National Drug Strategy

Marijuana in Australia: patterns and attitudes

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Executive summary

1. Patterns of use 1985–1995

The data in this chapter provides a general picture of marijuana use over the past decade in Australia. It shows that marijuana is widely available and accepted in the community with around 30 per cent reporting they having tried the drug, just under half report that they have been offered the drug and around 15 per cent report they would take marijuana if offered by a close friend. Although widely available and experimented with, marijuana, like tobacco, is a minority taste with around 12 per cent reporting they have used the drug in the past 12 months. Of those who have tried marijuana some 38–41 per cent have used in the past 12 months. During the past ten years the frequency of marijuana use appears to be showing some change with frequent and infrequent use declining slightly and intermediate use increasing.

The age at which respondents report that they first tried marijuana is not confined to one particular age group with 14 per cent reporting that they had tried at age 15 years or younger and 13 per cent reporting they had tried at age 26 or older. Those who have used marijuana recently are more likely to have started at a younger age and people are on average more likely to have tried alcohol and tobacco before they try marijuana.

Just over half of those who have used marijuana in the past 12 months report that they usually use heads (54 per cent) followed by leaf (35 per cent). Respondents are somewhat more likely to use bongs or pipes than joints. Those who usually use leaf are more likely to smoke it as a joint while those who usually use heads are more likely to smoke it using a bong or pipe. There are age differences in the preferred method of use and type of marijuana consumed. Older respondents are more likely to report that they use leaf rather than heads or some other form of marijuana. Younger respondents (and particularly those aged 14 to 19 years) are less likely to smoke marijuana as joints than older cohorts.

Although ‘law enforcement’ data cannot be seen to be representative of the population they do indicate trends consistent with the data collected by the National Drug Strategy Household Surveys. Thus marijuana accounts for the majority of drug offences; men are more likely to be arrested than women; and consumers are more likely to be arrested than providers.

2. Characteristics of users

This chapter indicates that there are some differences in the use of marijuana for different socio-economic groups. Overall, men and the young are more likely to have tried marijuana, used it in the past 12 months and use it more frequently than women and older people in the community. Major life events are also

important with respondents who have children being somewhat less likely to have tried marijuana or used it in the past 12 months regardless of the age of their children. There is also an association between marital status and use of marijuana with those people who are divorced or separated reporting higher rates of having ever used marijuana, used in the past 12 months and used on a regular basis than married or single people.

There is some association between ethnic background and marijuana use, but the ethnicity measure is extremely broad and more detailed work is required. The data from the Urban Aboriginal and Torres Strait Islander Peoples survey indicates higher rates of exposure and regular use of marijuana amongst this group than for the general population.

Those in higher occupational status jobs and those who have completed more years of formal education are more likely to have tried marijuana. However, of those who have used marijuana in the past 12 months those in higher status occupations and with more years of formal education report using less frequently. The unemployed reported higher levels of exposure and use of marijuana than the employed.

Finally, when we examine changes in use over the past seven years the data show that overall as people age they are less likely to have used in the previous 12 months. Over the past seven years younger males may have increased their weekly use of marijuana while older males and females generally appear to have reduced their weekly use.

3. Adolescent use of marijuana

This chapter shows that availability and use of marijuana is much higher amongst those aged 14 to 19 years than in the sample as a whole. Of those aged 14 to 19 years around 52 per cent have been offered marijuana, 27 per cent would try marijuana if offered by a close friend and 35 per cent have tried marijuana. Around half of those who have tried marijuana have done so in the past 12 months. When we examine the extent to which young people have been offered the drug and have actually tried it we find that the take up rate is around one-third of 14 to 19 year olds.

The most common place to use marijuana is at a friend’s house or at parties, however 29 per cent of students indicate that they also use at home. Of those aged 14 to 19 years, who are not at school, 50 per cent reported that they commonly used marijuana in a vehicle. In terms of the type and the method of consumption young people are most likely to use a bong or pipe and the heads of the plant.

Although the probability of using marijuana increases with age there does not appear to be a significant difference between young males and females in their use of the substance. Family structure appears to be important for young people with those not in families consisting of a couple with dependent children reporting higher levels of exposure and use of marijuana. However, the numbers are small, the data come from only one of the surveys and there may be other confounding factors that could account for this relationship. Students appear to have the lowest life-time prevalence rates while those ‘keeping home’ and the

unemployed report the highest. There does seem to be a relationship between income and marijuana use with those with more income reporting higher levels of exposure and use of marijuana. Again, the numbers are small and data are available from only one of the surveys.

In terms of attitudes towards the regulation of marijuana only a minority of young people favour the legalisation of personal use. Attitudes vary enormously between those who have tried the drug and those who have not. The majority of the former favour legalisation of marijuana for personal use and do not support increased penalties for the sale and supply of the drug while the majority of the latter do not support legalisation for personal use and strongly favour increased penalties for sale and supply. However, regardless of whether or not young people have tried marijuana, the vast majority do not favour a punitive law enforcement strategy as a mechanism for dealing with the personal use of marijuana; they prefer compulsory drug education or the use of monetary fines. One third of young people believe that it is okay to regularly use marijuana and this increases substantially for those who have ever tried the drug.

School-based surveys conducted in New South Wales and Victoria report similar findings to the NDS surveys. Very few school children see the use of marijuana as dangerous and 20 per cent believe that there is a very low or fairly low risk attached to using marijuana and having a car accident; conversely 80 per cent believe that there is a high to very high risk of having a car accident. If marijuana were made legal 81 per cent of US High School Seniors stated that they would not change their current behaviour, and seven per cent who currently do not use indicated that they would try it.

4. State analysis of users

State analyses are difficult. The sample sizes are too small within each survey to undertake any detailed analyses of consumption patterns and socio-economic characteristics particularly in the smaller states. The analyses show that the most ‘unstable’ patterns are observed for these states. This instability may reflect true events or it may be a function of sample size which results in wider confidence intervals. Even with pooling the data the numbers remain small once we start to examine recent use or try to focus on heavy users. It is problematic in some cases to pool the data if we are interested in the impact of the changes in law on consumption patterns; if consumption is stable we are more justified in pooling the data and maximising sample size. These problems can partially be solved by larger sample sizes or the collection of further data across time where eventually a pooled file will provide large enough samples for state analyses. However, the data do provide us with valuable attitudinal data as well as consumption patterns for the country and the larger states as a whole.

The overall conclusion that can be drawn is that the use of marijuana is relatively similar across the states and these patterns are consistent even when we control for age and sex. Where we do see some variation (and bearing in mind the caveats of sample size) in the ACT, and the NT, these are also the states where more people think it is okay to use regularly, would spend more on average on education, and would be more likely to favour the use of small fines to deal with possession.

There does appear to be some small differences between the states in terms of the type of marijuana used, the way it is smoked and where people use the drug. In all the states, except Victoria and the ACT over 50 per cent of marijuana users prefer heads. Victorians are more likely to smoke joints while South Australians are more likely to use a bong. A minority in all states reported that they smoked marijuana in a car or other vehicle, although this was less likely in the ACT, Queensland and South Australia.

5. Cross national perspectives

This chapter indicates that there are very similar patterns and rates of use of marijuana for the Netherlands, the United States and Australia. Given that these three countries have placed different emphases on the way in which marijuana is regulated these findings are interesting. In a recent paper focused on drug use and drug policy in western Europe, Reuband (1995) found that there was no link between higher or lower rates of illicit drug use and the type of social policy followed by that country. From this he concluded that 'informal social norms seem to be of greater relevance than formal legal norms and availability of drugs' (1995:32).

The figures from the United Kingdom are mixed. The British Crime Survey (BCS) figures are much lower than what is reported in either the Netherlands, US or Australia. However regional surveys suggest that the BCS may be underestimating the extent of illicit drug use. The recent 1994 BCS survey has changed its methodology with the introduction of computers to assist with the data collection. It may well be that this survey will reveal much higher levels of drug use than has been found in past surveys.

6. Attitudes towards marijuana

In the past decade there has been a slight shift in the drugs which people identify as constituting 'the drug problem'. Heroin has declined in significance, although marijuana remains the first choice for about one in four of the population. There has also been a slight shift in preferred policy options. While education still remains the first choice, there is increased support for law enforcement as a strategy to deal with heroin/cocaine, alcohol, tobacco and marijuana. However, the smallest increase in support for law enforcement is in regard to marijuana.

Responses to questions about legalisation are affected by the changes in question wording, the context in which the question is asked and whether or not an intermediate category is used. There is some popular support for legalising marijuana but this extends to personal use only; any suggestion of weakening the criminal sanctions that exist for the sale or supply of the drug produces large majorities who favour stronger penalties. Reformers tend to be weaker in their opinions than supporters of prohibition.

Support for reform seems to be coming from those who were in their 20s and 30s during the 1980s. Attitudes toward legalisation are affected by whether or not the respondent has tried marijuana and whether or not they have children. The overall level of support does not vary enormously between the states

although South Australians are slightly more likely to be in favour. There is some ambiguity over the legal status of growing marijuana although no more than seven per cent believed it was legal to engage in this activity in those states where it is illegal.

Health beliefs and behaviour are related; those who use marijuana are more likely to believe that it is okay to use marijuana on a regular basis. Those who think regular use of marijuana is okay are more likely to support legalising marijuana and oppose increased penalties for the sale/supply of marijuana.

1. Patterns of use 1985–1995

The use of marijuana has a long history and was, until the turn of this century, largely used for medical purposes. The medical problems to which it was applied ranged from malaria to the relief of pain during child birth (Grinspoon and Bakalar, 1993). However the use of the drug for medical use was largely restricted to 'India, China, the Middle East, Southeast Asia, South Africa and South America' (Grinspoon and Bakalar, 1993:3). It was not until the nineteenth century that Western societies took a serious interest in marijuana. From 1840 to 1900 a review of the medical literature indicated that more than one hundred papers had been published on the therapeutic uses of marijuana in Western journals (Grinspoon and Bakalar, 1993). By the 1890s use of marijuana for medical purposes had begun to decline. There were two significant factors that contributed to this decline. The first was that the production techniques for marijuana at this time were unable to consistently and reliably produce preparations of a particular potency. The second was that the invention of the hypodermic syringe meant that water soluble drugs such as the opiates could be injected resulting in fast pain relief.

Australia became a signatory to the Hague Convention for the Suppression of Opium and Other Drugs in 1912. This Convention did not include cannabis. The 1925 Geneva Convention on Opium and Other Drugs did include cannabis calling on all signatories to restrict its use to medical and scientific purposes. By this time the medical use of marijuana in Australia had largely disappeared and there was little use of the drug in the community for non-medical purposes. This lack of domestic use of the drug plus the international treaty resulted in marijuana being associated with other substances such as opiates. The outcome was that the states began to prohibit the personal use of marijuana with Victoria enacting the first prohibitive legislation in 1928.

Cannabis remained a largely unknown and unused substance until the 1960s. The 1960s heralded the open experimenting with mind altering substances by youth in Western societies. The media history of drug use since this time has been one of a series of moral panics beginning with marijuana in the 1960s moving to heroin in the 1970s, cocaine/crack in the 1980s and ecstasy in the 1990s. Despite the enormous media and public concern about the use of heroin, cocaine/crack and ecstasy, marijuana or cannabis has remained the most popular illicit drug during each decade since the 60s.

Data on the use of marijuana in Australia has been collected in a range of surveys over the last 30 years however the most consistent and national collection has been the National Drug Strategy Household Survey that began under the National Campaign Against Drug Abuse in 1985[1]. Appendix A provides technical information on the surveys. These data collections have routinely asked about the extent to which individuals have been offered and used

marijuana. They represent a unique source of data[2] for providing a broad brush picture of the extent of drug use in the community whose utility will increase with further collections[3].

Ever been offered marijuana

It is difficult to determine the extent to which illicit substances are being used in the general community because of their legal status and the social taboos surrounding their use. In addition to this particular groups may wish to inflate their use (that is young youths) while others may wish to deflate their use (that is middle aged parents). In addition to these problems the social environment in which data are being collected affect the overall levels of reporting. Harrison, Haag and Richards (1993) concluded from American data that around one in 20 people who admitted use of a particular drug denied use of that same drug in a subsequent interview. One of the reasons they suggested for this trend was the social climate in the United States surrounding the "War on Drugs" and drug users. However, Spooner and Flaherty (1993:196) from their Australian research concluded that 'self-reported illicit drug use is generally accurate and truthful'.

Asking about whether or not people have been offered marijuana provides some indication of the extent to which marijuana is readily available in the community. It also perhaps provides an opportunity to those who have tried but do not wish to say so the opportunity to indicate the extent to which they have access to the drug. Using the NDS data we can see the level at which individuals report that marijuana is available from the mid 1980s to the mid 1990s. Figure 1.1 shows the percentage of people who report that they have been offered marijuana in 1985, 1988, 1991, 1993 and 1995[4]. It is important to keep in mind that the question wording changed in 1995. In this survey respondents were asked if they had been offered or had the opportunity to use marijuana in the past 12 months. The figure also provides data on the per cent who report that

1 There are problems associated with every survey. The major issues associated with the use of the Australian Household Surveys on Drug Abuse are documented in a number of publications. Appendix A deals with issues associated with the most recent survey. See Makkai (1993, 1994) for issues of concern raised over the previous surveys.

2 Although data are collected on aspects of drug use from a wide range of surveys and other types of collections, these collections often vary enormously in a variety of aspects including the method of collection, the sample and the questions asked. A single survey instrument is required if public policy at a national level is to be achieved or alternatively to compare the impact of specific state initiatives. In the US, a federalist system like Australia, they have routinely undertaken a national household survey on drug abuse since 1972. Such national collections provide a picture of drug use across the whole country while surveys focusing on particular drugs or samples provide more detailed information on specific areas of interest.

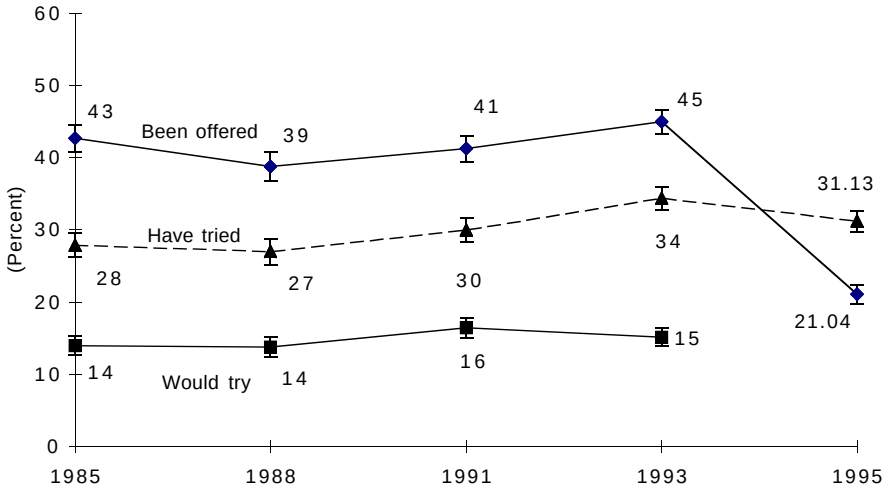
3 A single collection on its own has limited value but as the number of collections continue the data are greatly enhanced for several reasons. First they enable greater confidence to be placed in the results, second they provide a picture that is not static but reflects the changes occurring in the community, and third the small sample size can be increased by pooling the data.

4 The figures also include the standard errors for the point estimates. These are at the 95 per cent level and indicate that we can be confident 95 per cent of the time that the point estimate does lie between the upper and lower interval.

they would try marijuana if offered by a close friend (1985–1993) and the per cent who report that they have ever tried marijuana (1985–1995).

Overall, 42 per cent of people between 1985 and 1993 reported that they had been offered the substance, however, the cross sectional data for each year suggest that the availability of the drug is increasing. Whereas there was a drop in the percentage reporting that they have been offered marijuana from 85 to 88 since that time there has been a steady increase climbing to 41 per cent in 1991 and 45 per cent in 1993. The 1995 data shows a considerable drop because the question asks people about the past 12 months. Thus 21 per cent of respondents report that they have been offered or had the opportunity to use marijuana in the past 12 months. The confidence intervals indicate that the margin of error between each survey overlap indicating that there is no significant difference in the per cent who have been offered marijuana between 1985 and 1993; there is clearly a significant difference in 1995.

Figure 1.1: Per cent who have been offered, would try and have tried marijuana, 1985–1995



Source: NDS 1985, 1988, 1991, 1993,

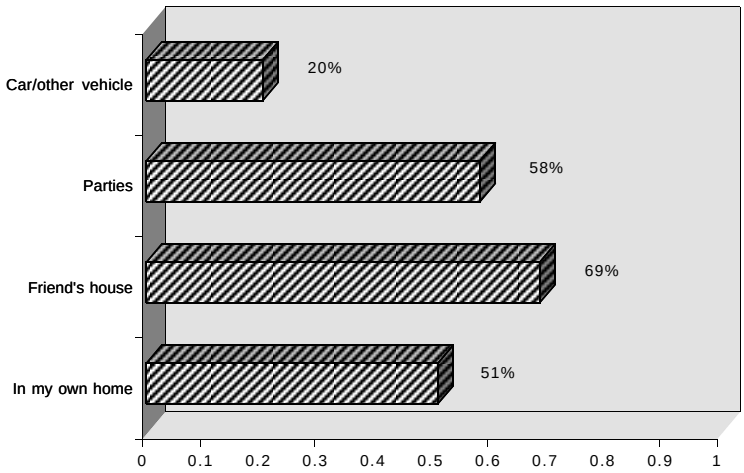
Would use marijuana if offered by a trusted friend

Whether or not a person would try a drug if offered by a trusted friend can be viewed as the extent to which marijuana use is an accepted practice within close networks. From 1988 to 1993 respondents were asked if they would try marijuana if it was offered by a trusted friend; the question was not asked in 1995. Overall 15 per cent said yes. This indicates that although almost half of the sample have come into contact with marijuana in the sense of it being offered to them few of the sample would take the drug even if offered to them by a trusted friend. However, if we consider what per cent of people who have

been offered marijuana would take it if offered by a trusted friend the percentage answering yes increases to 33 per cent. This would seem to suggest that marijuana use is often consumed in groups. Although the 1995 survey did not ask a question specifically focused on this issue it did ask respondents where they smoked marijuana. The data are shown in Figure 1.2.

Respondents were able to provide multiple answers. As a result there were 1125 responses. The data indicate that half of the sample smoke marijuana in their own home. Sixty-nine per cent smoke marijuana at a friend's place while 58 per cent report that they use the substance when at parties. It is important to bear in mind that the question does not strictly tap into whether or not consumption occurs in groups. The category 'in my own home' could mean a solitary activity or a group activity however it is clear that this drug is often used in a 'group' environment—at a friend's house or at parties. The extent to which people consume marijuana and drive cannot be determined from the survey data although 20 per cent of the sample indicated that they do smoke marijuana in a vehicle of some sort.

Figure 1.2: Places where people use marijuana



Source: NDS 1995, n=492

Ever used marijuana

Figure 1.1 also indicates the extent to which individuals report that they have used marijuana. This is a life-time prevalence measure in that it does not restrict use to within a particular time frame. Although this measure is not a reliable indicator of the current situation it does indicate the extent to which individuals have come into contact with marijuana at some point in their lives. Overall, 30 per cent of respondents indicated that they had tried marijuana. The data in Figure 1.1 shows that this varies little across the years ranging from 29 per cent in 1985 to 31 per cent in 1995.

The overall picture seems to suggest an upward trend is occurring. The margins of error indicate that between 1985 and 1991 there was not a significant

difference between the years. However, the confidence intervals for 1993 do not overlap with the previous years indicating a significant increase in the proportion who report that they have tried marijuana. The percentage drops in 1995 by three percentage points. The confidence intervals for 1995 overlap with the confidence intervals for 1991 but not 1988 or 1985. Over the decade then the life-time prevalence rates of the early 1990s are higher than the late 1980s.

Used in the past 12 months

The previous measures have given us an indication of the extent to which marijuana has been available and accepted in the community over the past decade. In terms of the current prevalence of marijuana we need to examine the extent to which people have used marijuana recently. Table 1.1 examines whether or not respondents have used marijuana in the previous 12 months. This question was not asked in 1985. In full, 13 per cent of all respondents reported that they had used marijuana in the past 12 months. If the sample is restricted to those who have ever tried marijuana 41 per cent report that their use has been in the past 12 months.

Table 1.1: Per cent who report having used marijuana in the past 12 months[a]

	1988	1991	1993	1995	(Total)
Total sample	12	12	12	13	(12)
(n)	(2255)	(2853)	(3500)	(3849)	(12458)
Those who have ever tried	43	41	38	44	(41)
(n)	(605)	(848)	(1147)	(1144)	(3743)

a Exact question wording was 1988: 'When did you last use marijuana? Today, yesterday, 2–3 days ago, 4–6 days ago, in past week, 1–4 weeks ago, 1–2 months ago, 2–3 months ago, 4–6 months ago, 7–9 months ago, 10–12 months ago, 1–3 years ago, 3+ years ago'. 1988: 'When did you last use marijuana? Today, yesterday, 2–3 days ago, 4–6 days ago, one week ago, 1–4 weeks ago, 1–3 months ago, 4–6 months ago, 7–12 months ago, more than one year ago'. 1993/1995: 'Have you used marijuana in the past 12 months? Yes, no'

Source: NDS 1988, 1991, 1993, 1995

When broken down by year the data show some interesting trends. Overall the percentage who have used marijuana in the past 12 months as a proportion of the total sample seems to have steadily increased from 1988 and 1995. However as a proportion of those who have ever tried marijuana the data does not suggest a noticeable trend. From 1988 and 1993 there was a decline but in 1995 the percentage has increased to a rate higher than in 1988. This recent increase in marijuana consumption is consistent with findings elsewhere. Both the Australian and US school surveys suggest an increase as does the US National household survey.

Frequency of use

Table 1.2 examines how frequently respondents used marijuana. The analysis is restricted to those who reported they had used in the past 12 months. Across the years the response categories have changed so the responses have been collapsed

into three comparable groups—those who report using once a week or more often, every couple of months, and once or twice a year. There is little difference between 1988 and 1991. Just over a third of the sample report that they used on a regular basis and of the remaining two-thirds the majority use infrequently. In 1993 there is a slight shift in the pattern with both the frequent and infrequent groups getting smaller and the intermediate group growing larger. However this trend does not continue in 1995. In 1995, 32 per cent reported that they used once a week or more often, 30 per cent reported using every couple of months and 39 per cent used only once or twice a year. These data indicate that of those who have tried marijuana in the past 12 months around one-third used on a frequent basis.

Table 1.2: Frequency of use, 1988–1995[a]

	1988	1991	1993	1995
Once a week or more often	36	35	31	32
Every couple of months	22	22	34	30
Once or twice a year	42	43	35	39
(n)	(259)	(351)	(438)	(498)

a Exact question wording was 1988/1991: 'How often or did you use marijuana/hash? Daily, 4–6 times a week, 2–3 times a week, once a week, 2–3 times a month, once a month, every 1–2 months, 3–4 times a year, once or twice a year, less often/no longer use'; 1993/95 'How often do you use marijuana? Every day, once a week or more often, about once a month, every few months, once or twice a year, less often, no longer use'

Source: NDS 1988, 1991, 1993, 1995

Age started

In 1993 and 1995 respondents were asked to indicate the age at which they first tried marijuana. Research has indicated that respondents who start drug use young are more likely to use for longer and to be heavier consumers. However, age of initiation is compounded by the age of the respondents. For example, a person aged 19 years who has not tried will indicate no but if asked again in five years may indicate yes. It is also a question that is subject to problems with memory recall (Davies and Coggans, 1991, Davies, 1994). Davies (1992: 89) points out 'that memory is imperfect, selective and interpretative and there is no reason to suppose that these characteristics of memory simply disappear because the topic is addiction'.

Davies (1992) cites three problems with using age of initiation. The first problem is that older respondents may be more likely to report an older age. This may occur because they have genuinely forgotten when they first tried the drug or they may be embarrassed to admit first trying at a much younger age. The second problem is that it can be difficult to decide what to count as the 'beginning'. For example does a quick puff on a marijuana cigarette constitute the 'first try'. Finally, Davies argues that people will report what seems reasonable. As a result heavy users will report a younger age as this is what is expected of them while light users will report an older age.

Figure 1.3 shows the age at which respondents reported that they first tried marijuana. Because of the close association with age the analysis here is

Figure 1.3: Age of initiation for those who have tried and those who have used in the past 12 months

5 A similar occurrence was noted for tobacco where 15 per cent reported that they had first tried the drug when they were aged 20 or older.

Figure 1.4: Age first tried licit drugs and marijuana (aged 20+ years)

the active THC agents from hashish or marijuana. The commonest form of administration is smoking, but hashish oil may also be cooked or baked in foods and eaten[6]. In 1995 the NDS survey asked respondents what type of marijuana they most commonly used and how they usually consumed the substance. Respondents were first asked 'How do you most commonly use marijuana? Usually smoke as "joints" (e.g reefers, spliffs); Usually smoke from a "bong" or pipe; Usually by eating it (eg hash cookies)'. Then they were asked 'And what type of marijuana do you most commonly use? Leaf; Heads; Resin (including Hash); Oil (including Hash oil); "Skunk"; other (please give details)'.

Just over half of those who have used in the past 12 months report that they usually use heads (54 per cent) followed by leaf (35 per cent). Other forms of marijuana, such as resin and oil, are relatively rare in Australia. Given that most resin and oil is imported to Australia it is perhaps not surprising to find such low levels of use. 'Skunk' is a term used for very high strength (THC) cannabis plants, although, there is some confusion over the use of this term with people using it to refer to a range of indoor and hydroponically grown strains (ABCI: 1995).

Respondents are somewhat more likely to use bongs or pipes (56 per cent) than joints (43 per cent). There is an association between the type of marijuana used and the method of consumption. Those who usually use leaf are more likely to smoke it as a joint (63 per cent) while those who usually use heads are more likely to smoke it using a bong or pipe (69 per cent). However there is still a substantial minority who do not follow this pattern.

Women are slightly more likely to use leaf than men but the differences are not

Table 1.3: Type of marijuana and consumption method by age and gender[a]

	Gender		Age in years					
	Female	**Male**	**14–19**	**20–24**	**25–29**	**30–33**	**35–39**	**40+**
Type used								
Leaf	40	32	21	32	35	39	48	64
Head	49	58	65	55	54	54	46	29
Other	11	10	14	13	11	7	6	7
(n)	(184)	(319)	(125)	(125)	(92)	(73)	(48)	(41)
Method								
Smoked as joints	50	38	6	42	54	62	71	68
Smoked from bong or pipe	50	60	94	56	45	38	28	31
(n)	(179)	(312)	(125)	(122)	(92)	(74)	(41)	(37)

a Exact question wording was 'How do you most commonly use marijuana?'; 'And what type of marijuana do you most commonly use?'

Source: NDS 1995

6 For detailed information on the types and uses of marijuana readers are referred to H\all, Solowij and Lemon (1994) The health and psychological consequences of cannabis use.

large. There are noticeable differences by age. Older respondents are more likely to use leaf rather than heads or some other form. Thus 32 per cent of those aged 20 to 24 years report that they usually use leaf compared to 64 per cent of those aged 40 or older. Age is also associated with the way in which respondents usually use the substance. Younger respondents (and particularly those aged 14 to 19 years) are less likely to smoke marijuana as joints than older cohorts. Women are also somewhat more likely to use joints rather than a bong or a pipe.

Other indicators of marijuana use

Self-reported measures of drug use have been criticised on a number of grounds. These have included memory loss, accuracy, problem of asking about an illegal activity or an activity regarded as 'deviant' by some, and problems with the sample (bias and size). Although there is some validity to all these points at the end of the day all the available measures have some problems associated with them. Studies of drug use amongst the homeless do not represent the population nor does data from treatment and rehabilitation centres; police records are biased by the way in which incidents are recorded and by the priorities of the officer in charge at that time; customs data only represents a small percentage of what is being imported and it does not indicate who is using, how often or why. However, the collection of all these forms of data over a period of time will enable policy makers to assess the extent to which similar trends emerge and provide a mechanism for cross checking 'one-off' collections.

Responsibility for the enforcement of the law rests with the police and other agencies at the federal and state levels. At the federal level these are the Australian Federal Police (AFP), the National Crime Authority (NCA), The Australian Bureau of Criminal Intelligence (ABCI), the Attorney–General's Department Criminal Law Enforcement Division, The Director of Public Prosecutions (DPP) and the Australian Customs Service (ACS). At the state level each state police force maintains drug squads and there have also been state-specific initiatives.

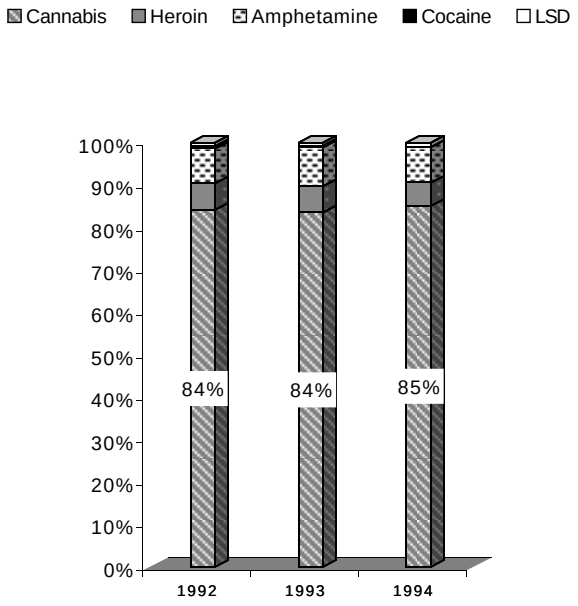
The Australian Customs Service deals with the interdiction and detection of drugs into and out of Australia but their activities are restricted to the customs barrier. Beyond the barrier the Australian Federal Police (AFP) are responsible for detection and investigation. The AFP concentrate their efforts on the detection and apprehension of key people involved in trafficking and organised crime. They also concern themselves with regional activity. The NCA's primary aim is to combat organised crime in Australia. The ABCI's chief role is to collect, collate and analyse criminal intelligence to enable federal and state police forces to combat organised crime and illicit drug trafficking. The Criminal Law Enforcement Division of the Attorney–General's Department provides policy advice on drug law enforcement. The DPP is concerned with drug offence prosecutions, particularly related to the importation of illicit drugs and the recovery of assets. The state police forces deal with the day-to-day enforcement of state legislation which involves the investigation, detection, apprehension and prosecution of illicit drug producers and consumers. To some extent these different agencies are in competition as well as co-operation. The powers they have to investigate and arrest vary as do their resource constraints (Report of the Premiers Drug Advisory

Council, 1996: 154; Makkai, McAllister and Moore, 1994).

These agencies collect a variety of data on drug use, drug consumers and drug providers some of which is publicly available; much of it is not. With specific reference to data publicly available on marijuana there is variation in the way in which data is presented. Most noticeably sometimes data is presented separately for cannabis oil, on occasion cannabis resin is included with the total figures for cannabis. There is a clear need for greater public accountability. One mechanism would be the publication of annual reports detailing data on arrests, seizures by number and weight, the price and the cost of law enforcement activities to the community which have been consistently collected across all states and territories.

Data from 1994 (ABCI, 1995) indicated that 43,349 people were charged with either providing or consuming cannabis in Australia. Cannabis related arrests represent the largest component of drug-related offences. It is important to keep in mind that laws vary from one state to another as well as enforcement practices. Without uniform laws, enforcement, and consistent procedures and record keeping, these national data are limited. Figure 1.5 shows the percentage of drug-related arrests for cannabis, heroin, amphetamines, cocaine and LSD between 1992 and 1994. The pattern is consistent with cannabis representing around 84 per cent of the total number of drug related arrests. However, recent reports from Victoria and Queensland indicate that many possession, use and cultivation charges (particularly first offenders) result in a fine or bond (Criminal Justice Commission, 1994; Report of the Premiers Drug Advisory Council,

Figure 1.5: Arrests by drug type, 1992–1994

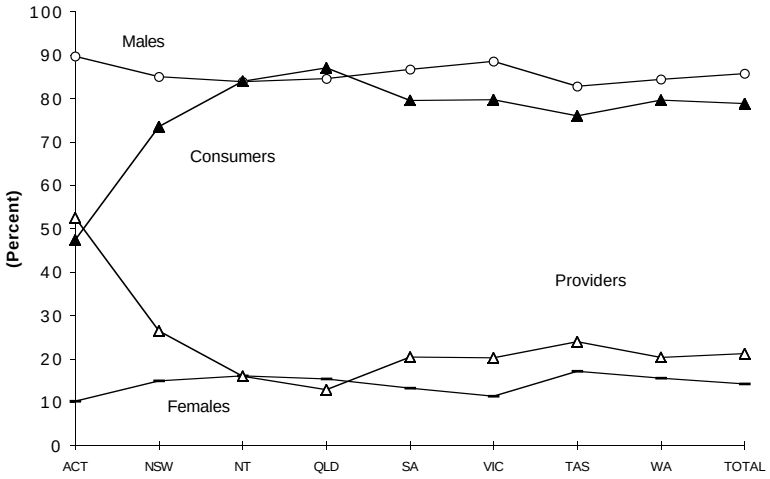


Source: ABCI, 1995

1996). The NDS data indicates that marijuana is the illicit drug that most people have tried and are more likely to use.

Men are much more likely to be arrested for cannabis related offences than women. Figure 1.6 demonstrates that this difference is very large. Although the next chapter shows that there is a difference between males and females in self-reported use it is not as extreme as the difference between male and female arrest rates. Figure 1.6 also looks at the extent to which the charge is for providing or consuming. The methodology used to assign individuals to the two categories varies between the states[7] but the data clearly shows that consumers

Figure 1.6: Cannabis arrests by gender and consumer/provider, 1994



Source: ABCI, 1995

are much more likely to be arrested than providers except in the ACT where providers slightly outweigh consumers[8].

Figure 1.7 provides data on the seizures and weight of seizure from two sources—the Australian Federal Police and the Australian Customs Service. The AFP data includes all federal agencies (including ACS) except for the National Crime Authority. The ACS seizure data follows the same trend as the AFP data although, as expected, the number is smaller. ACS seizures seem to represent about half that of all federal agencies. We can immediately see that the weight data bears no relationship to the number of seizures. Thus one seizure can result in a large weight or alternatively one seizure can result in a very small amount being recovered. This demonstrates the point that law enforcement data needs to be carefully interpreted.

7 Readers are referred to ABCI (1995:98).

8 More detailed figures are provided for Queensland and Victoria in recent reports on illicit drugs (Report of the Premier's Drug Advisory Council,1996; Criminal Justice Commission, 1993, 1994)

Figure 1.7: Seizures and weight, AFP and ACS data

Although ‘law enforcement’ data cannot be seen to be representative of the population they do indicate trends consistent with the NDS data:

- marijuana accounts for the majority of drug offences;
- men are more likely to be arrested than women; and
- consumers are more likely to be arrested than providers.

2. Characteristics of users

This chapter focuses on the socio-economic profile of users. Although marijuana had been associated with various sub-cultures such as jazz musicians prior to the 1960s, when marijuana did become more widely used in the 1960s it was still largely confined to those aged in their late teens and early twenties. Marijuana use was also associated at this time with university students rather than non-students. As with other illicit drug use women were less likely to use than men. Marijuana has remained popular for almost 40 years but has the profile of users remained the same or changed? Is its use largely restricted to students? Has its use spread out to older age groups? Is the gender gap closing as it has in so many other areas of life?

In examining marijuana use three measures are used. The first is life-time prevalence, the second is use in the past year and the third is frequency of use. Six characteristics are examined—age and gender, ethnicity, family structure, education and the work environment. As the focus of the chapter is on describing the characteristics of the users the data are pooled in order to maximise sample size. This is particularly important when focusing on recent use and frequency of use. This provides us with a weighted sample of 15,249 cases.

Age and gender

Figure 2.1 examines life-time prevalence for different age groups for males and females separately for the pooled data. The age categories reflect the restrictions placed by asking age in a variety of forms (see technical appendix for a discussion of this issue) in the different surveys[9]. The overall trend for males and females is the same. The highest prevalence is found amongst those in their twenties while the lowest is found amongst those in their forties or older. The distribution shows that regardless of the age group life-time prevalence is higher for males than females. The confidence bands indicate that this difference is significant: males are much more likely than females to have tried marijuana.

Over the decade the highest prevalence rate is found amongst males aged 20 to 24 years. Seventy-two per cent, almost three in four, have tried marijuana. Females also have the highest prevalence amongst this group with 53 per cent reporting that they had tried the drug. Of those aged 14 to 19 years 39 per cent of males and 28 per cent of females report that they have tried marijuana. Chapter 3 examines adolescent use in greater detail.

Figure 2.2 focuses on those who have used in the past 12 months for different gender and age groupings. Although there are some similarities for life-time

9 It is only in the most recent 1995 survey that age was asked in years thus enabling any classification scheme to be used. Age should always be collected in years and it is strongly recommended that all further surveys continue this policy.

Figure 2.2: Per cent who have used in the past 12 months by age and gender

For those aged 20 or older recent use declines with age. As one ages the less likely one is to have used marijuana in the recent past. Thus 66 per cent of males and 49 per cent of females aged 20 to 25 report having used in the past 12 months as compared with 20 per cent of males and 18 per cent of females aged 40 or more years. The point estimates indicate that men are more likely to have used marijuana in the recent past than females, however, the confidence bands suggest that these differences are often not significant. It is only those aged in their twenties and early thirties where the difference in recent use is statistically significant. The confidence bands for those in their teenage years overlap so that one might expect that the gender differences currently observed would decline as this cohort ages.

Why does this gender difference occur in the twenties but not the thirties? It is difficult to determine from these data as questions about scene, setting, and attitudes have not been routinely collected. The data show that males drop by 42 per cent while females drop by 30 per cent from early twenties to late thirties. Because fewer women use marijuana regularly in their twenties they may represent a more committed group hence their chances of continuing use of marijuana into their late thirties is higher. This would explain why a greater proportion of women in their twenties continue to use marijuana but it does not explain why the gender gap is greatest in the 20–29 year age bracket. Criminological research has shown that women are less likely to involve themselves in activities which are defined by society of socially deviant, although this is now changing. Men, on the other hand, are more likely in their younger years to be involved in social disorder and related activity. Hence men in their twenties have higher rates of drug use as they are less constrained by social control mechanisms. A second reason could be that women in this age group are more involved in child rearing activities and that they may modify their behaviour accordingly.

Table 2.1: Changes in recent use between 1988 and 1995 for males and females

	Reported use in the past 12 months					
	Males			Females		
	1988	**1995**	**(change)**	**1988**	**1995**	**(change)**
Born in:						
1971–1974	89	68	(-21)	64	56	(-8)
1964–1970	74	60	(-14)	55	34	(-21)
1959–1963	40	33	(-7)	43	14	(-29)
1954–1958	39	24	(-15)	21	13	(-8)
1953–1949	39	20	(-19)	22	22	(0)
Pre-1949	24	18	(-6)	21	22	(+1)
(n)	(357)	(558)	(249)	(387)		

Source: NDS 1988, 1995 pooled data file

Table 2.1 allows us to examine changes over time for different generations in their patterns of recent marijuana use. The data have been grouped into six generations—those born in 1971 to 1974, 1964 to 1970, 1959 to 1963, 1954 to 1958, 1953 to 1949 and those born pre 1949. As use of marijuana in the previous 12 months was not asked in 1985 the analysis focuses on recent use in 1988 and then in 1995 for the different generations. Over this seven year period the overall pattern is one of decline indicating that as people age they tend to reduce their exposure to marijuana. However this is not a uniform pattern across all the generations or for both sexes.

Of those born pre 1949 who reported having used marijuana in the previous 12 months in 1988 the vast majority have not changed their behaviour by 1995. For this group it would appear that behaviour patterns in this regard are well established. There are notable differences between males and females for the different generations. Over the seven year period women aged between 25 and 36 years in 1995 show a much larger decline than their male peers. For women born before 1959 there has been little change in behaviour over the past seven years whereas males do show quite large reductions in having used in the past 12 months over the seven period. Caution is warranted in interpreting these trends. The most important reason for caution is that sample sizes within the generations are often very small and the confidence bands overlap for all the generations except for women born between 1959 and 1963. Another reason for caution is that women start from a much lower base of recent use than males.

Table 2.2: Frequency of use by gender for different age groups[a]

	14–19	20–24	25–29	30–34	35–39	40–69
Males						
Once a week or more often	31	42	35	42	26	42
1–2 times a month to every couple of months	33	33	31	21	19	16
3–4 times a year or less	36	25	34	37	55	43
(n)	(233)	(251)	(203)	(134)	(85)	(95)
Females						
Once a week or more often	25	25	32	32	26	19
1–2 times a month to every couple of months	39	21	24	24	23	25
3–4 times a year or less	36	54	44	44	52	56
(n)	(130)	(138)	(106)	(81)	(42)	(46)

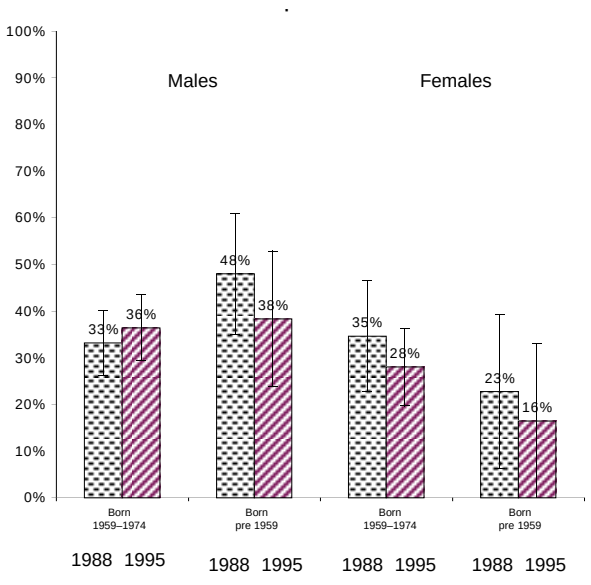
a Exact question wording was 'How often do you use Marijuana/Hash?' Response categories varied across years. 1988/1991: Daily, 4–6 times a week, 2–3 times a week, once a week, 2–3 times a month, once a month, every 1–2 months, 3–4 times a year, once or twice a year, less often/no longer use. 1993: once a week or more often, once a month, every 1–4 months, once or twice a year, more than 1 year ago/no longer use. 1991/1995: every day, once a week or more often, about once a month, every few months, once or twice a year, less often, no longer use.

Source: NDS 1988–1995 pooled data file

Table 2.2 examines the frequency of marijuana use for males and females for the past seven years. The responses have been collapsed into three categories. Those who report that they use once a week or more often, those who use a few times a month to every couple of months and those who use only three or four times a year. The analysis focuses on only those persons who said they had used marijuana in the past 12 months. The first thing to note is that the sample size is now becoming quite small, particularly in the older age groups. Amongst males around one third or more use marijuana at least once a week or more often for all age groups except those aged 35 to 39 years where 26 per cent report this level of frequency. Thus 31 per cent of 14–19 years olds report this level of frequency while 42 per cent of those aged 40–69 also report this. For women this drops to around a quarter with some fluctuation. Thus 25 per cent of females aged 14 to 19 and 19 per cent of females aged 40 to 69 report that they use marijuana at least once a week or more often. These data show that of those who have used marijuana in the past 12 months a minority use on a very regular basis. This indicates that within that cohort who use the substance it is fairly easy to obtain.

The question that needs to be answered is whether the age cohorts have changed in their frequency of marijuana use over the past decade. To do this Figure 2.3 compares the frequency of marijuana use in 1988 with 1995 for two generations—those born between 1959 to 1974 and those born pre 1959. The data suggest that weekly use may have increased over the past seven years for males born between 1959 and 1974. For all other groups weekly use has declined. As the sample sizes are very small and the confidence bands on the tables overlap these trends need to be interpreted with caution. It is only with the collection of further data that we can discern whether this is an on-going trend or not.

Figure 2.3: Frequency of use on a weekly basis over the last seven years for those born between 1959 and 1974 and those born pre 1959



Source: NDS 1988, 1995

Six points can be drawn from the above:

- men are more likely to have tried marijuana but this significant gender gap largely disappears when we focus on use in the past 12 months;
- although adolescents have a lower life-time prevalence rate than those aged in their twenties and thirties, of those who have tried marijuana a greater proportion of adolescents have used in the past 12 months;
- of those who have used in the past 12 months a small percentage, regardless of age or gender, use on a weekly or more frequent basis;
- the percentage of women who use on a frequent basis is lower than the percentage of men regardless of age;
- although the overall percentage of people who report that they have used marijuana in the past 12 months has remained relatively consistent over the past seven years individual behaviour indicates a change in behaviour—as people age they are less likely to have used in the previous 12 months; and
- frequency of use for individuals over the past seven years indicates that younger males may have increased their weekly use of marijuana while older males and females generally appear to have reduced their weekly use.

Ethnicity

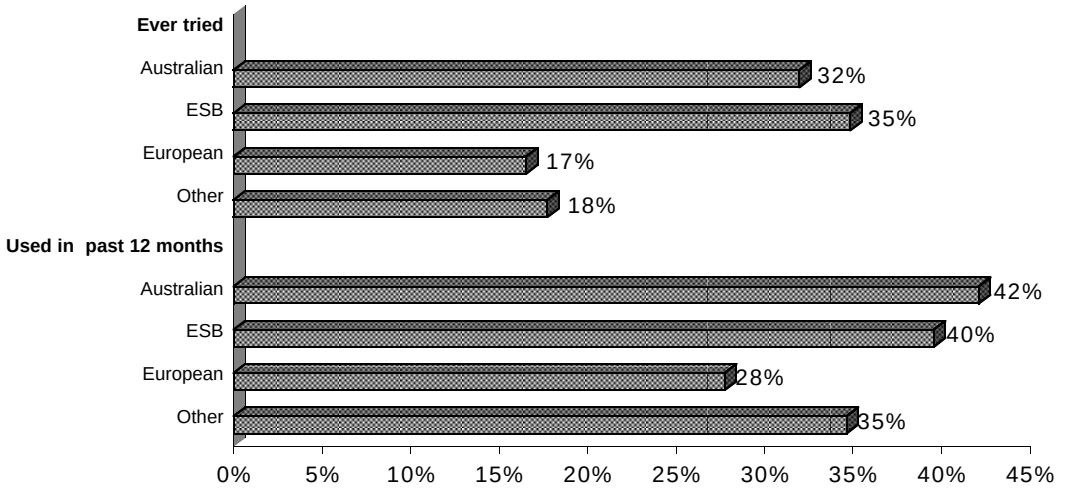
Very little is known about the drug habits of different ethnic groups within Australia or among the Aboriginal and Torres Strait Island peoples. The Clients of Treatment Service Agencies, March 1992 Census findings indicate that the percentage of Aboriginal people using marijuana is 8.5 per cent as compared with 6.5 per cent for other Australian born and 3.4 per cent for overseas-born substance users (Chen, Mattick and Baillie, 1993). To redress the lack of information on drug use amongst the indigenous population a supplementary survey of this group was undertaken in 1994. The data showed that 48 per cent of the sample reported that they had tried marijuana, 22 per cent reported that they currently used marijuana and 11 per cent reported that they used marijuana at least weekly (Commonwealth Department of Health and Family Services, 1996a: 35). The figures are higher than those reported from the general population surveys presented in this report. The age and gender profile of users is however similar to the general population; men are more likely to have tried and currently be using marijuana than women while the young report higher rates of experimentation and use of marijuana than older respondents (Commonwealth Department of Health and Family Services, 1996a: 35).

The Drug and Alcohol Multi-Cultural Education Centre (DAMEC) has been undertaking a series of surveys within different non-English speaking ethnic groups. These data suggest that use of marijuana is much lower amongst certain ethnic groups. life-time prevalence was four per cent for the Vietnamese, 17 per cent for the Spanish and 12 per cent for the Greeks (Commonwealth Department of Human Service and Health, 1994a).

Figure 2.4 shows the proportion of respondents who have ever tried marijuana and of those who have used marijuana in the past 12 months for different ethnic groupings from the NDS surveys. Even by pooling the data the overall number

of respondents who are from non-English speaking backgrounds is too small to undertake a detailed analysis of separate birthplaces. For example only 110 European born and 153 other non-English born report that they have used marijuana in the past 12 months. This compares with 461 English speaking non-Australian born immigrants (ESB) and 2,983 Australian born respondents. Australian born and ESBs have similar rates of marijuana use. Thirty-two per cent of Australian-born (CI: 31, 33) and 35 per cent of ESBs (CI: 33, 37) have tried marijuana and while of those who have tried marijuana 42 per cent of Australian born (CI: 40, 44) and 40 per cent of ESBs (CI: 35, 44) have used within the past 12 months.

Figure 2.4: Ever tried and used in the past 12 months by ethnic group



Source: NDS 1988, 1991, 1993, 1995 pooled data file

Considerably fewer non-English speaking immigrants have tried marijuana. The data indicate little difference between European born versus other non-English speaking born groups. Seventeen per cent of Europeans (CI: 15, 19) and 18 per cent of other non-English speaking groups (CI: 14, 19) report that they have tried marijuana while 28 per cent of Europeans (CI: 19, 36) and 35 per cent of other non-English speaking groups (CI: 27, 42) indicated that they had used marijuana in the past 12 months. These amorphous groups however combine ethnic groups with very different cultural and religious backgrounds. The confidence bands indicate that there is a significant difference between those from English speaking backgrounds and those from non-English backgrounds in terms of having ever tried marijuana. Although the data suggests a wide difference in terms of having used marijuana in the past 12 months the confidence bands indicate that this is not significant.

When examining how often respondents use marijuana the small sample size becomes even more problematic. Table 2.3 shows both the frequencies and percentages for this reason. These data suggest a similar picture to the overall

patterns noted in the first chapter. Respondents tend to be either very regular users or infrequent users. Where this pattern changes slightly is for the 'other' category but the numbers are so small that it is impossible to draw meaningful differences.

In conclusion it would appear that there is some association between ethnic background and marijuana use. However, the ethnicity measure is extremely broad and more detailed work is required before any real conclusions can be drawn.

Table 2.3: Frequency of use for different ethnic groupings

	Australian born		ESB		European born		Other	
	n	(%)	n	(%)	n	(%)	n	(%)
Once a week or more often	409	(33)	67	(37)	12	(38)	14	(29)
1–2 times a month to every couple of months	361	(29)	42	(23)	7	(22)	16	(34)
3–4 times a year or less	497	(39)	71	(39)	12	(40)	18	(37)
(n)	(1267)	(179)	(31)	(48)				

Source: NDS 1988–1995 pooled data file

Family structure

One of the patterns that has been observed about drug use behaviour is that use declines with age. This association has been interpreted in a number of ways but one interpretation is that as people age they undertake new roles that require them to re-assess their priorities and interests. As a result participation in certain activities like drug use declines. Two significant role changes is the serious involvement with a partner and the care and rearing of children (these can be mutually independent events). The majority of the sample report that they are either married or living together (60 per cent)[10]. Of the remainder, 27 per cent have never been married, seven per cent are divorced or separated and six per cent are widowed.

It is somewhat more difficult to determine the extent to which individuals have children. The question on children varied across the surveys as is indicated by the footnote to Table 2.4. The distributions are consistent with what we would expect given the question wording. Thus in 1985 the question asked about whether the individual had any children and consequently this has the highest percentage—64 per cent. The most restrictive question was asked in 1993 and conversely 34 per cent reported that they had children aged 13 and under. In 1995 it was possible to discern whether the individual had any children aged under 13 years as well as if there were any dependent children living in the household. The latter form of question wording is almost consistent with that asked in 1988 and 1991 hence the very similar distributions.

The presence of children is highly correlated with age and marital status. Very young respondents and those aged over 40 are far less likely to have dependent

10 The 1995 survey did not distinguish between married and living together. However, there may be important differences between these two categories.

children than those aged between 20 and 40. Similarly respondents who are married are much more likely to report having dependent children than those who have never been married and those who are widowed. As these characteristics can and do overlap we have developed a measure of the family type comprised of age, marital status and the presence or absence of children. Because of the problems associated with the wording of the 'children' question the 1985 data are excluded and the 1988, 1991 and 1995 data are grouped to provide an indicator of dependent children aged under 25 years while a second indicator is used for the presence of children aged 13 years or younger by grouping the 1993 and 1995 data.

Table 2.4: Children present in household[a] (per cent)

	1985	1988	1991	1993	1995	1995[b]
Yes	64	44	43	34	44	34
No	36	56	57	66	56	66
(n)	(2647)	(2231)	(2848)	(3490)	(3836)	(3849)

a Exact question wording in 1985 'Do you have any children (including step/foster children?'; 1988 and 1991 'Do you have any children under the age of 25 either living at home or away from home'; 1993 'Are there any children aged 13 years or under who normally reside in this household?'; 1995 'Are there any dependent children in this household?'

b It was possible via a series of other questions to determine what percentage of individuals had children aged 13 or younger making this comparable with the 1988 and 1993 survey question.

Source: NDS 1985, 1988, 1991, 1993, 1995

The use of marital status is also not straightforward. Widows have been excluded as they are largely elderly and do not report dependent children aged under 15 years. As a result any significant differences could be due to the state of widowhood or alternatively due to age. The 1995 survey did not distinguish between married and living together. As there is no distinction in law between these two groups they have for these purposes been grouped together. Appendix A: Table 4 shows the distribution of the sample across the groupings while Figures 2.5a and 2.5b indicate the extent to which individuals reported that they had ever tried marijuana or if they had tried it whether they had tried it in the past 12 months for the different types of family structure.

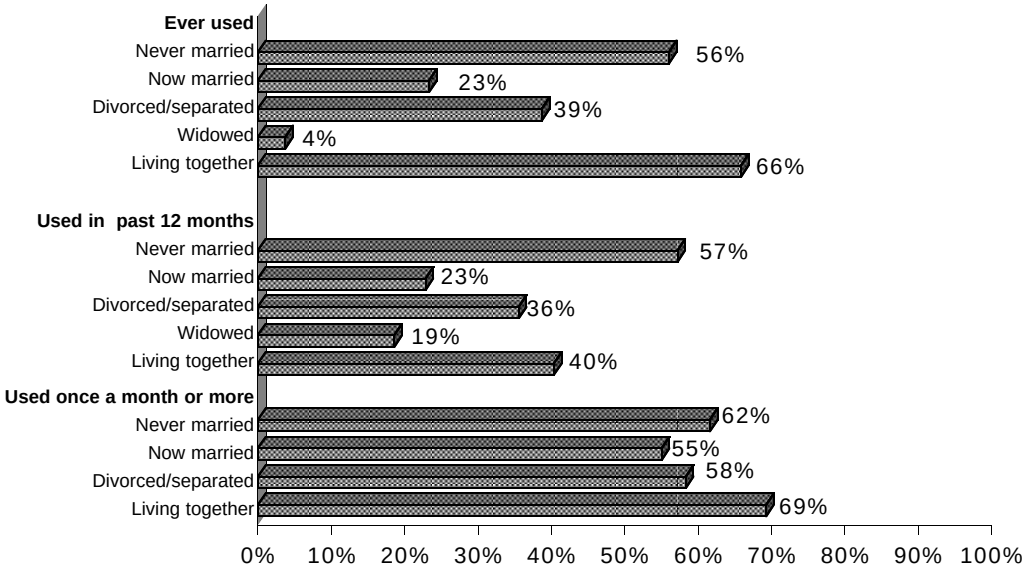
These data show a complex picture which suggests the need for more systematic and detailed work. The overall relationship between age and use of marijuana remains regardless of marital status and the presence or absence of children; younger people are more likely to have tried and used marijuana within the past 12 months. However, there are some notable differences within the age groupings in terms of marital status and children. Respondents who are married are less likely to have ever used or used recently than those who are currently single or divorced or separated, regardless of whether or not there are dependent children. Interestingly the age of children does not seem to make a great deal of difference. Whether or not you have children aged under 14 years does not seem to have a more significant impact than whether you have dependent children aged under 25 years. We will see in Chapter 6 that this also holds true for attitudes on legalisation.

Within both age groupings divorced or separated people appear more likely to report use of marijuana than married persons. Figure 2.6 examines the direct relationship between marital status and marijuana use. In this case the distinction between living together and married is retained so that the data from 1985 to 1993 can be pooled. As expected the two groups most likely to have tried marijuana and used in the past 12 months are those who have never been married and those living together. However, although those living together are more likely to have tried they are less likely to have used in the recent past than their never married peers.

Similarly, few widows have tried marijuana and as only eight persons had used in the past 12 months and four used it on a weekly or more frequent basis they are excluded. The interesting finding is the difference between those now married (23 per cent, CI: 22, 24) and those currently divorced or separated (39 per cent, CI: 36, 42). Sixteen per cent more of those in the latter category have tried marijuana as opposed to those in the former. This difference is maintained for use in the past 12 months. The confidence bands indicate that the groups are all significantly different from each other in terms of marijuana use in the past 12 months. In looking at the frequency of marijuana use the married are the group least likely to use on a monthly or more often basis followed by the divorced or separated. However, the confidence bands indicate that these differences are not significant.

The data suggest that there is an association between family structure and marijuana use. Generally speaking those respondents with children are less

Figure 2.6: Ever used, used in the past 12 months, used once a week or more by marital status



Source: NDS 1985, 1988, 1991, 1993, 1995 pooled

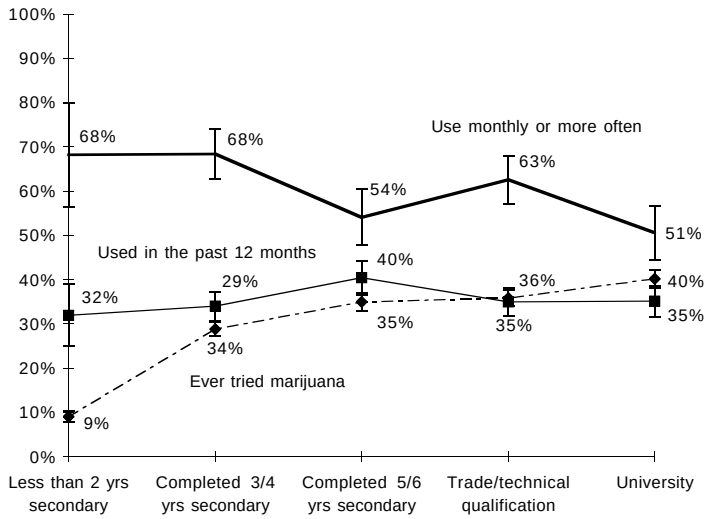
likely to have tried marijuana or use it on a frequent basis than those without children. The analysis indicates that the age of children is not important. The data does suggest that marital status has an effect even after controlling for age; divorced respondents are more likely to have tried the substance, report that they have used it in the past 12 months and to use on a frequent basis.

Education

The profile of drug users has been changing over the past 20 years. For example, as the health risks for tobacco become more widely known it is those with higher levels of education that are more likely to stop using. In regard to marijuana its use first became popular amongst university students during the 1960s. Since this time marijuana use has become relatively widespread amongst younger people generally. In the NDS surveys the question on level of education was asked in the same simple form from 1985 till 1993. In 1995 a more complete set of questions was asked. The distributions in Appendix A: Table 3 indicate that when a more complete set of questions are asked then the proportion with trade and technical qualifications increases radically. For comparative purposes a five level measure is used—those who have completed less than two years of secondary schooling, those who have complete three to four years secondary schooling, those who have completed five to six years of secondary schooling, those who have completed or are attending university and those who have a trade or technical qualification. Respondents who are still in secondary school are excluded while university students are assigned to the university category.

Figure 2.7 examines the extent to which respondents have used marijuana for different levels of education. The data show that as levels of education increase

Figure 2.7: Marijuana use and education levels

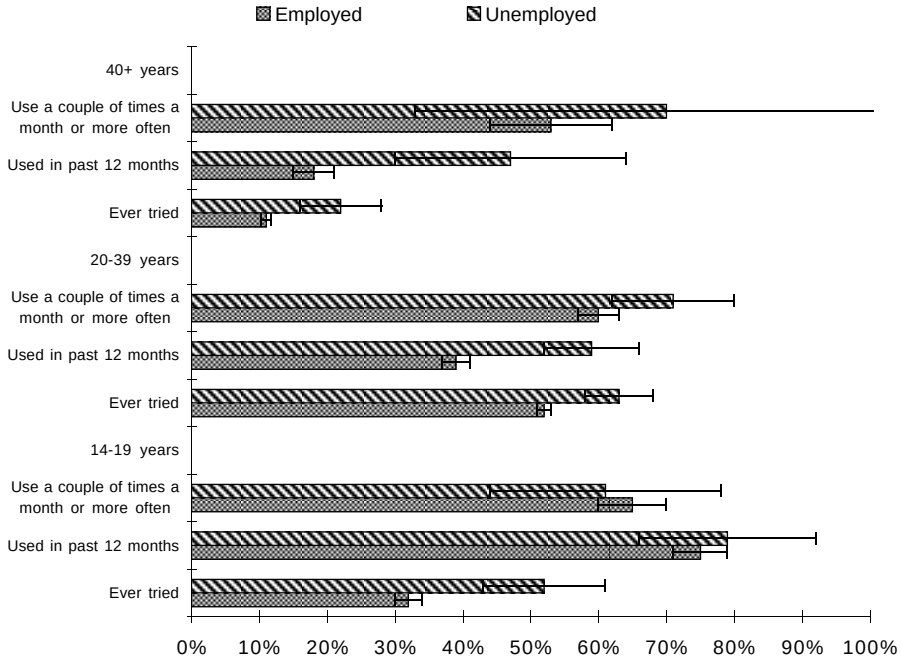


Source: NDS 1985, 1988, 1991, 1993, 1995 pooled data file; students are excluded. See text for further details.

then the likelihood of ever having tried the drug increases. However, there is no relationship between education levels and whether or not respondents have used in the past 12 months. What the data do show however is that those with higher levels of education who have used in the past 12 months tend to use less frequently than those with lower levels of education.

In conclusion it would seem that although the more educated report that they have tried marijuana they are proportionately less likely to use the drug on a regular basis.

Figure 2.8: Unemployment and marijuana use



Source: NDS 1985, 1988, 1991, 1993, 1995 pooled data file

The work environment

The work environment is important for four reasons. The first is that the work environment provides an ideal opportunity for drug intervention and treatment. The success of work-place bans on smoking on the overall levels of smoking within the organisation are a prime example. The second is that drug use is feared to be a major contributor to industrial accidents and any efforts to reduce these will have an important impact both socially and economically. The third is that there has been a move toward mandatory drug testing at work which raises both social, ethical and economic issues. A recent report from the US Committee on Drug Use in the Workplace in 1993 concluded 'Despite beliefs to the contrary, the preventive effects of drug testing programs have never been adequately

demonstrated—there is as yet no conclusive scientific evidence from properly controlled studies that employment drug-testing programs widely discourage drug use or encourage rehabilitation' (Normand, Lempert and O'Brien, 1994:11). The final reason is that drug use may directly influence performance through factors such as productivity levels, absenteeism, turnover, or the influence may be indirect through factors like job satisfaction and co-worker attitudes.

In the NDS data around one half of the sample works either full-time or part-time. Appendix A: Table 3 shows the distributions for each year. From 1991 onwards respondents were asked a question about their work status. For 1985 and 1988 it was necessary to reconstruct this variable using two questions which could explain the slightly higher number of 'students' in the two first surveys. Overall, however, the distributions are very similar. When the data are pooled 37 per cent report that they work full time, 12 per cent work part-time, 16 per cent are retired, 13 per cent are in 'education', five per cent are unemployed and 18 per cent are in full-time domestic duties. There are noticeable variations in the use of marijuana for the different groups but these are confounded by age. Thus the retired are least likely to have tried or used in the past 12 months while students are the group most likely to have used in the past 12 months.

The highest rates of marijuana use and frequency of marijuana use are found amongst the unemployed but the size of this group is small. From the pooled data file 49 per cent of unemployed people report that they have tried marijuana, 60 per cent of those who have tried have used in the past 12 months and 68 per cent of those who have used in the past 12 months report that they use marijuana a couple of times a month or more often. This compares with 30 per cent of the population who are employed who have tried marijuana, 40 per cent who have used in the past 12 months and 60 per cent who use at least a couple of times a month. As these differences may be confounded by age Figure 2.8 examines marijuana use for three different age groupings—14–19 years, 20–39 years and 40+ years—for the unemployed and the rest. Because the numbers become increasingly small when we focus on those who are unemployed, aged over 40 years and report using a couple of times a month or more often (n=7), the confidence bands take this into account and indicate whether we can place much confidence in the differences between the estimates.

The pattern is consistently the same for the three age groupings except for those aged 14–19 years who report using a couple of times a month or more often. The profile of the unemployed seems to be that they are more likely to have been exposed to marijuana, to have used it relatively recently and to use on a more frequent basis. The confidence bands, which take sample size into account, indicate that we can be 95 per cent confident that there is a real difference in life-time prevalence for all three groups and a real difference between use in the past 12 months for those aged 20 to 39 years and those aged 40 or more. What these differences do not tell us is whether drug use is a precursor to unemployment or whether unemployment is a contributing factor to drug use—for this we need a large scale panel survey.

Analysis of the employment status of respondents in terms of whether they worked in the private or the state sector and whether or not they were self-employed showed that there were no significant differences in life-time prevalence between these categories. There was a slight difference between

whether or not respondents had ever tried marijuana with government sector workers being less likely to have used (30 per cent, CI: 28, 31) than either the self-employed (33 per cent, CI: 31, 35) or private sector workers (35 per cent, CI: 34, 36). Of those who have tried marijuana government workers are also less likely to have used in the past 12 months (31 per cent, CI: 28, 35) than either private sector workers (43 per cent, CI: 40, 45) or the self employed (43 per cent, CI: 38, 47). However this trend reverses when we look at frequency of use. It is the self-employed who are more likely to use on a regular basis. Thirty-seven per cent (CI: 31, 44; n=191) report that they use at least once a week as compared to 32 per cent of private sector workers (CI: 29, 35; n=815) and 31 per cent of state sector workers (CI: 24, 37; n=208). However, the number of cases is small and the confidence bands overlap.

Drug use in occupations which in themselves are hazardous (such as on a building site) or have the potential to be hazardous to others (such as a bus or train driver) has the capacity to result in serious damage to the individual and others. A major review of research in the US suggested that even though raw data implicated marijuana more often than alcohol in accidents it had to be kept in mind that marijuana metabolites can be present in urine days and even weeks after consumption. The researchers found that when you examined data on performance decrements the impact of alcohol emerged more clearly than marijuana in laboratory studies (Normand, Lempert and O'Brien, 1994:149).

Between 1990 and 1993 the Victorian Institute of Forensic Pathology analysed the drug content of over 1000 drivers in New South Wales, Victoria and Western Australia. They found that alcohol was involved in 36 per cent of the deaths while cannabis was detected in 11 per cent of fatalities (Report of the Premier's Drug Advisory Council, 1996). Given that cannabis can be detected several weeks after use it difficult to draw any conclusions from this type of study. Chesher (1994) argues that the risks are increased only in conjunction with alcohol.

The NDS collection of data on the work environment of respondents is sketchy. Neither the 1985 and 1988 surveys asked about the industry that respondents worked in and the occupations of respondents were aggregated to a very broad level. In 1991 open ended questions were asked but rather than the data being coded to the detail of the Australian Bureau of Statistics ASCO or ASIC codes the data were again aggregated into a small number of broad categories. In 1993 and 1995 the open ended data on occupations was coded according to the ASCO categories. For industry the 1993 data was coded to the four digit ASIC industry codes while in 1995 the data appear to have not been coded at all[11]. Appendix A: Table 3 shows the distribution of respondents across their occupational and industrial location for each year of the survey.

Table 2.5 examines use of marijuana within the broader occupational and industrial codes. There is only a ten percentage point difference between the different occupational groupings and whether or not they have tried marijuana.

11 This again highlights the need to always collect and code the data down to the finest detail. It is always possible to aggregate up to broader categories many years later but it is not possible to disaggregate down without considerable additional costs associated with time and returning to the original questionnaires.

The group least likely to report that they have tried marijuana is the clerical/sales (36 per cent; CI: 34, 38) while the highest is found amongst the skilled/technical group (47 per cent; CI: 44, 49). Having used in the past 12 months presents a different picture with an almost linear relationship. As a person's occupational status increases then they are less likely to report that they have used marijuana in the past 12 months. For example, 32 per cent of professionals (CI: 29, 36) who have ever tried marijuana report that they have used in the past 12 months as compared to 44 per cent (CI: 38, 50) of those who are unskilled. This difference is also reflected in the frequency with which respondents report that they use marijuana. Professional/managers and clerical/sales tend to use marijuana less often than skilled, semi-skilled and unskilled workers. As is consistent with education it appears that those in higher occupational status jobs

Table 2.5: Marijuana use and occupational status and industrial location of the sample

			Usage over the last 12 months		
	Ever used	**Used in past 12 months**	**Weekly or more**	**Monthly or more**	**Less often**
Occupational status					
professional/manager	41	32	26	27	48
clerical/sales	36	37	21	30	49
skill/technical	47	40	38	29	33
semi-skilled	42	41	46	21	33
unskilled	38	44	45	22	34
(n)	(7441)	(2319)	(439)	(253)	(386)
Industrial location					
Primary industry	33	34	*	*	*
Manufacturing	28	40	40	32	28
Wholesale	37	48	32	*	57
Retail	31	47	24	39	37
Utilities	27	34	*	*	*
Construction/building	49	41	38	26	36
Transport/storage	39	46	51	23	26
Communications	22	24	*	*	*
Finance/real estate	36	33	*	44	43
Public administration/defence	38	26	*	*	54
Community service	30	29	33	22	46
Leisure and personal services	38	50	43	23	34
(n)	(5730)	(1907)	(255)	(210)	(282)

* Percentages are not recorded as the number of cases is 10 or less.

Source: NDS 1985, 988, 1991, 1993, 1995 pooled data file

are more likely to have tried marijuana but of those who have used in the past 12 months those in higher status occupations report using less frequently that those from lower occupational status groupings.

As the industrial data is restricted to two waves of data (1991 and 1993) the numbers are smaller and therefore the results need to be treated with some caution. Where the number of cases is ten or less the percentage is not recorded. The data do indicate that there are quite large differences in the percentage who report using marijuana in the past 12 months across the different industries. For example, 24 people who work in the communications industry report they have used marijuana in the past 12 months as compared with 50 per cent who work in the leisure and personal services industry. Those in the transport/storage industry are more likely to report that they used marijuana weekly or more often while those in the retail industry are the group least likely to report using this frequently. The industrial codes are broad and they could be broken down into more detailed categories if the sample size was larger. The occupational and industrial location of respondents needs to be routinely collected and coded to the finest detail in each collection.

Conclusion

The data in this chapter has indicated that there are some differences in the use of marijuana for different socio-economic groups. Overall, men and the young are more likely to have tried marijuana, used it in the past 12 months and use it more frequently than women and older people in the community. Major life events are also important with respondents who have children being somewhat less likely to have tried marijuana or used it in the past 12 months regardless of the age of their children. There is also an association between marital status and use of marijuana with those people who are divorced or separated reporting higher rates of having ever used marijuana, used in the past 12 months and used on a regular basis than married or single people.

There is some effect for ethnic background on marijuana use, but the ethnicity measure is extremely broad and more detailed work is required. The data from the Urban Aboriginal and Torres Strait Islander Peoples survey indicates higher rates of exposure and regular use of marijuana than for the general population.

Those in higher occupational status jobs and those who have completed more years of formal education are more likely to have tried marijuana. However, of those who have used marijuana in the past 12 months those in higher status occupations and with more years of formal education report using less frequently. The unemployed reported higher levels of exposure and use of marijuana than the employed.

Finally, when we examine changes in use over the past seven years the data show that overall as people age they are less likely to have used in the previous 12 months. Over the past seven years younger males may have increased their weekly use of marijuana while older males and females generally appear to have reduced their weekly use.

3. Adolescent use of marijuana

As the young represent the future, governments and parents are concerned about what is believed to be a menace to society—the persistent use of illicit drugs. Chapter 7 indicates that when most people think about the drug problems they associate it with illicit drygs, despite the fact that these drugs account for few deaths in society. Illicit drugs (ie illegal) and their association with sub-cultural groups and activities adds a sense of glamour and excitement for some but great fear for the majority people in the community. The association between drugs, crime, fear and depravity runs deep even though Chapter 1 has shown that around 30 per cent of Australians have tried marijuana at some stage of their lives and 12 per cent have used the drug in the past 12 months. The result has been increasing media coverage of drugs, increased involvement by governments in the attempt to curb illicit drug use and heightened concern over drugs as a serious problem for the community.

The young have been the focus of much research on illicit drugs. This is partly explained by the fact that drug use tends to begin in either adolescence or in the early twenties. In Chapter 5 it was noted that respondents aged over 20 years reported that on average they first tried marijuana at 20 while 18 years was the median. The focus of this chapter is on those aged 14 to 19 years. Drug use that begins in adolescence is also important in that studies have documented that the younger the age at which a person begins to use drugs the longer the person will continue to use and the heavier their consumption tends to be.

This chapter examines how prevalent marijuana use is amongst adolescents and their attitudes towards its use. As we are dealing with a sub-sample of the original sample the numbers are relatively small. For this reason the first section will examine prevalence for each of the surveys but when examining the socio-economic characteristics of users the pooled data file is used. An important caveat is that the 1993 survey failed to collect age in individual years hence analysis of drug use patterns across the 14 to 19 year age group for this year is not possible. Thus in those cases where age is part of the analysis the 1993 data are excluded. As we are dealing with the 14 to 19 year group the unweighted data is used. These data are particularly important because they complement the school-based surveys which do not include those who are no longer at school. However, even with both of these types of surveys more specific work on the drug use patterns of the homeless and itinerant is required.

Prevalence of marijuana amongst 14 to 19 year olds

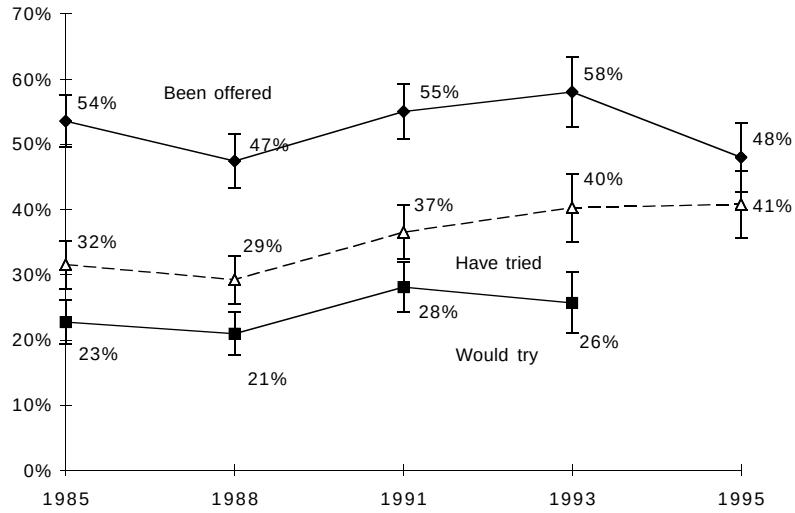
Respondents were asked if they had ever been offered marijuana, whether they would take it if offered by a close friend and whether they had tried marijuana

and the frequency of their use. In addition to this we can calculate a take up rate for young people by examining the extent to which respondents report that they have been offered the drug and whether they have tried it.

Ever been offered marijuana

Figure 3.1 examines the extent to which young people reported that they had been offered marijuana over the past decade. The data show relatively similar levels however it is interesting to note that the 1995 version of the question placed a time restriction of within the past 12 months. Whereas this made a considerable difference for the population as a whole it has had little impact on adolescent reporting. This suggests that contact with marijuana is relatively frequent for young people. In total 52 per cent of young people reported that they had been offered the drug and this varied from a low of 47 per cent in 1988 to a high of 58 per cent in 1993 but the confidence bands overlap suggesting that this difference is not significant.

Figure 3.1: Per cent who have been offered, would try and have tried marijuana, 14–19 years



Source: NDS 1985, 1988, 1991, 1993, 1995

Except for the 1995 data the pattern across the decade reflects that of the total sample, although the percentage who have been offered amongst young people is higher than for the total sample. In 1993, 45 per cent (CI: 46, 43) of the total sample had been offered marijuana as compared to 58 per cent (CI: 53, 63) for those aged 14 to 19 years. These differences are significant indicating that young people are much more likely to have been offered marijuana.

Would use if offered by a trusted friend

Like the total sample young people are much less likely to say they would try marijuana if offered by a close friend than have actually been offered or have

tried the drug. However they are much more likely to say they would try marijuana under these circumstances than the total sample. In 1993, 15 per cent of the total sample reported that they would try marijuana if offered by a close friend while this increases to 26 per cent when we just focus on those aged 14 to 19 years. Over the previous seven years the level of acceptance remains relatively constant as does the difference between the total sample and the young sample.

Ever tried marijuana

There appears to be an increasing proportion of young people who have tried marijuana over the past decade. In 1985, 32 per cent (CI: 35, 28) reported they had tried the drug and by 1995 this had increased to 41 per cent (CI: 46, 36). The confidence bands do not overlap suggesting that this change is statistically significant at the .05 probability level. Thus we are 95 per cent confident that these point estimates lie within the confidence intervals and do not overlap. It would seem that we can be 95 per cent confident that between 36 and 46 per cent of young Australians have tried marijuana. In comparing those aged 14 to 19 years with the total sample there appears to be an increasing gap between the two. Thus in 1985, four per cent more 14 to 19 years reported that they had tried marijuana and by 1995 this gap had increased to ten per cent.

Used in the past 12 months

Consistent with the life-time prevalence measure the proportion of all 14 to 19 year olds who report that they have used marijuana in the past 12 months has increased between 1988 and 1995. These figures are considerably higher than for the total sample. In 1995, 13 per cent of the total sample reported they had tried marijuana in the past 12 months and this increased to 44 per cent for those who had ever tried the drug. The comparable figures in Table 3.1 for adolescents are 31 per cent and 79 per cent. Adolescent life-time prevalence is almost the same as use in the past 12 months. This high level of marijuana use has not changed over the past seven years suggesting that availability for young people is not a major problem. The extent of availability of illicit drugs in the Australian community has never been completely documented.

Table 3.1: Last used and frequency of use, 14–19 years

	Used in the past 12 months		Frequency of Use		
	Total	Ever tried	Once or twice a week	Every couple of months	Once or twice a year
1988	23	79	27	27	46
1991	29	79	33	31	36
1993	28	74	30	43	28
1995	31	79	33	41	26

Source: NDS 1988, 1991, 1993, 1995

Frequency of use

Table 3.1 also presents data on the frequency with which those aged 14 to 19 years report that they use marijuana. This data is restricted to those who indicated that they had used the drug in the past 12 months. The data indicate a shift in the frequency with which the drug is used with young people reporting more frequent use. Thus 46 per cent (CI: 38, 54) reported that they used once or twice a year in 1988; by 1995 this had declined to 26 per cent (CI: 18, 35).The increase in more frequent use seems to have been divided between those who use once or twice a week and those who use every couple of months.

Take-up rate

We can examine the extent to which young people report they have been offered the drug and whether or not they have ever tried it. These data are reported in the first section of Table 3.2. Just over half of all adolescents have been exposed to marijuana either via trying it or being offered the substance. Very few report that they have never been offered but have tried it although the data suggest a slight increase over the past ten years. There has also been a steady decline in the proportion who have been offered but have not tried. Given that there has not been a decline in the numbers who have been offered marijuana over the decade this suggests that if young people are offered the drug they will increasingly try it. In 1988, 22 per cent of the sample reported that they had been offered the drug and had tried marijuana. By 1995 this had increased to 29 per cent. The proportion who had not tried marijuana in the past 12 months and who had been offered it declined by nine percentage points between 1988 and 1995. A similar trend is found even when we examine the take up rate within the past 12 months.

Focusing on use in the past 12 months those who had not tried and never been offered is higher, although the data suggest that this group is reducing. From 1988 to 1995 the percentage in this category declined from 71 per cent to 62 per cent. This decline is partly accounted for by a rise in the percentage who report they have tried in the past 12 months but have not been offered the drug (one per cent in 1985 and six per cent in 1995) and those who have both tried and been offered marijuana (22 per cent in 1988 and 29 per cent in 1995).

Age of initiation

Age of initiation is important for two reasons. The first is that there is a body of research that suggests that the younger a person is when they start using a substance the longer they will continue to use and the heavier the use will be. The second reason is that drug education is pointless if it does not target the most vulnerable groups. However, as pointed out in Chapter 2, actually measuring age of initiation is difficult. It is particularly problematic with young people who are in that age group when they are most likely to be exposed to marijuana. Not surprisingly the mean age of initiation is much lower than that of 20 for the total sample. It is 14.6 years and was the same in both 1993 and 1995. The mean age of first trying alcohol and tobacco is lower at 13.8 and 13.2 years respectively. It makes more sense to examine the age of first starting by the

individual age of the respondents. Unfortunately the sample size is quite small as we can only use the 1995 data because the 1993 data asked respondents if they were aged between 14 and 19 years rather than their actual age.

As we would expect Table 3.3 shows that the average age of initiation rises with the age of the respondent however the difference between the mean age and the respondent's age indicates that the gap widens. For example, the average age at which 14 year olds report that they first tried marijuana is 13 years, one year earlier. Nineteen year olds report a higher mean age of starting, 15 years, but this is four years earlier. The overall numbers are very small. The 1997 NDS survey will enable us to test whether these observed relationships hold true. What these data suggest is that school-based drug education programs need to be focused on students well before they reach the final years of their high school education. Twenty-four per cent of 14 to 19 year olds report that they first tried marijuana before the age of 14 years. The mean age of initiation is the same for males and females.

Table 3.2: Take up rate for those aged 14–19 years

	1985	1988	1991	1993	1995
Tried/been offered	31	28	35	38	35
Tried/never been offered	0	1	1	2	5
Never tried/been offered	22	20	20	19	12
Never tried/never been offered	46	51	44	41	47
(n)	(612)	(579)	(531)	(335)	(350)
Tried past 12 months/ been offered	na	22	28	28	29
Tried past 12 months/ never been offered	na	1	1	0	6
Not tried 12 months/ been offered	na	6	8	8	3
Not tried 12 months/never been offered	na	71	64	63	62
(n)	(612)	(579)	(531)	(335)	(350)

Source: NDS 1985, 1988, 1991, 1993, 1995

Table 3.3: Mean age of initiation for those aged 14–19 years

	Age in years					
	14	15	16	17	18	19
Mean	13	13	14	15	15	15
Difference	1	2	2	2	3	4
(n)	(16)	(16)	(25)	(23)	(30)	(31)

Source: NDS 1995

Place most likely to use marijuana and type of marijuana used

Respondents in 1995 were asked where they used marijuana. The question was asked in such a way that respondents could give multiple answers. Thirty-seven per cent indicated their own house, 76 per cent their friend's house, 78 per cent said at parties, 30 per cent said in public places and 40 per cent said in a car or vehicle of some sort. Adolescents are less likely to use in their own house and more likely to use at a friend's house or at parties than the total sample. When the sample is broken down into those who are currently at high-school and those who are not this difference is even more marked. Twenty-nine per cent of those who were at school indicated that they used marijuana at home compared to 41 per cent who were not at school. The per cent who report using in a car is double that of the total sample. Again there is a noticeable difference between high school students and those not at high school. The latter are as likely as the total sample as a whole (24 per cent) to use in a vehicle while 50 per cent of those not at school, but aged between 14 and 19 years, report that they use marijuana in this situation. The data do not allow us to determine how often respondents use in these different situations.

In 1995 respondents were asked the way they most often used marijuana and the type of marijuana they most commonly used. The overwhelming majority of young people said that they usually smoked from a bong or a pipe (87 per cent) and the remainder usually smoked joints; eating is a very rare activity. Although using joints and bongs are the most common way in which marijuana is consumed by the total sample (96 per cent) a greater proportion of older respondents report that they usually use joints, 41 per cent, while 55 per cent usually use a bong or a pipe.

The most common type of marijuana used is heads (67 per cent) followed by leaf (17 per cent). It is very rare for those aged 14 to 19 years to report that they usually use resin (two per cent) although eight per cent reported regularly using "skunk". This compares to 54 per cent of the total sample who report that they usually use heads and 35 per cent who report that they usually use leaf; only four per cent report that they usually use "skunk".

Socio-economic characteristics of adolescent users

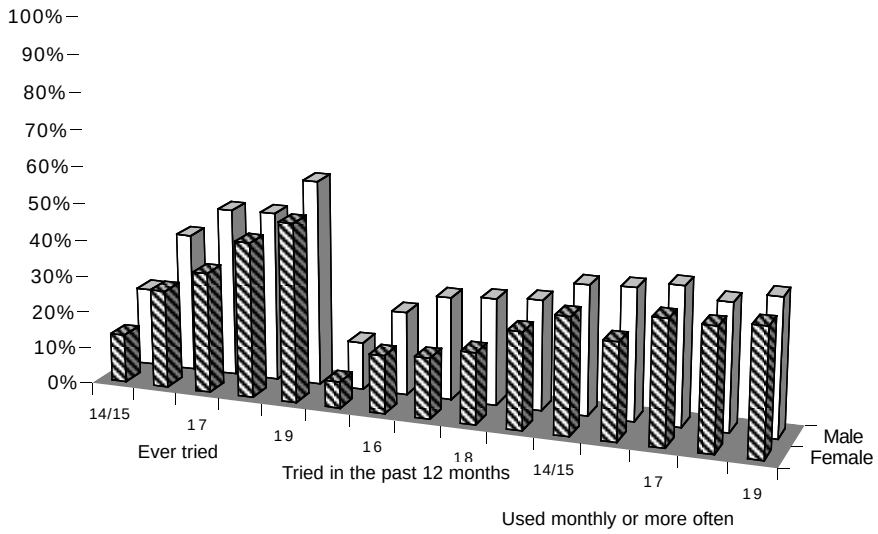
The focus of this second part of the chapter is on the characteristics that distinguish those who use marijuana from those who do not. The basic demographic characteristics, age and gender, are examined along with a range of other socio-economic indicators, like student and working status, income, and the type of family structure in which the respondent is currently located. In order to maximise sample size the data are pooled for the analyses.

Age and gender

Even by pooling the five NDS surveys the number of cases is still relatively small once we begin to look at particular types of drug activity. There are in

total 2,407 persons aged 14 to 19 years in the pooled file. In examining age however the sample is reduced by the loss of the 344 respondents from the 1993 survey. As the number of 14 year olds is relatively small (which becomes even smaller when we only focus on those who have tried marijuana (n=40)) they have been grouped with the 15 year olds. Figure 3.2 examines the extent to which young people report they have ever tried marijuana and whether or not they have tried it in the past 12 months for males and females.

Figure 3.2: Per cent who have tried, used in the past 12 months, use monthly or more often by age and gender, 14–19 years



Source: NDS 1985, 1988, 1991, 1995 pooled data file

Life-time prevalence increases dramatically from 14/15 to 19 years for both males and females. Although males have higher life-time prevalence than females these differences are not statistically significant except for those aged 14/15 years. There is no significant gender gap in life-time prevalence amongst those aged 16 to 19 years. At age 14/15, 21 per cent of males (CI: 17, 26) and 13 per cent of females (CI: 10, 17) report that they have tried marijuana. This increases to 56 per cent of males (CI: 49, 64) and 49 per cent of females (CI: 41, 57) by age 19 years. This is a very different picture from that shown in Figure 2.1 for the total sample where life-time prevalence is generally in decline from 20 to 24 years onwards.

The percentage who have tried in the past 12 months out of all 14 to 19 years is obviously lower than the life-time prevalence measures but there is still a substantial group who have had recent exposure to marijuana and this increases with age. Those in the youngest age group, 14 to 15 years, have the lowest level of exposure with seven per cent of females (CI: 5, 10) and 13 per cent of males (CI: 10, 16) having used marijuana in the past 12 months as compared with 26 per cent of females (CI: 19, 34) and 30 per cent of males (CI: 23, 37) aged 19 years.

Given that the base is the same for those who have ever tried and those who have used in the past 12 months it would seem that around half of those who have tried have done so in the past 12 months. As with life-time prevalence, marijuana use in the past 12 months for those in their teenage years shows a different picture from the total sample where the latter tend to indicate declining use as they age.

The final section of Figure 3.2 shows the extent to which respondents report that they use marijuana monthly or more often. The analysis is restricted to those who have ever tried the drug. Although an upward trend can be discerned across the years it is slight and not significant. It appears that regardless of age, consumption patterns are similar with just under half of those who have tried marijuana using the substance monthly or more often. However, we are now dealing with relatively small numbers. Of those aged 14/15 years the sample size is 121 cases increasing to 165 cases for those aged 19 years. This pattern of consumption is fairly similar to the total sample.

Student and work status

Those respondents who are at school or university report the lowest level of life prevalence (27 per cent, CI: 24, 29) or use of marijuana in the past 12 months (17 per cent, CI: 15, 18). They are significantly different from the other groups. Those who are 'keeping-house' have the highest life-time prevalence (65 per cent, CI: 51, 80) followed by the unemployed (59 per cent, CI: 52, 66) but the confidence bands indicate that the margin of error in our estimate is large. A similar picture presents itself for use in the past 12 months. There is no significant difference between the various work status groups and their frequency of marijuana use. If respondents have tried the drug just over a third use it once a month or more often.

Table 3.4: Marijuana use by work status of 14–19 year olds

	Work full-time	Work part-time	Unemployed	School/ University	Keeping house
Ever tried	50	43	59	27	65
(n)	(355)	(199)	(178)	(1611)	(43)
Used in past 12 months	25	26	34	17	32
(n)	(357)	(201)	(182)	(1613)	(44)
Use monthly or more often	33	43	43	35	38
(n)	(180)	(87)	(109)	(431)	(29)

Source: NDS 1985, 1988, 1991, 1993, 1995

Income

It usually costs money to buy drugs. Both the ABCI (1995) and the CJC (1993) report that recent prices of cannabis have been fluctuating dramatically. Some of this is due to drug enforcement activities as well as the prolonged drought

conditions. But the source and the quality are also important factors. There is no regular monitoring of the price and quality that is routinely published by law enforcement agencies. The Queensland Criminal Justice Commission has noted that the price of an ounce of cannabis fluctuates from $100–$600 (CJC, 1993). Data collected by the CJC (1993) indicated that frequent regular users expected to pay in the range of $250–$450 per ounce.

Income was asked for the first time in the 1995 survey. Respondents were asked about both personal and household income. There does not appear to be any relationship between household income and the use of marijuana for 14 to 19 year olds but there are some differences in regard to personal income. Those with some income are more likely to have tried marijuana, to have used in the past 12 months and use on a monthly or more often. However the number of cases is relatively small. Further data collections are needed before we can draw any firm conclusions.

Table 3.5: Personal income and marijuana use, 14–19 year olds

	No income	Less than $5,000	More than $5,000
Ever tried	34	31	49
(n)	(691)	(44)	(95)
Used in the past 12 months	19	25	37
(n)	(384)	(36)	(71)
Use monthly or more often	34	44	55
(n)	(236)	(20)	(53)

Source: NDS 1995

Family type

In 1995 respondents were asked to describe the family household. Eighteen per cent said that they were living in a household with a sole parent/guardian with dependent children, 63 per cent indicated that the household was comprised of a couple and dependent children and 18 per cent indicated a range of other household configurations. As we are again dealing with only one wave of data the number of cases is very small and confidence bands are wide and overlap. There is a noticeable trend with those from sole parent/guardian homes being more likely to report that they have ever tried (47 per cent, CI: 31, 62) than those from households with two parents (34 per cent, CI: 26, 41) and those from other household forms (34 per cent, CI: 19, 49). This trend is replicated for those who have used marijuana in the past 12 months and frequency of marijuana use. However in the latter case we are dealing with an exceptionally small number of cases in sole parent/guardian households (n=20) and in other households (n=15). Further data collections are needed before we can more confidentially determine whether household structure is an important factor or not.

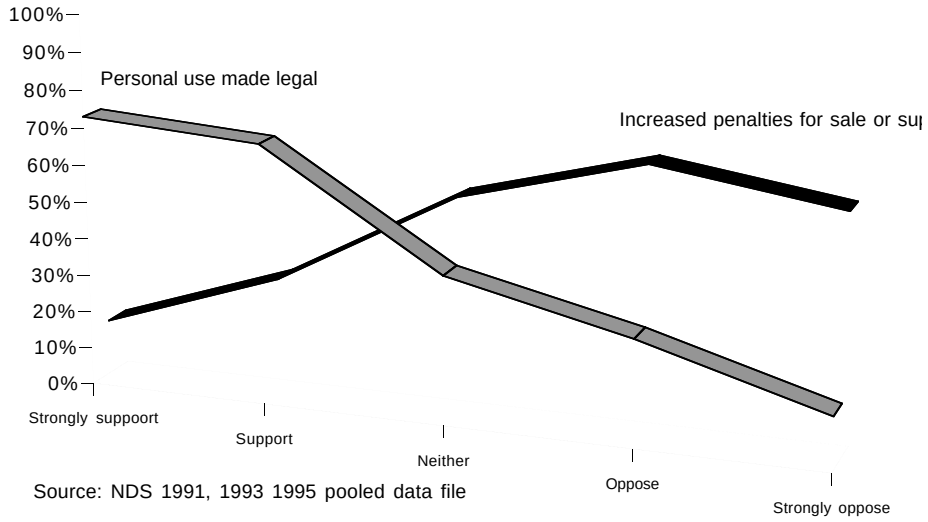
Attitudes

This final section examines young people's attitudes towards marijuana. We begin by examining their views on the drug problem and their knowledge of the law followed by beliefs about the appropriateness of using marijuana. Unlike the total sample more respondents (29 per cent) first mention marijuana as being the drug they first think of when people talk about a drug problem. This is followed by heroin (18 per cent), alcohol (16 per cent) and then amphetamines (12 per cent). This listing is probably partly explained by the fact that adolescents come into closer contact with marijuana than with the other illicit drugs. When asked what they think of as being the most serious concern to the community only nine per cent indicate marijuana. Nineteen per cent mention alcohol, 18 per cent needles, 16 per cent tobacco, 15 per cent heroin and 11 per cent barbiturates and the remaining 12 per cent indicated a range of other substances.

In terms of attitudes towards controlling marijuana young people are also divided over their views on legalising marijuana for personal use. Thirteen per cent strongly supported the proposal, 18 per cent supported, 23 per cent were in the middle, 20 per cent were opposed and 26 per cent were strongly opposed. Young people are more strongly opposed to the legalisation of the sale and trafficking of drugs. Twenty-nine per cent strongly support and 26 per cent support increased penalties for sale and trafficking. However, one quarter are either opposed or strongly opposed to increased penalties. There is no relationship between the age of the respondent and their views on this matter but like the total sample those who have tried the drug are opposed to stricter penalties and favour the legalisation of marijuana for personal use. Figure 3.3 shows just how strong this relationship is; it also suggests that as more people try the drug then the less support there will be for a prohibition on personal use.

Respondents were asked what they thought should happen to anyone found in possession of small quantities of marijuana for personal use. Very few young

Figure 3.3: Attitudes towards regulatory controls on marijuana, 14–19 years



Source: NDS 1991, 1993 1995 pooled data file

people favoured some form of detention. Two people mentioned weekend detention and five mentioned a gaol sentence. Respondents tended to favour some sort of fine or educational approach. Sixteen per cent mentioned a caution or warning only, 21 per cent mentioned a fine of up to $200, while 20 per cent mentioned a substantial fine of around $1,000. The most favoured strategy was a compulsory drug education program (29 per cent) while nine per cent favoured a community service order.

In terms of knowledge of the medical affects of marijuana only seven respondents believed that marijuana was the drug that directly or indirectly caused the most deaths in Australia. Thirty-seven per cent thought it was tobacco, and 33 per cent alcohol. There have been no deaths in Australia attributable to marijuana; tobacco accounts for 72 per cent of drug-related deaths and alcohol accounts for 26 per cent of such deaths. A review of the medical evidence has shown that marijuana is associated with a range of behavioural and health problems (Hall and Nelson, 1995)

Thirty-eight per cent indicated that they thought it was okay to use marijuana on a regular basis. Fifty-eight per cent indicated this for tobacco, 73 per cent for alcohol, five per cent for amphetamines, six per cent for hallucinogens and three per cent for cocaine and heroin. Views on whether regular use of marijuana is okay are directly related to whether or not respondents have tried the drug. Twenty per cent (CI: 17, 23) of those who think it is not okay have not tried marijuana while 70 per cent (CI: 65, 74) of those who think it is okay to use it regularly have tried it.

In conclusion these data generally show similar trends amongst the young as was found amongst the total sample except for what drugs the young associate with the drug problem. In this case the young are more likely to associate marijuana first with this issue which is perhaps a reflection of the high levels of exposure to this drug amongst this group. Young people are also divided over the issue of reform on marijuana although a higher proportion favour legalisation for personal use and oppose increased penalties for the sale and supply of the drug than is found amongst the total sample. There is a strong association between attitudes and having ever tried the drug. Given that life-time prevalence is higher amongst this group than in the total sample this could explain the difference in attitudes. In terms of sanctions for personal use young people clearly do not favour a punitive law enforcement approach. Finally, over a third of young people report that they think it is okay to regularly use marijuana and this support is much higher amongst those who have tried the drug.

School-based surveys

Australian

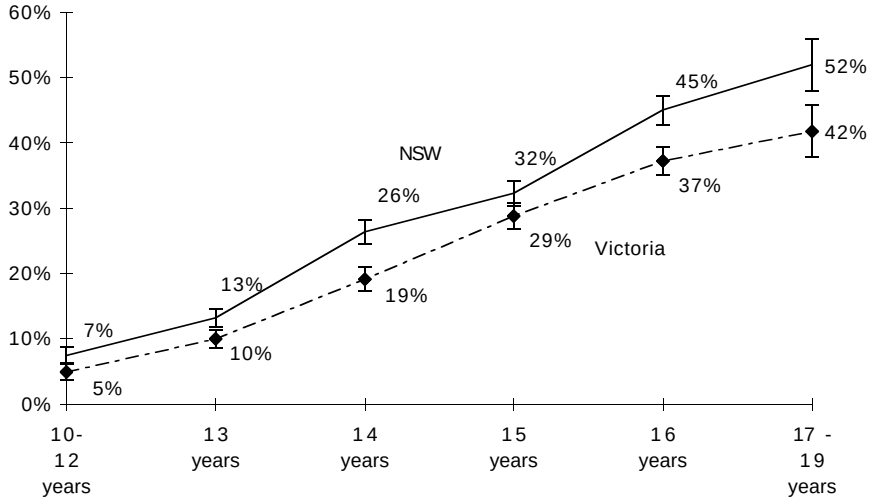
The various states have undertaken school-based surveys of drug use but the extent of their availability is sketchy. There have for example been surveys undertaken by the Queensland government on drug use amongst school children but the data have not been released for secondary data analysis. Similarly surveys in South Australia have not been deposited in the archive to enable long-term analyses of drug patterns to be undertaken. New South Wales and Victoria

have deposited some of their collections but unfortunately not all data are available and the two states have undertaken the surveys at different times and the questionnaires have often differed in what and how they ask the questions. In terms of formulating drug education for schools these data are invaluable for policy makers. In terms of determining overall levels of drug use amongst young people these surveys will clearly underestimate the overall prevalence levels. However, over time these data indicate trends in use and are another important indicator of consumption patterns within the community generally.

In 1992 both the Victorian and NSW governments undertook a survey of all Year 7 to Year 11 students. In NSW a sample of 3,879 students was obtained and in Victoria the sample size was 9,513. As is consistent with other large surveys of drug use, alcohol and tobacco are more popular drugs than marijuana. Amongst school children marijuana and inhalants are equally popular with very small proportions reporting that they had used the other illicit drugs. Twenty-seven per cent of school children in NSW and 23 per cent in Victoria reported that they had tried marijuana (Commonwealth Department of Human Services and Health, 1994b). It is difficult to compare these figures with the NDS surveys as the latter start at age 14 years and often we cannot distinguish between those in and out of school. Thus the lower prevalence levels could partly be explained by the age profile of 12 to 17 years for the school-based surveys and partly by the exclusion of those not in school.

Recent analyses of the data (Commonwealth Department of Human Services and Health, 1994b) indicate a very small difference in life-time prevalence between males and females. In NSW 31 per cent of males and 24 per cent of females reported that they have tried the drug while 26 per cent of males and 20 per cent of females reported this in Victoria. The proportion who have used marijuana in the recent past is much lower with 15 per cent of school students in NSW and 13 per cent in Victoria reporting they have used marijuana in the past month.

Figure 3.4: Life-time prevalence, 1992 school-based surveys



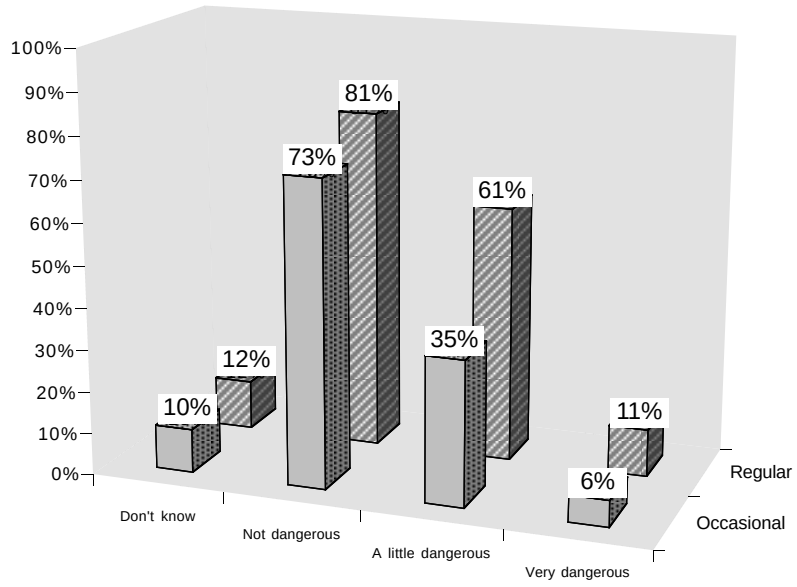
Source: NSW 1992, Victorian 1992 Drug Use Amongst Secondary School Students

Life-time prevalence does vary with age. The proportion of those under age 13 years who have ever tried is very low (seven per cent in NSW and five per cent in Victoria) and it increases with age. Around a quarter have tried amongst those aged 13 to 15 years (25 per cent in NSW and 20 per cent in Victoria) and about two out of five have for those aged 16 years or greater (44 per cent in NSW and 40 per cent in Victoria). Figure 3.4 shows the frequency of marijuana use for the two states by age. As there were so few students aged ten or 11 years (Victoria, n=39; NSW n=5) or 18 or 19 (Victoria, n=81; NSW n=15) the top and bottom end of the age distribution has been collapsed. As with the NDS surveys life-time prevalence increases with age although the relationship is much stronger amongst the school-based surveys.

In the Victorian survey students were asked how dangerous was the occasional and regular use of marijuana. Figure 3.5 shows that most Victorian school children believe that neither regular nor occasional use is dangerous—73 per cent and 81 per cent said it was not dangerous for regular and occasional use. The school children were also asked what risks they thought there were in using alcohol and marijuana and driving (see Figure 3.6). There is little difference in the perceived risk of having a car accident associated with the two drugs although slightly more indicate a higher risk of an accident with alcohol. Nine per cent indicate that there was low or fairly low risk attached to alcohol and driving while 20 per cent attached the same degree of risk for marijuana and driving.

Analyses of the school-based data indicated that 'wagging' school was an important factor in affecting use in the month prior to the survey as well as unsupervised night recreation. In Victoria not living with both parents was also

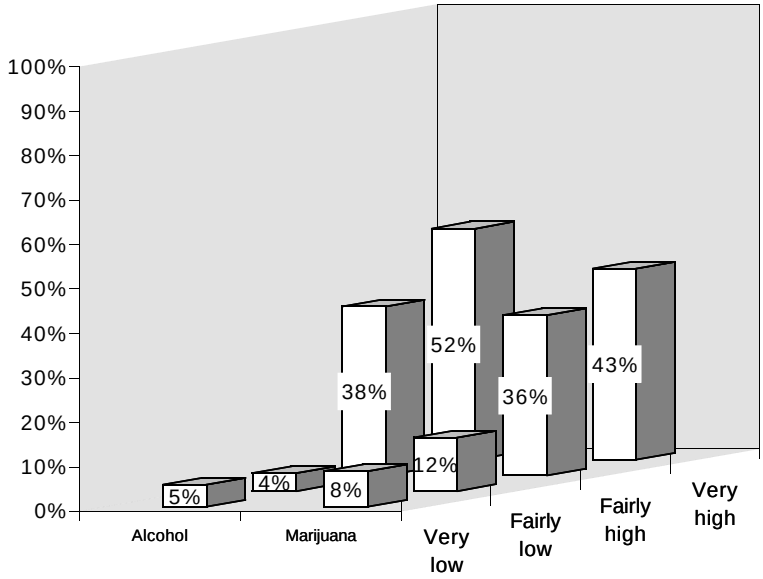
Figure 3.5: Perceptions of danger with occasional and regular use of marijuana, 10–19 year olds



Source: Victorian 1992 Drug Use Amongst Seconday School Students (n=9513)

important which ties in with the findings from the NDS survey that family structure and drug use is an area requiring further study.

Figure 3.6: Perceptions of risk associated with using the drug and having a car accident



Source: Victorian 1992 Drug Use Amongst Seconday School Students (n=9513)

United States

Since 1975 there has been an annual nation wide survey of a sample of high school seniors which includes some questions on drug use. However the primary focus of the study is to monitor the changes in values, behaviours and lifestyle of contemporary American Youth (Johnston, Bachman and O'Malley, 1995). In 1993, 35 per cent of the sample reported that they had tried marijuana while 26 per cent indicated that they had tried the drug in the past 12 months.

As the survey is focused on high school seniors only, there is little age variation in the samples. In 1993, 31 per cent of the sample were 18 years of age while 67 per cent were 17 years of age. Even with this truncated age range there is still the usual pattern of life-time prevalence rising with age. Of those aged 19 or older 38 per cent reported they had tried marijuana, 35 per cent of those aged 17 or 18 and 29 per cent of those aged 16 or younger reported having tried the drug. These figures are lower than the comparable figures from the NDS surveys but the former figures exclude those not at school which will result in an under estimate of overall life-time prevalence for those age groups.

Like other countries, including Australia, there is a slight gender gap in life-time prevalence of marijuana. In the US the gap is statistically significant but this is largely a function of sample size. The sample size (n=16,270) is much larger for just one wave of data collection in the US than that obtained in Australia even by pooling the data (n=2,407). As a result the precision of the estimates is much tighter. Thirty-nine per cent of US high school seniors (CI: 38, 40) have tried

marijuana as compared to 31 per cent of female high school seniors (CI: 30, 32). This difference remains for use in the past 12 months.

The Monitoring the Future survey asks respondents how many times they have used marijuana in the past 30 days. In 1993, 40 per cent of the sample who had ever tried marijuana indicated they had used marijuana one or two times, 20 per cent three to five times, 11 per cent six to nine times, 13 per cent ten to 19 times and 15 per cent 20 or more times. The number of times does vary with age of the sample who had ever tried marijuana indicated they had used marijuana one or two times, 20 per cent three to five timer times than males. Thus 37 per cent of males and 45 per cent of females reported that they had used marijuana one or two times in the past 30 days.

As the Monitoring the Future survey covers a wide range of areas there are too many questions to be asked of all the respondents. As a result a core set of questions is asked of each of the respondents while six sub-samples are asked a range of different questions. One of the sub samples was asked about their attitudes toward legalisation. In 1989, 17 per cent of respondents indicated that using marijuana should be made entirely legal, 20 per cent indicated that it should be a minor violation like a parking ticket but not a crime, 50 per cent indicated that it should be a crime and 15 per cent did not know. In 1993 opinion changed only slightly with 23 per cent indicating it should be legal, 19 per cent a minor violation and 43 per cent a crime. As in Australia there is divergence in opinion over the legalisation of marijuana. Respondents were also asked 'If it were legal for people to use marijuana, should it also be legal to sell marijuana'. Thirty-nine per cent in 1989 and 37 per cent in 1993 said no, 38 per cent in 1989 and 41 per cent in 1993 said yes but only to adults, nine per cent in 1989 and ten per cent in 1993 said yes to anyone and 14 per cent in 1989 and 13 per cent in 1993 did not know.

Finally they were asked what they would do if marijuana was legal to use and legally available. Table 3.6 indicates 81 per cent of respondents would not change their current behaviour. Seven per cent would experiment with the drug and four per cent indicated that they would use it more often; six per cent did not know. Predicted behaviour has remained consistent between 1989 and 1993 with very little change in what students report they would do if marijuana was legal to use and legally available.

Table 3.6: US students behaviour if marijuana were legal to use

	1989	**1993**
Not use it, even if it were legal and available	70	69
Try it	7	7
Use it about as often as I do now	13	12
Use it more often than I do now	2	4
Use it less often than I do now	2	1
Do not know	6	7
(n)	(2812)	(2768)

Source: Monitoring the Future, 1989, 1993 surveys

Conclusion

This chapter has shown that availability and use of marijuana is much higher amongst those aged 14 to 19 years than in the sample as a whole. Of those aged 14 to 19 years around 52 per cent have been offered marijuana, 27 per cent would try marijuana if offered by a close friend and 35 per cent have tried marijuana. Around half of those who have tried marijuana have done so in the past 12 months. When we examine the extent to which young people have been offered the drug and have actually tried it we find that the take up rate is around one-third of 14 to 19 year olds.

The most common place to use marijuana is at a friend's house or at parties, however 29 per cent of students indicate that they use at home. Of those aged 14 to 19 years who are not at school 50 per cent reported that they commonly used marijuana in a vehicle. In terms of the type and the method of consumption young people are most likely to use a bong or pipe and the heads of the plant.

Although the probability of using marijuana increases with age there does not appear to be a significant difference between young males and females in their use of the substance. Family structure appears to be important for young people with those not in families consisting of a couple with dependent children reporting higher levels of exposure and use of marijuana. However, the numbers are small, the data come from only one of the surveys and there may be other confounding factors that could account for this relationship. Students appear to have the lowest life-time prevalence rates while those 'keeping home' and the unemployed report the highest. There does seem to be a relationship between income and marijuana use with those with more income reporting higher levels of exposure and use of marijuana. Again, the numbers are small and data are available from only one of the surveys.

In terms of attitudes towards the regulation of marijuana only a minority favour the legalisation of personal use. Attitudes vary enormously between those who have tried the drug and those who have not. The vast majority of the former favour legalisation of marijuana for personal use and do not support increased penalties for the sale and supply of the drug while the vast majority of the latter do not support legalisation for personal use and strongly favour increased penalties for sale and supply. However, regardless of whether or not young people have tried marijuana the vast majority do not favour a punitive law enforcement strategy as a mechanism for dealing with the personal use of marijuana. One third of young people believe that it is okay to regularly use marijuana and this increases substantially for those who have ever tried the drug.

School-based surveys conducted in New South Wales and Victoria report similar findings to the NDS surveys. Very few school children see the use of marijuana as dangerous and 20 per cent believe that there is a very low or fairly low risk attached to using marijuana and having a car accident; conversely 80 per cent believe that there is a high to very high risk of having a car accident. If marijuana were made legal 81 per cent of US High School Seniors stated that they would not change their current behaviour and seven per cent who currently do not use indicated that they would try it.

4. State analysis of users

This chapter focuses on the use of marijuana within the different states and territories[12]. Given that different jurisdictions have different laws we might expect there to be noticeable variations. There is also the argument that different jurisdictions are characterised by different cultures and norms of behaviour and that these express themselves in different forms of drug taking. Analyses of self-reported alcohol related offences indicate that there are significant differences between the states and territories (Makkai, 1993). Are patterns of marijuana use different and do different state/territory populations hold different views over the way in which marijuana should be regulated?

Prevalence of marijuana

Table 4.1 indicates the extent to which respondents in the different jurisdictions have been offered, would try if offered by a trusted friend and have tried marijuana over the past decade. In terms of comparing prevalence and availability between the states the general picture that emerges from 1985 to 1995 is one of similarity rather than dissimilarity. Where there are differences they tend to occur in those states which have the smallest sample sizes so the precision of the estimates is the weakest. For example, 53 per cent of people from the Northern Territory (n=240) reported in 1995 that they had tried marijuana but the confidence range for the Northern Territory estimate is from 47 to 59 per cent. The two jurisdictions with the largest samples, Victoria (n=654) and New South Wales (n=691), show very similar levels of availability and prevalence: 31 per cent in Victoria and 30 per cent in New South Wales and the confidence bands are considerably lower ranging from 28 to 35 per cent in Victoria and 27 to 34 per cent in New South Wales.

Looking over the past decade the picture is one of relative stability in most states. There is not enormous fluctuation from survey to survey except for the Northern Territory which has the smallest sample. The last column of the table compares the change between 1985 and 1993/5. There has been an increase in the proportion of people reporting they have been offered the drug in Tasmania and the ACT however these are not mirrored by increases in the proportion saying they would try marijuana if offered by a close friend. Tasmania does report a large increase in life-time prevalence from 1985 (23 per cent, CI: 17, 28) to 1995 (31 per cent; CI: 26, 36) but the confidence intervals overlap suggesting that these differences may not be statistically significant. South Australia reports the next highest increase of six percentage points from 27 per cent in 1985 (CI: 22, 31) to 33 per cent in 1995 (CI: 29, 37). Again the confidence intervals overlap suggesting that these increases over time may not be statistically significant.

12 The use of the term state in this report includes the territories.

Table 4.1: Been offered, would try and have tried, 1985–1995

	1985	1988	1991	1993	1995[a]	Change 85–93/95
Been offered						
New South Wales	41	42	43	42		1
Victoria	42	32	39	44		2
Queensland	42	38	39	44		2
South Australia	42	38	40	48		6
Western Australia	53	44	45	52		-1
Tasmania	36	32	36	45		9
Australian Capital Territory	51	47	56	61		10
Northern Territory	65	75	61	69		4
Would try						
New South Wales	14	15	16	14		0
Victoria	13	12	16	14		1
Queensland	13	11	13	14		1
South Australia	11	10	18	18		7
Western Australia	20	21	20	19		-1
Tasmania	13	10	10	16		3
Australian Capital Territory	19	23	27	23		4
Northern Territory	32	38	27	24		-8
Have tried						
New South Wales	26	30	30	35	30	4
Victoria	27	22	28	31	31	4
Queensland	28	24	28	33	27	-1
South Australia	27	24	30	37	33	6
Western Australia	35	33	36	39	37	2
Tasmania	23	29	22	29	31	8
Australian Capital Territory	40	27	43	46	42	2
Northern Territory	56	69	51	56	53	-3

a Would try if offered by a trusted friend was not asked in 1995; have been offered was asked in 1995 but was restricted to the last 12 months.

Source: NDS 1985, 1988, 1991, 1993, 1995

Use in the past 12 months

Of more interest is use of marijuana in the past 12 months. Two measures are reported. The first takes the whole sample as the base while the second takes only those who have tried marijuana. Again there appears to be relative stability across time for each of the individual states. The biggest changes occur for the smallest states and these are also the states with the smallest samples.

Looking at the group of respondents who indicated that they have ever tried marijuana 27 per cent of Tasmanians (CI: 15, 38) and 15 per cent of people from the ACT (CI: 4, 27) reported they had used marijuana in the past 12 months in 1988. This has increased by 17 percentage points to 44 per cent (CI: 34, 54) and 22 percentage points to 37 per cent (CI: 29, 46) over the past seven years for each state respectively. The confidence intervals overlap with the other states for the Tasmanian sample but not the ACT sample suggesting that the increase in the ACT may be significant. However, the number who reported use in the past 12 months in the ACT in 1988 was noticeably lower than the other states and also jumped dramatically in 1991 suggesting that any changes should be viewed with considerable caution. As we would expect similar patterns are found when we use the total sample as the base with the ACT indicating the largest increase in use of marijuana.

Table 4.2: Used in the past 12 months, 1985–1995

	1988	1991	1993	1995	Change 95–88
Those who have ever tried as the base					
New South Wales	45	39	32	46	1
Victoria	44	38	41	45	1
Queensland	47	36	30	39	-8
South Australia	30	52	47	37	7
Western Australia	47	50	51	47	0
Tasmania	27	39	41	44	17
Australian Capital Territory	15	50	47	37	22
Northern Territory	45	48	51	41	-4
Total sample as the base					
New South Wales	13	12	11	13	0
Victoria	10	11	12	13	3
Queensland	11	10	9	10	-1
South Australia	7	16	17	12	5
Western Australia	16	18	19	16	0
Tasmania	8	8	12	13	5
Australian Capital Territory	4	21	21	16	12
Northern Territory	31	24	27	21	-10

Source: NDS 1988, 1991, 1993, 1995

Frequency of use

Use of marijuana in the recent past provides us with some indication of the extent to which people have access to the drug. Of the total sample the 1995 data indicates that except for the Northern Territory around ten to 16 per cent of people, regardless of the state they live in, have been able to obtain the drug in the past 12 months. This increases to between 37 and 47 per cent of those who have ever tried the drug. Respondents were also asked how often they used the drug.

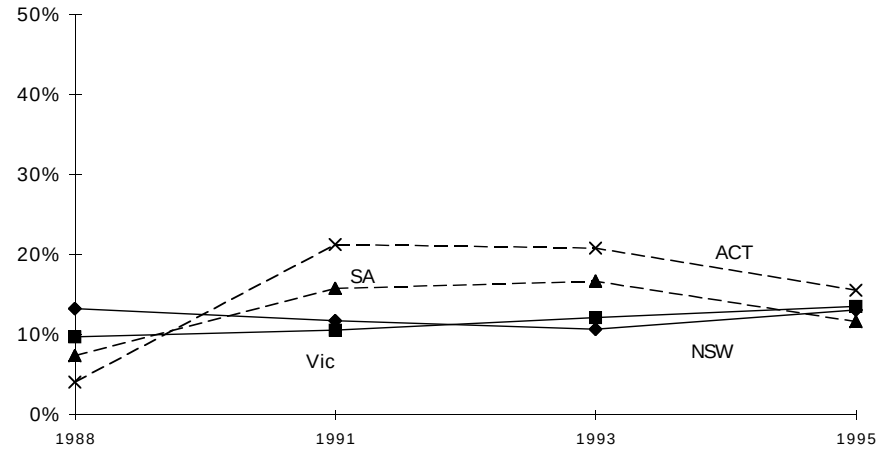
Table 4.3 indicates the percentage in each state who report that they use weekly or more often and monthly or more often for those who have ever tried marijuana. For the larger states and hence larger sample sizes frequency of marijuana use is relatively stable across time but when we focus on the smaller states there appears to be quite large variations in the frequency of use. The sample sizes for these states are very small and the confidence bands are wide. For example, the sample size in 1988 for Tasmania is 59 and no-one indicated that they used marijuana weekly or more often. The sample size for the Northern Territory in 1988 was 95 and 39 in the ACT. For obvious reasons we cannot calculate confidence intervals for the zero point estimates but the interval for the 1995 Tasmanian data is between ten and 25 per cent while the interval for the

Table 4.3: Use weekly or more, monthly or more often, 1988–1995

	1988	1991	1993	1995	Change 95–88
Use weekly or more often					
New South Wales	13	15	11	13	0
Victoria	17	12	10	11	-6
Queensland	14	13	6	10	-4
South Australia	14	22	16	12	-2
Western Australia	27	18	11	21	-5
Tasmania	0	8	19	17	17
Australian Capital Territory	0	10	16	9	9
Northern Territory	18	22	20	19	1
Use monthly or more often					
New South Wales	26	22	26	25	-1
Victoria	24	17	19	24	0
Queensland	25	24	13	18	-7
South Australia	16	38	32	20	4
Western Australia	31	29	28	33	2
Tasmania	6	14	28	31	25
Australian Capital Territory	0	26	31	23	23
Northern Territory	36	34	28	29	-7

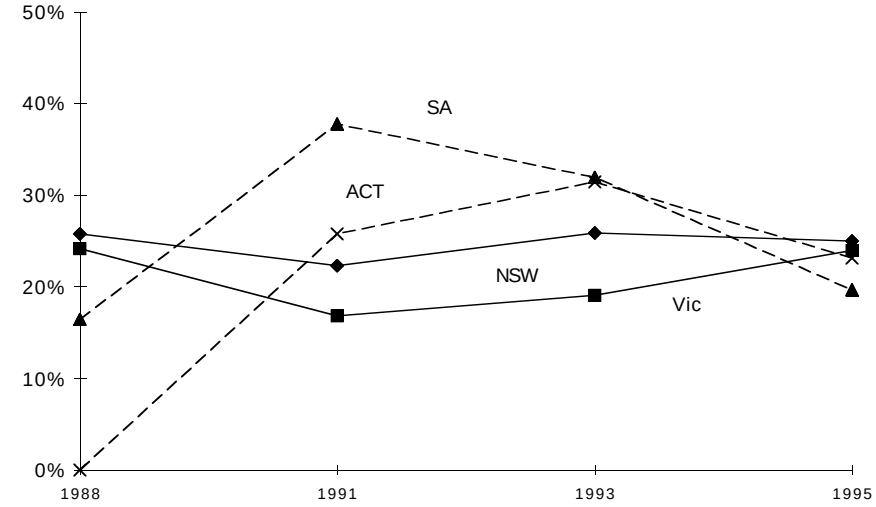
Source: NDS 1988, 1991, 1993, 1995; those who have never tried marijuana are excluded.

Figure 4.1: Used in the past 12 months for four jurisdictions



Source: NDS 1988, 1991, 1993, 1995

Figure 4.2: Use marijuana monthly or more often for four juridictions, 1988–1996



Source: NDS 1988, 1991, 1993, 1995; those who have never tried marijuana are excluded

ACT is between six and 14 per cent.

South Australia in 1987 and the ACT in 1993 made changes to their laws dealing with the possession for marijuana for personal use. Figures 4.1 and 4.2 compares use of marijuana in these two states with the two most populous states, Victoria and New South Wales. The figures plot the percentage of the total sample who have used marijuana in the past 12 months and of those who have ever tried marijuana the percentage who use monthly or more often. The data indicates much more stable patterns for Victoria and New South Wales which could simply be a

reflection of the sample sizes. In looking at the patterns for the two smaller states there appears to have been a slight upturn in 1991 and 1993 for use of marijuana in the past 12 months with a much bigger increase for monthly or more often use between 1988 and 1991. The most recent figures show a downturn with the figures being very similar to rates of marijuana use in New South Wales and Victoria. It is too soon to determine the impact of the changes in legislation. Behavioural changes often occur slowly and it is only with on-going monitoring that we will be able to say with any certainty whether short-term effects are enduring changes.

Age and gender

Table 4.4 uses the pooled data file and examines the age breakdown of respondents who have used marijuana in the past 12 months, those who use weekly or more often and those who use monthly or more often. The latter two measures are restricted to those who have ever tried marijuana.

When we take age into account we see that those aged 40 years and older are unlikely to have used in the past 12 months and of those who have tried very few report using monthly or more often. In every state it is those aged 14 to 19 years who are more likely to have used in the past 12 months and the proportion of them who use frequently is higher. Having averaged across the past seven years, teenage use appears lowest in New South Wales (17 per cent, CI: 13, 21) and highest in the Northern Territory (30 per cent, CI: 21, 40) but this would be a misleading conclusion. The sample size in the Northern Territory is smaller so that the confidence interval just overlaps with the confidence interval for New South Wales. As the samples are larger for those aged 20 to 39 years the Northern Territory is significantly different from all the other states except for Western Australia which in turn is not significantly different from South Australia and the Australian Capital Territory.

There is less volatility in the frequency of marijuana use across the states and none of the observed estimates are statistically different from each other. The frequency with which these broad age groups use marijuana does not statistically differ between various jurisdictions. It is the less populous states that have the higher rates of reporting but they also have the widest confidence bands because of sample size. An analysis of the gender differences indicated that women in all states were less likely to have used marijuana in the past 12 months and use less frequently than males however the differences are small.

Type of marijuana, method of consumption, and place of use

Given that there is little variation between the states in terms of consumption patterns are there differences in the type of marijuana use, where they use it and how they use it? These data were only collected in 1995 so the numbers are small and any differences have to be viewed cautiously. Across all states, except for Victoria smoking a bong is the method used by more than 50 per cent of those who use marijuana. In Victoria slightly more than half report that they usually smoke marijuana as a joint. In South Australia only 16 per cent report that they usually smoke it in this way.

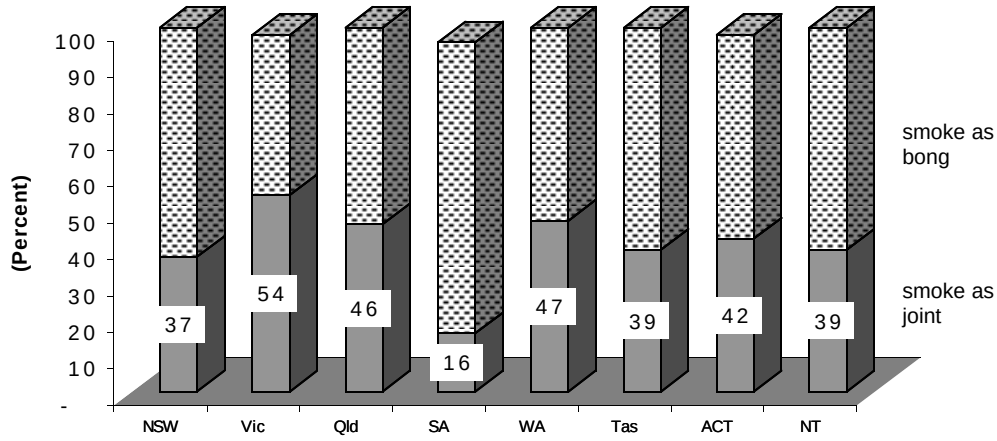
Figure 4.4 shows the type of marijuana most commonly used. It is interesting to note that the two states that are most divergent on method of consumption are also the highly divergent on the type of marijuana used. A greater proportion of Victorians prefer leaf (33 per cent) than South Australians (17 per cent). Those from South Australia (75 per cent) and the Northern Territory (78 per cent) are more likely to use heads. The other category consists mainly of resin and skunk which seems to be most popular (or perhaps more available?) in Victoria (20 per cent).

Table 4.4: Last used and frequency of use by age

	14–19 years	20–39 years	40+ years	(n)
Used the past 12 months				
New South Wales	17	16	2	(2805)
Victoria	20	17	1	(2692)
Queensland	18	14	1	(2258)
South Australia	23	18	2	(2168)
Western Australia	26	23	3	(2052)
Tasmania	24	14	1	(1244)
Australian Capital Territory	28	21	2	(1164)
Northern Territory	30	30	10	(855)
Use monthly or more often				
New South Wales	36	21	12	(874)
Victoria	35	17	4	(784)
Queensland	32	16	4	(648)
South Australia	46	22	6	(683)
Western Australia	40	26	10	(762)
Tasmania	39	17	7	(343)
Australian Capital Territory	41	19	7	(479)
Northern Territory	35	33	11	(484)
Use weekly or more often				
New South Wales	14	11	9	(874)
Victoria	17	10	2	(784)
Queensland	13	9	4	(648)
South Australia	18	16	1	(683)
Western Australia	22	16	7	(762)
Tasmania	26	10	0	(343)
Australian Capital Territory	17	8	3	(479)
Northern Territory	22	20	8	(484)

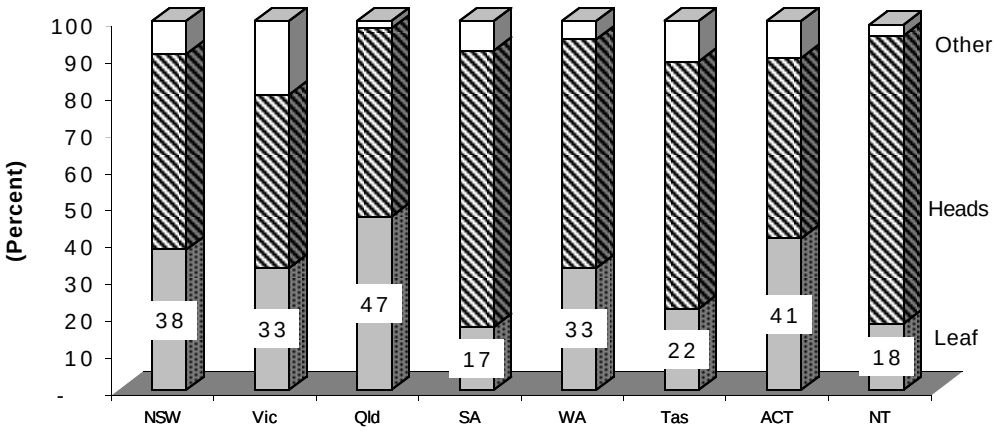
Source: NDS 1985, 1988, 1991, 1993, 1995 pooled data file

Figure 4.3: Method of consumption by jurisdiction



Source: NDS 1995, n=514, other category is not shown

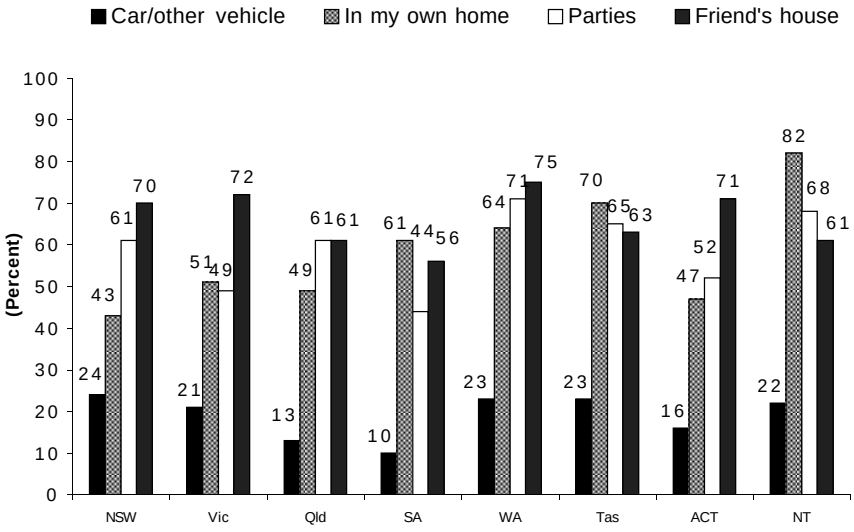
Figure 4.4: Type of marijuana most commonly used by jurisdiction



Source: NDS 1995, n=526

Figure 4.5 examines the places where respondents report that they use marijuana. In South Australia, Queensland and the ACT respondents are less likely to indicate that they smoke in cars or other vehicles. Smoking at a friend's house is clearly a popular activity regardless of jurisdiction and highlights the social norms than govern marijuana use. Using at parties is also quite common but this is least likely to occur in Victoria, South Australia and the ACT. Significant numbers indicate that they smoke in their own home—this ranges from 43 per cent in NSW to 82 per cent in the Northern Territory.

Figure 4.5: Places where respondents smoke marijuana by jurisdiction

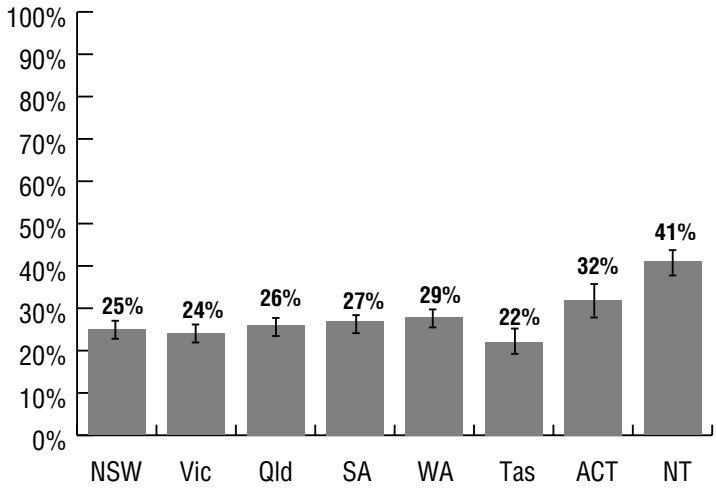


Source: NDS 1995, n=516

Beliefs about regular use

When asked whether they think the personal use of marijuana is 'okay' the states have similar profiles except for the three smallest—Tasmania, the ACT and the Northern Territory. In the other states the percentage who think it is 'okay' varies from 24 per cent in Victoria to 29 per cent in Western Australia. In Tasmania

Figure 4.6: Per cent who think it is okay to use marijuana regularly by jurisdiction



22 per cent think it is 'okay' while 31 per cent In the ACT and 41 per cent in the Northern Territory think it is 'okay' to use marijuana regularly. It is perhaps interesting to note that it is the Northern Territory which reports the highest life-time prevalence rates in 1995.

Attitudes towards regulating marijuana

Respondents were asked how much money they would spend out of $100 on education, treatment/rehabilitation and law enforcement. Table 4.5 shows that there is little variation between the states in how much they would on average spend on the various options. People would spend more on average on education and then less on treatment and law enforcement.

In Chapter 6 we examine whether or not respondents understand the laws in their state. Respondents were also asked in 1995 what they think should happen to someone found in possession of small quantities of cannabis for personal use. Of the total sample 13 per cent indicated a caution or warning, 18 per cent a small fine, 36 per cent a compulsory drug education program, 15 per cent a substantial fine, and ten per cent community service. Only four per cent of the sample indicated a gaol sentence. There is little variation in the level of support for these options across the states. Surprisingly those from the ACT and SA are no more likely to favour a caution or warning system than the other states. They are slightly more likely, along with the Northern Territory, to favour a minor fine—22 per cent in SA, 23 per cent in the ACT and 24 per cent in the NT.

Table 4.5: Mean dollars spent on regulatory options by jurisdiction

	Education	Treatment	Law enforcement	(n)
New South Wales	46.19	21.96	31.86	(2240)
Victoria	48.18	22.80	29.02	(2147)
Queensland	47.34	20.53	32.01	(1847)
South Australia	47.17	22.31	30.53	(1724)
Western Australia	48.98	22.51	28.51	(1667)
Tasmania	45.27	20.68	34.05	(992)
Australian Capital Territory	51.02	20.86	28.11	(960)
Northern Territory	50.16	21.76	28.08	(761)

* In 1988 and 1991 the question asked 'If you were given $100 on reducing marijuana abuse, how much would you allocate to each of the following—a) education b) treatment and rehabilitation c) gaoling or penalising users and d) gaoling or penalising dealers/'pushers'/traffickers'. In 1993 and 1995 the question asked 'For each drug, I'd like to find out how you would allocate $100 over these three areas to reduce the used of that drug. And to reduce marijuana use— a) education b) treatment and c) law enforcement'. For the analyses here categories c and d were summed in 1988 and 1991.

Source: NDS 1988, 1991, 1993, 1995 pooled data file.

Conclusion

State analyses are difficult. The sample sizes are too small within each survey to undertake any detailed analyses of consumption patterns and socio-economic characteristics particularly in the smaller states. The analyses show that the most 'unstable' patterns are observed for these states. This instability may reflect true events or it may be a function of sample size which results in wider confidence intervals. Even with pooling the data the numbers remain small once we start to examine recent use or try to focus on heavy users. It is problematic in some cases to pool the data if we are interested in the impact of the changes in law on consumption patterns; if consumption is stable we are more justified in pooling the data and maximising sample size. These problems can partially be solved by larger sample sizes or the collection of further data across time where eventually a pooled file will provide large enough samples for state analyses. However, the data do provide us with valuable attitudinal data as well as consumption patterns for the country and the larger states as a whole.

The overall conclusion that can be drawn is that the use of marijuana is relatively similar across the states and these patterns are consistent even when we control for age and sex. Where we do see some variation (and bearing in mind the caveats of sample size), the ACT and the NT, these are also the states where more people think it is okay to use regularly, would spend more on average on education, and would be more likely to favour the use of small fines to deal with possession.

There do appear to be some small differences between the states in terms of the type of marijuana used, the way it is smoked and where people use the drug. Victorians are more likely to smoke joints while South Australians are more likely to use a bong and prefer heads. Interestingly, 20 per cent of Victorians reported that they used resin or some other form of marijuana other than leaf or heads. A minority in all states reported that they smoked marijuana in a car or other vehicle, although this was less likely in the ACT, Queensland and SA.

5: Cross national perspectives

Comparative analysis is important. We live in a global world in which trends and policies in other countries impact on our own. We belong to an international community by virtue of our participation in global markets and international treaties. As a member of the international community we respond to criticism from that community and we seek to influence the debates that take place within it. It is therefore important to have some understanding of the trends in drug use in other countries. Undertaking comparative analyses of drug use patterns is difficult. These difficulties include:

- comparing countries which are historically, culturally and politically different;
- comparing countries with different legal systems and laws in relation to marijuana; and
- comparing results from surveys which involve different sampling frames and methodology.

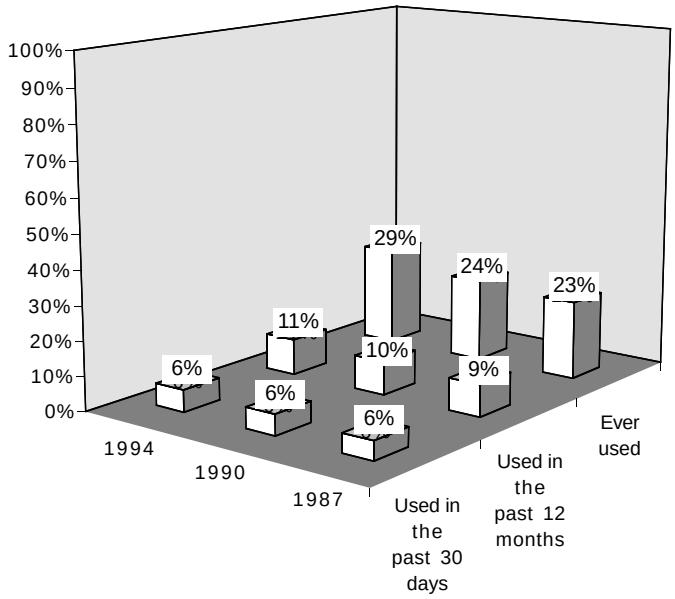
This chapter examines the publicly available data primarily from the United States. The United States has a long tradition of collecting data on drug use patterns via large national surveys. This is coupled with a tradition of freedom of information and access to such data sets for secondary data analysis by academics and policy makers. This tradition is not exemplified in Europe or Great Britain[13]. There are no national drug surveys which are available for secondary analysis via national data archives from these countries; this lack of information hampers analysis of the impact of policy initiatives or comparisons of different countries which are pursuing slightly different policies.

The Netherlands

Although there has not been a national survey of drug use in the Netherlands there has been a series of surveys conducted in Amsterdam. These were conducted in 1987, 1990 and 1994 (Sandwijk et al., 1995). Table 5.1 shows the life-time prevalence rates, use in the past 12 months, and use in the past 30 days. Like Australia a much smaller proportion of respondents report that they have used marijuana in the recent past than have actually tried it. In 1994, 29 per cent reported that they had tried marijuana compared to 31 per cent for Australians. The figures are also comparable in regard to use in the past 12 months. In 1994, 11 per cent of people from Amsterdam and 13 per cent of Australians in 1995 reported that they had used marijuana in the past 12 months.

13 Two reasons which are often given for this are the problems associated with confidentiality and the need for cost recovery. This raises important ethical questions over access to knowledge and the need for governments to collect information in order to inform sensible public debate.

Figure 5.1: Marijuana use in Amsterdam, 1987–1994



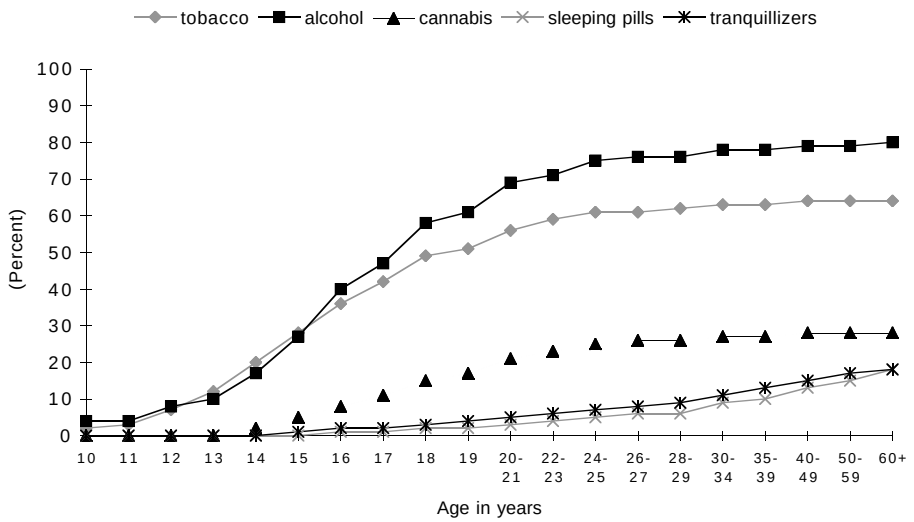
(a) Numbers for 1990 and 1994 adjusted for the age, gender and ethnicity distribution in 1987

In analysing these data Cohen (1995) cautiously concludes that any increase in availability via the number of retail outlets (ie coffee shops) has not resulted in any intensification of use. 'The only group where we see a statistically significant increase in ever use of marijuana is the group of people in Amsterdam who go out most frequently: the group of 20 to 24 year olds. But, when we look at the last year's and last month's use from just this group we again see a very constant pattern of marijuana use where no increase can be seen. Thus, it is the experimental behaviour of this group which slightly increases, but not its continued use. It is also important to note that life-time marijuana use in Amsterdam, in a social climate of total decriminalisation, is no higher than in the United States where the degree of criminalising and taboo equals that of alcohol in Iran' (Cohen, 1995).

The Amsterdam surveys also asked the age at which respondents first tried marijuana. Figure 5.2 shows that like Australia the mean age of initiation is 20 years and the median age is 18 years. It also shows that initiation is relatively rare before 14 years of age but it is not uncommon after the age of 26 years. Again like Australia a greater proportion of respondents have tried the licit drugs at an earlier age.

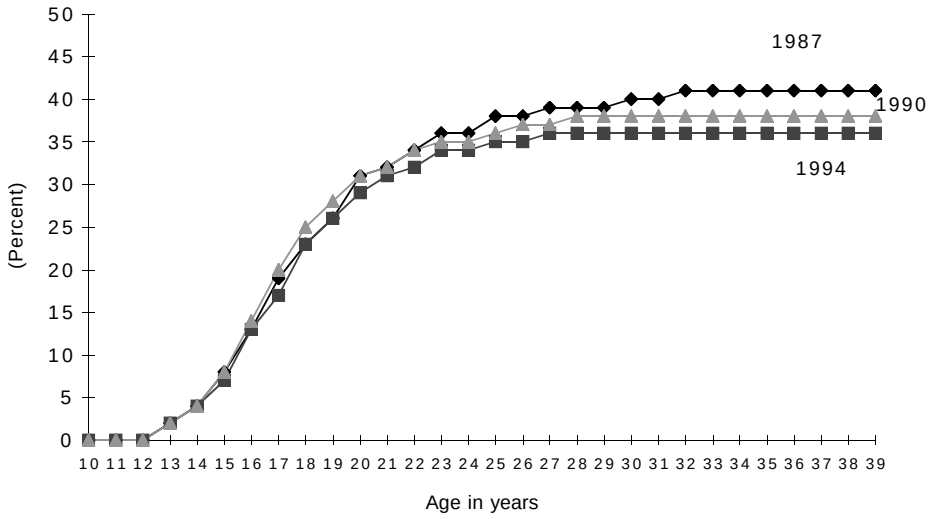
Figure 5.3 examines the age of initiation for 1987, 1990 and 1994 amongst those who live in Amsterdam. There has been a slight drop in the older age groups but essentially there has been little change in the mean age from 1987 to 1994. The Australian data is only available for 1993 and 1995 but it again shows little change.

Figure 5.2: Age of first cannabis use in 1994 compared with tobacco, alcohol, sleeping pills and tranquillisers—Amsterdam



Source: Sandwijk, J.P., P.D.A. Cohen, S. Musterd & M.P.S. Langemeijer (1995)

Figure 5.3: Age of first cannabis use (12–39 year olds) in 1987, 1990 and 1994 —Amsterdam



Source: Sandwijk, J.P., P.D.A. Cohen, S. Musterd & M.P.S. Langemeijer (1995)

Analysis of various socio-economic characteristics found that like Australia those with higher levels of formal education were more likely to have tried the drug than those with less formal education. The link between unemployment and use was also confirmed in Amsterdam but only for use in the past month. Like

Amsterdam there is no significant difference between the unemployed and the full-time employed in terms of life-time prevalence in Australia but there is a significant difference between the two groups in terms of marijuana use in the past 12 months. We cannot distinguish between use in the past 12 months and use in the past 30 days in either the 1993 or 1995 Australian data.

The Amsterdam survey asks people about their social life at night. Cohen (1995) found that those who frequented cafés and discos had an increased chance of using marijuana. In comparing a range of characteristics Cohen concluded that 'a number of variables taken together have a highly predictive value. An unemployed person with higher education, younger than 40 years, who lives alone and is a frequent café-goer has a higher chance of ever having used cannabis than someone with a full-time job, relatively little education, who is over 40 years old and lives in a family with children'.

United Kingdom

There is no national drug survey conducted in the United Kingdom. The collection of drug statistics tends to be haphazard, driven more by regional concerns and funding than any national coherent policy. As a consequence it is impossible to come up with national figures. In reviewing the trends from the numerous regional surveys Parker, Measham and Aldridge (1995) concluded that like Australia marijuana was the most popular illicit drug with some urban areas reporting rates of around 40–50 per cent. They note that there has been discrepancies in the self-reported levels between regional and national based surveys.

The British Crime Survey (BCS) which is conducted in England and Wales and is regarded as a 'national' survey has included a question on life-time marijuana prevalence since 1982. However, this survey does not include either Scotland or Northern Ireland which undertake separate surveys. The 1992 British Crime survey asked whether people had been offered marijuana in the past 12 months, whether they had ever taken marijuana and whether they had taken marijuana in the past 12 months. The drug use questions have been expanded upon in the 1994 survey but at the time of writing this report the data file was not available for secondary analysis nor was the report published.

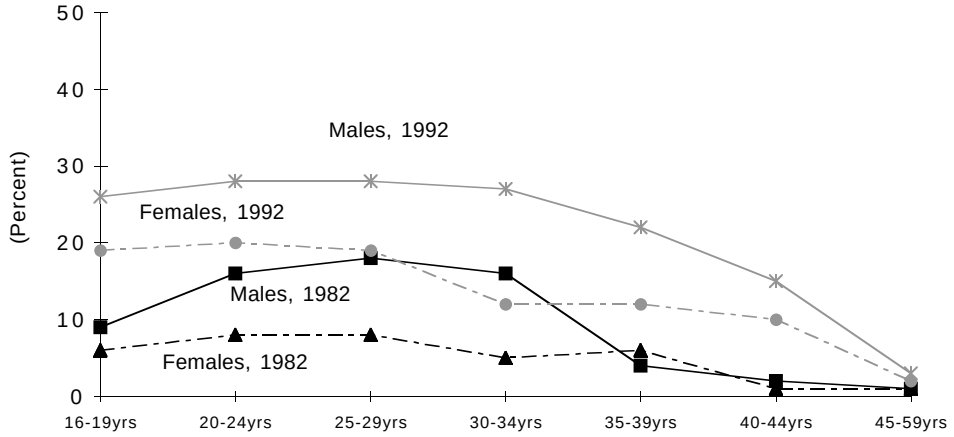
The BCS in 1992 contained a core sample of 10,059 people aged 16 or older living in private households. A booster sample of 2,013 people of Afro–Caribbean and 'Asian' origin was also selected and all children aged between 12 and 15 years in the core sample households were asked to complete a questionnaire. Like the Australian surveys the drug questions were asked using a self-completion booklet. The most obvious problem with using the BCS data is that the drug use questions are incorporated within a survey that is primarily asking about being a 'victim of crime' (Mott and Mirrlees-Black, 1995). Drug use switches the focus from 'victim' to 'perpetrator'. In addition the US and Australian surveys can be seen as less threatening in that they are carried out under the auspices of the National Drug Strategy and the National Institute on Drug Abuse rather than the Home Office which is concerned with crime, not health issues.

The methodology used to collect the drug use question has changed between the 1982, 1984 and 1992 surveys. In 1982 and 1984 the questions were asked within a battery that asked about other offending behaviour. In 1992 the data were

asked in a separate booklet that only asked about drug use behaviour. The rates of life-time prevalence have increased with each survey but Mott and Mirrelees-Black (1995:21) caution that 'these changes in method make it difficult to interpret trends in the extent of cannabis use'.

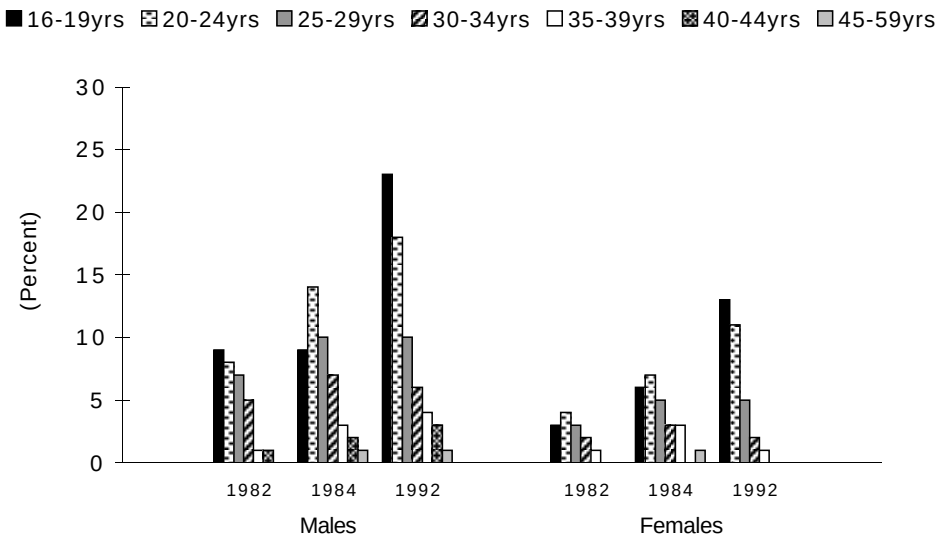
Although these variations in methodology, context and culture make comparisons difficult the overall trends are similar to Australia. Figure 5.4 shows the life-time prevalence figures for males and females in 1982 and 1992 and Figure 5.5

Figure 5.4: Life-time prevalence in England and Wales, 1982–1992



Source: BCS 1982 and 1992 (weighted data)

Figure 5.5: Used in the past 12 months in England and Wales, 1982–1992



Source: BCS 1982, 1984, 1992 (weighted data)

indicates use in the past 12 months in 1982, 1984 and 1992. Males are more likely to report that they have tried marijuana than females while younger people report higher life-time prevalence rates than older people. Overall however these figures are considerably lower than Australia. Of those aged 16 to 29 years in England and Wales 24 per cent reported that they had tried marijuana while 12 per cent reported they had used it in the past 12 months (see Figure 5.5). The comparable figures for Australia are 49 and 54 per cent for life-time prevalence in 1991 and 1995 and 29 and 33 per cent for used in the past 12 months.

It is interesting to note that the marijuana prevalence figures are much lower than some regional surveys and also for the Netherlands. This may be accounted for by the problems highlighted above. When we consider other regional UK drug surveys rates of marijuana use are higher. A national survey of young people aged 14 to 25 years in late 1992 found that 41 per cent of males and 25 per cent of females had tried marijuana while 29 per cent of males and 15 per cent of females were currently using the drug (Graham and Bowling, 1995). Australian males aged 14 to 24 years reported in 1993 that 61 per cent had tried marijuana while 38 per cent of the males in this age group reported using in the past 12 months. Forty-six per cent of Australian women aged 14 to 24 years have tried marijuana while 24 per cent have used in the past 12 months.

A survey of young people in selected UK schools in 1993 found that of males aged between 15 and 16 years 28 per cent had taken marijuana leaf and 21 per cent had taken cannabis resin. The comparable figures for women in this age group were 22 per cent and 13 per cent. We cannot directly compare the 1993 Australian data as age was recorded in groups and the NDS surveys do not distinguish between different forms of marijuana however the 1995 data indicates that 23 per cent of males and 19 per cent of females aged 15 to 16 years reported that they had tried marijuana.

Lower levels of consumption in Western Europe vis-à-vis the United States has been noted elsewhere. A report from the Commission on Narcotic Drugs (1995) found that the crude annual prevalence rate was 6.72 per cent for cannabis in the US as compared to 1.69 per cent in Western Europe.

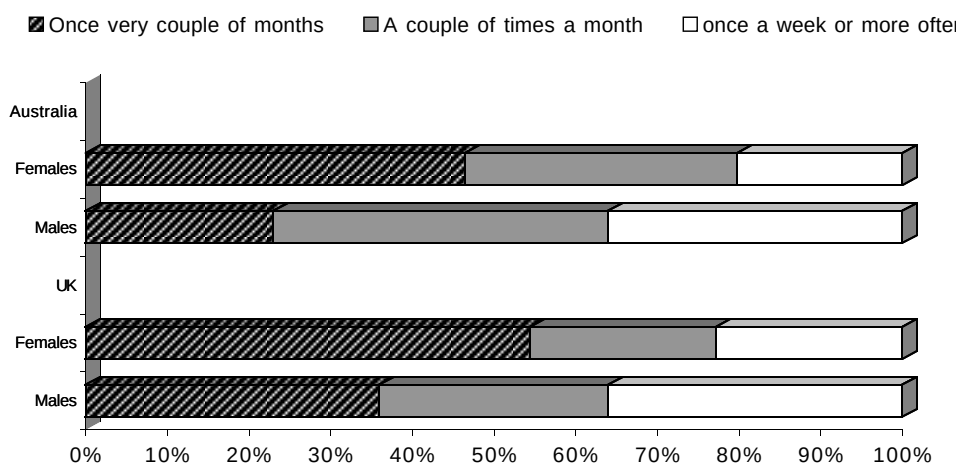
From the BCS surveys it is possible to determine whether drug use patterns vary between different ethnic groups. 'Whites' and Afro–Caribbean report similar levels but the 'Asian' community report much lower levels[14]. The survey of young people found significant differences between the white community and 'blacks', Indians, Pakistani and Bangladeshi groups. The white community had a significantly higher life-time prevalence rate than the other ethnic minority groups for marijuana use (Graham and Bowling, 1995). This lower level of self-reported marijuana use amongst minority groups is consistent with the Australian data and has also been found in the Netherlands, Belgium and Germany (Junger-Tas, Terklouw, Klein, 1994)

The BCS surveys do not ask about the frequency of marijuana use however we can compare the Graham and Bowling survey of 14 to 25 years old with the 1993 NDS 14 to 24 years olds. Figure 5.6 shows that patterns are similar in both

14 These are the British terms for different ethnic groups. Whites refers to Anglo–celtic while Asian incorporates Indian, Pakistani and Bangladeshi but not South-east Asians.

countries. Males use marijuana more frequently than females but similar percentages in both countries use once a week or more often. Young Australian women are more likely to use marijuana a couple of times a month rather than once every couple of months while the opposite is the case for young British women.

Figure 5.6: Frequency of use, 14–24/25 years, Australia and the UK



Source: NDS 1993; Graham and Balding, 1995

The BCS 1992 surveys enabled marijuana users to be examined on a range of socio-economic indicators. These data showed similar associations to the Australian data:

- urban respondents are somewhat more likely to report having used marijuana, although these are converging;
- those who have completed higher levels of formal education are more likely to have tried marijuana;
- non-manual workers report higher life-time prevalence rates than manual workers; and
- the unemployed report higher life-time prevalence rates than those who are working.

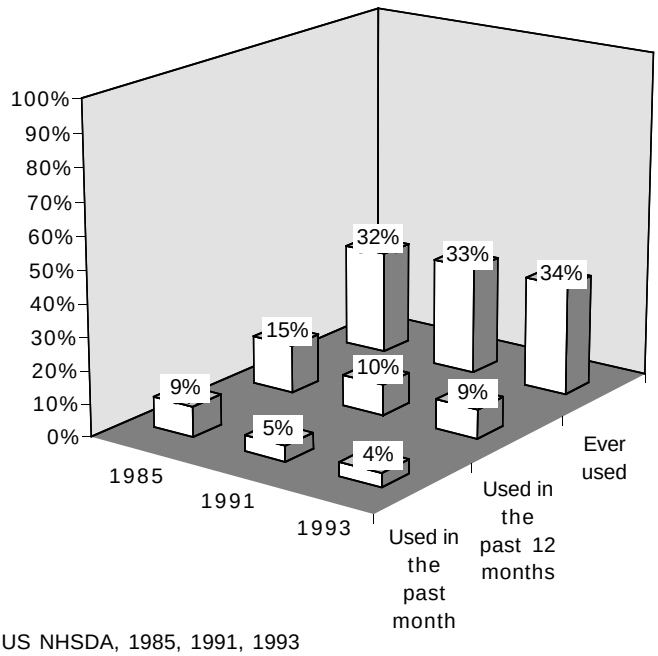
The existence of panel data is rare. Neither Australia nor the UK have a large scale panel survey following the same individuals over time. Parker, Measham and Aldridge (1995) began following 776 pupils enrolled in schools in the North-west of England in 1991. Two further follow-ups have been undertaken. In the first year of contact 32 per cent of the sample had tried marijuana, by the second year this had increased to 42 per cent and by the third year 45 per cent. When they examined differences between males and females they found a narrowing in the gender gap. They also calculated an uptake measure for each year. They found in year one that 60 per cent of the sample who had been offered marijuana had taken it up. This increased to 68 per cent in year two and 63 per cent in year three.

United States

Although the late 1980s suggested the beginning of a downturn in marijuana use the early 1990s have shown that marijuana is again growing in popularity. All the reports from the US indicate that use is on the rise, regardless of the data source. The most recent publication from the Office of National Drug Control Policies *Pulse Check: National Trends in Drug Abuse* is based on data collected from August till September 1995. This publication combines information from ethnographers, police, epidemiologists and treatment providers on trends in drug use. The general conclusion was that the use of marijuana continues to rise in all areas of the US.

There have been two major long-term national surveys conducted in the US. The National Household Survey on Dug Abuse (NHSDA) has been running since 1972 and is the most comparable collection to the Australian NDS surveys. There have also been other large national surveys of youth such as the Monitoring the Future. Table 5.1 presents the figures for life-time prevalence, marijuana used in the past month and use once a week or more often from the NHSDA[15]. The data indicate that life-time prevalence has remained fairly constant from 1985 to 1993. In 1993 the life-time prevalence figure was 37 per cent which compares to 34 per cent for Australia. Both use in the past year and use in the past month have declined significantly from 1985 to 1993. Twelve per

Figure 5.7: Marijuana use in the US, 12+ years



Source: US NHSDA, 1985, 1991, 1993

15 The US data is for those aged 12 years or more whereas the Australian data is for those aged 14 years or more.

cent report that they have used marijuana in the past year while six per cent report that they have used in the past month. The Australian data does not allow a direct comparison with the latter measure however the 1993 Australian data indicated that 12 per cent of the total sample also reported that they have used marijuana in the past year.

We can compare the frequency of marijuana use for the United States and Australia. Table 5.1 indicates that there has been a decline in all levels of use the United States. The Australian data does not show the same sort of trend: whereas weekly use was similar in both countries in 1988 by 1993 there is a two percentage point difference. In 1993 2.4 per cent (CI: 2.1, 2.9) of the those aged 12 years and older in the US report that they use weekly while 4.3 per cent (CI: 4.6, 3.3) of Australians aged 14 years and older report this level of use. The data suggest that occasional use is slightly higher in the United States than in Australia.

Availability and perceptions of risk are clearly factors that will affect overall levels of marijuana use and consumption. Neither the Australian nor the European/UK data ask about perceptions of risk. The US data asks respondents how easy is it to obtain a variety of drugs. In total 62 per cent in 1991 and 58 per cent in 1993 reported that it is fairly or very easy to obtain marijuana. In terms of risk respondents were asked how much did they think people risk harming themselves physically and in other ways when they 'try marijuana once or twice', 'smoke marijuana occasionally', and 'smoke marijuana regularly'. Perceptions of risk have remained fairly stable since 1985 and as the level of consumption increases so does the perception of risk as is shown Figure 5.8.

Table 5.1: Frequency of using marijuana, Australia and US compared

	Occasional				Monthly				Weekly			
	1988	1991	1993	1995	1988	1991	1993	1995	1988	1991	1993	1995
US	7.1	5.0	4.6	na	7.7	4.5	4.3	na	4.6	2.5	2.4	na
Australia	4.1	4.4	3.9	4.1	2.5	2.7	4.3	3.8	4.9	5.3	4.3	5.0

na not available

Source: US NHSDA 1985, 1991, 1993; NDS 1988, 1991, 1993, 1995

Table 5.2: Perceptions of risk for different age groups, 1993

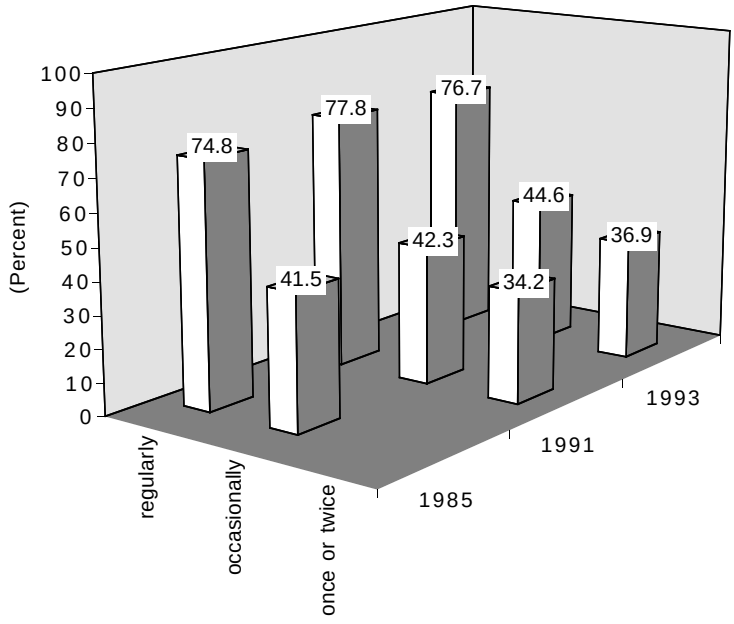
	12–17 years	18–25 years	26–34 years	35+ years
Smoke once or twice	32.6	24.1	23.6	44.8
Smoke occasionally	48.1	32.7	29.3	51.5
Smoke regularly	81.7	67.4	66.8	81.2

Source: US NHSDA 1993

The perception of risk varies across the age groups as Table 5.2 shows. Those aged 12 to 17 years have risk perceptions that match those aged 35 or older while those aged 18 to 34 assign much lower levels of risk to marijuana use. Thus in age groups with the highest prevalence rates the perceptions of risk are lowest. However, for all age groups as the level of consumption increases then so does the percentage who perceive a risk.

The US NHSDA survey also asks about a range of socio-economic indicators. Table 5.3 examines some basic characteristics and use of marijuana in the past month. Although the data are not strictly comparable with the Australian data they do tell a similar story. Those in their late teens and early twenties are the group most likely to have used marijuana recently while those aged over 35 years have very low rates of use. Males are more likely to have used recently. In terms of ethnic background the 'other' category is most comparable with the Australian NESB. Like the UK/Europe it is this group that is least likely to have used recently. The Australian data indicated that although those with higher levels of formal education were more likely to have tried marijuana they have lower rates of actual use. The US data indicates that college graduates are slightly less likely to have used in the past month. Finally, as with Australia and the UK/Netherlands, marijuana use seems to be higher amongst the unemployed. In 1993 9.5 per cent of the unemployed reported that they had used marijuana in the past month as compared to six per cent of those who were employed full-time.

Figure 5.8: Perceptions of risk by frequency of use, US, 12+ years)



Source: US NHSDA 1985, 1991, 1993

Table 5.3: Use of marijuana in the past month and socio-economic characteristics, US, 1985–1993

Age	1985	1991	1993
12–17 years	11.9	4.3	4.9
18–25 years	21.9	13.0	11.1
26–34 years	16.8	7.0	6.7
35+ years	2.1	2.1	1.9
Sex			
Male	12.0	6.3	6.0
Female	6.7	3.4	2.8
Race/ethnicity			
White	8.9	4.5	4.2
Black	13.1	7.2	5.6
Hispanic	7.9	4.3	4.7
Other	6.9	3.4	2.7
Education			
Not completed high school	6.4	5.1	4.3
Finished high school	9.6	5.5	4.8
Some college	11.2	6.0	4.9
College graduate	8.6	2.4	2.9
Current employment			
Full-time	11.2	5.0	4.6
Part-time	9.7	6.3	6.1
Unemployed	20.7	13.6	9.5
Other	2.6	2.4	2.1

Source: US NHSDA 1985, 1991, 1993

Conclusion

These data suggest that there are very similar patterns and rates of marijuana use for the Netherlands, the United States and Australia. Given that these three countries have placed different emphases on the way in which marijuana is regulated these findings are interesting. In a recent paper focused on drug use and drug policy in western Europe Reuband (1995) found that there was no link between higher or lower rates of illicit drug use and the type of social policy followed by that country. From this he concluded that 'informal social norms seem to be of greater relevance than formal legal norms and availability of drugs' (1995:32).

The figures from the United Kingdom are mixed. The British Crime Survey figures are much lower than what is reported in either the Netherlands, US or Australia. However regional surveys suggest that the BCS may be underestimating the extent of illicit drug use. The recent 1994 BCS survey has changed its methodology with the introduction of computers to assist with the data collection. It may well be that this survey will reveal much higher levels of drug use than has been found in past surveys.

6: Attitudes towards marijuana

Public attitudes towards marijuana have been the most studied of any of the illicit drugs, due in large part to the widespread use of the drug across the population. More recently, it has become a renewed focus of attention as a result of the debates surrounding its legal status in many of the states and territories. Although a large amount of attitudinal data on marijuana is available, it has tended to examine opinion towards legalisation, rather than other issues, such as the health effects of marijuana use, the role of education or the options for prevention. Moreover, since legalisation is itself a complex and changing issue, the exact questions that have been asked in surveys have often differed greatly from survey to survey—with consequent variations in the responses that are given. In short, analyzing trends in beliefs about marijuana presents a range of methodological problems, and these must be taken into account when evaluating the results.

Three sets of publicly-available national surveys have asked questions about marijuana that do permit us to examine trends in attitudes, with caveats about alterations in question wordings and general survey methodology. The first set is the National Drug Strategy (NDS) surveys, conducted since 1985. Appendix A provides technical information on the surveys. These surveys have asked questions about whether marijuana is considered a drug and a community problem, as well as questions about its legal status. However, since the questions about legal status have changed over the course of the surveys, reliable comparisons over time are problematic (Makkai and McAllister, 1993). The second set is the National Social Science Surveys (NSSS), conducted by the Australian National University (Kelley and Bean, 1988). Early NSSS surveys included items about legalisation of marijuana, though these questions have not been included in any of the surveys conducted after 1987. Finally, the Australian Election Study (AES) surveys, conducted at each federal election since 1987, have included a single question on legalisation.

In addition, there are a range of one-off surveys which have examined attitudes towards marijuana. The most important is a survey conducted for the National Task Force on Cannabis in December 1993, which was a national telephone survey of 1,608 adults (Bowman and Sanson-Fisher, 1994). The survey asked a wide range of questions, including personal use of the drug, beliefs about its legal status, the penalties for use and criminality, and beliefs about what policies the government should be pursuing to deal with the problem. Another survey was also conducted for the National Task Force on Cannabis, this time based on a national telephone survey of 3,274 adults in 1994; the purpose of the survey was to examine health beliefs about cannabis, but other drugs were also examined, and the survey also included questions about the legalisation of marijuana (Hall and Nelson, 1995).

Community beliefs

Table 6.1: Drugs viewed as part of the 'drug problem', 1985–95[a]

	(Per cent)				
	1985	**1988**	**1991**	**1993**	**1995**
Heroin	52	48	40	32	30
Marijuana	25	21	21	28	29
Cocaine	7	13	14	10	6
Alcohol	6	8	11	15	14
Other	8	7	13	13	19
None	2	3	1	2	2
Total	100	100	100	100	100
(N)	(2,412)	(1,722)	(2,235)	(3,116)	(3,528)

a Estimates are for those aged 18 years or over. The question wording was 'When people talk about "a drug problem", which drugs do you think of?'

Source: NDS 1985, 1988, 1991, 1993, 1995

Public perceptions regarding which substances form the core of the drug problem are an important component of public policy. In formulating policies, governments react to popular perceptions about drugs; substances which are regarded as serious community problems will be placed at the top of the policy agenda while those that are not rated as seriously are likely to receive less attention. The 1985–95 NDS surveys have all asked a question concerning the drugs which are seen as part of the 'drug problem' (Table 6.1). Perhaps surprisingly, given the extent to which public opinions have remained stable over a long period on the general topic of drugs, there have been significant changes in the patterns of responses over the decade covered by the NDS surveys.

In 1985, a majority of the respondents viewed heroin as the drug that most readily came to mind as being part of the drug problem; marijuana was mentioned second. Over the decade, the proportion mentioning heroin has declined significantly, from 52 per cent in 1985 to 29 per cent in 1995[16]. Marijuana has kept its position as the second most frequently mentioned drug, varying from a low of 21 per cent (in both 1988 and 1991) to a high of 29 per cent (in 1995). Cocaine, never a major popular preoccupation, peaked at 14 per cent in 1991, and has declined thereafter. The licit drugs have only ever been mentioned by a small minority of the population, although it is notable that mentions of alcohol have more than doubled over the course of the surveys.[17]

16 The technical appendix documents that in 1995 there were changes to the response categories. These could well have affected the overall distributions however the decline in the proportion mentioning heroin is observed before this survey.

17 Tobacco is not listed in Table 6.1 because it was mentioned by only a small minority. For example, in 1995, only one in 20 mentioned tobacco as being part of the drug problem, and this was the highest figure across all of the NDS surveys.

Public opinion does, then, seem to have changed over the decade in which drugs it identifies as constituting 'the drug problem.' Heroin has declined in significance, although marijuana remains the first choice for about one in four of the population. One major conclusion does, however, stand out: illicit drugs constitute more than nine out of ten mentions, while the licit drugs, alcohol and tobacco, are mentioned by less than ten per cent of respondents.

The 1993 and 1995 NDS surveys also asked respondents what emphasis they would place on three policy approaches to dealing with the problem: education, treatment, or enforcement. The questions were asked in the form of allocating $100 to each of the three policies: large amounts indicate a strong emphasis on a particular policy, smaller amounts a weaker emphasis. The results in Table 6.2 show that education, rather than treatment or enforcement, is the preferred policy option, with the single exception of cocaine in 1995, when the largest share of the $100 was allocated for expenditure on law enforcement. The estimates for marijuana are stable across the two surveys: about half of the money is allocated to education, while the remainder is split between treatment and enforcement, albeit with a slight advantage for the latter.

Table 6.2: Priorities for policies towards four drugs, 1993 and 1995[a]

(Mean $s)

	1993			1995		
	Education	**Treatment**	**Enforcement**	**Education**	**Treatment**	**Enforcement**
Marijuana	51	21	27	47	24	30
Cocaine	46	26	27	36	24	40
Tobacco	61	25	14	52	30	18
Alcohol	49	30	21	43	28	29

a Estimates are for those aged 18 years or over. The question wording was 'For each drug, I'd like to find out how you would allocate $100 over these three areas to reduce the use of that drug. Starting with alcohol, if you were given $100 to spend on reducing alcohol use, how much would you allocate to each of these areas education (eg information), treatment (eg counselling, therapy), law enforcement (eg stop illegal sale or use)'

Source: NDS 1993, 1995

The surveys suggest that community beliefs about drugs in general, and about marijuana in particular, are stable, although the emphasis on heroin and cocaine as part of the core 'drug problem' has weakened. While it is speculative to identify any one explanation for this change, it may well be that the publicity and education surrounding the National Campaign Against Drug Abuse, initiated in 1985, has had an impact in changing popular perceptions of the drug problem, diversifying the drugs mentioned away from heroin. It has not, however, had an impact in shifting opinions away from the illicit drugs and towards alcohol and tobacco. Indeed, it is interesting that the two most recent surveys show a hardening of public opinion in terms of their preferred policy options; while education still remains the first choice, there is increased support for law enforcement with respect to all four drugs although the smallest increase in support for law enforcement is in regard to marijuana.

Attitudes towards legalisation

The attitudes questions that have been most often asked in opinion surveys concern the legal status of marijuana. The NCADA/NDS surveys have included a question about the legalisation of marijuana but the question wordings have not remained consistent over time, making any reliable evaluation of the overall trend problematic. Bearing this in mind, the results in Table 6.3 suggest that a majority of the population is opposed to legalisation, and that the strength of feeling among those opposed to any change is proportionately greater compared to those who support a change. In other words, the issue generates stronger feelings among those who favour continued prohibition than among reformers.

As they are reflected in the survey questions, popular opinions on the legal status of marijuana are affected by two aspects of the way in which the questions are asked. The first is the use of an intermediate category, which reflects indecision; for example, in 1985 and 1993, an intermediate category of 'unsure' and 'it depends' was permitted in the response codes. This category is separate from 'do not know' responses, which have been omitted from the analyses, with the exception of 1995, when both 'do not know' and 'unsure' responses were coded together and could not be distinguished. Where such an intermediate category is used in the survey question, support for a change in the law is reduced, since, as we explained previously, reformers tend to be weaker in their opinions than supporters of prohibition.

The second consideration is the context within which the question is asked. Where questions concerning information about the current legal situation precede the actual legalisation question, support for change generally increases (Bowman and Sanson-Fisher, 1994). For example, Hall and Nelson (1995: 44) show that when questions about the health consequences of cannabis use precede questions concerning its legal status, support for a reform of the law increases to nearly half of the sample. The context in which the question is asked is therefore of considerable importance in determining the result; where respondents are provided with prior information, either directly or indirectly through related questions, then support for change is greater than when the question is asked without any prompt. This at least partly explains the fluctuations in the proportions supporting and opposing change in the NDS surveys.

The two most recent NDS surveys have also asked questions concerning the legalisation of cannabis use, measured against other illicit drugs, as well as the penalties that should apply for the sale or supply of marijuana, again measured against other illicit drugs (Table 6.4). In each survey, a five-point scale was used to determine opinions. Once again, the strength of support for legalisation is outweighed by opposition, although there is at least some suggestion that opinion may be moving in the direction of legalisation, albeit slowly. As we would expect, there is little support for legalisation of heroin or cocaine, with the vast majority strongly opposing such a policy. In contrast to marijuana, opinions against the legalisation of heroin or cocaine strengthened between 1993 and 1995.

Table 6.3: NDS survey questions on legalisation, 1985–1995[a]

1985: 'In your opinion should the smoking of marijuana be made legal or remain illegal'

	Per cent
Legal	31
Undecided	9
Illegal	60
Total	100
(N)	(2,412)

1988, 1991: 'Do you agree or disagree that the smoking of marijuana should be legalised?'

	Per cent	
	1988	**1991**
Strongly agree	8	15
Agree quite a lot	6	8
Agree a little	12	16
Disagree a little	10	11
Disagree quite a lot	15	12
Strongly disagree	50	39
Total	101	101
(N)	(1,792)	(2,398)

1993: 'To what extent would you support or oppose the personal use of marijuana/cannabis being legal?'

	Per cent
Strongly support	7
Support	18
It depends	17
Oppose	22
Strongly oppose	36
Total	100
(N)	(3,498)

1995: 'In your opinion, should the possession of small quantities of marijuana for personal use be legal or illegal?'

	Per cent
Legal	42
Unsure, do not know	6
Illegal	52
Total	100
(N)	(3,528)

a Estimates are for those aged 18 years or over.

Sources: NDS 1985, 1988, 1991, 1993, 1995

Table 6.4: Strength of opinions on legalisation and increased penalties for supply, 1993 and 1995[a]

	Strongly support				Strongly oppose		
	1	2	3	4	5	Total	(N)
Legalise personal use							
Marijuana							
1993	7	18	16	23	36	100	(3,107)
1995	10	19	16	16	39	100	(3,525)
Heroin							
1993	3	5	5	22	65	100	(3,110)
1995	3	3	3	14	77	100	(3,523)
Cocaine							
1993	2	3	5	23	67	100	(3,116)
1995	2	2	3	16	77	100	(3,522)
Increased penalties for supply							
Marijuana							
1993	44	21	15	12	8	100	(3,110)
1995	46	17	17	10	10	100	(3,523)
Heroin							
1993	69	19	4	3	5	100	(3,110)
1995	74	13	4	2	7	100	(3,523)
Cocaine							
1993	67	21	4	3	5	100	(3,110)
1995	73	14	4	2	7	100	(3,523)

a Estimates are for those aged 18 years or over. The question wordings were: 'To what extent would you support or oppose the personal use of the following drugs being made legal?'; 'To what extent would you support or oppose increased penalties for the sale or supply of the following drugs?'

Source: NDS 1993, 1995

In line with public opinions against legalisation, there is general agreement that there should be increased penalties for the sale or supply of all three drugs. In 1993, 61 per cent of those interviewed supported increased penalties for the sale or supply or marijuana, a figure which increased to 63 per cent in 1995. Heroin and cocaine register much higher levels of support for increased penalties, as we would expect: in 1995, 87 per cent favoured increased penalties for trafficking in both drugs. Although there is little doubt that public opinion distinguishes between marijuana and other illicit drugs, it is also clear that the popular support that exists for legalising marijuana extends to personal use only; any suggestion of weakening the criminal sanctions that exist for the sale or supply of the drug produces large majorities who favour stronger penalties.

A variety of factors have been shown to be important in shaping attitudes towards legalisation. The most notable are age, with younger people being more likely to oppose prohibition, and whether or not the person said that they had tried the drug, with those who had used it at some time being significantly more likely to oppose prohibition than those who had not used marijuana (Makkai and McAllister, 1993). Table 6.5 confirms the importance of age and life-time prevalence in predicting not only the legal status of the drug, but also attitudes towards increased penalties for trafficking. In each of the equations in Table 6.5, life-time prevalence is as important in predicting opinions as all of the other independent variables combined. The presence or absence of children in the home also influences opinions, though it is the fact of having children that is important, not their ages. Measured against the excluded category of no children, children of any age reduce the likelihood of supporting legalisation, net of other things. There is some effect for the presence of younger children being more important than older children in predicting attitudes towards trafficking, but in general the differences are not large.

Table 6.5: Predicting beliefs about the legal status of marijuana[a]

	Standardised regression coefficients	
Age	-.13*	.10*
Gender	.01	-.02
Children (no dependent children)		
At least one child 5 years	-.04*	.06*
At least one child 6–10 years	-.04*	.03
At least one child 11 or more years	-.04*	.04*
Education		
Higher education	.08*	-.06*
Post-school qualification	.02	.00
Tried marijuana	.37*	-.30*
Adjusted R-squared	.19	.13
(N)	(3,467)	(3,467)

a The figures show standardised regression coefficients from an ordinary least squares regression analysis predicting whether the respondent supported the legalisation of marijuana for personal use and supported increased penalties for sale and supply. Age is measured in years; gender as male=1, female=0; the remaining variables are dummy variables. For children, no dependent children is the excluded category; where there was more than one child in the household, the age of the youngest child determines the group that the respondent is allocated to.

Source: NDS 1995.

The Australian Election Study (AES) surveys have included a question on the legalisation of marijuana since the inception of the survey in 1987. The questions were part of a group of items which asked about a range of non-economic issues, such as the death penalty, sentencing for criminals, and equal opportunity for women. In 1987 the question was asked in its most straightforward way, balancing the two options, and allowing for a measure of the strength of opinion. In 1990 and 1993 the question was asked in the form of

the respondents either agreeing or disagreeing with the statement that 'the smoking of marijuana should not be a criminal offence', again with a five point response code.

As with the NDS surveys, the use of an intermediate category in the codes and the absence of any other questions about drugs preceding the question, both tended to increase opposition to reform. In 1987, Table 6.6 shows that 20 per cent favoured reform, compared to 67 per cent who favoured the status quo. As the NDS surveys have demonstrated, strong feelings are more likely to be found among the supporters of the status quo than among the reformers. The 1990 and 1993 survey questions register a change. Support for reform increased to 33 and 35 per cent, respectively, while at the same time the intensity of opinion among those opposed to change appeared to decrease. This may, of course, be a consequence of the form in which the question was asked, although the greater support for reform does mirror the findings of other surveys, as outlined in the next section.

Table 6.6: Attitudes towards criminal penalties for marijuana use[a]

1987: 'Should the smoking of marijuana be made legal or should it remain illegal?'

	Per cent
Strongly legal	6
Legal	14
Depends	13
Illegal	20
Strongly illegal	47
Total	100
(N)	(1,798)

1990, 1993: 'Here are some statements about some legal issues and about some more general social concerns. Please say whether you strongly agree, agree, disagree or strongly disagree with each of these statements. ...The smoking of marijuana should NOT be a criminal offence'.

	Per cent	
	1990	**1993**
Strongly agree	11	11
Agree	22	24
Neither	18	22
Disagree	30	24
Strongly disagree	20	20
Total	100	100
(N)	(1,983)	(2,388)

a Estimates are for those aged 18 years or over.

Source: 1987, 1990, 1993 AES surveys.

One unique aspect of the AES is that many of the questions in the voters' surveys are replicated in a parallel survey of candidates, also conducted immediately after the federal election. In 1987 and 1990, the marijuana question was also asked of candidates, a subset of whom were actually elected to federal parliament and, as legislators, have the responsibility for making any changes to the law (Table 6.7). The views of legislators are broadly in line with voters in their attitudes towards the legal status of marijuana. In 1987, 35 per cent favoured a change, compared to 20 per cent of voters; in 1990, 37 per cent were in favour, compared to 33 per cent of voters. There are, as we might expect, significant party political differences in these results, with Labor legislators being more in favour of change than either Liberal or National party legislators (Makkai and McAllister, 1993: 422).

Table 6.7: Elected representatives' opinions on legalisation[a]

1987: 'Should the smoking of marijuana be made legal or should it remain illegal?'

	Per cent
Strongly legal	8
Legal	27
Depends	16
Illegal	23
Strongly illegal	26
Total	100
(N)	(146)

1990: 'Here are some statements about some legal issues and about some more general social concerns. Please say whether you strongly agree, agree, disagree or strongly disagree with each of these statements. ...The smoking of marijuana should NOT be a criminal offence.'

	Per cent
Strongly agree	13
Agree	24
Depends	13
Disagree	38
Strongly disagree	13
Total	100
(N)	(96)

a Estimates are for those elected to the House of Representatives and the Senate at each of the two elections.

Source: 1990, 1993 AES surveys.

The final set of national academic opinion surveys which have examined attitudes towards the legal status of marijuana are three surveys conducted by the National Social Science Survey. Surveys in 1984–85, and in 1986 and 1987, included questions on marijuana; unfortunately the question has not been asked in later publicly released versions of the surveys in the series. The results in Table 6.8

show a pattern consistent with the NDS surveys, with support for legalisation in the 1980s running at about one-fifth to one-quarter of the population, and with a greater intensity of opinion among the opponents of change.

Table 6.8: National Social Science Surveys, 1984–1987

'Here are some things the government might do. Some people are in favour of them and others oppose them. How do you feel? Legalising the use of marijuana (Are you in favour or opposed?)'.

	Per cent		
	1984–85	**1986**	**1987**
Strongly favour	7	8	7
Favour	17	12	13
Neither	14	13	13
Against	27	27	25
Strongly against	34	40	42
Total	99	100	100
(N)	(2,991)	(1,501)	(1,633)

Source: 1984–85, 1986, 1987 NSSS surveys.

Trends in attitudes towards legalisation

Public opinion towards the issue of legalisation has fluctuated during the 1980s and 1990s, depending on the survey methodology used, the wording of the question asked and the context of the question. We can, however, gain some estimation of the trend during this period, first by examining the commercial polls, which have the longest continuous series available on the issue, and second by graphing the results. The Morgan Gallup polls have consistently asked a question on the legal status of marijuana, starting in 1977. The results in Table 6.9 suggest two peaks of support, in the mid-1980s, when about three in every ten supported change, and in the mid-1990s, when one in three were in favour. During this period, the opponents of change have varied in inverse proportion to the overall level of support for change, while those taking an intermediate position have remained reasonably constant.

Figure 6.1 combines the results of the NDS, AES, NSSS and Morgan Gallup surveys and presents them in a graph; where more than one observation was available for any one year, the average of the polls was taken. The graph shows two peaks in support for legalisation, in the early 1980s and again in the mid-1990s, with a major decline in support in the mid-1980s. The most recent data do not enable us to conclude whether or not the estimate for 1995 represents the peak, or whether the subsequent lower estimate of 33 per cent is just a

18 The evidence from the Hall and Nelson survey (1984: 44) do confirm, however, the substantial increase that has taken place in support for reform. When asked two questions— 'do you think that legislation around marijuana should be changed?' and '[if yes] should it be ... decriminalised, legalised, tightened?' the responses showed that 23 per cent favoured decriminalisation, 15 per cent legalisation, 11 per cent a tightening in the law, and 51 per cent either wanted no change or were uncertain.

temporary fluctuation in the upward trend.[18] The decline in support for reform in the mid-1980s generally mirrors similar changes in the United States, where a decline began in the late 1970s. This was attributed to a more conservative social and economic climate, to the difficulties younger people had in finding employment, and to a weakening of interest in illicit drug use generally.

Table 6.9: Legalisation in the Morgan Gallup Surveys, 1977–96[a]

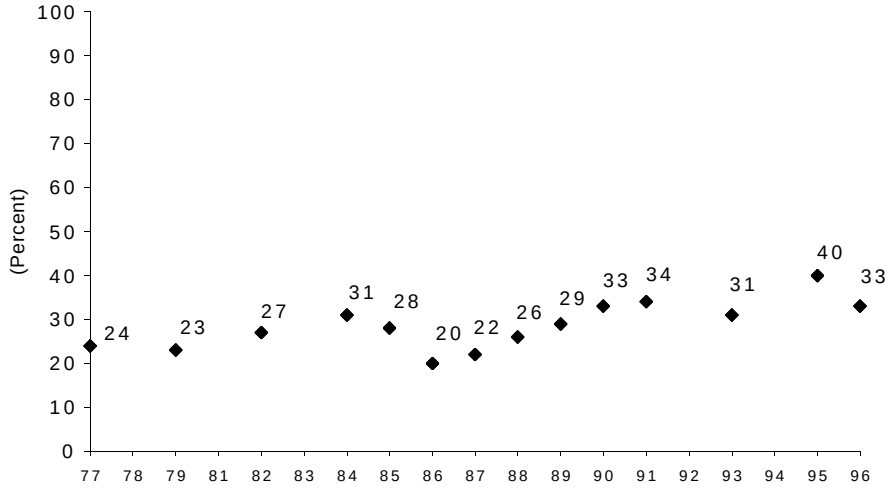
'Should marijuana be legalised?'

	Per cent									
	1977	**1979**	**1982**	**1984**	**1987**	**1989**	**1991**	**1993**	**1995**	**1996**
Yes	24	23	27	31	25	29	29	33	33	33
No	66	67	62	63	69	63	63	58	59	58
Can't say	10	10	11	6	6	8	8	9	8	9
Total	100	100	100	100	100	100	100	100	100	100

a All of the surveys were national samples of adults, aged 18 years and over, conducted by personal interview.

Source: Morgan Gallup Reports; Bulletin, 23 April 1996.

Figure 6.1: Public opinion towards legalising marijuana



Source: Estimates are based on data in Tables 6.3 to 6.7

What accounts for the increasing support during the 1990s for reform of the law relating to marijuana? One possible explanation is generational change, and as the number of individuals who have tried the drug—a major predictor of support for reform (McAllister, Moore and Makkai, 1990)—grows within the population, support for reform will grow. Another explanation is the debates surrounding the legal status of the drug in several states, most notably South

Australia which decriminalised marijuana in 1987. These explanations can be tested by examining the data from those surveys which have been conducted over time: the NDS, AES and NSSS surveys.[19]

Table 6.10: Explaining increasing support for legalisation[a]

	Per cent deviation from population		
Age	**1985-88**	**1990-95**	**Change**
18–24	+14	+13	-1
25–34	+11	+11	0
35–44	-3	+4	+7
45–54	-7	-5	+2
55 or over	-11	-11	0
State			
NSW	0	0	0
Victoria	+2	0	-2
Queensland	+2	-4	-6
South Australia	-3	-1	+2
Western Australia	+1	+1	0
Tasmania	-6	-4	+2

a The figures show the net percentage deviation in support for the legalisation of marijuana compared to the national population. The figures are based on the NDS, AES and NSSS polls, averaged by survey year.

Source: 1985–95 NDS surveys; 1987–93 AES surveys; 1984–87 NSSS surveys.

Table 6.10 shows the average change in the proportions favouring reform, compared to the total sample, for five age groups and for residents of the six states.[20] Two time periods are examined: the 1980s (effectively running from 1985 to 1988); and the 1990s (1990 to 1995). For the age groups, the results confirm strong support for reform among the youngest age groups, and least support among the older groups.[21] For example, during the late 1980s, there was 14 per cent more support for legalisation among the 18 to 24 year old age group, compared to support in the total sample at large. Similarly, 11 per cent fewer persons in the 55 year or over age group supported legalisation compared to the total sample. The most revealing change in Table 6.10 is the increase in the proportion of supporters among the 35 to 44 year old age group—seven percentage points in all. This suggests that it may well be this generation, which would have been aged in their late 20s ad 30s during the 1980s, who are effecting the increase in support for reform.

19 The Morgan Gallup commercial polls must be excluded from this exercise because we do not have access to the raw data files which would permit us to make the required breakdowns.

20 Residents of the Australian Capital Territory and the Northern Territory are excluded.

21 The age groups are not exactly matched across the surveys, because of the different ways in which age has been asked in the NDS surveys. The best reasonable fit of categories was used.

There are also significant changes in the patterns of support for change among the states. The largest change has been in Queensland, where opinion appears to have moved away from legalisation, perhaps in response to the more stringent drug laws enacted by the Goss Labor government. In the late 1980s, two per cent more Queenslanders favoured reform compared to the national population; in the 1990s, four per cent fewer favoured reform. There is also a more minor decrease in support in Victoria, by two per cent. In South Australia, the first jurisdiction to decriminalise marijuana, support has increased by two per cent, although it is still slightly below the national average.[22] There has been a similar shift in Tasmania in favour of reform, though once again, the overall level of support for reform is below the national average.

The legal system

Although there has been detailed attention devoted to the legal status of marijuana in the surveys, rather less attention has been given to the legal system itself, and particularly to knowledge of the law and to its perceived deterrent effects.[23] Given the changes in the legal status of marijuana in certain states it is unfortunate that the earlier NDS surveys did not include such questions, thereby making it possible to monitor the impact of the changes in state legislation on public opinion. The 1995 NDS survey did ask whether respondents knew if the possession of small amounts of marijuana for personal use was legal or illegal in their state or territory. At the time the survey was conducted, possession of small amounts was not a criminal offence in South Australia and the Australian Capital Territory.

The 1995 NDS survey shows that a narrow majority, 54 per cent believed that it was legal to possess small amounts of marijuana in the ACT, while 41 per cent believed that a similar situation existed in South Australia. In the remaining states and the Northern Territory, the vast majority correctly answered that possession was illegal, with the proportions varying from 76 per cent in the NT to 87 per cent in Queensland. Since it remained technically illegal in both jurisdictions to possess marijuana (it had been made a fineable rather than a gaolable offence), it is perhaps not surprising that there are relatively few significant predictors of whether or not someone said it was legal to possess marijuana (Table 6.11). In both states belief that possession was legal was increased by attitudes towards legalisation.

In South Australia, favouring the legalisation of marijuana is the only significant predictor, with those supporting reform being more likely to claim, somewhat optimistically, that it was legal to possess marijuana within their jurisdiction. The absence of any consistently significant predictors perhaps reflects the fact

22 The most recent 1995 survey, however, shows support in South Australia as running at three per cent above the national average.

23 In addition to the 1995 NDS and the 1993 Cannabis Survey, both of which are examined here, two further surveys have examined these issues. The first is Moore's 1993 survey of use, knowledge and support for various legal options in the ACT. The second is Homel and Flaherty's survey of NSW school children conducted in 1992 which incorporated questions about both legal and non-legal sanctions.

that users of marijuana have more accurate knowledge of the legal situation in their place of residence than non-users. Overall, the public in both areas would appear to feel some ambiguity concerning the exact legal status of marijuana.

Table 6.11: Predicting beliefs about the legal status of marijuana in the ACT and South Australia[a]

	ACT			South Australia		
	Est	**(SE)**	**Odds**	**Est**	**(SE)**	**Odds**
Age	.01	(.02)	1.00	-.01	(.01)	.99
Gender	-.49	(.54)	.62	.12	(.25)	1.13
Education						
Higher education	.10	(.66)	1.10	.15	(.35)	1.17
Post-school qualification	.15	(.67)	1.16	.07	(.29)	1.07
Favours legalisation	.78	(.60)	2.18	.95*	(.26)	2.57
Tried marijuana	-.40	(.66)	.67	-.50	(.31)	.60
Log likelihood	78.0	379.0				
(N)	(475)	(563)				

a The figures show regression coefficients and standard errors (in parentheses) from a logistic regression analysis predicting whether the respondent thought marijuana was legal (scored 1) or illegal (scored zero). Age is measured in years; gender as male=1, female=0; the remaining variables are dummy variables.

Source: NDS 1995.

Table 6.12: Knowledge of the legal status of various activities involving marijuana[a]

	Legal	**Illegal**	**Not sure**
Is it legal or illegal in your state to...			
...grow cannabis for supply to others	0.5	99	1
...possess cannabis for supply to others	0.4	99	1
...sell cannabis to someone else for money	0.6	99	1
...supply cannabis without exchanging money	3	87	10
...grow cannabis for personal use	15	79	6
...sell a small quantity of cannabis to some else for their personal use	2	96	2
...actually use cannabis	12	81	7
...possess implements for smoking or using cannabis	25	61	14
...drive a vehicle after or while smoking cannabis	5	85	10

a The exact question was: 'I'd like to know what you think the current situation is in [state]. Is it legal or illegal to...?'

Source: 1993 Cannabis Survey.

Another national population survey which examines these issues, but in more detail, is the survey conducted by Jenny Bowman and Rob Sanson-Fisher for the National Task Force on Cannabis (Bowman and Sanson-Fisher, 1994). The survey asked the respondents if they believed that ten separate activities with respect to marijuana were legal or illegal. Table 6.12 shows that any form of trafficking or supply is rightly seen as illegal to almost all of the respondents. By contrast, growing marijuana for personal use or actually using marijuana are seen as legal by 15 and 12 per cent of respondents, respectively, while one-quarter believe that it is legal to possess implements associated with marijuana use.

Some of these activities had been decriminalised in South Australia and the ACT at the time the survey was conducted in December 1993. In particular, growing and possessing small amounts of marijuana for personal use had been decriminalised, although it still remained illegal. While the survey questions suffer from the same problems as the 1995 NDS survey—less knowledgeable respondents may assume that marijuana use is legal, while more knowledgeable respondents will realise that it is still illegal, though only a fineable offence—the state breakdowns show that 46 per cent in the ACT believed that it was legal to grow small amounts of marijuana, while 20 per cent thought it was legal to use it. In South Australia, the figures were 35 per cent for each of the two questions, showing a much higher awareness of possession for personal use. In all of the other states, no more than seven per cent believed it was legal to engage in either activity.[24]

The remaining question regarding public opinion towards the legal system with regards to marijuana is the structure of that opinion, particularly given the wide range of policy options that are available. The 1993 Cannabis Survey also asked a number of questions about possible government policies to deal with the problem, and to what extent those policies attracted popular support.

The 11 policies are shown in Table 6.13. The first column shows the percentage who strongly agreed with the policy; the most favoured options, attracting the strong support of between seven and eight out of every ten respondents, were education and more stringent measures to detect and gaol large-scale importers and growers of cannabis. The measure that attracts least support is to increase penalties for personal use of the drug.

These results do not, however, inform us as to whether there is consistency or structure in the way in which people answer the questions on marijuana policy. The structure or consistency of opinion is important because of the range of policy options that are available, and because it provides some indication of the sophistication of opinion on the broad issue. An unsophisticated public opinion would be reflected in weak linkages between items, and by the dominance of one or two general views; a sophisticated opinion structure would be evidenced by strong linkages and a greater diversity of views. The second part of Table 6.13, which shows the coefficients from a factor analysis, shows that the structure of public opinion is generally unsophisticated. Two main dimensions emerge, representing law enforcement and education respectively, but the former is by far

24 The Northern Territory was an exception, where 17 per cent believed it legal to grow cannabis for personal use, and 20 per cent believed it legal to possess it for personal use.

the stronger of the two.[25] Moreover, two of the items—cannabis use by motorists and use of cannabis on prescription for medical purposes—cross-load between the two factors, showing that there is some popular confusion about them.

Table 6.13: The structure of public opinion concerning public policy towards marijuana[a]

	Per cent	Factor loadings	
Law enforcement	**strongly agree**	**I**	**II**
Increased policing and enforcement of current laws against cannabis use	38	.85	.05
No longer treating cannabis as a criminal offence	34	-.80	.13
Stiffer penalties for minor offences involving the personal use or possession of small amounts of cannabis	21	.78	-.09
Requiring that people found to be using cannabis attend education sessions to reduce the likelihood of further use	46	.68	.28
Increased police activity to detect large scale growing and importing of cannabis	70	.67	.23
Stiffer sentences for large scale growing and importing of cannabis	71	.64	.23
Police to check for cannabis use by drivers	63	.38	.25
Education			
Providing education about cannabis to young people in high schools	81	-.01	.69
General community education about cannabis and its effects	74	.10	.65
Counselling programs for cannabis users who have problems or have difficulty quitting	69	.29	.58
Permitting legal use of cannabis for the treatment of certain medical or psychological problems, when prescribed by a doctor	57	-.44	.45
Eigen value		3.8	1.6
Per cent variance explained		35	15

a The exact question was: 'I'd like to read out a list of actions that governments might undertake with regard to cannabis. For each one, I'd like you to tell me whether you agree or disagree.'

Source: 1993 Cannabis Survey.

Popular views of the legal system with respect to marijuana are, therefore, comparatively unsophisticated. This, in part, is a consequence of the plethora of policy options that are available and the relative absence, until recently, of any political discussion about their respective advantages or disadvantages. But in part, too, it is a result of the wide differences that have emerged in how the individual states have approached the problem. This is demonstrated in the extent to which individuals in the various states have an accurate knowledge of the law

25 This is denoted by the amounted of variance explained by the factor. The larger the variance explained the greater the strength of the factor.

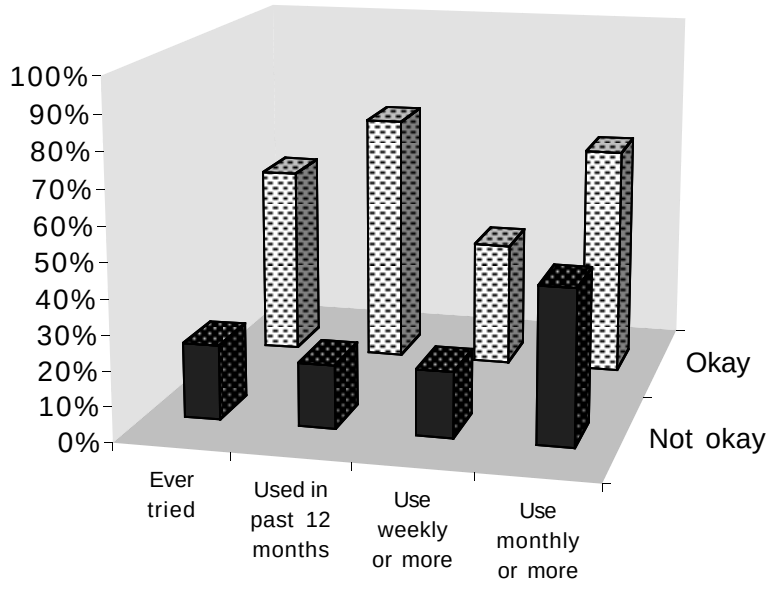
Figure 6.2: Per cent who think 'drug' is okay to use regularly

The 1991, 1993 and 1995 NDS asked respondents whether they thought the regular use of a range of drugs was 'okay' or 'not okay'. Regular use was defined as using at least once a month, except in 1995 the caveat was added that for tobacco and alcohol regular meant every day. A similar trend seems to be emerging for both licit and illicit drugs. From 1991 to 1995 there has been a decline in the percentage who think it is 'okay' to use these drugs regularly, although the decline has been greatest for alcohol and tobacco. In regard to marijuana 27 per cent (CI: 26, 29) thought it was okay to use it once a month in 1991 and this declined to 24 per cent (CI: 22, 25) in 1995. Although the difference is small the confidence bands indicate that the two do not overlap.

The more popular a drug is in the general community the more likely it is that respondents report that they think it is okay to use the drug. Alcohol is the most widely used drug and consequently more people think it is okay to use it than any of the other drugs. Marijuana is the most popular of the illicit drugs and more people think it is okay to use it regularly than the other illicit drugs like heroin or cocaine. This belief is associated with a range of characteristics. Those aged in their early twenties are the group most likely to say it is okay, as are males, those who are either at university or have been to university, non married persons, those without children and the unemployed.

As has been shown elsewhere health beliefs are closely tied to behaviour patterns. Figure 6.3 shows that of those who think it is okay 55 per cent have tried marijuana as compared to 21 per cent who have never tried the drug. Of those who have tried 73 per cent who have used in the past 12 months think it is okay and of those who have used in the past 12 months 36 per cent who use weekly or more often think it is okay and 66 per cent of those who use monthly

Figure 6.3: Health beliefs and marijuana use

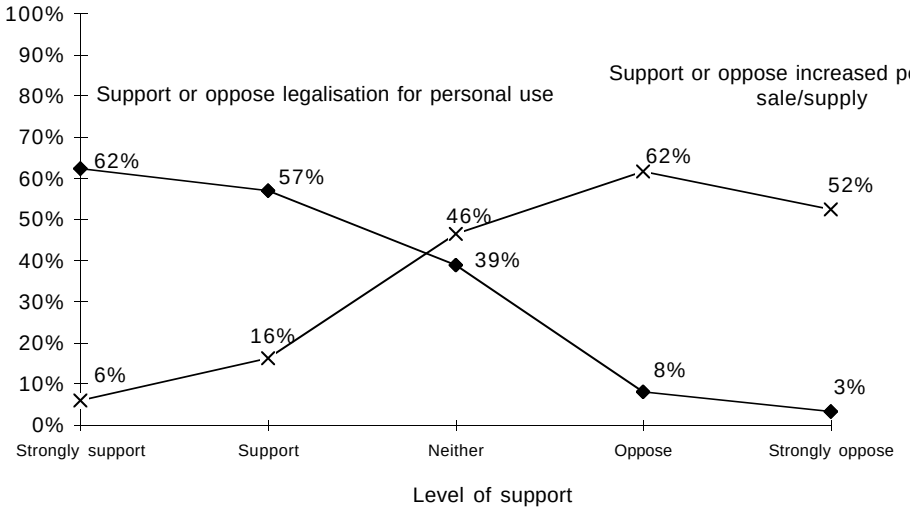


Source: NDS 1991, 993, 1995 pooled data

think it is okay. Thus those who have ever tried marijuana are more likely to think it is okay to use on a regular basis and of users those who have used recently and frequently are more likely to think that regular use is not a problem.

In this final part we examine the relationship between whether people think it is okay to use marijuana and their attitudes towards various regulatory options for dealing with the drug. The data in Figure 6.4 indicate that those who favour legalisation of marijuana for personal use and oppose increased penalties for sale and supply are more likely to think regular use is okay. Of those who strongly support legalisation for personal use of marijuana 62 per cent think that regular use is okay compared to only three per cent who strongly oppose legalisation. The same strong relationship holds for levels of support for increased penalties for sale and supply of marijuana. Those who think marijuana use is okay are also more likely to favour spending money on an educational strategy rather than a law enforcement strategy. Thus those who think regular use is okay would spend on average $58.79 on education and $19.34 on law enforcement while those who think it is not okay would spend $44.38 on education and $32.98 on law enforcement.

Figure 6.4: Per cent who think regular use is okay by views on regulating marijuana



Source: NDS 1993, 1995 pooled data

Conclusion

In the past decade there has been a slight shift in the drugs which people identify as constituting ‘the drug problem’. Heroin has declined in significance, although marijuana remains the first choice for about one in four of the population. There has also been a slight shift in preferred policy options. While education still remains the first choice, there is increased support for law enforcement as a

strategy to deal with heroin/cocaine, alcohol, tobacco and marijuana. However, the smallest increase in support for law enforcement is in regard to marijuana.

Responses to questions about legalisation are affected by the changes in question wording, the context in which the question is asked and whether or not an intermediate category is used. There is some popular support for legalising marijuana but this extends to personal use only; any suggestion of weakening the criminal sanctions that exist for the sale or supply of the drug produces large majorities who favour stronger penalties. Reformers tend to be weaker in their opinions than supporters of prohibition.

Support for reform seems to be coming from those who were in their 20s and 30s during the 1980s. Attitudes toward legalisation are affected by the age of the respondents, whether or not they have tried the drug and whether or not they have children. The overall level of support does not vary enormously between the states although South Australians are slightly more likely to be in favour. There is some ambiguity over the legal status of growing marijuana although no more than seven per cent believed it was legal to engage in this activity in those states where it is illegal.

Health beliefs and behaviour are related; those who use marijuana are more likely to believe that it is okay to use marijuana on a regular basis. Those who think regular use of marijuana is okay are more likely to support legalising marijuana and oppose increased penalties for the sale/supply of marijuana.

7: Conclusion

The analyses presented in the previous chapters suggest that during the past decade attempts at prohibition and cessation of marijuana use have failed. Not only is marijuana widely available, but it is widely used and many people would use it if offered to them. In fact the data suggests that over the decade there may have been a slight increase in the proportions who have tried marijuana and that this trend is more apparent amongst young people. The age at when people first try marijuana is not confined to pre-adolescence, adolescence or young adulthood. This suggests that drug education needs to be directed at four groups—pre adolescence, adolescents, young adults and mature adults. As a consequence education needs to be carefully targeted and be appropriate for the audience to which it is directed. In determining priorities the data shows that those who have used marijuana in the past 12 months are more likely to have experimented at a younger age than those who are experimental or recreational users. This suggests that delaying the onset of use could reduce the frequency with which people use marijuana.

The measures of consumption of marijuana need to be developed further if we are to properly evaluate consumption patterns. At present there is no question that asks the number of times the person has used—such a question is included in the Australian and US school-based surveys and also in the US national survey. The US survey asks five detailed questions in order to arrive at a consumption measure—'about how many times in your life have you used marijuana or hash?'; 'when was the most recent time that you used marijuana or hash?'; 'on about how may different days did you use marijuana or hash during the past 30 days?'; on the days that you used marijuana, about how much did you smoke each day, on the average, during the past 30 days?'; 'what is the total amount of marijuana that you used, in all, during the past 30 days?'. As these detailed questions are not asked it is difficult to determine the difference between the types of drug users identified by the recent Victorian report as 'situational', 'intensive' or 'compulsive'. We also have no indicators of whether an individual has tried to cut down on their consumption, whether they have thought of treatment or whether they have ever been arrested by the police for using marijuana.

The generational analysis indicates that young males may have increased their use of marijuana over the past seven years while all other groups have declined. Given that young people report that they think the regular use of marijuana is okay and that a minority use marijuana in vehicles and rate the risk of having a car accident as low these are obviously areas of concern. The questions on risk that have been asked in the school-based surveys should be included in the NDS survey. Comparable wording between these surveys and the US will enable international comparisons to be made.

Public opinion over the sale and supply of marijuana is fairly clear. The general public support increased penalties however opinion is more mixed over the issue

of personal consumption. A minority of adults favour reform but this increases substantially when we examine younger people. Attitudes are related to use (whether one causes the other we cannot determine) however as use is increasing and as younger people age it seems reasonable to conclude that there will be increasing support for reform. When asked about spending priorities for dealing with marijuana only a minority would spend large sums of money on law enforcement, and similarly they would not impose detention sentences on those caught for personal use.

Jurisdictions present an important opportunity to study changes in popular opinions towards marijuana. Assessing changes in popular opinions in jurisdictions where marijuana has been decriminalised will be crucial in evaluating the effectiveness of these changes, as well as the policy options available to the other states. However, it also presents methodological difficulties. The current question in the 1995 NDS survey (question E1)—whether the respondent thought possession of marijuana was legal or illegal in their jurisdiction—is ambiguous, as we demonstrated in Chapter 6. Respondents with some knowledge of the legal status of marijuana may think that the drug is legal if they live in the ACT or South Australia, when in fact the drug remains illegal but possession for personal use is no longer a criminal offence. The more knowledgeable (as well as the uninformed) will correctly answer that it is illegal. The problem is to distinguish between possession as a criminal offence and possession as a civil offence. The survey question needs to be revised to permit three options rather than the simple legal/illegal dichotomy:

- legal
- illegal, a criminal offence
- illegal, not a criminal offence
- do not know.

With the emphasis on public policy towards marijuana moving away from law enforcement and towards education and awareness of the health consequences, it is important to initiate data collection on popular health beliefs about the drug. This could take several forms. First, a discrete survey question could be asked about the detrimental health consequences arising from marijuana, perhaps coded on a one to five scale. Second, another discrete question could be asked about particular types of harm, such as mouth cancer, memory loss, and so on. This would only be feasible if a health awareness campaign was planned or had been initiated (in which case gaining benchmark data on such popular beliefs would be crucial). Third, the harm arising from marijuana use could be evaluated relative to other drugs, such as tobacco, heroin and cocaine.

Comparatively marijuana patterns of use are relatively similar to the US and the Netherlands. The profile of users is also very similar and lends support to the view that cultural factors and general norms and values in a society are more important than legal sanctions in determining whether or not people use drugs. A difference is noted with the British Crime Survey with rates of marijuana use being much lower than Australia, the Netherlands or the US. The result is surprising and more regional-based surveys in the UK suggest that the figures could be an under estimation of the extent of marijuana use.

State analyses of consumption patterns indicate little difference between the states. However the sample size in the less populous states is small particularly when we focus on use in the recent past. The different laws which govern the use and sale of marijuana do not appear to have resulted in substantially different outcomes if we view those outcomes solely in terms of consumption patterns. The recent changes to the law in South Australia and the ACT have, as yet, not resulted in a substantial increase in the proportions who have tried or use marijuana regularly in these jurisdictions. However, behavioural changes often take some time to appear. The current 'adult' generation have grown up in a period of prohibition, while it is 'young' adolescents who are entering the 'drug' market at a time of partial reform. If change in consumption is to occur it is probably amongst this group and the patterns of marijuana use will not be clear for probably another ten years.

Generally speaking the availability of other forms of data on marijuana use is poor. There is a clear need for a study of young people that follows them over the next ten years to determine their drug use patterns as well as the factors that contribute and deter them from using. This will be particularly important if changes are enacted to the law in regard to the personal consumption of marijuana. There also needs to be more work on the study of deterrence and whether or not young people are aware of and respond to these deterrents. Given the limited resources for research such a major study should be a collaborative venture with each wave of collection being made available for secondary analysis via the Social Science Data Archive.

There is a range of different environments and groups that we have either no data on or limited data. Some of these areas have been targeted by one-off projects but there needs to be further focused work in these areas:

- ethnic minority groups;
- workplace use;
- long-term heavy marijuana users;
- hospital admissions data;
- driving and marijuana use;
- effectiveness of workplace drug testing;
- compilation and publication of law enforcement data on arrests and sentences;
- regular monitoring and publication of prices and quality of marijuana across different jurisdictions;
- more detailed work on treatment and rehabilitation centres;
- the unemployed;
- the prisoner population; and
- corruption and money laundering.

Appendix A: Data and methods

This report has used a variety of data sources but draws heavily on the National Household Surveys that have been conducted by the Australian Commonwealth Department of Health and Family Services since 1985. The various problems associated with the previous National Household Surveys have been dealt with elsewhere (see Makkai, 1993; Makkai 1994) as have descriptions of the data collections. In this appendix only the most recent collection in 1995 is discussed in any detail. For further information readers are referred to *National Drug Strategy Household Survey: Survey Report 1995* (Commonwealth Department of Health and Family Services, 1996b).

The 1995 collection is the fifth in the series of household surveys which have sought to monitor and evaluate issues relevant to the National Drug Strategy. The National Drug Strategy formerly the National Campaign Against Drug Abuse is a co-operative venture between all states and territories and the federal government along with the non-government sector 'to minimise the harmful effects of drugs and drug use in Australian society' (Commonwealth Department of Health and Family Services, 1996b:7).

However there are some differences between the various surveys which should be highlighted here. Over the years the sampling frame has been changed. Appendix A: Table 1 indicates what these major changes have been. The first three surveys were not truly random in that they were restricted to areas with 5,000 or more inhabitants. The most recent surveys in 1993 and 1995 were both national surveys. In the various years over samples of 14 to 19 year olds and the smaller states were obtained. As a result of these variations in the methodology the results reported in this report have been weighted where the analysis focuses on the country as a whole. In each survey, the weighted number of respondents has been adjusted to the true number of respondents. In the chapter on state variations the original weighting scheme was retained but the states were reweighted to their original sample size. This is particularly important for the small states which were on a number of occasions oversampled. The chapter on adolescents uses the unweighted data.

Low response rates for the first NDS survey in 1985 have been consistently improved upon over time. However, the calculation of response rates is not straight forward (see Makkai, 1994: 70). Of the total people contacted in 1995, 57 per cent were interviewed while 30 per cent refused. Of the remaining 13 per cent, five per cent of selected respondents were not available, two per cent were busy, three per cent had 'no English' and three per cent were in an 'other' category which included vacant dwellings and respondent incapable of completing the interview.

Appendix A:

Table 1: Major sampling variations between the National Household Surveys, 1985–1995

	1985	1988	1991	1993	1995
Sample	**Restricted to areas with 5,000 or more inhabitants**			**National**	
Oversample: 14–19 year olds	yes	yes	yes	no	no
Oversample: small states	yes	no	yes	yes	yes
Total sample size	2,791	2,257	2,850	3,500	3,850
Weighted sample size	2,791	2,255	2,853	3,500	3,849

Experience with marijuana is a relatively common phenomenon as is shown in Chapter 1. However, regular use of the drug is much less common. For this reason some of the analyses pool the cross-sectional data in order to increase the sample size. When this is done appropriate weights for each year are applied. By increasing the sample size we are increasing 'the precision of the statistical analysis' (Micklewright, 1994: 80). In so doing we are assuming that the true parameters of the model being estimated do not change over time. This type of analysis is fraught with difficulties. Micklewright (1994) identifies the two major headaches—questions that do not occur regularly and questions that occur regularly but the possible responses change. An example of the former in the National Household surveys is 'Which of these drugs do you think directly or indirectly causes the most deaths in Australia? This question was asked in 1993 and 1995 but not in 1985, 1988 or 1991.

An example of the latter is the question asking respondents for their age. It was asked in consistent fashion in 1985, 1988 and 1991. In 1993 the collapsed coding frame was changed. In 1995 age was finally asked in years so that comparability can always be obtained. The latter example is common in the surveys. For example, each survey has always asked the question 'when people talk about "a drug problem" which drugs do you think of?'. The possible response categories have varied across the years as is shown in Appendix A: Table 2. Two important changes took place over time. One was the addition of new discrete items in 1988 and 1993. This change in itself is not too problematic if the analysis is not focused on these new items and the new items are not responses to which lots of people respond. They can be collapsed into the other category for the purposes of comparing responses to the question over time. For example if a person is interested in whether or not people indicated tobacco it is largely irrelevant what other category they choose if it is not tobacco.

A more serious problem occurred in 1993. The addition of the two categories for hallucinogens is again not too problematic as they can be collapsed for the purposes of comparing across time. The addition of the three other categories is disastrous for any comparisons across time. All three categories are not discrete. For example, the category 'hard drugs' could now capture any person who in previous years may have indicated a particular hard drug. As a consequence the distribution for this question now looks radically different from the distribution for the other years which is virtually stable. A natural response would be that

this category is a 'truer' reflection of how a person feels. In reality, the previous surveys always recorded all the drugs the person mentioned so that a summary of 'hard drugs' could be calculated. With the current coding it is impossible to break down hard drugs into the particular drugs a person may have indicated.

This particular problem plagues the National Household Surveys. Issues such as these detract from the value added potential of the repeated cross-sectional design. In contrast the US National Household Surveys have been much more rigorous in ensuring that this problem does not arise.

There is then a trade-off between large samples but few questions. This is more problematic when the socio-demographic questions are not asked consistently across years or the possible responses are changed. By pooling the five surveys the overall sample size increases to 15,248 respondents.

Appendix A:

Table 2: Response categories for the question 'when people talk about "a drug problem" which drugs do you think of?'

1985	1988	1991	1993	1995
Marijuana/hash	✓	✓	✓	✓
Heroin	✓	✓	✓	✓
Barbiturates	✓	✓	✓	✓
Tobacco/Cigarettes	✓	✓	✓	✓
Alcohol	✓	✓	✓	✓
Tranquillisers	✓	✓	✓	✓
Inhalants	✓	✓	✓	✓
Amphetamines	✓	✓	✓	✓
Cocaine	✓	✓	✓	✓
Hallucinogens	✓	✓	✓	✗
Sugar	✓	✓	✗	✗
Caffeine	✓	✓	✓	✓
Salt	✓	✓	✗	✗
Other	✓	✓	✓	✓
None	✓	✓	✓	✓
	Ecstasy	✓	✓	✓
	Painkillers	✓	✓	✓
			Steroids	✓
				Prescribed drugs in general
				Naturally occurring hallucinogens
				LSD/Synthetic hallucinogens
				Needles/injecting drugs
				Narcotics, Hard drugs in general

Data collections

Many of the interesting questions about what factors are associated with changing patterns of drug use cannot always be answered by a cross-sectional survey. In cross-sectional surveys we can assume that some characteristics, such as the sex of the respondent, are causally prior to drug taking Often, however, our questions do not have such a clear time dimension. If we consider the question of unemployment it is impossible to determine which is prior to the other without detailed life histories of both employment and drug use. A panel design is required. This is where the same individuals are followed over a considerable period of time. Such surveys are rare, requiring a long-term commitment of not just resources and money but a personal commitment from the individuals involved in the research enterprise. Three examples of panel surveys in Australia are the Australian Longitudinal Study (started in 1984), the Professions in Australia Survey (Davies and Makkai, 1995a, 1995b; started in 1965) and the Survey of the Military Profession (McAllister and Smith, 1989; started in 1985).

However the cross-sectional survey could include a variety of questions about the reasons people report why they start using, why they continue and why they stop. Issues such as whether drug use co-exists with other forms of self-reported offending behaviour could also be addressed. Factors such peer and family use are also important. The list of possible questions is endless and choices have to be made about what are priority areas for the NDS survey. The US survey concentrates on obtaining detailed measures of drug use (more detailed than the NDS survey), basic socio-economic characteristics (more detailed than the NDS survey), and some indicators of health outcomes (more detailed than the NDS survey) and self-reported offending (not asked at all in the NDS surveys). To address more specific hypotheses about drug use other large scale surveys are funded. These are a mixture of panel surveys with long-term funding commitments, others are cross-sectional with short-term funding commitments.

In addition to this the US National Institute of Justice in collaboration with the ICPSRC (equivalent in Australia is the Social Science Data Archive) obtain, document and release a wide range of data. NIJ has a web site through which copies of reports and data are often freely available. Examples of the sorts of data are:

- Homicides in Chicago, 1965–1994 (contains all homicides over this period plus a range of information on the victim, offender and the offence)
- Domestic Terrorism: Assessment of State and Local Preparedness in the United States, 1992 (data from 39 law enforcement agencies and 39 emergency organisations and 148 local law enforcement agencies on levels of preparedness)
- Use of Force By and Against Police in Phoenix, Arizona, June 1994 (data from a police survey and brief screening interview of both officers and suspects)
- Gang Involvement in “Rock” Cocaine Trafficking in Los Angeles, 1984–1985

- Patterns of Drug Use and Their Relation to Improving Prediction Patterns of Delinquency and Crime in Racine, Wisconsin, 1961–1988
- Police Documentation of Drunk Driving Arrests, 1984–1987: Los Angeles, Denver and Boston
- Variations in Criminal Patterns Among Narcotic Addicts in Baltimore and new York City, 1983–1984
- Correlates of Crime, A Study of 52 Nations, 1960–1984
- Uniform Crime Reporting Program (US): County-level Arrest and Offenses Data, 1977–1983
- United Nations World Crime Surveys: First Survey 1970–1975 and Second Survey 1975–1980
- Deinstitutionalization of Status Offenders: A Study of Intervention Practices for Youth in Seven Cities in the United States, 1987–1991

There is a clear need for a similar initiative in Australia whose mandate would be to bring together data collected throughout the states and territories in one central clearinghouse. A possibility is a collaborative venture with the Australian Institute of Criminology and the Social Science Data Archive. This data would include survey material, ethnographic work, criminal justice statistics including police and court statistics, and all data collections funded by the National Drug Strategy.[26]

Describing the sample

The purpose of this section is to provide a socio-economic profile of the sample across time for the NDS surveys. Appendix A: Table 3 provides information on gender, age, marital status, employment status, occupational status, education, and ethnic background. The data tend to show that there are no major differences in the socio-economic profile of the samples from each of the years. As each sample on its own is relatively small especially when focusing on minority tastes and preferences such as regular use of marijuana we can group the years providing a pooled cross-section weighted data set of 15,248 respondents.

However, there are some differences that should be noted. In terms of education the 1995 survey asks more detailed questions which provide a more complete picture of years spent in education as well as qualifications obtained. For this analysis the data have been recoded so that it is as comparable as possible with the earlier surveys. As a result we are unable to distinguish between those who completed only three or four years of high school in 1995. Those who are still in high school are excluded from the measure. Overall the data are fairly consistent with an increasing proportion of the sample reporting that they have completed either trade/technical or university education over the decade. This is consistent with retention figures to higher education.

26 In the US all NSF data collections must be deposited in the archives within two years of the completion of the data collection. Researchers who fail to abide by this condition do not receive further funding.

Employment status was not asked in 1985 or 1988 hence there is no data available on these measures. Work status is derived from a question that was consistently asked from 1991 onwards. In 1985 and 1988 two questions were used to form this measure. This could account for some difference in the distributions, notably the higher percentage of respondents in 'education' in 1985 and 1988.

A number of coding decisions were made in regard to occupational status as the question had been coded in different ways in different years. The primary difference was that in 1991, 1993 and 1995 the standard ABS ASCO codes were used. In 1985 and 1988 the respondents were asked to indicate what category they fell into. The categories unfortunately confuse important distinctions such as ownership of capital with occupational activity. In addition the 1985 and 1988 questions asked respondents about current activity and included a category for domestic duties while in later years the current or previous occupation was asked for. To ensure comparability of measures across time those who were not currently working for pay have been excluded from the occupational status measure. In addition 'leaps of faith' were made in reclassifying the 1985 and 1988 data so that it conformed to the data for the later years. Probably the most important aspect of this coding is that it biases the occupational status of women who are currently not in the labour force as well as the unemployed.

Another problematic area was ethnicity. In this report birthplace has been used as the measure of ethnicity although there are clearly other factors that impinge on the cultural definition of ethnicity such as race and religion. Because of the small sample to begin with it was necessary to collapse birthplace into four categories—Australian born, English speaking non-Australian born, European, and other Aboriginal and Torres Strait Islanders are included within the Australian born category. Because they represent approximately 1.8 per cent of the total population sample surveys of this size will never pick up adequate samples without specific interventions (ie over sampling). In 1985 the survey did not distinguish this group as a separate category while in 1988 and 1991 five and four people respectively were so classified. In 1993 this increased to 49 persons (1.4 per cent). This change in the distribution is a reflection of the survey methodology. As explained above in 1988 and 1991 the survey was restricted to communities of 5,000 or more people whereas the 1993 survey was national.

To obtain some measure of family structure the sample was grouped into 19 categories to determine whether the presence or absence of children in particular types of households was associated with marijuana use. As indicated in the main body of the report the question wording for children changed across surveys so we have two measures—presence of dependent children aged under 25 years in the house and the presence of dependent children aged 13 years or younger in the house. The former measure groups the 1988, 1991 and 1995 data while the latter measure groups the 1993 and 1995 data. Appendix A: Table 4 shows the distributions for the two measures.

Appendix A:

Table 3: Socio-economic profile of the samples, 1985–1995

	1985	1988	1991	1993	1995
Gender					
Female	51	50	51	51	51
Male	49	50	49	50	49
(n)	(2791)	(2255)	(2853)	(3500)	(3849)
Age groups					
14–19	13	11	15	11	12
20–24	10	9	7	10	8
25–29	11	11	11	10	9
30–34	11	12	10	11	11
35–39	9	11	9	10	10
40+	45	48	48	49	50
(n)	(2785)	(2255)	(2853)	(3500)	(3849)
Marital status[a]					
Never married	29	25	27	26	26
Now married	56	57	56	52	63
Divorced/separated	5	8	7	8	7
Widowed	7	8	5	8	5
Living together	2	3	4	5	
(n)	(2791)	(2252)	(2853)	(3493)	(3841)
Work status					
Working full time	37	37	39	35	38
Working part time	12	10	11	12	13
Unemployed	5	3	5	5	5
Retired	14	13	16	17	17
In education	14	15	12	11	12
Keeping house	19	21	18	19	15
(n)	(2758)	(1862)	(2482)	(3500)	(3838)
Employment status					
Self-employed	16	16	18		
Private company	57	57	60		
Works for government	28	29	23		
(n)	(2625)	(2971)	(3515)		

Table 3: Socio-economic profile of the samples, 1985–1995 (cont)

	1985	1988	1991	1993	1995
Occupational status					
Professional/managerial	27	31	29	30	29
Clerical/sales	28	28	24	22	23
Skilled/technical	16	15	22	23	20
Semi-skilled	10	13	14	14	13
Unskilled/farm work	19	13	11	11	14
(n)	(1386)	(1110)	(1410)	(1642)	(1941)
Industrial location					
Primary industry			3	4	
Manufacturing			13	17	
Wholesale			3	5	
Retail			12	14	
Utilities			2	1	
Construction/building			7	6	
Transport/storage			8	5	
Communications			2	1	
Finance/real estate			9	11	
Public administration/defence			7	6	
Community service			19	18	
Leisure and personal services			15	11	
(n)			(2591)	(3188)	
Educational qualifications					
Less than 2 years secondary	18	18	15	15	19
Completed 3rd year secondary	16	13	13	13	na
Completed 4th year secondary	13	14	15	12	24
Completed 5/6th year secondary	22	20	19	17	18
Trade/technical qualification	18	21	24	25	22
University	13	15	15	17	17
(n)	(2365)	(1940)	(2553)	(3176)	(3602)
Ethnicity					
Australian born	76	77	78	77	74
English-speaking	12	11	11	10	12
European	7	8	7	6	5
Other	5	4	4	7	10
(n)	(2411)	(1672)	(2111)	(3100)	(3479)

a. No distinction was made between married and living together
Source: NDS 1985, 1988, 1991, 1993 1995.

*Table 4: Distribution of family structure by age, marital status and presence/absence of children**

	Dependent children	
	Aged under 14 years	**Aged under 25 years**
Have one or more dependent children		
20–39, child, single	1.6	1.2
40+, child, single	.0	.2
20–39, child, married	19.3	20.3
40+, child, married	8.9	16.1
20–39, child, divorced/separated	1.5	1.9
40+, child, divorced/separated	.9	1.9
Have no dependent children		
20–39, no child, single	12.4	11.8
40+, no child, single	2.6	2.3
20–39, no child, married	7.5	7.3
40+, no child, married	32.2	25.9
20–39, no child, divorced/separated	1.3	1.1
40+, no child, divorced/separated	4.7	3.2
Other	7.1	6.7
(n)	(6497)	(7822)

* respondents aged 19 years or younger are excluded.

Source: NDS 1993, 1995 pooled data file; 1988, 1991, 1995 pooled data file

Where feasible the tables provide the numbers of respondents on which the estimates are based; these numbers may vary slightly within a table due to missing values for specific variables. Percentages are normally rounded to the nearest whole number, with .5 being rounded up. When an estimate falls below 0.5, we have given the figure to one decimal place. As a general rule, the tables exclude estimates based on less than ten cases, since this is insufficient to provide a reliable estimate; in these cases an asterisk is shown instead.

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