NHTSA(a)).

1.5.3

Other factors effecting drug driving.

Drug driving may be seen as a part of overall drug use behaviour as frequently the illegal nature of drug use overrides the illegal nature of drug driving (Lenton & Davidson, 1999; Davey *et al.*, 2003). Drug driving tended to be part of everyday life rather than a deliberate practice for the respondents in the Sydney IDU study. Driving to get drugs or to return home after procuring and consuming drugs were the foremost reasons offered for drug driving by respondents (Darke *et al.*, 2004). In addition, the use of drugs in cars has been identified by several studies, as users perceive that cars provide a safe venue for drug use and may consume drugs before or whilst driving to avoid legal repercussions for possession (Lenton & Davidson, 1999; Davey *et al.*, 2003; Darke *et al.*, 2004).

1.6

Summary

The studies identified so far seem to indicate that, among illicit drug users, drug driving is a fairly common occurrence. Reasons given for drug driving centre on the mundane with driving and being under the influence co-occurring with little thought to the illegality or safety of the experience. Interestingly, many users believe that being under the influence of some drugs can even lead to improvements in driving.

Many users consider driving under the influence of alcohol to be dangerous, which indicates messages about the dangers of drinking alcohol and driving have been effective. How this has translated into actual behaviour is not quite as clear-cut. However, the studies reviewed have shown the prevalence of drug driving among these sub-populations to be higher than drink driving.

Drug driving has been shown to be common in a number of distinct subgroups ranging from injecting drug users in New South Wales to police detainee populations in South Australia. A recent South Australian general population survey (SAHO) found 10% of the adult population had engaged in some form of drug driving in their lifetime. What is lacking though, is definitive data on illicit drug users within the general population.

1.7

Study aims

In order to design effective education and intervention programs to address the issue of drug driving in South Australia, information about the prevalence, risk perceptions and risk factors from local users are required. Accordingly, the aims of the current study were to survey local illicit users and ascertain the following:

- The characteristics of drug drivers in South Australia,
- The prevalence of drug driving among illicit drug users in South Australia,
- The risk perceptions of South Australian drug drivers, and
- The socio-cultural, geographic and other factors contributing to drug driving among illicit drug users in South Australia.

2.1 Participants

All the subjects in this study were volunteers who were compensated \$30 for their time. To meet entry criteria participants had to be at least 18 years of age and have used an illicit drug or drugs at least once a month *and* driven a vehicle at least once a month in the previous six months. A total of 105 people enquired about the study, 91 were eligible to participate and consequently interviewed.

2.2 Materials

A comprehensive questionnaire was developed for use in the study (see Appendix 1). The questionnaire consisted of four sections covering the following topics:

1. Demographic information
2. Drug use history
3. Knowledge and attitudes
4. Experience

Throughout the questionnaire drug driving was defined as either "feeling the effect of the drug" or "consuming an illicit drug or drugs, then driving a vehicle within an hour or two of use". Alcohol has been added to the range of illicit drugs enquired about to allow comparisons between the participants' perceptions and experience of drink and drug driving. While acknowledging that alcohol is a licit drug, for ease of reporting the term 'illicit drug' used throughout this report encompasses alcohol unless otherwise stated.

2.3 Procedure**2.3.1 Recruitment**

Participants were recruited from late December 2004 to the end of April 2005 through advertisements placed in three entertainment-focused street magazines and three University magazines (see Appendix 2). Three rounds of press advertising were carried out, over the Christmas/New Year period, during University Orientation weeks in late February 2005, and during early April 2005. From early January onwards posters and flyers were put up on university

notice boards, and placed at several inner city live music venue hotels, music stores and clothing shops. Participants were also recruited by snowballing procedures where on completion of interviews participants were offered business card size versions of the advertisement to pass on to others they thought may be interested in participating in the study.

2.3.2 *Interviews*

Subjects contacted the interviewer by telephone and were screened for eligibility. Participants were assured the information they provided was confidential and anonymous. Eligible participants were subsequently booked in for a face-to-face interview.

At the beginning of each interview the nature and purpose of the study was re-explained and participants were provided with a written information sheet. Participants were given the opportunity to ask questions about the study before written consent to participate was obtained. They were also advised that they need not provide their full name. The Drug Driving questionnaire was administered by a researcher in a single, face-to-face interview. The average length of time taken to complete interviews was 40 minutes (n=91), and ranged from 25 to 65 minutes.

2.3.3 *Data entry and analysis*

Both quantitative and qualitative written data was entered into SPSS for Windows Version 12.0. Quantitative data was analysed using SPSS for Windows Version 12.0 and qualitative data was organised into broad themes.

2.3.4 *Ethics approval*

This study was approved by the Flinders Clinical Research Ethics Committee, Flinders Medical Centre/Flinders University of South Australia.

3.1 Demographics

Of the 91 people interviewed, 68% were male (n=62) and 32% were female (n=29). The age of participants ranged from 18 to 56 years, with a median age of 27 years. There was no significant difference between the average age of males and females.

An analysis of current accommodation revealed that the majority of participants lived in their own home or flat (see Table 3.1.1). A smaller proportion reported living in the family home. Females were slightly more likely to be living in their own home or flat compared to males.

Table 3.1.1 Current accommodation

	Males (n=62)		Females (n=29)		Total (N=91)	
	n	%	n	%	n	%
No fixed/homeless	1	1.6	1	3.4	2	2.2
Own house/flat (includes renting)	46	74.2	24	82.8	70	76.9
Parents/family house	8	12.9	4	13.8	12	13.2
Boarding house/hostel	4	6.5	0	0	4	4.4
Shelter/refuge	1	1.6	0	0	1	1.1
Other	2	3.2	0	0	2	2.2

On average, participants had completed Year 11 at high school (mean=11.25 years, sd=1.06, N=91), with the majority (58%) having completed Year 12.

There was no significant difference between males and females with regard to the number of completed years of high school education. Approximately half the total sample went on to complete some form of post high school education (see Table 3.1.2), although proportionately speaking, females were less likely to have completed further education than males.

Table 3.1.2 Courses completed after school

	Males (n=62)		Females (n=29)		Total (N=91)	
	N	%	N	%	N	%
None	28	45.2	19	65.5	47	51.6
Trade/Technical	16	25.8	7	24.1	23	25.3
University/College	18	29	3	10.3	21	23.1

Of those participants who reported they were currently studying the majority were at university (see Table 3.1.3). As a proportion of the total sample still studying, females were more likely to be at university than males.

Table 3.1.3 Current study status

	Males (n=16)		Females (n=12)		Total (N=28)	
	n	%	n	%	n	%
TAFE college	2	12.5	0	0	2	7.1
University	12	75.0	11	91.7	23	82.1
Other	2	12.5	1	8.3	3	10.7

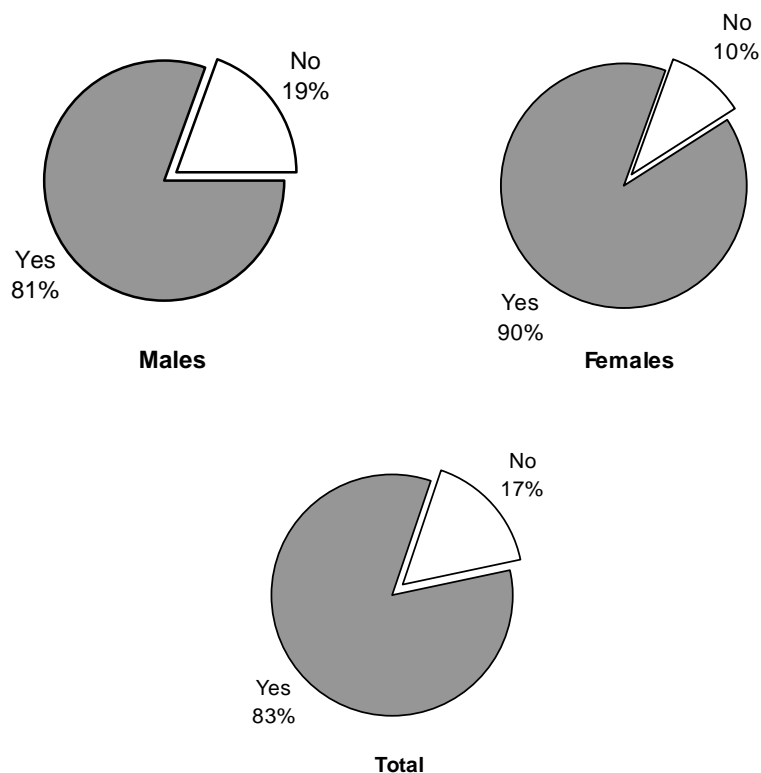
Approximately half of the participants were receiving some form of government allowance at the time of interview (see Table 3.1.4). Approximately equal proportions of males and females were on a government allowance with a slightly larger proportion of females reporting being a wage or salary earner.

Table 3.1.4 Major source of income in the past month

	Males (n=62)		Females (n=29)		Total (N=91)	
	N	%	N	%	N	%
Wage or salary	26	41.9	14	48.3	40	44.0
Government allowance	32	51.6	15	51.7	47	51.6
Own business	1	1.6	0	0	1	1.1
Other	3	4.8	0	0	3	3.3

Finally, participants were asked if they had a current driver's licence. In order to qualify for participation in the study participants must have driven a motor vehicle at least once a month for the past 6 months. As can be seen in Figure 3.1.5, not all those reporting driving in the previous 6 months held a current driver's licence at the time of interview. Of the fifteen people (17% of the total sample) reporting that they did *not* hold a current driver's licence at the time of interview, the majority were male (n=12, or 19% of males in the sample).

Figure 3.1.5 The proportion of participants holding a current driver's licence at the time of interview and who reported driving in the previous six months



In summary, the participants were mainly aged in their early 30's and most had completed year 12 at high school. The participants were most likely to be living in their own homes and approximately half were receiving some form of government allowance as their main source of income in the previous month. While the majority of participants currently held a driver's licence, almost 20% did not, and males were proportionately less likely to hold a current licence than females.

3.2 Drug use history

Participants were asked a series of questions about their past history with regard to a number of illicit substances as well as alcohol. The average age of first use of an illicit substance was 15.4 years (range, 11 to 28).

Participants were likely to have used a range of substances in the previous 12 months (see Table 3.2.1). Drugs used by over half of the participants included alcohol, cannabis, methamphetamine and ecstasy. A substantial proportion of participants (34%) also reported cocaine use in the previous 12 months, a

surprising finding given the smaller proportions found using cocaine in other recent illicit drug surveys within South Australia (Weekley *et al.*, 2005a; Weekley *et al.*, 2005b). Gamma-hydroxybutyrate (GHB) (9%) was the substance least likely to have been used in the previous 12 months, followed by inhalants (18%), heroin (19%) and ketamine (19%).

Table 3.2.1 Reported use of illicit substances in the previous 12 months

	Males (n=62)		Females (n=29)		Total (N=91)	
	n	%	n	%	n	%
Alcohol	55	88.7	27	93.1	82	90.1
Cannabis	58	93.5	29	100.0	87	95.6
Methamphetamine	49	79.0	21	72.4	70	76.9
Heroin	13	21.0	4	13.8	17	18.7
LSD	24	38.7	8	27.6	32	35.2
Ketamine	11	17.7	6	20.7	17	18.7
GHB	5	8.1	3	10.3	8	8.8
Cocaine	18	29.0	13	44.8	31	34.1
Ecstasy	37	59.7	17	58.6	54	59.3
Inhalants	10	16.1	6	20.7	16	17.6
Other	23	37.1	14	48.3	37	40.7

Gender differences were identified with respect to heroin, LSD and cocaine use. Proportionately speaking, females were more likely to report use of cocaine, and males were more likely to report use of heroin and LSD, in the previous 12 months. Similar proportions of males and females reported recent use of alcohol, cannabis, methamphetamine and ecstasy.

An analysis of the frequency of use of illicit substances in the previous 12 months was confined to the four most commonly used substances: alcohol, cannabis, methamphetamines and ecstasy. The four frequency of use categories examined were 'daily use', 'at least weekly use', 'at least monthly use', and 'less than monthly use'. Results are depicted in Tables 3.2.2 to 3.2.5, inclusive.

As can be seen in Table 3.2.2, of those participants that reported recent alcohol use, the majority reported drinking alcohol on at least a weekly basis. Males were more likely than females to use alcohol at higher frequencies in the previous 12 months.

Table 3.2.2 Frequency of alcohol use in previous 12 months

	Males (n=55)		Females (n=27)		Total (N=82)	
	n	%	n	%	n	%
Daily	11	20.0	4	14.8	15	18.3
At least weekly	36	65.5	15	55.6	51	62.2
At least monthly	2	3.6	2	7.4	4	4.9
Less than monthly	6	10.9	6	22.2	12	14.6

Cannabis was the substance used most frequently by both males and females, with more than a third of all participants reporting daily use (see Table 3.2.3). Males were more likely than females to use cannabis at higher frequencies in the previous 12 months.

Table 3.2.3 Frequency of cannabis use in the previous 12 months

	Males (n=58)		Females (n=29)		Total (N=87)	
	n	%	n	%	n	%
Daily	24	41.4	9	31.0	33	37.9
At least weekly	29	50.0	14	48.3	43	49.4
At least monthly	4	6.9	4	13.8	8	9.2
Less than monthly	1	1.7	2	6.9	3	3.4

Approximately a quarter of all participants reported using methamphetamine at least monthly in the previous 12 months (see Table 3.2.4). Males were proportionately more than twice as likely to use methamphetamine at least weekly compared to females (24.5% vs 9.5%).

Table 3.2.4 Frequency of methamphetamine use in the previous 12 months

	Males (n=49)		Females (n=21)		Total (N=70)	
	n	%	n	%	n	%
Daily	2	4.1	1	4.8	3	4.3
At least weekly	12	24.5	2	9.5	14	20.0
At least monthly	12	24.5	7	33.3	19	27.1
Less than monthly	23	46.9	11	52.4	34	48.6

Ecstasy was the least frequently used substance of the four main substances used, with approximately two thirds of the sample reporting less than monthly use (see Table 3.2.5). Males were more likely to report at least monthly use than females (29.7% vs 17.6%).

Table 3.2.5 Frequency of ecstasy use in the previous 12 months

	Males (n=37)		Females (n=17)		Total (N=54)	
	n	%	n	%	n	%
Daily	0	0	0	0	0	0
At least weekly	1	2.7	2	11.8	3	5.6
At least monthly	11	29.7	3	17.6	14	25.9
Less than monthly	25	67.6	12	70.6	37	68.5

Participants were asked where they had spent *the most time* under the influence of a range of illicit substances, as well as where they were *the last time* they were under the influence of each substance. The results are presented in Table 3.2.6 for the four substances most frequently used in the previous 12 months. As can be seen, there were no substantial differences between the places *most often* and *last* attended under the influence of these substances.

With respect to alcohol, participants spent *most* of their time under the influence at pubs, home and friends' places. Participants were less likely to be under the influence of cannabis in pubs, but like alcohol, were more likely to be under the influence at home or at friends' places.

A broad array of locations were cited by participants as places they had been under the influence *most* and *last* with regard to methamphetamine, including at home, friends' places, nightclubs, pubs and private parties. Four participants reported being under the influence (either *most often* or on the *last* occasion) in a car, as the driver.

Participants reported *mostly* being under the influence of ecstasy at raves/doofs and nightclubs, closely followed by home and private parties. A similar pattern was observed for the *last* reported location whilst under the influence of ecstasy.

In summary, participants reported initiation to drug use at the average age of 15 years. The most commonly used substances in the 12 months prior to interview were alcohol, cannabis, methamphetamine and ecstasy. Interestingly, a substantial portion of participants (males 29% and females 45%) reported cocaine use in the previous 12 months. The least consumed substances were

GHB, inhalants, heroin and ketamine. Cannabis was used on a daily basis by approximately a third of all participants while alcohol was used at least weekly by approximately two thirds of participants. A quarter of all participants reported using methamphetamine at least monthly and males were twice as likely to do so compared to females. Ecstasy was used at least monthly by approximately a quarter of the sample.

Alcohol was reported as being used predominantly at a pub or in the participant's home. Cannabis was reported as being used predominantly at the participant's home. In contrast, methamphetamine was reportedly used in a wider variety of locations, and four participants reported using in their cars. Of those participants that reported recent ecstasy use, similar proportions reported having used at raves/doofs, nightclubs, or their own home.

Table 3.2.6 Place participants have spent the most time under the influence, or the last time they were under the influence of an illicit substance.

* 'Other' includes: work, car (as driver or passenger), restaurant/café or other.

Number of participants	Home		Friends' place		Raves/doofs		Nightclub		Pub/hotel		Private party		Public place		Live music event		Other*	
	Most	Last	Most	Last	Most	Last	Most	Last	Most	Last	Most	Last	Most	Last	Most	Last	Most	Last
Alcohol (n=82)	28	27	9	13	0	0	3	6	35	30	3	2	3	3	1	0	0	1
Cannabis (n=87)	60	50	18	23	0	0	1	1	1	3	0	2	2	2	1	1	4	5
Methamphetamine (n=70)	10	14	10	13	5	8	15	8	7	12	10	8	2	3	4	1	7	3
Ecstasy (n=54)	9	9	4	6	12	9	10	13	3	3	7	7	2	2	6	2	1	3

3.3 Knowledge and attitudes

3.3.1 *Perception of improvement and adverse effect*

Participants were asked to what degree they thought that various illicit drugs could improve their driving, and conversely, to what degree various illicit drugs could adversely affect their driving. The latter question was qualified by the instruction "if you were feeling the effect of the drug". The results for all illicit substances are presented in Tables 3.3.1.1 and 3.3.1.2. Readers should note that with regard to the second question (results shown in Table 3.3.1.2), some participants were unable to answer because they felt the level of an adverse effect would be dependent on several factors, such as the amount of substance consumed and time since consumption.

Responses with regard to alcohol were the most consistent, with the majority believing it would not improve their driving ability: all participants believed it would have at least some adverse effect. In contrast, a third (34%) of all participants believed that their driving would not be adversely affected by cannabis, with 40% reporting that cannabis could contribute to at least a small degree of improvement in their driving ability. Similarly, approximately a third (29%) of participants believed that their driving would not be adversely affected by methamphetamine, with 42% reporting that methamphetamine could contribute to at least a small degree of improvement in their driving.

While 15% of participants believe that cocaine would not adversely affect driving, approximately 20% reported at least a small degree of improvement was possible, and 18% were unsure of cocaine's effect on their driving ability. A small percentage of participants (4.6%) believed ecstasy would not adversely affect their driving, while 14.3% perceived that ecstasy could effect at least a small degree of improvement in their driving. Ten percent of participants were unsure of ecstasy's effect on their driving ability.

Heroin, LSD, ketamine, GHB and inhalants were all considered to adversely affect driving ability by the majority of participants, with less than 10% for each drug category reporting that it may contribute to at least a small degree of improvement in driving. A greater proportion of participants, though, were unsure of the effect of these drugs on their driving ability.

An analysis of gender differences revealed a number of interesting findings. For alcohol, a larger proportion of females (85%) than males (68%) believed alcohol could adversely affect their ability to drive to a large extent. However, a smaller proportion of females (11.5%) reported that alcohol could have a moderate adverse affect on their driving than males (28%).

With respect to cannabis, males were more likely to report that cannabis could effect a small degree of improvement in their driving ability, than females (31% vs 17%). Also, a slightly larger proportion of males (41%) reported that cannabis would have only a small adverse effect on their ability to drive, compared to females (36%).

Overall, females were less likely to report that methamphetamine could improve their driving, compared to males (59% vs 47%), although a greater proportion of females (17%) reported that methamphetamine could moderately improve their driving compared to males (10%).

In summary, alcohol was perceived as the substance that could most affect participants' ability to drive, with over 90% of males and females reporting that alcohol could adversely affect their driving. In contrast, approximately 40% of participants reported that cannabis and methamphetamine could contribute to at least a small degree of improvement in their driving. Approximately half that number reported that cocaine and ecstasy could contribute to at least a small degree of improvement in their driving (20% and 14%, respectively). Few participants reported that heroin, LSD, ketamine, GHB and inhalants could improve their ability to drive.

Table 3.3.1.1 Degree to which participants believed an illicit substance could improve their driving

% of all participants (N=91)	No improvement	Small degree of improvement	Moderate degree of improvement	Large degree of improvement	Not sure
Alcohol	94.5	5.5	0	0	0
Cannabis	57.1	26.4	11.0	2.2	3.3
Methamph.	50.5	20.9	12.1	8.8	7.7
Heroin	76.9	2.2	0	2.2	18.7
LSD	84.6	5.5	1.1	0	8.8
Ketamine	70.3	1.1	0	0	28.6
GHB	68.1	2.2	0	0	29.7
Cocaine	62.6	16.5	2.2	1.1	17.6
Ecstasy	75.8	12.1	1.1	1.1	9.9
Inhalants	84.6	0	0	0	15.4

Note. All participants answered for each drug regardless of whether or not they had tried or consumed the drug within the previous 12 months.

Table 3.3.1.2 Degree to which participants believed an illicit substance could adversely affect their driving

% of participants able to answer *	No adverse effect	Small adverse effect	Moderate adverse effect	Large adverse effect	Not sure
Alcohol (n= 79)	0	3.8	22.8	73.4	0
Cannabis (n=86)	33.7	39.5	15.1	10.5	1.2
Methamphet. (n=85)	29.4	18.8	20.0	21.2	10.6
Heroin (n=87)	2.3	8.0	3.4	50.6	35.6
LSD (n=89)	1.1	5.6	14.6	62.9	15.7
Ketamine (n=90)	0	3.3	5.6	48.9	42.2
GHB (n=90)	0	1.1	7.8	42.2	48.9
Cocaine (n=89)	14.6	18.0	16.9	21.3	29.2
Ecstasy (n=87)	4.6	17.2	24.1	33.3	20.7
Inhalants (n=90)	1.1	4.4	5.6	47.8	41.1

* Some participants were unable to answer because they felt the level of adverse effect would be dependent on factors such as the amount of substance consumed, time since consumption etc.

Of those participants that reported a belief that one or more substances could improve their ability to drive, a number provided comment on how the improvement was apparent (a complete list of comments provided is contained in Appendixes 3 to 6). An analysis of these responses for alcohol, cannabis, methamphetamine and ecstasy was undertaken, and a number of themes were identified for each of the drugs.

Only four people provided comments as to how alcohol could improve driving, which is in keeping with the small proportion of participants (5%) that believed it could improve driving ability. There were two themes identified, the first was that alcohol can make you more alert and therefore improves driving. For example;

"Makes you more aware of what's going on. But only if you've had one or two glasses. As long as you've only had a small amount, not a large amount."

The second theme involved the fear of getting caught that subsequently made you drive more cautiously. For example;

"Only when I'm so scared of getting caught I drive extremely carefully. This is when I might be near the limit not when I'm completely trashed."

A far greater number (n=36) of participants provided an explanation for how cannabis could improve their driving ability. Generally speaking, four major themes were identified and a lot of participants commented on all four themes within their responses. One theme, reported by many participants, was regarding the perception that cannabis made them drive more slowly and that this improved their driving. For example;

"Cannabis slows you down a little bit...you drive more slowly."

Driving more cautiously was seen as another positive effect of cannabis that could improve driving. For example;

"Makes me extremely cautious and aware...not because of the influence of the cannabis, but because I know I've had some and I'm compensating to make sure everything's ok."

Concentration was another theme that came up often in participants' responses, with many believing cannabis could improve concentration while driving. For example;

"Helps me concentrate more than normally. You slow everything down and make conscious decisions."

Somewhat surprising was the number of responses where participants' reported that cannabis made them more alert. For example;

"I know I am under the influence so I am more alert, more vigilant, pay more attention, don't take as many risks as I would if I were straight."

More participants (n=39) commented about how methamphetamine could improve their driving ability than for any other drug. Like cannabis, some broad themes were identified. A number of participants' commented that methamphetamine makes you more alert and aware of surroundings and could therefore improve driving ability. For example;

"More alert, more aware, more awake. Always looking to make sure things are ok. Better hearing and feel like can make the traffic lights change."

Others identified the belief that methamphetamine could improve reflexes and quicken responses whilst driving. For example;

"Reaction time increased...lessens chance of hesitating which can cause accidents."

Methamphetamine was also believed to improve concentration, which could then improve driving behaviour. For example;

"Concentrate more on driving...focusing on what's happening on the road."

In comparison to cannabis and methamphetamine, fewer participants (n=13) commented on how ecstasy could improve their driving. Similar themes to the other drugs emerged from these comments, with increased alertness and awareness commonly mentioned. For example;

"Similar to speed for heightened awareness and reflexes and makes driving a more joyful experience."

Two participants commented on their belief that ecstasy could make them more considerate and polite whilst driving.

"...focus more on surroundings, much more considerate of other drivers and more distance between cars."

"...eliminates road rage...more considerate of other drivers."

In spite of listing a number of ways in which the different drugs could improve driving ability, many of the participants provided caveats to their statements regarding the level of intoxication and some of the more negative side effects. The following two examples from cannabis users illustrate the point.

"But sometimes I might forget things, leave the handbrake on or not remember driving home."

"I only use a small amount, if I had too much I would be complacent and my driving would deteriorate."

Similar sentiments were expressed by methamphetamine users. For example;

"If you've had a big night out or are just really tired, improves driving by making you more awake and alert. But when coming down it could have a really negative effect on driving, you could be agitated/jittery."

"Not if I've just had some but when it's starting to wear off I concentrate better, like kids have it for concentrating and ADD."

Generally though, many participants believed that drugs such as cannabis and methamphetamine could improve driving through increased alertness and concentration, with cannabis more likely to make you more cautious and methamphetamines more likely to improve reflexes.

3.3.2

Perceptions of danger

Participants were asked to what degree they thought it would be dangerous to drive within an hour or two of use of an illicit substance. Once again, the question was qualified by the instruction “if you were feeling the effect of the drug”. Participants answered according to the categories “not at all dangerous”, “somewhat dangerous”, “dangerous”, “very dangerous” and “not sure”. As can be seen in Figures 3.3.2.1 and 3.3.2.2, a clear picture emerges with regard to alcohol, with over 40% of the sample reporting they consider it *very dangerous* to drive following use of the drug, and very few reporting they consider it *not at all dangerous* or that they were *not sure*. A similarly clear picture was seen with regard to LSD. However, while 30% or more of the sample also considered it would be *very dangerous* to drive following use of heroin, ketamine, GHB and inhalants, similar (and, in the case of ketamine, GHB and inhalants, greater) proportions of the sample were *not sure* how dangerous it would be to drive following use of these illicit substances. With regard to ecstasy and cocaine, while the majority of participants reported that some level of danger was associated with driving following use of these substances (74% and 55%, respectively), opinion was more spread across all three categories (*somewhat dangerous*, *dangerous* or *very dangerous*) than for other drugs. In contrast, cannabis and methamphetamine were largely reported to be *not at all dangerous* to drive on, by 58% and 40% of the sample, respectively. Compared to alcohol, participants ranked cannabis, methamphetamine, cocaine and ecstasy as less dangerous to drive on within an hour or two of use.

While there were no substantial differences seen between males and females with regard to alcohol, cocaine or heroin, there were some differences noted for other illicit substances. In particular, males were more likely to believe that it was *not at all dangerous* to drive following use of cannabis compared to females (65% vs 45%), while in contrast, females were more likely to believe it was *not at all dangerous* to drive following use of ecstasy, compared to males (14% vs 5%). In addition, proportionately more females than males considered it would be *very dangerous* to drive following use of methamphetamine (21% vs 7%), ketamine (45% vs 27%), GHB (45% vs 27%), LSD (48% vs 39%) and inhalants (41% vs 34%).

Figure 3.3.2.1 Degree to which participants thought it was dangerous to drive within an hour or two of drug use.

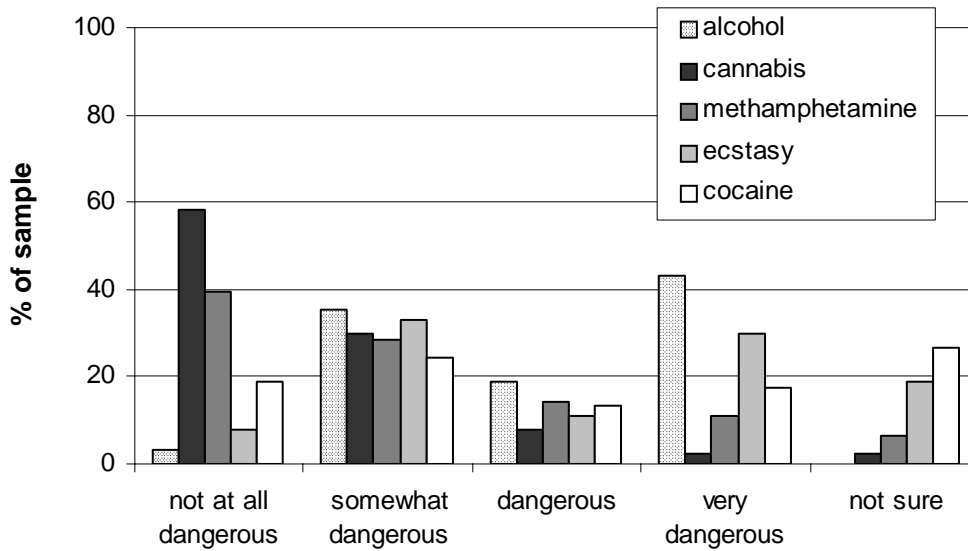
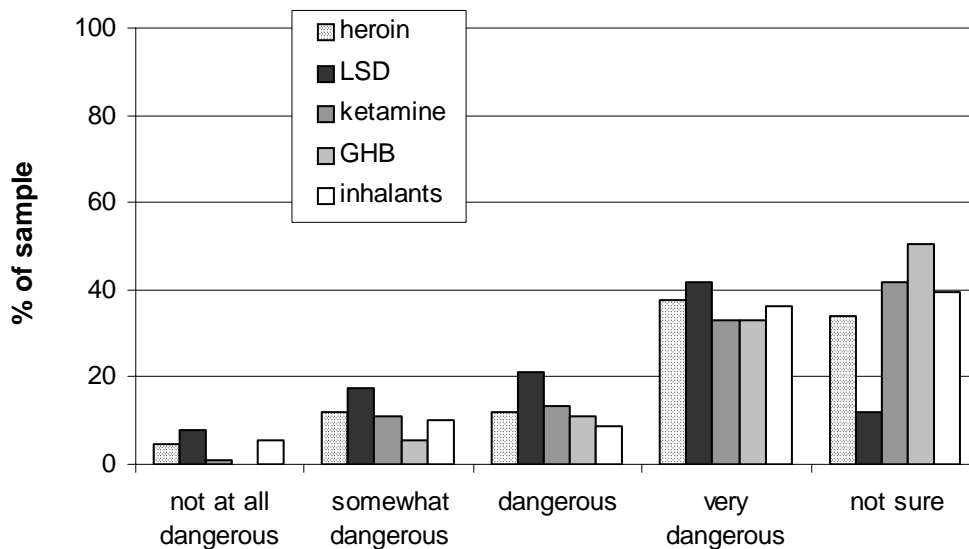


Figure 3.3.2.2 Degree to which participants thought it was dangerous to drive within an hour or two of drug use.



3.4

Experiences

Participants were asked if they had ever consumed illicit drugs and then driven a vehicle within an hour or two of use, and also whether or not they had done this during the 12 months prior to interview. Readers are cautioned that a response bias may be present in this question as individuals prone to drug driving may have responded to the survey in greater proportions than those

who do not drug drive. Therefore, high levels of reporting of drug driving may be more indicative of a self-selecting sample bias than a true reflection of the illicit drug using population in South Australia. As can be seen in Table 3.4.1, all males and almost all females in the sample reported having ever driven or driven *in the last 12 months* under the influence of an illicit substance.

Table 3.4.1 Reported experience of drug driving ever and in the last 12 months

	Males (n = 62)		Females (n = 29)		Total (N = 91)	
	n	%	n	%	n	%
Ever drug driven	62	100	28	96.6	90	98.9
Drug driven last 12 months	62	100	27	93.1	89	97.8

A similar result was found when participants were asked if they had *ever* or *in the last 12 months* been a passenger of a driver who had driven within an hour or two of using an illicit substance (see Table 3.4.2).

Table 3.4.2 Reported experience of being a passenger of a drug driver ever and in the last 12 months

	Males (n = 62)		Females (n = 29)		Total (N = 91)	
	n	%	n	%	n	%
Ever passenger	62	100	29	100	91	100
Passenger last 12 months	61	98.4	28	96.6	89	97.8

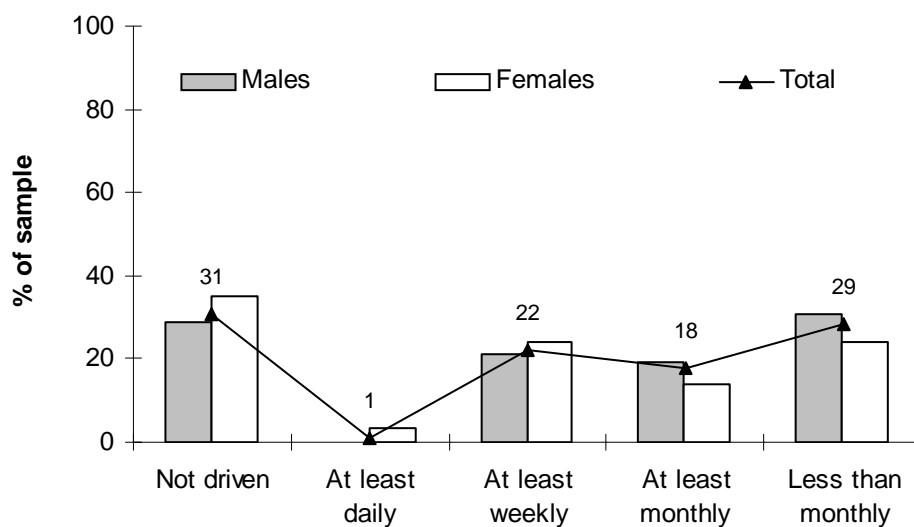
Participants were asked how long it had been since they had last driven within an hour or two of using an illicit substance and the results are presented in Table 3.4.3. For those who had driven within an hour or two of using an illicit substance, the majority had done so within the last week.

Table 3.4.3 Time since participants had last driven a vehicle within an hour or two of using an illicit drug

	Males (n=62)		Females (n=29)		Total (N=91)	
	N	%	N	%	N	%
In the last week	42	67.7	19	65.5	61	67.0
Over two weeks ago	11	17.7	3	10.3	14	15.4
Over a month ago	8	12.9	3	10.3	11	12.1
Over three months ago	1	1.6	0	0	1	1.1
Over 6 months ago	0	0	3	10.3	3	3.3
Never	0	0	1	3.4	1	1.1

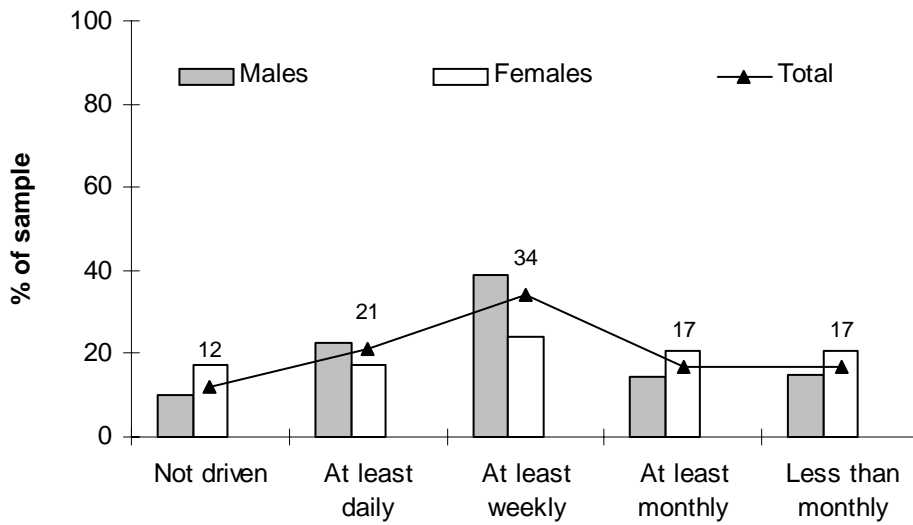
Participants were also asked more specific questions about the frequency of driving within an hour or two of consuming alcohol and a number of illicit substances in the last 12 months. The results for alcohol, cannabis, methamphetamine and ecstasy are presented in Figures 3.4.4 to 3.4.6 below. Approximately a third of participants had not driven within an hour or two of consuming alcohol in the previous 12 months, however, 22% of the total sample reported driving after consuming alcohol at least weekly (Figure 3.4.4).

Figure 3.4.4 Frequency of driving within an hour or two of consuming of alcohol in the last 12 months



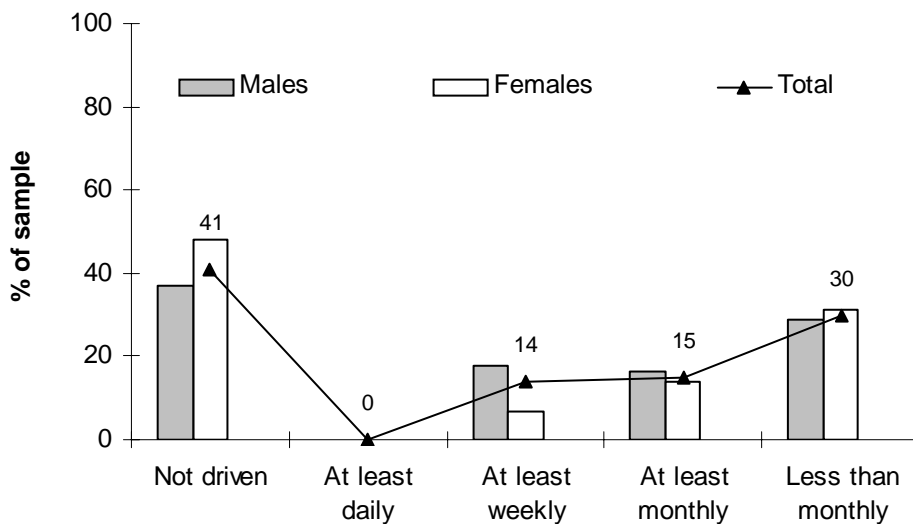
Participants reported driving within an hour or two of consuming cannabis more frequently than alcohol in the previous 12 months (see Figure 3.4.5). Only 12% of participants reported not having driven after using cannabis with the majority driving after using cannabis at least weekly in the last 12 months. A greater proportion of males than females reported driving after consuming cannabis on at least a weekly basis (39% vs 24%).

Figure 3.4.5 Frequency of driving within an hour or two of consuming cannabis in the last 12 months



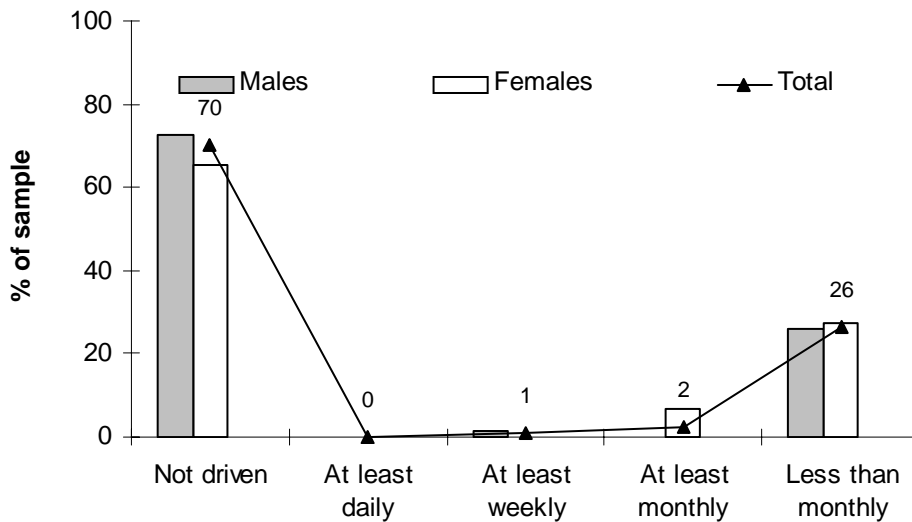
With respect to driving after using methamphetamine, 30% of participants reported having done so less than monthly in the past 12 months (see Figure 3.4.6). However, a similar proportion of participants reported driving within an hour or two of using on at least a weekly or monthly basis. Males were twice as likely to report weekly driving following methamphetamine use than females (18% vs 7%).

Figure 3.4.6 Frequency of driving within an hour or two of consuming methamphetamine in the last 12 months



Participants were far less likely to have driven within an hour or two of using ecstasy in the previous 12 months compared to alcohol, cannabis and methamphetamine, with 70% reporting that they had not driven following ecstasy use (see Figure 3.4.7). Participants were most likely to report having driven after using ecstasy on a less than monthly basis, and there were no differences noted between males and females.

Figure 3.4.7 Frequency of driving within an hour or two of consuming ecstasy in the last 12 months



Of the other illicit drugs asked about, 85% or more of participants reported not having driven after using heroin, LSD, ketamine, GHB, cocaine or inhalants in the previous 12 months.

Those participants who reported having driven within an hour or two of consuming a particular substance were also asked how often they thought their ability to drive was affected on those occasions. The results for alcohol, cannabis, methamphetamine and ecstasy were examined and the results are presented in Table 3.4.8.

Table 3.4.8 *How often participants believed their ability to drive was affected by illicit substance use, in the last 12 months*

%	Never	Some of the time	Half of the time	Most of the time	All of the time
Alcohol (n= 63)	19.0	31.7	12.7	17.5	19.0
Cannabis (n= 80)	33.8	46.3	5.0	8.8	6.3
Methamphet. (n= 54)	42.6	33.3	3.7	7.4	13.0
Ecstasy (n= 26*)	19.2	38.5	19.2	19.2	3.8

* data missing for one participant

As can be seen in Table 3.4.8, there were differences in the participants' perceptions of level of effect depending on which substance they had used prior to driving. With methamphetamine, the largest percentage of users (42.6%) reported their driving ability was *never* affected by methamphetamine, while in contrast, the largest percentage of users believed their driving ability was affected by alcohol, cannabis or ecstasy *at least some of the time* they were driving following use of these substances (31.7%, 46.3% and 38.5%, respectively).

Very few participants reported driving within an hour or two of consuming heroin, LSD, ketamine, GHB, cocaine or inhalants in the previous 12 months and so the results are not discussed.

A summary of participants' attitudes and behaviour towards driving after using alcohol, cannabis, methamphetamine and ecstasy is presented separately, for each of the four main drugs, below.

3.4.1 *Alcohol*

Attitude/belief: 73% of the total sample believed that alcohol could adversely affect their driving ability to a large extent. Only 6% reported that alcohol could offer a small degree of improvement in their driving ability.

None believed that alcohol did not adversely affect driving behaviour at all.

Behaviour: Of the total sample, 69% (n=63) reported having driven within an hour or two of consuming alcohol in the previous 12 months.

Of those that had driven, 32% (n=20) had done so *at least weekly* in the past 12 months, and 19% (n=12) reported that their ability to drive on those occasions had *never* been affected.

Conclusion: The majority of the sample believed that alcohol can adversely affect driving to a large extent. However, 69% of participants reported that they had driven within an hour or two of consuming alcohol, and a third of those reported having done so on at least a weekly basis, in the previous 12 months.

3.4.2

Cannabis

Attitude/belief: 11% of the total sample believed that cannabis could adversely affect their driving ability to a large extent. 40% believed cannabis could provide at least a small degree of improvement in their driving ability.

34% believed that cannabis would not adversely affect their ability to drive at all.

Behaviour: Of the total sample, 88% (n=80) reported having driven within an hour or two of using cannabis in the previous 12 months.

Of those that had driven, 39% (n=31) had done so *at least weekly* and 24% (n=19) had done so *daily*, in the past 12 months. 34% (n=27) reported that their ability to drive on those occasions had *never* been affected.

Conclusion: A third of the sample believed that cannabis would not adversely affect their driving ability, and a greater proportion believed it could actually improve driving at least to a small degree. It is unsurprising then to find that the majority (88%) reported that they had driven after using cannabis within the previous 12 months, and a third of those reported having done so on at least a weekly basis.

3.4.3

Methamphetamine

Attitude/belief: 21% of the total sample believed that methamphetamine could adversely affect their driving ability to a large extent. 42% believed methamphetamine could provide at least a small degree of improvement in driving ability.

29% believed that methamphetamine would not adversely affect their ability to drive at all.

Behaviour: Of the total sample, 59% (n=54) reported having driven within an hour or two of using methamphetamine within the previous 12 months.

Of those that had driven, 24% (n=13) had done so *at least weekly* in the past 12 months, and 43% (n=23) reported that their ability to drive on those occasions had *never* been affected.

Conclusion: A slightly smaller proportion of the sample believed methamphetamine would not adversely affect driving compared to cannabis (29% vs 34%, respectively), but a similar proportion believed it could actually improve driving at least to a small degree (42% vs 40%, respectively). Almost 60% of the sample reported that they had driven within an hour or two of consuming methamphetamine in the previous 12 months, with a quarter of those reporting they had done so on a weekly basis.

3.4.4

Ecstasy

Attitude/belief: 33% of the total sample believed that ecstasy could adversely affect their driving ability to a large extent. Only 14% believed ecstasy could provide at least a small degree of improvement in their driving ability.

Only 5% believed that ecstasy would not adversely affect their ability to drive at all.

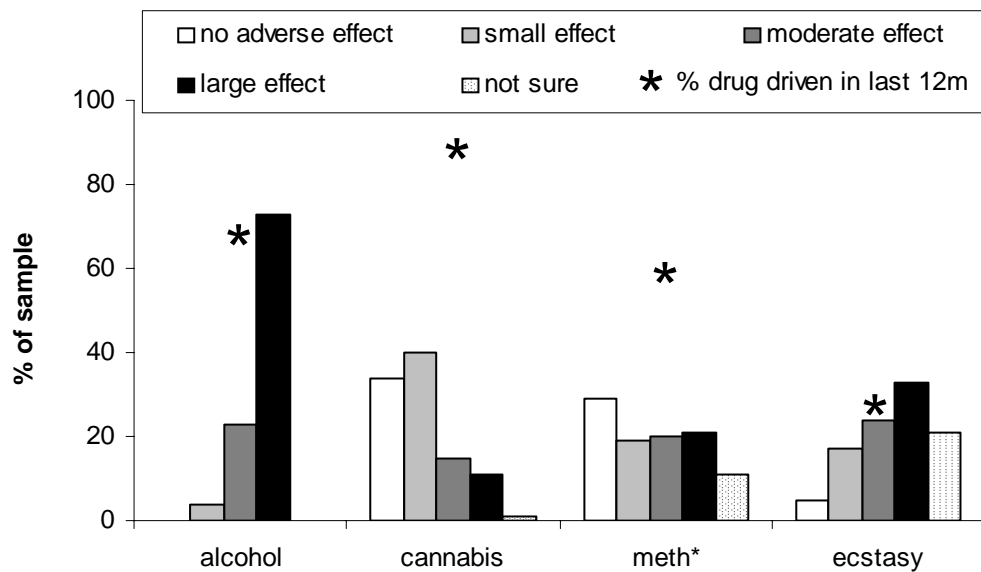
Behaviour: Of the total sample, 30% (n=27) reported having driven within an hour or two of using ecstasy within the previous 12 months.

Of those that had driven, only one person had done so *at least weekly* in the past 12 months, and 19% (n=5) reported that their ability to drive on those occasions had *never* been affected.

Conclusion: A higher proportion of the sample believed that ecstasy could adversely affect their driving ability, compared to cannabis and methamphetamine, and only a small proportion (14%) believed it could offer any improvement in their driving ability. Despite this, 30% of the sample reported that they had driven after consuming ecstasy within the previous 12 months.

As illustrated in Figure 3.4.4.1, for cannabis and methamphetamine, the less participants' believed that these drugs could adversely affect their driving ability (as indicated by the small percentages reporting the belief that these substances could have a 'large adverse effect'), the more likely they were to report having driven following their use in the last 12 months. For ecstasy, even though only a third believed ecstasy could have a large adverse effect on their driving ability, most believed that it had at least some adverse affect, which was reflected by the majority (over two-thirds) reporting they had *not* driven after using ecstasy in last 12 months. For alcohol however, the pattern was not as expected. In contrast to cannabis and methamphetamine in particular, the majority believed that alcohol would adversely affect their driving, but the majority *also* report driving following its use in the last 12 months. However, readers are reminded that the amount of alcohol consumed prior to driving was not elucidated and it cannot be assumed that those reporting this behaviour were 'over the limit' with regard to blood alcohol levels.

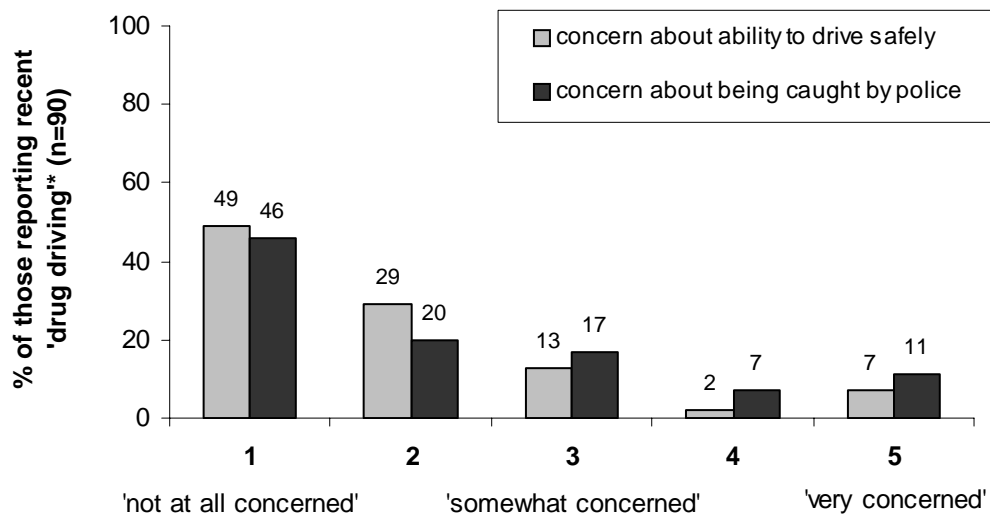
Figure 3.4.4.1 Comparison of participants' beliefs in the adverse effects of the drug on driving, and whether they had driven in the previous 12 months within an hour or two of consuming the drug



3.4.5 Concerns about safety and detection by police

Participants were asked how concerned they were about their ability to drive safely within an hour or two of using an illicit substance, as well as how concerned they were about getting caught by police, on a five-point Likert scale where ranging from 'not at all concerned' (scored 1), 'somewhat concerned' (scored 3), to 'very concerned' (scored 5). Figure 3.4.5.1 presents the findings for both questions.

Figure 3.4.5.1 Participants level of concern regarding their ability to drive safely, and regarding the possibility of being caught by police, when 'drug driving'



* 'drug driving' refers to having driven within an hour or two of illicit drug use

Results show that most participants were not overly concerned about their ability to drive safely under the influence of an illicit drug the last time they drove, with 49% reporting they were *not at all concerned*, and a median reported score of 2.0 (range 1 to 5). Similarly, most participants were not particularly concerned about the possibility of being caught by police the last time they drove within an hour or two of using an illicit substance, with 46% reporting they were *not at all concerned*, and a median reported score of 2.0 (range 1 to 5). No significant difference regarding level of concern for either of these questions was seen between males and females.

3.4.6 *Reasons for drug driving*

Participants were asked about the likelihood of driving under the influence of an illicit substance according to a number of different scenarios. The results are presented in Table 3.4.6.1. Participants report that they would be very likely to drive within an hour or two of using an illicit drug in a variety of situations. For example, they were much more likely to drive if they were only travelling a short distance or had only consumed a small amount of drugs. In contrast, participants were least likely to report driving following drug use due to a fear of leaving their vehicle.

Participants were also given the opportunity to provide alternative examples of situations where they would be likely to drive under the influence of an illicit substance. A total of 84 alternative examples were provided by the participants and, on average, 62% reported that it was very likely they would drive in the situations described. A full list of all the alternatives provided can be found in Appendix 7.

The most common alternative example provided by participants was the need to drive as part of their everyday existence. The following examples illustrate the mundane reasons participants drove following use of a drug:

"It's part of life, shopping, family transport, visiting friends etc."

"If you use regularly, it's part of life...wouldn't drive if I didn't feel confident of my ability to drive."

"To go to shops, day to day stuff."

Table 3.4.6.1 Participants' self-reported likelihood of driving within an hour or two of using illicit drugs, under various circumstances (N=91).

	Not at all likely		Somewhat likely		Likely		Very likely		Not sure		N/A*	
	n	%	n	%	n	%	n	%	n	%	n	%
If there is no public transport available	7	7.7	17	18.7	15	16.5	43	47.3	0	0	9	9.9
If I have no money for a taxi	10	11.0	13	14.3	16	17.6	48	52.7	0	0	4	4.4
If I don't want to spend the money on a taxi	13	14.3	15	16.5	19	20.9	39	42.9	1	1.1	4	4.4
If I am only driving a short distance	11	12.1	10	11	14	15.4	55	60.4	1	1.1	0	0
If I don't think I will get caught **	12	13.2	15	16.5	13	14.3	38	41.8	1	1.1	11	12.1
If I am afraid to leave my car in case it gets stolen, damaged or broken into	25	27.5	11	12.1	10	11.0	27	29.7	2	2.2	16	17.6
If I don't think the drug(s) will have any effect on my driving	3	3.3	16	17.6	19	20.9	49	53.8	1	1.1	3	3.3
If my friends are depending on me for transport	18	19.8	24	26.4	18	19.8	31	34.1	0	0	0	0
If I have only had a small amount of drugs	3	3.3	12	13.2	22	24.2	54	59.3	0	0	0	0

* N/A indicates that the participant considered the circumstance would not apply to them, e.g. they would never catch public transport anyway, whether it was available or not.

** data missing for one participant

Participants were also asked whether or not they had *ever* had a car accident, or come close to having an accident ('near miss'), whilst driving following use of an illicit drug. Approximately half the sample (48%) reported having had, or come close to having, a car accident under these circumstances (see Table 3.4.6.2). Of those, 45% (n=20) reported that they had had an accident or come close to having an accident while driving, *at least once*, following use of an illicit drug *in the last 12 months*. One person reported that this had occurred as many as five times during that period.

Table 3.4.6.2 *Ever had a car accident or 'near miss' while driving following use of an illicit drug, and frequency of such occurrences in the last 12 months.*

	Total participants (N=91)	
	n	% of total
Accident or near miss as a driver following illicit drug use - EVER	44	48.4
Frequency of such accidents or near misses in last 12 months	20	21.9
<i>One</i>	11	12.0
<i>Two to Five</i>	9	9.9

Participants were also asked whether or not they had *ever* had a car accident, or come close to having an accident ('near miss'), whilst a passenger of a driver who had used illicit drugs within the preceding hour or two ('drug driver'). Approximately half the sample (47%) reported having had, or come close to having, a car accident under these circumstances (see Table 3.4.6.3). Of those, 60% (n=26) reported that they had had an accident or come close to having an accident while a passenger of a 'drug driver', *at least once*, following use of an illicit drug *in the last 12 months*. One person reported that this had occurred as many as ten times during that period.

Table 3.4.6.3 *Ever had a car accident or 'near miss' while a passenger of a 'drug driver', and frequency of such occurrences in the last 12 months.*

	Total participants (N=91)	
	n	% of total
Accident or near miss as passenger of drug driver	43	47.3
Frequency of such accidents or near misses in the last 12 months	26	28.6
<i>One</i>	18	19.8
<i>Two to Five</i>	7	7.7
<i>Six to Ten</i>	1	1.1

Participants were also asked whether they had friends or family members who had driven within an hour or two of using an illicit drug or drugs, in the past 12 months. As can be seen in Table 3.4.6.4, almost all the sample (97%) reported that they had at least *some* friends, and over a third (36%) reported that they had at least *some* family members, that had driven after using illicit drugs during that time. When asked about the frequency of such behaviour, 22% of the sample (n=20) reported that friends had driven following drug use on a daily basis, 42% (n=38) that they had done so once a week, and a further 25% (n=23) that they had done so once a month. Ten percent of the sample (n=9) reported that a family member or members had driven following drug use on a daily basis, 13% (n=12) that they had done so once a week, and a further 3% (n=3) that they had done so once a month. With regard to gender differences, a slightly greater proportion of females than males reported having *many* friends (41% vs 32%), or *any* family members (45% vs 32%), who had driven following drug use in the previous twelve months.

Table 3.4.6.4 Participants' estimates of how many friends and family had driven within an hour or two of using an illicit drug or drugs, in the past 12 months

%	None	Some	Half	Many	All	Don't know
How many friends? (N = 91)	0	37.4	16.5	35.2	7.7	3.3
How many family members? (N = 91)	48.4	29.7	2.2	3.3	1.1	15.4

In summary, almost all participants reported driving within an hour or two of consuming an illicit substance in the 12 months prior to interview. Two thirds of all participants had done so in the last week. Cannabis was reportedly the most common drug driven on with a third of participants reporting at least weekly driving after using cannabis. When asked whether their ability to drive had been affected by a range of drugs in the previous 12 months, 19% reported no adverse effect while driving within an hour or two of consuming alcohol, 34% reported no adverse effect attributable to cannabis use, 43% reported no adverse effect attributable to methamphetamine use, and 19% reported no adverse effect attributable to ecstasy consumption.

Reasons provided for driving while feeling the effects of illicit drugs were essentially mundane and demonstrated that the co-occurrence of drug taking and driving were not a cause for concern for the majority of the sample.

The majority of participants were not overly concerned about their ability to drive safely while feeling the effects of an illicit drug, and neither were they concerned about the possibility of being caught by police. This is despite 22% of the sample reporting an accident or 'near miss' in the previous 12 months while drug driving. Almost all the sample reported having at least some friends that had driven soon after illicit drug use in the previous twelve months.

The aim of the current report was to gather information on local illicit drug users with regard to the following:

- The characteristics of drug drivers in South Australia,
- The risk perceptions of South Australian drug drivers,
- The prevalence of drug driving among illicit drug users in South Australia, and
- The socio-cultural, geographic and other factors contributing to drug driving among illicit drug users in South Australia.

Ninety-one participants volunteered to take part in the study and provided a wealth of information on drug driving within South Australia. The findings are summarised below.

4.1 Summary of findings

Participants who took part were aged in their early 30's, on average, and most had completed year 12 at high school. Approximately half were receiving some form of government allowance as their main source of income in the previous month. While the majority of participants currently held a driver's licence almost 20% did not, and males were proportionately less likely to hold a licence than females.

The most commonly used substances reported by participants in the 12 months prior to interview were alcohol, cannabis, methamphetamine and ecstasy. The least consumed substances were GHB, inhalants, heroin and ketamine. Cannabis was used on a daily basis by approximately a third of all participants while alcohol was used at least weekly by approximately two thirds of participants. A quarter of all participants reported using methamphetamine at least monthly and males were twice as likely to do so compared to females. Ecstasy was used at least monthly by approximately a quarter of the sample.

An analysis of locations of use found that alcohol and cannabis were predominantly used in the participants' homes. In contrast, methamphetamine was used in a wider variety of locations and three participants report using in their cars. Ecstasy use was most commonly reported as occurring at raves and nightclubs, as well as at participants' homes.

When asked about the effects of drugs on driving ability, alcohol was most commonly perceived as a substance that could most affect participants' ability to drive, with all participants reporting that alcohol could adversely affect their driving ability at least to some extent. In contrast, a large proportion of participants reported that cannabis and methamphetamine could contribute to at least a small degree of improvement in their driving ability. Smaller proportions reported that cocaine and ecstasy could contribute to at least a small degree of improvement in driving. Few participants reported that heroin, LSD, ketamine, GHB or inhalants could improve their driving ability.

The majority of the sample (over 60%) believed that alcohol could adversely affect their driving to a large extent. Nonetheless, 69% of participants reported they had driven within an hour or two of using alcohol within the previous 12 months, and almost a third of those reported they had done so on an *at least weekly* basis. Some caution is advised in the interpretation of these results however, as there was no way to assess whether the self-reported consumption levels would render the participants "over the limit" with regard to alcohol, as participants were asked only to consider when they had driven after using alcohol and the amount consumed or level of effect was not specified.

A third of the sample believed that cannabis would not adversely affect their driving and a greater proportion (40%) believed it could actually improve driving at least to a small degree. It is unsurprising then to find that the majority (88%) had driven after using cannabis within the previous 12 months, and over a third of those had done so on an *at least weekly* basis. A slightly smaller proportion of the sample believed methamphetamine would not adversely affect their driving ability, compared to cannabis (29% vs 34%, respectively), but a similar proportion believed it could actually improve driving at least to a small degree (42% vs 40%, respectively). Almost 60% of the sample had driven after using methamphetamine within the previous 12 months, with almost a quarter of those doing so on an *at least weekly* basis. In addition, over half of all participants (58%) believed it was *not at all dangerous* to drive under the influence of cannabis, and 40% of participants believed it was *not at all dangerous* to drive under the influence of methamphetamine. Males were more likely to believe that it wasn't *at all dangerous* to drive under the influence of cannabis compared to females (65% vs 45%).

Generally speaking, many participants believed that drugs such as cannabis and methamphetamines could improve driving through increased alertness and concentration, with the belief that cannabis was more likely to make you more cautious and methamphetamines more likely to improve reflexes.

A large proportion of the sample (over 70%) believed that ecstasy could adversely affect their driving ability, most believed there would be a degree of danger involved in driving following its use, and only a small proportion (14%) believed it could offer any improvement in driving ability. In line with these findings, the majority of the sample (70%) reported they had *not* driven following use of ecstasy, in the 12 months prior to interview. The profile for cocaine with regard to these parameters was similar, except slightly larger proportions of the sample reported a belief that cocaine could have a small degree of improvement in driving ability, no adverse effect on driving ability, or that it was not at all dangerous to drive within an hour or two of use, compared to ecstasy.

Of the other illicit drugs asked about, the majority of participants reported a belief that heroin, LSD, ketamine, GHB or inhalants would adversely affect their driving to a large extent, would be very dangerous to drive on, or they were unsure of the effect of the drug on their driving ability. In line with this, the majority of participants also believed that these illicit substances would offer no improvement in their ability to drive, and reported they had *not* driven after use of these substances in the previous 12 months.

Compared to alcohol, participants ranked cannabis, methamphetamine, cocaine and ecstasy as less dangerous to drive on within an hour or two of use.

Almost all participants reported driving after using an illicit substance in the 12 months prior to interview, and two thirds of all participants reported having done so in the last week. It should be noted though, that the phrase employed in collecting information with regard to experience of drug driving ('driving within an hour or two of using' a substance), did not give an indication of the level of intoxication, if any, as this is subject to factors such as the mode and time of consumption, the amount of drug used and the onset of action and

duration of drug effects in relation to the occurrence of driving. This level of detail was not addressed in the current survey, other than by the collection of the participant's own opinion on the level of effect of a given substance on their driving ability. When asked whether they thought their ability to drive had been affected by their drug use prior to driving, 19% reported their driving had *never* been affected following use of alcohol, 34% reported *no effect* on their driving attributable to cannabis use, 43% reported *no effect* on their driving attributable to methamphetamine use, and 24% reported *no effect* on their driving attributable to ecstasy use, in the last 12 months.

In addition, the majority of participants were not overly concerned about their ability to drive safely while feeling the effects of an illicit drug, and neither were they concerned about the possibility of being caught by police. Reasons provided for driving while feeling the effects of illicit drugs were essentially mundane and demonstrated that the co-occurrence of drug taking and driving were not a cause for concern for the majority of the sample. Despite this, 22% reported having an accident or coming close to having an accident while drug driving in the previous 12 months.

4.2 Characteristics of drug drivers

Almost all participants in the study reported driving following use of an illicit drug or drugs in the 12 months prior to interview, and many reported having done so on at least one substance, typically cannabis, on an *at least weekly* basis. The characteristics of the sample could therefore be said to reflect the characteristics of drug drivers. However, it is possible, and indeed likely, that the sample is not representative of the illicit drug using population of South Australia in general, for several reasons. Firstly, the method of recruitment was primarily self-selection in response to an advertisement (shown at Appendix 1), and therefore by definition was non-random and non-representative. It is also possible that individuals who do 'drug drive' on a regular basis wished to take part in the survey in greater numbers than the general illicit drug using population to advance a case that some drugs are 'safer than others' to drive on, thereby further exacerbating the self-selecting bias. Secondly, the 'snowballing' technique, which relies on eligible participants 'spreading the word' about the survey to friends and acquaintances, was also employed in recruitment, and may have further concentrated recruitment within sub-groups

of the population. Thirdly, participants were required to have used an illicit drug or drugs *at least once a month, and* to have driven a vehicle *at least once a month*, so the sample therefore excludes anyone who may be using illicit drugs and driving less frequently.

The participants surveyed were, perhaps, somewhat older than expected with an average age of 31 years. In comparison, however, individuals in the 2004 SA Health Omnibus survey who reported ever drug driving were also older than expected with an average age of 35 years. Again though, the reader is cautioned against concluding that drug driving is undertaken by people in their early to mid 30's, as it may be the case that older individuals are much more likely to report drug driving and take part in surveys about drug driving than younger individuals.

The age of initiation to illicit drug use was much younger in the present sample than that reported in the 2004 National Drug Strategy Household Survey (NDSHS). In the 2004 NDSHS the average age of initiation for any illicit drug was 19.4 years compared to 15.4 years in the current sample. This suggests that drug drivers in the current survey were much more experienced in their drug use over a longer period of time. The frequency of drug use was also relatively high for the current sample. For example, according to the 2004 NDSHS (as referenced in AIHW, 2004), 16% of recent cannabis users reported daily cannabis use, whereas 38% of cannabis users in the current sample reported daily cannabis use. This is likely to be due, at least in part, to the sampling method employed in the current survey.

There were no distinct trends for other demographic factors other than a high proportion of participants reporting that they received some form of government assistance as their main form of income. Again, this may be indicative of a sampling bias due to the remuneration offered, as individuals on low incomes may have been more likely to volunteer for the study.

In summary, among this survey of illicit drug users, 'drug drivers' are likely to be around 30 years old on average, with an early initiation to drug use and a relatively high frequency of use. While it is acknowledged that this sample is not likely to be representative of the whole illicit drug using population of South Australia, and therefore caution must be employed when interpreting results

and their generalisability, it does serve as an indication of the nature and direction of the attitudes and risk perception of 'drug drivers' generally.

4.3 Risk perceptions of South Australian drug drivers

All participants reported that alcohol was a drug that could adversely affect their driving and over 60% stated it could have a *large adverse effect* on their driving ability. Very few participants reported that alcohol could improve driving ability. This suggests that decades of educational campaigning about the dangers of driving under the influence of alcohol have been absorbed by this population group. Similar findings were identified in the NSW IDU population study (Darke *et al.*, 2004) and the detainee populations surveyed for the South Australian DUMA report (Turner, 2003). The majority of participants in the present study also reported it would be dangerous to drive within an hour or two of use if they were feeling the effects of alcohol. Similar to the beliefs surrounding alcohol, ecstasy was reported by the majority of participants (over 70%) as being a drug that could adversely affect their driving ability.

In contrast, participants reported the belief that a number of other drugs would not have the adverse impact on their driving that alcohol would, and that some drugs could actually improved their driving ability. Relatively small proportions of participants reported that cannabis and methamphetamine could have a *large adverse effect* on their driving ability (approximately 10% and 20%, respectively). A third of participants reported a belief that cannabis would have *no adverse effect* on their driving ability and only slightly fewer participants reported a belief that methamphetamine would have *no adverse effect* on their driving ability. Over a third of participants reported a belief that cannabis and methamphetamine could effect at least a small degree of improvement in their driving ability.

GHB, ketamine and heroin were perceived by participants as the most dangerous drugs to drive on within an hour or two of use. In contrast, cannabis and methamphetamines were perceived to be the least dangerous drugs to drive on. Over half of all participants (58%) believed it was *not at all dangerous* to drive under the influence of cannabis and 40% of participants believed it was *not at all dangerous* to drive under the influence of methamphetamine. Compared to alcohol, participants ranked cannabis, methamphetamine, cocaine and ecstasy as less dangerous to drive on within an hour or two of use.

Participants' beliefs about the lack of dangers associated with driving under the influence of cannabis and methamphetamine, in particular, are underscored by the large number of explanations given for how these drugs can lead to improvements in driver behaviour. According to these explanations, cannabis makes you drive slower, more cautiously, and it improves concentration and increases alertness. Methamphetamine was considered by participants to improve driving by making you more alert and aware of your surroundings, improving reflexes, quickening response times, and improving concentration. However, it should be noted that many participants believed there was an optimum threshold at which these positive effects on driving occurred and that higher levels of drug taking or intoxication would lead to a decline in driving ability. It appears as if many participants in this study had their own ideas about what levels of drug taking led to safe and unsafe driving behaviour, and that these ideas coincide somewhat with evidence from research in this area. For example, several studies conducted in simulator and driving experiments, where drivers drove after consuming cannabis, indicated driving was not dramatically influenced as drivers appeared able to compensate for impairment (Lenné *et al.*, 2004; Berhaus *et al.*, 1995; Robbe, 1995). However, the effect of cannabis slows reaction times indicating that cannabis-affected drivers may be less able to make decisions and respond quickly where emergency conditions occur (Lenné *et al.*, 2004; Robbe, 1995; NHTSA(a)). Evidence also suggests that amphetamines in low doses have few effects on cognitive functioning and may slightly enhance some driving-related psychomotor tasks especially in fatigued subjects, but higher doses are associated with increased risk-taking (ACPR, 2001; NHTSA(b)). In the come-down phase, or when stimulants are no longer detectable but drivers are severely fatigued, it is likely that driving would also be negatively affected (ACPR, 2001; NHTSA(b)). The finding in the present study that 22% of participants were involved in an accident or 'near miss' whilst driving following illicit drug use also indicates that such behaviour was not without risk for this group. Despite some understanding of the 'dose effect' of cannabis and methamphetamine among participants of the present study, it is unclear whether this acts as a limiter on individuals' drug driving behaviour. Moreover, it would seem likely that this understanding is not universal, given that substantial proportions reported a belief that it was *not at all dangerous* to drive following cannabis or methamphetamine use, and that their ability to drive had *never* been affected following use of these drugs, in the last twelve months.

There was some evidence of gender differences with regard to perception of risk in the study findings, with males more likely to report that cannabis and methamphetamine may effect a degree of improvement in their driving ability, or to report a belief that it was *not at all dangerous* to drive following use of cannabis compared to females. In addition, proportionately more females than males considered it would be *very dangerous* to drive following use of several illicit substances, including methamphetamine.

4.4 Prevalence of drug driving among illicit drug users in South Australia

As already stated, almost all of the participants reported having drug driven in the last 12 months. This finding is much higher in comparison to the results of other studies reviewed. For example, in the NSW injecting drug user survey, 87% of participants reported drug driving (driving soon after consuming drugs) within the last 12 months (Darke *et al.*, 2004), 61% of the South Australian ecstasy users surveyed in the PDI reported having drug driven (within an hour of use) within the previous 6 months (Weekley *et al.*, 2005b), and the results of the SA Health Omnibus survey found that of those who reported ever having drug driven (consumed an illicit drug and then driven within an hour of use), 33% had done so within the previous 12 months (DASSA, 2005).

As already mentioned it is likely that the high level of drug driving reported in the present study reflects a sampling bias. Even taking such a bias into account, the level of self-reported drug driving is much higher than anticipated, given that most comparable surveys also sampled from regular illicit drug using populations. In addition to a high rate of *ever* having drug driven, the proportion of participants reporting frequent drug driving is also much higher than anticipated with two thirds of all participants reporting having last driven following illicit drug use within a week of interview.

When individual substances were examined, participants most commonly reported driving soon after using cannabis (88%), followed by alcohol (69%), methamphetamine (59%) and ecstasy (30%). In comparison to previous research the most commonly reported drug driven on in the NSW IDU survey was cannabis (Darke *et al.*, 2004), in the Victorian study of nightclub attendees it was alcohol, closely followed by cannabis (Degenhardt *et al.*, 2004), and in the South Australian PDI (a survey of ecstasy users) it was ecstasy followed by base methamphetamine and cannabis (Weekley *et al.*, 2005b).

In addition to being the most commonly reported drug driven on, cannabis was also the drug most frequently driven on, with 34% reporting at least weekly occurrences of drug driving and 21% reporting daily drug driving. Alcohol was the next most frequent drug driven on, with 22% reporting at least weekly occurrences, followed by methamphetamine (14% at least weekly) and finally ecstasy (1% at least weekly). These results correspond to the participants' reports of the most commonly used substances, indicating that the more frequently a substance is used the more likely it is that the user will drive within an hour or two of use or while feeling the effects of that drug. The correlation between frequency of use and frequency of driving following drug use is particularly strong for cannabis.

Readers are reminded that those reporting driving after consuming alcohol may not have been 'over the legal limit', and that there was no objective measure of the degree of impairment or level of intoxication in relation to illicit drugs used.

4.5 Socio-cultural, geographic and other factors contributing to drug driving among illicit drug users in South Australia

Overall, participants reported that it was very likely they would drive if they had only had a small amount of drugs, if they were only driving a short distance, or if they didn't think the drug would affect their driving. Other reasons provided by participants as to why they engaged in drug driving behaviour focussed mainly on day-to-day activities. Very few participants reported having engaged in drug driving as a pure risk-taking activity.

Among this population drug driving appears to be a socially accepted activity as participants reported that many of their friends, and some of their family members, had engaged in drug driving on a regular basis in the previous 12 months. The high level of daily use of cannabis and the subsequently high frequency of driving while feeling the effects of cannabis suggests that the primary factor contributing to this drug driving is the co-occurrence of drug taking and the need to use a vehicle for everyday life (e.g., shopping, meeting friends, getting to work).

It is possible that some geographic factors are at play, as many participants reported they were very likely to engage in drug driving if there were no public transport available or if they had no money for a taxi. However, given the high level of drug driving among this population it is unlikely that access to public transport or affordability plays a major role in drug driving frequency.

4.6

Conclusions

The results of this study show that drug driving was a widespread and fairly entrenched practice among this sample of illicit drug users that may be maintained by the belief that the effects of a number of drugs, cannabis and methamphetamine in particular, can actually improve driving ability.

Approximately 40% of participants perceived cannabis or methamphetamine could contribute to an improvement in their driving ability. Despite participants being generally unconcerned about their ability to drive safely following use of an illicit drug, 22% of participants reported having recently had an accident, or come close to having an accident, under these circumstances. As this study reports on the characteristics, risk perceptions, and prevalence of drug driving amongst a relatively small cohort, further work needs to investigate the same in a more representative sample of illicit drug users.

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Appendix 1. Drug Driving Questionnaire

DRUG DRIVING QUESTIONNAIRE

Section A Demographics

Time Start:.....
Time Finish:.....
Total Time:.....
QUESTIONNAIRE NUMBER:_____

1. Sex:

- | | |
|--------|---|
| Male | 1 |
| Female | 2 |

2. Age: _____ years

3. What type of accommodation do you **currently** live in? (*mark only one*)

- | | |
|--|---|
| No fixed address/homeless | 0 |
| Own house/flat (<i>includes renting</i>) | 1 |
| Parents' /family house | 2 |
| Boarding house/hostel | 3 |
| Shelter/refuge | 4 |
| Other | 5 |
- (Specify) _____

4. What is the main language you speak at home?

- | | |
|---------|---|
| English | 1 |
| Other | 2 |
- (Specify) _____

5. What grade at school did you complete?

_____ grade

6. Have you completed any courses after school?

- | | |
|-------------------------|---|
| No | 0 |
| Yes, trade/technical | 1 |
| Yes, university/college | 2 |
- Specify qualification

7. Are you studying at the moment? (*mark only one*)

- | | |
|-----------------|---|
| No not studying | 0 |
| TAFE | 1 |
| University | 2 |
| Other | 3 |
- (Specify) _____

8. In the past month, what was your major source of income? (*mark only one*)

- Wage or salary 1
- Government allowance (e.g. Centrelink payment) 2
- Criminal activity 3
- Own business 4
- Other 5
- (Specify)_____

9. Do you have a current drivers license?

- No 0
- Yes 1

Section B Drug use history

10. How old were you when you first tried an illicit drug?
_____ years.

11. In the last 12 months, how often have you taken these drugs?
(*MARK ONLY ONE PER SUBSTANCE*)

	Have not taken in the last 12 months	Daily	More than once a week	Once a week	At least once a month	Every couple of months	Once every 6 months
Alcohol	0	1	2	3	4	5	6
Cannabis	0	1	2	3	4	5	6
Methamphetamine	0	1	2	3	4	5	6
Heroin	0	1	2	3	4	5	6
LSD	0	1	2	3	4	5	6
Ketamine	0	1	2	3	4	5	6
GHB	0	1	2	3	4	5	6
Cocaine	0	1	2	3	4	5	6
Ecstasy	0	1	2	3	4	5	6
Inhalants	0	1	2	3	4	5	6
Other (specify)	0	1	2	3	4	5	6
Other (specify)	0	1	2	3	4	5	6

12. In the last **12 months**, where have you **usually** spent the **most** time while under the influence of the following drugs?
(usually refers to two out of three times)
MARK ONLY ONE PLACE PER SUBSTANCE

	Alcohol	Cannabis	Methamph	Heroin	LSD	Ketamine	GHB	Cocaine	Ecstasy	Inhalants
Not taken last 12 months	0	0	0	0	0	0	0	0	0	0
Home	1	1	1	1	1	1	1	1	1	1
Friend's home	2	2	2	2	2	2	2	2	2	2
Raves/doofs/dance parties	3	3	3	3	3	3	3	3	3	3
Nightclubs	4	4	4	4	4	4	4	4	4	4
Pubs	5	5	5	5	5	5	5	5	5	5
Private party	6	6	6	6	6	6	6	6	6	6
Restaurant/ café	7	7	7	7	7	7	7	7	7	7
Public place (street/park)	8	8	8	8	8	8	8	8	8	8
Car/other vehicle (passenger)	9	9	9	9	9	9	9	9	9	9

Car /other vehicle (driver)	10	10	10	10	10	10	10	10	10	10
Outdoors (eg. beach, bushwalking, camping)	11	11	11	11	11	11	11	11	11	11
Live music event (eg. concerts, music festivals etc)	12	12	12	12	12	12	12	12	12	12
Work	13	13	13	13	13	13	13	13	13	13
Other (specify)	14	14	14	14	14	14	14	14	14	14
Other (specify)	15	15	15	15	15	15	15	15	15	15

13. In the last **12 months** where did you **last use** the following drugs (i.e. where did you **last** spend time while under the influence)?
MARK ONLY ONE PLACE PER SUBSTANCE

	Alcohol	Cannabis	Methamph	Heroin	LSD	Ketamine	GHB	Cocaine	Ecstasy	Inhalants
Not taken last 12 months	0	0	0	0	0	0	0	0	0	0
Home	1	1	1	1	1	1	1	1	1	1
Friend's home	2	2	2	2	2	2	2	2	2	2
Raves/doofs/dance parties	3	3	3	3	3	3	3	3	3	3
Nightclubs	4	4	4	4	4	4	4	4	4	4
Pubs	5	5	5	5	5	5	5	5	5	5
Private party	6	6	6	6	6	6	6	6	6	6
Restaurant/ café	7	7	7	7	7	7	7	7	7	7
Public place (street/park)	8	8	8	8	8	8	8	8	8	8
Car/other vehicle (passenger)	9	9	9	9	9	9	9	9	9	9

Car /other vehicle (driver)	10	10	10	10	10	10	10	10	10	10
Outdoors (eg. beach, bushwalking, camping)	11	11	11	11	11	11	11	11	11	11
Live music event (eg. concerts, music festivals etc)	12	12	12	12	12	12	12	12	12	12
Work	13	13	13	13	13	13	13	13	13	13
Other (specify)	14	14	14	14	14	14	14	14	14	14
Other (specify)	15	15	15	15	15	15	15	15	15	15

Section C Knowledge and Attitudes

The next questions are about what **you think** the effects of different drugs may have on your driving. Later I will ask you about **your experiences** of how different drugs may have affected your driving.

14. To what degree do you think each of the following drugs can **improve** your driving. Please answer for each drug regardless of whether or not you have used it.

	Does not improve my ability to drive	Small degree of improvement	Moderate degree of improvement	Large degree of improvement	Not sure
Alcohol	0	1	2	3	4
Cannabis	0	1	2	3	4
Methamphetamine	0	1	2	3	4
Heroin	0	1	2	3	4
LSD	0	1	2	3	4
Ketamine	0	1	2	3	4
GHB	0	1	2	3	4
Cocaine	0	1	2	3	4
Ecstasy	0	1	2	3	4
Inhalants (specify)	0	1	2	3	4

If you indicated **any degree of improvement** please give us some examples of:

- **when** you think each drug can improve your ability to drive AND/OR
- **how** you think each drug can improve your ability to drive

The next questions are also what **you think** the effects of different drugs may have on your driving. Later I will ask you about **your experiences** of how different drugs may have affected your driving.

16. To what extent do you think the following drugs can **adversely** affect your ability to drive? That is, if you were “feeling the effect of the drug” (only use the following example if necessary; for example with alcohol, if you had consumed more than two standard drinks). Please answer for each drug regardless of whether or not you have used it.

	Does not adversely effect my ability to drive	Small extent	Moderate extent	Large extent	Not sure
Alcohol	0	1	2	3	4
Cannabis	0	1	2	3	4
Methamphetamine	0	1	2	3	4
Heroin	0	1	2	3	4
LSD	0	1	2	3	4
Ketamine	0	1	2	3	4
GHB	0	1	2	3	4
Cocaine	0	1	2	3	4
Ecstasy	0	1	2	3	4
Inhalants	0	1	2	3	4

17. How dangerous do you think it is **for you** to drive **within an hour or two** of use of the following drugs? That is, if you were “feeling the effect of the drug” (only use the following example if necessary; for example with alcohol, if you had consumed more than two standard drinks). Please answer for each drug regardless of whether or not you have used it.

	Not at all dangerous	Somewhat dangerous	Dangerous	Very dangerous	Not sure
Alcohol	0	1	2	3	4
Cannabis	0	1	2	3	4
Methamphetamine	0	1	2	3	4
Heroin	0	1	2	3	4
LSD	0	1	2	3	4
Ketamine	0	1	2	3	4
GHB	0	1	2	3	4
Cocaine	0	1	2	3	4
Ecstasy	0	1	2	3	4
Inhalants	0	1	2	3	4

Section D Experiences

18. Have you **ever** been a passenger in a vehicle with someone who has consumed illicit drugs and then driven a vehicle within an hour or two of use? **(IF NO OR DON'T KNOW, GO TO QUESTION 20)**

No 0
 Yes 1
 Don't know 2

19. In the last 12 months have you been a passenger in a vehicle with someone who has consumed illicit drugs and then driven a vehicle within an hour or two of use?

No 0
 Yes 1
 Don't know 2

20. Have you **ever** consumed illicit drugs and then driven a vehicle within an hour or two of use? **(IF NO GO TO QUESTION 25)**

No 0
 Yes 1

21. In the last 12 months have you consumed illicit drugs and then driven a vehicle within an hour or two of use? **(IF NO GO TO QUESTION 25)**

No 0
 Yes 1

22. In the last 12 months how often have you driven a vehicle within an hour or two of using the following drugs?

	Not driven within an hour or two of use	Daily	More than once a week	Once a week	At least once a month	Every couple of months	Once every 6 months
Alcohol	0	1	2	3	4	5	6
Cannabis	0	1	2	3	4	5	6
Methamphetamine	0	1	2	3	4	5	6
Heroin	0	1	2	3	4	5	6
LSD	0	1	2	3	4	5	6
Ketamine	0	1	2	3	4	5	6
GHB	0	1	2	3	4	5	6
Cocaine	0	1	2	3	4	5	6
Ecstasy	0	1	2	3	4	5	6
Inhalants	0	1	2	3	4	5	6
Other (specify)	0	1	2	3	4	5	6
Other (specify)	0	1	2	3	4	5	6

23. A: Mark 0 for all drugs marked 0 in previous table.
 B: If YES to any drugs then ask:
 In the last 12 months, how often do you think your ability to drive **was affected** by (name of drug) marked from 1-6 in previous table.

	Haven't used	Never	Some of the time	Half of the time	Most of the time	All of the time
Alcohol	0	1	2	3	4	5
Cannabis	0	1	2	3	4	5
Methamphetamine	0	1	2	3	4	5
Heroin	0	1	2	3	4	5
LSD	0	1	2	3	4	5
Ketamine	0	1	2	3	4	5
GHB	0	1	2	3	4	5
Cocaine	0	1	2	3	4	5
Ecstasy	0	1	2	3	4	5
Inhalants	0	1	2	3	4	5

24. When was the last time you drove a vehicle within an hour or two of using an illicit drug?

In the last week 1
 Over two weeks ago 2
 Over a month ago 3
 Over three months ago 4
 Over six months ago 5

25. The last time that you drove a vehicle within an hour or two of using an illicit drug, how concerned were you about your ability to drive safely?

1 **2** **3** **4** **5**
 Not at all Somewhat Very
 concerned concerned concerned

26. The last time that you drove a vehicle within an hour or two of using an illicit drug, how concerned were you that you may get caught by police?

1 **2** **3** **4** **5**
 Not at all Somewhat Very
 concerned concerned concerned

27. In the last 12 months how many of your friends drove within an hour or two of using any illicit drugs, or under the influence of any illicit drugs? **(IF NONE OR DON'T KNOW GO TO QUESTION 29)**

None of them	0
Some of them	1
Half of them	2
Many of them	3
All of them	4
Don't know	5

28. For those who did, how often did they drive within an hour or two of using any illicit drugs, or under the influence of any illicit drugs?

Daily	1
Once a week	2
Once a month	3
Once every couple of months	4
Once every six months	5
Once a year	6
Don't know	7

29. In the last 12 months have any of your family members driven within an hour or two of using any illicit drugs, or under the influence of any illicit drugs? **(IF NONE OR DON'T KNOW GO TO QUESTION 31)**

None of them	0
Some of them	1
Half of them	2
Many of them	3
All of them	4
Don't know	5

30. For those who did, how often did they drive within an hour or two of using any illicit drugs, or under the influence of any illicit drugs?

Daily	1
Once a week	2
Once a month	3
Once every couple of months	4
Once every six months	5
Once a year	6
Don't know	7

31. Here is list of possible reasons for driving within an hour or two of using illicit drugs. Can you please indicate how likely it is that **you** would drive in each situation.

	Not likely at all	Somewhat likely	Likely	Very likely	Not sure
If there is no public transport available	0	1	2	3	4
If I have no money for a taxi	0	1	2	3	4
If I don't want to spend the money on a taxi	0	1	2	3	4
If I am only driving a short distance	0	1	2	3	4
If I don't think I will get caught	0	1	2	3	4
If I am afraid to leave my car in case it gets stolen, damaged or broken into	0	1	2	3	4
If I don't think the drug(s) will have any effect on my driving	0	1	2	3	4
If my friends are depending on me for transport	0	1	2	3	4
If I have only had a small amount of drugs	0	1	2	3	4
Other (specify)	0	1	2	3	4
Other (specify)	0	1	2	3	4

32. Have you **ever** had a car accident or come close to having an accident, while you were driving within an hour or two of using any illicit drugs, or under the influence of any illicit drugs? **(IF NO GO TO QUESTION 34)**

No 0
 Yes 1

33. In the last 12 months how many times have you had an accident or come close to having an accident, while you were driving within an hour or two of using any illicit drugs or under the influence of any illicit drugs?


_____ times.

34. Have you **ever** been in a car accident or come close to having an accident, while you were a passenger with a driver who drove within an hour or two of using any illicit drugs, or under the influence of any illicit drugs? **(IF NO THEN QUESTIONNAIRE COMPLETED)**

No 0
 Yes 1

35. In the last 12 months how many times have you been in an accident or come close to having an accident, while you were a passenger with a driver who drove within an hour or two of using any illicit drugs, or under the influence of any illicit drugs?

_____ times.



YOU CAN'T DRIVE STRAIGHT ON DRUGS OR CAN YOU?

We would like to know what YOU think

You may be able to help us. We are conducting research into risk perception and drug driving among illicit drug users in Adelaide, and would like to interview people who regularly use illicit drugs, such as cannabis, ecstasy, speed, heroin, cocaine, ketamine and GHB, and regularly drive.

Any information you give will remain completely confidential and anonymous, and may help in the development of education campaigns about drug driving.

We can negotiate a suitable location for the interview, and you will receive monetary compensation for your time. The interview will take about 40 minutes.

For more information, or to arrange an interview with a member of our research team, please contact Aylza during business hours on Wednesdays, Thursdays and Fridays. Phone 8274 3366

This project is being undertaken by the Drug & Alcohol Services Council of South Australia and the Department of Transport & Urban Planning.



DRUG & ALCOHOL
services council

Appendix 3. Participants' transcribed responses as to how alcohol can improve driving

When and/or how alcohol can improve my driving: additional comments from participants.

I'm a lot more aware of things around me both because of the effect of the drug & because my brain works better & also because I'm more aware of getting caught. Like the combination of Alcohol & cannabis to drive on.

If I've had a little bit to drink-I am probably trying to be more alert- so I drive better. If I've drunk a lot then my driving is worse.

Makes you more aware what's going on, (all the time, no particular time). BUT only if you've had 1 or 2 glasses. As long as you've only had a small amount, not a large amount.

Only when I'm so scared of getting caught I drive extremely carefully. This is when I might be near the limit not when I'm completely trashed.

Appendix 4. Participants' transcribed responses as to how cannabis can improve driving

When and/or how cannabis can improve my driving: additional comments from participants

Act differently, more cautious, drive defensively instead of...

As long as you're not totally 'off your guts' then I think you are a bit more paranoid-bit more aware-because you feel you might not be as good at driving you concentrate more-are more aware of where everyone else is on the road. Its a concentration.

Cannabis slows you down a little bit-you drive more slowly-concentrate more on the road compared to when you are straight. You think you've got something in you so you've got to take more care so you don't get pulled up.

Concentrate more-more careful-drive slower speed-be more aware of other cars-anticipating cars coming down streets. But sometimes I might forget things, leave handbrake on, not remember driving home.

Concentrate more, more aware & alert, concentration mainly.

Drive most days on cannabis-the hint of paranoia from the drug not from worry of getting caught makes me more aware of people/cars on the road-usually under speed limit-usually a bit over when straight-feel more control going slower-more time to react.

Drive slower-less inclination to speed-have to stop & think about things-better awareness-checking mirrors & speed-don't talk as much or get distracted by passengers.

Drive slower, heightened sense of awareness, slightly more cautious. Paranoia makes me much more cautious, blind spot check very diligent when changing lanes compared to when straight.

Focus on driving is better. More aware of where other cars are on the road. Won't be likely to be stopped excessively.

Helps me concentrate more than normally. You slow everything down & make conscious decisions-no will to drive fast or 'like a maniac'.

I know I'm under the influence so I'm more alert, more vigilant, pay more attention-don't take as many risks as I would if I were straight.

If you're stressed & on edge-if you smoke as much as you need to get stoned-it relaxes you-makes you calm-makes you less likely to be involved in road rage.

It keeps you calmer & helps you concentrate.

It makes me slow down, very observant & more aware of cars & people around me when I'm driving. I only use a very small amount, if I had too much I would be complacent & my driving would deteriorate.

Makes me drive slower & more cautiously than if not stoned.

Makes me drive slower, the paranoia effect of the drug makes me more careful & more aware of the possible implications of having an accident.

Makes me extremely cautious and aware-not because of the influence of the cannabis but because I know I've had some & I'm compensating to make sure everything's ok. Can get very fixated on driving-my mind doesn't wander.

Makes you more aware-more observant. As long as you have only had a small amount, not a large amount.

Makes you more cautious-more paranoid you might be caught speeding so you slow down

Makes you slow down-be more aware-notice headlights and periphery vision lights sooner as usually drive at night. Makes you drive a lot slower.

More alert to surroundings, mental alertness.

More alert, more aware of what is going on around me.

More aware of other traffic around me, become aware of things, BUT, not always, sometimes your mind wanders.

More focused on what I'm doing-not distracted by other things on the road. I'm focusing on my driving & my driving only.

More relaxed-therefore you don't go rushing or speeding, more aware of road rules etc.

More relaxed.

Only a small dose (big dose would not improve). Relaxation-more relaxed & less stressed about traffic-less chance of road rage& less impatient.

Perks me up a bit-more alert. I'm adjusted to it-doesn't make me sleepy.

Sense of paranoia makes you concentrate better-less inclined to take risks on the road.

Takes away inhibitions-gives you a sense of confidence. Not as panicky, mellow, casual, less erratic as a driver.

There are benefits in a slower reaction time in some circumstances-my experience of someone else ignoring a red light, other driver's slowness to advance on his own green light saved their lives. You may not be as aggressive as usual if stoned-defensive ra

Very aware, doesn't prevent me from driving at night, like driving under the influence of cannabis-its soothing-playing music & going for a drive, like the combination of it & alcohol to drive on.

Was in bad car accident when little-when I was first driving was always really stressed & tense-holding steering wheel really tight. Now if I've had some cannabis I'm more relaxed-drive better-manoevre car better-but not if I've had too much & too stoned.

When especially high strung/distracted/generally pissed off-you could make irrational driving decisions-in these circumstances it can improve concentration-perhaps make you a bit more fearful-make you take more care than you would have otherwise taken.

When people are stressed or anxious a small amount may make them less anxious & stressed & stop them doing irrational stupid things when driving-not obnoxious to other drivers or dangerous to self/others.

When younger-just starting to smoke-older people told me they thought they drove better & visual senses were more acute. I find I drive more cautiously-seem to notice things/pay more attention than when I'm straight & just thinking about getting there.

Appendix 5. Participants' transcribed responses as to how methamphetamine can improve driving

When and/or how methamphetamine can improve my driving: additional comments from participants

A little bit of meth makes your senses more acute especially if you're tired. Wakes you up a bit & makes you a bit more alert, more aware of what's going on.

Adding alertness by keeping you awake if consumed in a moderate amount just to stay alert & awake

Alertness-seems to metabolise alcohol -quickens the effect of moving it through your body so don't feel the effect of alcohol so much.

Alertness.

Aware of surroundings -anticipating things around me -eg others actions. Very quick to respond -concentrating very hard. I feel a strong need to be occupied & driving is good for this feeling.

Better than 'driving tired'. Sharper, not as likely to miss lights or anything like that.

Concentrate more on driving-focusing on what's happening on the road-react quicker -more thorough about the whole process of driving -but when coming down its the opposite -slower, don't think about it.

Concentrate more, more aware & alert & 'on the ball', don't miss a thing.

Heightened awareness & energy -more observant -faster rate of absorbing visual information -heightened reflexes-respond quicker to things.

Heightened degree of awareness and reaction time -countered by being more jumpy -but overall improved reflexes and concentration.

Heightened senses -more aware -more focused -taking more notice of other things on the road-not being distracted.

If I've not been using speed for a long time my reflexes are heaps better, my concentrations heaps better. BUT if I've been using lots, for 4-5 days, my concentration is out the window & it affects my driving badly.

If you've had a big night out or are just really tired, improves driving by making you more awake and alert. BUT when coming down it could have a really negative effect (on driving), you could be agitated/jittery.

Improve reactions - feeling of confidence - more alert – read the road better.

In any case where the dose is not excessive in that you feel a strong grip on reality, at any time & especially when you are in danger of falling asleep or feeling drowsy. Improves alertness & reaction time.

In the early stages of use, when you're fed & rested it will improve your reflexes, but after you've used it 2-3 days you'll start getting psychosis - see things that aren't there. Then your driving is not improved & you might get micro sleeps.

Makes you more aware. As long as you've only had a small amount, not a large amount.

More alert to surroundings, mental alertness (as per answer to cannabis).

More alert, more aware, more awake. Always looking to make sure things are ok. Better hearing & (feel like) can 'make the traffic lights change'.

More alert, more concentration on what's going on on the road. Anticipation & reaction better. Reaction time better.

More alert.

More aware - if late at night - if tired. More direct in my driving, total opposite of awareness compared to driving on cannabis - more actively participating in driving.

More aware, concentrate a lot more, more 'on the ball'.

More aware, more focused, awake and alert in general.

More conscious - more aware - more focused - concentrate really hard on driving. Because you know you're out of it you take more precautions & focus on how to be a really good driver. Same for LSD, GHB & E.

Not if I've just had some, but when it's starting to wear off I concentrate better, like kids have it for concentrating & ADD.

On long distance trips-only non-excessive dose, to help with alertness - too much would mean impairment. You can get deeply FOCUSED so if driving you can focus wholeheartedly on it.

Perceive I'm a lot more aware of what's going on around me, in the car, on the road, pedestrians. Feel more in tune with vehicle. Response time quicker stimuli that occur.

Reaction time increased-lessens chance of hesitating, which can cause accidents.

Reaction times quicker. Read traffic more because more alert.

Reactions are quicker when you need to react more quickly.

Small amounts can improve your reactions. But large amounts would have an adverse effect (on driving).

Stimulant-increased awareness & reaction times faster. BUT not if you've overdone it. If you are off your face it wouldn't improve it. Whenever you're operating machinery & you ha

The 'effect' of the drug, heightened reflexes & alertness. eg, soldiers and fighter pilots been given speed to increase alertness and reflexes.

When I know I'm driving under the influence I'm more cautious because I know I'm under the influence so I'm more alert, more vigilant, pay more attention.

When you're not coming down-when on it-your reflexes & reaction time are much faster - can multitask - listen to radio - talk to friends - while manoeuvring car. Generally more alert. When you're coming down you must sleep, otherwise same effect as being drunk.

When/if you are tired you would experience a moderate degree of improvement if you were fatigued. It will prevent you from falling asleep & improves reflex time.

Whenever use meth & drive I'm very 'switched on' & assertive - when I'm straight I'm concentrating less-but concentrate more when I've had meth.

Wicked feeling - body relaxed, more confident, "on the ball".

When and/or how ecstasy can improve my driving: additional comments from participants

Confidence. Altered perception but in a good way.

Enjoy it more so think about it more - concentrate more, focusing on what's happening on the road, more aware of what's happening on the road.

Hint of paranoia, bit like cannabis-from the drug not from worry of getting caught - focus more on surroundings - much more considerate of other drivers & more distance between cars.

If you're on e you're feeling good things & good vibes so your aggressive driving is attenuated & you're maybe more careful about polite driving, giving way, letting people in - not being a road-rager.

Makes you more aware, as long as you've only had a small amount, not a large amount.

More alert to surroundings, mental alertness (as per answer to cannabis).

More conscious - more aware - more focused - concentrate really hard on driving. Because you know you're out of it you take more precautions & focus on how to be a really good driver. Same as Meth, LSD & GHB.

Only in lower doses - a higher dose would be very detrimental to your ability to drive. Helps to focus & think more quickly & think of the welfare of your passengers a bit more.

Similar to speed for heightened awareness & reflexes AND makes driving a more joyful experience - eliminates road rage-more considerate to other drivers.

Stuff feels more real so you concentrate more on what you're doing - so you can also get the reverse effect & concentrate less.

Very aware of surroundings-anticipating things around me - positive response to the act of driving - feel the need to be occupied but not as compulsive as speed & driving is a good activity. E combines awareness of meth & positive frame of mind of cocaine.

When under the influence-NOT at the peaking stage - my driving slows down - I'm taking more in as I'm driving. BUT I'm a bit more nervous behind the wheel - not always a good thing - if the drug makes me anxious about my ability to drive - my driving isn't as good.

When you're 'on it' you think your driving is better - the general experience is better.

Appendix 7. Reasons provided by participants for driving under the influence of alcohol or an illicit drug

Participants' additional reasons for driving under the influence of alcohol or an illicit drug.

- Any emergency situation but it would have to be an emergency like to Dr or hospital etc.
- Because I can - got to go somewhere, shops, work, home, friends houses.
- Because I drive for a living.
- Because I want to go somewhere else – shops – entertainment - visiting friends.
- Convenience - carrying on my normal life.
- Convenience & comfort-listen to music etc. Visiting or to another venue & to go home & to go out.
- Designated driver if alcohol consumed. Ignore other drug consumption.
- Emergency - Dr, hospital, illness or family crisis.
- Emergency - friend in need.
- Emergency like hospital or Dr BUT only if I know I'm in control. Don't want to make accident or harm, otherwise would find alternative.
- Emergency, Dr or Hospital, also fear of domestic violence - to drive away.
- Emergency, Dr, Hospital, vet or to assist friends/family.
- Emergency, if I got sick, for family, but only if safe to drive.
- Everyday life - shops, friends house, transport family.
- Family emergency-Dr or hospital if no-one else could drive.
- Family/friend to Dr or Hospital if sick or injured or family emergency.
- Going home from work - quicker than public transport.
- Good experience/thrill/bit of adrenaline. Like to push myself and the car a bit on the open road, not in urban areas.
- Hospital if emergency only if able to drive safely, if not I'd get a neighbour to drive.
- I feel I have a good handle on whether I am safe to drive or not - I wouldn't drive if I didn't feel safe. I have almost never felt unsafe driving under the influence of cannabis so I drive because its my preferred mode of transport to shops and friends etc
- I like driving and it gives me control of my social schedule.
- If friends could not drive home & I didn't have my car - I would drive them in their car.
- If I didn't think I could drive safely I wouldn't drive. I drive to friends house or town - socialising.
- If I have to go somewhere or leave somewhere - more likely to drive within an hour or two of cannabis - much less likely to drive within that time on other drugs or combination of drugs-likelihood depends on KIND of drugs or combination of substances.
- If I need to get somewhere urgently and there's no other way to get there but depends on how I'm feeling-if coming down NEVER - if feeling OK then I'll drive.
- If I was really lazy and I didn't feel like walking and needed to go somewhere.
- If my car is with me I will drive. Driving after cannabis does not concern me. I wouldn't after drinking alcohol.
- If my friends are too drunk to drive I will drive their cars because I don't normally drink. So this is when their drinking is an unplanned event.
-

If you use regularly its part of life - wouldn't drive if I didn't feel confident of my ability to drive. Depends what drug I've used-more likely to drive on cannabis - not likely to drive on others.

In an emergency, if neighbours without car needed Dr or hospital. BUT only if I was safe to drive, not if I was too out of it.

In the country have to drive to get anywhere, shops, friends houses, beach, work, as there is no public transport.

Its part of life, shopping, family transport, visiting friends etc.

Its quicker to get from A to B. Friends, or to score, somewhere safe to use.

Just happens a lot - visit friends and after unplanned drug taking need to return home after.

Just to go for a drive-for fun.

Medical emergency, Dr or Hospital.

Need to drive to get somewhere - if its too far to walk or to transport something I couldn't carry otherwise.

Needing to go somewhere - work or uni.

Not counting or planning to use drugs and needing to go to work/home etc.

Only take drugs to drive for work - only ever for work.

Partly necessity - if I didn't drive under the influence of drugs I'd rarely drive as I'm a frequent user - drive to work to socialise to shops.

Personal safety reasons

Practical reasons - to get home after unplanned drug taking-so I can get to work.

Running late to somewhere, needing to get there in a short period of time.

Shopping

Shopping.

Some of my use is recreational but some is to stay alert for work.

To do something or go somewhere. If i need to use the car drugs aren't in the equation. I would not drive if I was not capable of driving safely.

To drive to visit people or shop or the library.

To get food, to get to social obligations and functions.

To get from A to B-normal everyday travel-work-socialising-shopping & other commitments. BUT I only drive when I feel safe to drive.

To get from A to B-pickups or deliveries-includes shopping and visiting.

To get home after scoring.

To get more drugs when I've already had some.

To get more drugs, to sell to make money.

To get more drugs.

To get to work and to transport family.

To go home to bed, to get up to go to work.

To go somewhere else if where I am I don't like - not enjoying company, unpleasant situation.

To go somewhere like home - partners home.

To go to shops, day to day stuff.

To go to the beach or visiting or out-to relieve boredom

To go to the shops

To go to work.

To party in the comfort of the car-music-change of scenery-friends-play the music you want

To see friends.

When I am being designated driver I'm always aware when I'm going to drive home after an event, so ensure drug effects are negligible on my driving. Also I always drive so I can ALWAYS leave when I want.

When I need cigarettes-to go to the shops.

Whenever I go anywhere I drive, so I have control over the situation - I have an escape route - I can leave whenever I want.

Any time I need to go somewhere.

Emergency to hospital or Dr for OD.

Family reasons-to help family.

Going from home to work.

If someone needs a ride unexpectedly-needs to go home - unhappy where they are.

It can be really good fun-bit of a rush-makes driving fun-put music on in the car & go for a drive.

Medical emergency, Dr or hospital.

Public transport FREQUENCY-doesn't connect with other services often enough-I don't want to carry illicit drugs on PT or be intoxicated on PT.

Recreation-drive in the country.

Self destructive risk taking from feeling depressed.

To get more drugs.

To go to another venue.

To go to the shops.

To make money.

To visit family.
