SA Party Drug Trends 2001

Findings of the Illicit Drug Reporting System (IDRS) Party Drugs Module

Marie Longo, Rachel Humeniuk, Paul Christie, Libby Topp and Robert Ali

National Drug and Alcohol Research Centre
University of New South Wales

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LIST OF ABBREVIATIONS

ABCI	Australian Bureau of Criminal Intelligence
ADIS	Alcohol and Drug Information Service
AFP	Australian Federal Police
DASC	Drug and Alcohol Services Council
GHB (GBH)	Gamma-hydroxy-butyrate (‘grievous bodily harm’, ‘fantasy’)
IDRS	Illicit Drug Reporting System
IDU	Injecting drug user(s)
KI	Key informant(s)
LSD	Lysergic acid diethylamide
MDA	3,4-methylenedioxyamphetamine
MDMA	3,4-methylenedioxymethamphetamine
NDARC	National Drug and Alcohol Research Centre University of New South Wales
NDS	National Drug Strategy
NSP	Needle and syringe program
SAPOL	South Australian Police
SD	Standard Deviation

EXECUTIVE SUMMARY

In 2000 the Illicit Drug Reporting System (IDRS) was expanded from previous years to examine the feasibility of monitoring trends in the market for party drugs using the extant IDRS methodology. This study successfully accessed a representative sample of party drug users in South Australia, who were able to provide information about the price, purity and availability of ecstasy and other party drugs, along with self-reported patterns of drug use and associated harms. Key informants who, through the nature of their work or through personal and social contacts, have regular contact with ecstasy users, were also identified. They were able to provide information about these users that was used to validate and contextualise the users' reports. Extant indicator sources relating to ecstasy were identified and accessed, including seizure price and purity data, telephone alcohol and drug information service data, and National Drug Strategy Household Survey data. Although there are not as many relevant indicator data sources for ecstasy as there are for drugs such as heroin and cannabis, the sources that were identified were successfully triangulated against the reports of users and key informants to provide a comprehensive snapshot of the market for party drugs. The 2000 study demonstrated that the IDRS can successfully monitor illicit drug markets other than those which it has previously been used to monitor, namely heroin, amphetamines, cocaine and cannabis, and it was thus decided to replicate this study in 2001.

The results of the 2001 party drugs module of the IDRS indicate that party drug users, a population defined in this study by regular use of tablets sold as 'ecstasy', tend to be young, well-educated, heterosexual, from English speaking backgrounds and either employed or currently studying. Subjects did not report contact with police or other social authorities and did not come from socially deprived backgrounds, and few engaged in crimes other than drug dealing. None were currently in treatment for a drug-related problem and none had a previous criminal conviction.

Subjects typically began to use ecstasy in their late teens, with a mean age of initiation of 19.2 years. The frequency of use varied from once per month to two days per week, with a median of 13 days of use in the previous six months (once per fortnight). One-fifth of the sample reported using ecstasy at least once per week. Just under half (49%) had 'binged' on ecstasy in the previous six months, defined as continuous use for more than 48 hours. Nearly 59% of the sample had used more than three tablets in a single use episode in the previous six months, and 61% reported that they 'typically' used more than one tablet. Consistent with other reports, ecstasy was primarily used orally, but 11% had injected ecstasy.

This sample could be described as extensive poly-drug users, 46% of who nominated ecstasy as their favourite drug. The average number of drugs ever tried by subjects (including ecstasy) was 9.4, and an average of 7.6 drugs had been used in the previous six months. The most commonly used drugs in the previous six months were alcohol, cannabis, methamphetamine and tobacco. Furthermore, just over half had used nitrous oxide or LSD. Substantial percentages of the sample regularly used drugs such as tobacco, alcohol, cannabis, methamphetamine and nitrous oxide concurrently with ecstasy, and drugs such as cannabis, tobacco, alcohol, methamphetamine, nitrous oxide, and benzodiazepines to ease the 'come down' or recovery period following acute ecstasy intoxication. The concurrent use of a wide range of substances with ecstasy is cause for concern with regard to unpredictable health risks. Further research on this issue is warranted, along with education of users on the adverse effects of poly-drug use.

Subjects reported an average of 10.8 recent physical and 5.7 recent psychological side-effects which they perceived as due, at least in part, to their use of ecstasy. The physical side-effects that

were attributed *solely* to ecstasy use by more than 70% of those who reported them included blurred vision, vomiting, tremors or shakes, numbness or tingling, hot/cold flushes, inability to urinate, and loss of appetite. Moreover, side-effects such as dizziness, loss of energy, trouble sleeping, headaches, heart palpitations, stomach pains and teeth problems as a result of grinding and jaw clenching were attributed solely to ecstasy by 50-70% of subjects who reported them. All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and for most symptoms over 70% of subjects attributed these effects to ecstasy. The side-effects attributed to ecstasy by at least three-quarters of subjects included depression, confusion, irritability, memory lapses, visual and auditory hallucinations, flashbacks and violent behaviour. These side-effects were consistent with those described in earlier reports of ecstasy users (eg. Cohen, 1995; Curran & Travill, 1997; Hayner & McKinney, 1986; van Laar & Spruit, 1997). Ecstasy-related employment, relationship and financial problems were also reported relatively frequently by the present sample, and although many of these were minor, some constituted significant disruptions, such as loss of employment, ending of relationships, and inability to pay for food or rent.

Nearly all subjects in this sample were able to comment on the price, purity and availability of ecstasy. The current standard price of a single tablet of ecstasy in Adelaide is $40, and subjects reported that the price has remained stable or decreased in the previous six months. Ecstasy is reported as very easy or easy to obtain, and is readily available from a number of sources, usually friends, acquaintances or dealers. It was agreed by both ecstasy users and key informants that virtually all ecstasy available in Adelaide in the six months preceding the interview came in tablet form. Many subjects in this sample were also able to comment on the price, purity and availability of other party drugs, including LSD, methamphetamine and MDA, and to a lesser degree, ketamine and GHB. The results indicated that these drugs are readily available in Adelaide, that the price of these drugs has remained fairly stable, and that the purity of these drugs ranges from medium to high.

Overall, the demographic characteristics of ecstasy users in Adelaide in 2001 were not significantly different from those reported in 2000. There were also similarities between the two samples in terms of their patterns of ecstasy use, as well as the number of drugs ever used and recently used. However, there were some differences. Although the percentage who reported using ecstasy weekly or more dropped from 34% in 2000 to 20% in 2001, the percentage who typically used more than one tablet when they did take ecstasy was higher in the 2001 sample (61% compared with 44%). The percentage of subjects who attributed the psychological side-effects they had experienced *solely* to their use of ecstasy was also much higher in the 2001 sample. All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and in most cases by over 70% of subjects. In contrast, in the 2000 sample all of the psychological side-effects were attributed solely to ecstasy use by less than half of subjects who reported them.

In conclusion, patterns of extensive poly-drug use and substantial rates of drug-related harm were reported by the sample of ecstasy users in the 2001 IDRS Party Drugs Module for South Australia, and these reports were confirmed and validated by the information obtained from key informants. The results of this study also indicate that there is a wide range of drugs on the market in Adelaide, which are reasonably pure and easy to obtain. These results highlight the importance of continued monitoring of such a dynamic market, as the injudicious use of ecstasy and other party drugs can lead to significant financial, social and health-related problems for users.

1.0 INTRODUCTION

The Illicit Drug Reporting System (IDRS) is an ongoing project funded by the Commonwealth Department of Health and Ageing that has been conducted on an annual basis in NSW since 1996, in SA since 1997, and in all states and territories of Australia since 1999. To date, the purpose of the IDRS has been to provide a coordinated approach to the monitoring of the use of illicit drugs, in particular amphetamines, cannabis, cocaine and heroin. It is intended to serve as a strategic early warning system, identifying emerging trends of local and national concern in various illicit drug markets. The study is designed to be sensitive to such trends, providing data in a timely fashion, rather than to describe phenomena in detail, such that it will provide direction for more detailed data collection on specific issues.

The IDRS data collection consists of three components: interviews with illicit drug users, interviews with professionals who work with illicit drug users, and indicator or secondary data sources, such as national drug use household surveys, customs data, arrest data and hospital accident and emergency data. These three data sources are triangulated against each other in order to minimise the biases and weaknesses inherent in each one, which ensures that only valid emerging trends are documented.

In June 2000, the National Drug Law Enforcement Research Fund (NDLERF), administered by the Australasian Centre for Policing Research (ACPR), funded a two year, two state trial in New South Wales and Queensland of the feasibility of monitoring emerging trends in the markets for ecstasy and other party drugs using the extant IDRS methodology. In addition, the Drug and Alcohol Services Council (DASC) of South Australia agreed to provide funding for two years to allow the trial to proceed in this state. For the purposes of the IDRS, the term 'party drug' is considered to include any drug that is routinely used in the context of entertainment venues such as nightclubs or dance parties, but is not already monitored by the main IDRS. This includes drugs such as ecstasy, LSD, ketamine, MDA (3,4-methylenedioxyamphetamine) and gamma-hydroxy-butyrate (GHB or 'GBH' for 'grievous bodily harm').

It was decided that consistency should be maintained between the main IDRS and the party drugs component wherever possible. Therefore, similar to the main IDRS, the focus of the party drugs component was on the capital cities of the participating states, as new trends in illicit drug markets are more likely to emerge in large cities rather than regional centres or rural areas.

This report describes trends in ecstasy and other party drug use found in Adelaide in 2001. These trends have been extrapolated from three data sources:

1. Face-to-face interviews with 70 current ecstasy users recruited in Adelaide;

2. Face-to-face or telephone interviews with 12 key informants who, through the nature of their work, or their personal and social networks, have regular contact with ecstasy users in Adelaide; and

3. Indicator data sources such as prevalence data drawn from the National Drug Strategy (NDS) Household Surveys, and information from the Australian Bureau of Criminal Intelligence (ABCI) on the price and purity of ecstasy.

1.1 Study aims

The specific aims of the party drug module of the SA IDRS 2001 were:

1. To describe the characteristics of a sample of ecstasy users in Adelaide;

3. To examine the patterns of ecstasy and other drug use among a sample of current ecstasy users;

4. To document the current price, purity and availability of ecstasy and other party drugs in Adelaide;

5. To examine subjects' perceptions of the incidence and nature of ecstasy-related harm, including physical, psychological, financial, work, social and legal harms; and

6. To identify emerging trends in the party drug market which require further investigation.

As this is the second year that the party drugs component of the IDRS has been carried out in Adelaide, comparisons were also made with the results obtained in 2000 in order to identify any changes in the party drug market over the previous six to 12 months.

1.2 Redefining methamphetamine

It is important to note that a change has occurred in the 2001 survey with respect to the class of drugs known collectively as amphetamines. In the past, the IDRS has used this term to refer to both amphetamine and methamphetamine. Throughout the 1980s, the form of illicit amphetamine most available in Australia was amphetamine sulfate (Chesher, 1993). Following the legislative controls introduced in the early 1990s on the distribution of the main precursor chemicals (Wardlaw, 1993), illicit manufacturers were forced to rely on different recipes for 'cooking' amphetamine. Throughout the 1990s, the proportion of amphetamine-type substance seizures that were methamphetamine (rather than amphetamine) steadily increased until methamphetamine clearly dominated the market. In Australia today, the powder traditionally known as 'speed' is almost exclusively methamphetamine rather than amphetamine. The more potent forms of this family of drugs, known by terms such as ice, shabu, paste, wax, base and crystal meth, are also methamphetamine (Topp, 2001). In the IDRS, the distinction is drawn between the powder form (referred to in this report as 'powder methamphetamine') that has traditionally been available in Australia, and the more potent forms (referred to as 'non-powder methamphetamine', which includes all the forms mentioned above) that have in recent years become increasingly available and more widely used. The comparison data presented here with the results obtained in 2000 also include these changes.

2.0 METHODS

A triangulated approach was used for this study, using information obtained from three primary sources. The three sources were as follows:

- A survey of ecstasy users;
- A qualitative survey of key informants (KI) who work in the drug and alcohol area or a related field, and have regular contact with ecstasy users;
- Existing and current indicators relating to drugs, drug use and drug-related issues.

2.1 Survey of ecstasy users

2.1.1 Recruitment

A total of 70 ecstasy users were interviewed in June and July 2001 for the party drugs component of the IDRS. Subjects were recruited by placing advertisements on noticeboards in several key locations in and around Adelaide. These locations included universities (Adelaide University, Flinders University and the University of South Australia), and various establishments in the city centre (pubs, record shops, cafés and clothing shops specialising in club and street wear). Advertisements were also placed in two popular street magazines. In addition, some subjects were recruited using 'snowball' procedures (Biernacki & Waldorf, 1981). 'Snowballing' is a means of sampling 'hidden' populations which relies on peer referral, and is widely used to access illicit drug users both in Australian studies (e.g., Boys *et al.*, 1997; Ovendon & Loxley, 1996; Solowij *et al.*, 1992) and international studies (e.g., Dalgarno & Shewan, 1996; Forsyth, 1996; Peters *et al.*, 1997). Initial contact was established through the advertisements. Following interviews, subjects were asked if they would be willing to tell friends who they thought might be able to provide the desired information about the study.

2.1.2 Procedure

Subjects contacted the researchers by telephone and were screened for eligibility. To meet entry criteria, subjects had to be at least 16 years of age, they must have used ecstasy at least six times over the previous six months, and they must have been a resident of the Adelaide metropolitan region for at least 12 months. Given that ecstasy is undoubtedly the most widely used of the so-called party drugs, it was decided that regular ecstasy use should define the sentinel population of party drug users that the study sought to recruit. The market for ecstasy (tablets sold purporting to contain 3,4- methylenedioxymethamphetamine) in Australia has existed for more than a decade. In contrast, the other drugs used by this population have either declined substantially in popularity since the appearance of ecstasy in this country (e.g.LSD), fluctuate widely in availability (e.g. 3,4-methylenedixoyamphetamine [MDA]), or are relatively new in the market and are yet to be as widely used as ecstasy (e.g. ketamine and gamma-hydroxy-butyrate [GHB]).

Subjects were assured that all information they provided was strictly confidential and anonymous, and that the study would involve a face-to-face interview that would take between 30 and 60 minutes to complete. All subjects were volunteers who were reimbursed AUD$30 for their participation. Interviews took place in locations convenient to the person

being interviewed. All interviews were conducted by Marie Longo, who was trained prior to data collection on how to use the survey instrument. The nature and purpose of the study was explained to subjects before informed consent to participate was obtained.

The structured interview schedule was based on previous research conducted at the National Drug and Alcohol Research Centre (see Darke *et al.*, 1992, 1994). Sections on demographics, patterns of ecstasy use and use of other drugs, price, purity and availability of ecstasy and other drugs (e.g. heroin, methamphetamine, cocaine and cannabis), crime, risk-taking, health and general trends were included. Participants were also asked to consider if there had been any changes to the above parameters over the previous six to 12 months. Descriptive and inferential statistics were generated using SPSS for Windows, Version 10.1.0.

2.1.3 Measures

Subjects were administered a structured interview schedule based on a national study of ecstasy users conducted by NDARC in 1997 (Topp *et al.*, 1998; 1999), which itself incorporated items from a number of previous NDARC studies of ecstasy (Solowij *et al.*, 1992) and amphetamine (Darke *et al.*, 1994; Hando & Hall, 1993; Hando, Topp & Hall, 1997) users. The interview schedule focused primarily on the six to 12 months preceding the interview, and assessed sample characteristics; ecstasy and other drug use history, including frequency and quantity of use and routes of administration; physical and psychological side-effects of ecstasy; other ecstasy-related problems, including relationship, financial, legal and work problems; price, purity and availability of a number of different party drugs; and general trends within this market, such as new drug types, new drug users and police activity.

2.1.4 Data Analysis

For continuous, normally distributed variables, *t*-tests were employed and the means reported. Where continuous variables were skewed, medians were reported and the Mann-Whitney *U*-test, a non-parametric analogue of the *t*-test was employed (Siegel & Castellan, 1988). Categorical variables were analysed using χ^2 or Fisher's exact test. Gender and age differences were noted when significant. All analyses were conducted using SPSS for Windows, Version 10.1.0.

2.2 Survey of key informants

To maintain consistency with the main IDRS, the eligibility criterion for key informant (KI) participation in the party drug component was regular contact, in the course of employment, with a range of ecstasy users throughout the previous six months. This consisted of average weekly contact with at least 10 ecstasy users over the time period. Twelve key informants (KI) from various metropolitan regions of Adelaide reported on their experiences with ecstasy users in the six months preceding the interview. Key informants were recruited from previous IDRS surveys and from recommendations made by existing key informants and colleagues. Potential KI were contacted by telephone and assessed for suitability according to the criteria. Interviews were carried out in July and August 2001. Half of the interviews were carried out face-to-face, and the other half by telephone.

In total, 12 KI were interviewed (six females and six males). All KI had contact with ecstasy users through their professions, and five of them also through personal and social networks. Seven of the KI worked in the health sector. Three were community drug and alcohol workers, two were drug treatment workers who were telephone counsellors for ADIS, one was a health promotion and youth worker and one was a drug and alcohol nurse at the Royal Adelaide Hospital. Two were police officers, one working in the Drugs and Organised Crime Division and one working for Operation Mantle in the city. Operation Mantle is an initiative that involves the policing of illicit drugs at a street level. Two KI were 'Ravesafe' workers, providing information on ecstasy and promoting safe behaviour at raves. These people dealt specifically with ecstasy users. The final KI was a drug dealer and had regular and frequent contact with people in the party drug scene through the nature of his work, as well as on a personal and social level.

As was found in the 2000 party drugs report, the criteria for selecting KI were not always met, and it was difficult to find a substantial number who fit these specific criteria. In their work, 10 of the 12 KI, on average, saw more than 10 users per week. The remaining two saw less than 10 users per week. Six KI spent on average one day per week with users, although three of these said that the number of days varied considerably. The remaining six reported seeing users 2-5 days per week. However, five KI had regular contact with users on a personal and social basis outside of work, thus meeting the criteria in this way. These KI were either part of the 'clubbing' scene in Adelaide, or had friends who used party drugs regularly.

The information obtained from the KI was mostly presented in a qualitative fashion, by identifying the common themes and discussing them. Any major differences found between the KI reports were also reviewed. No personal information was collected on any of the ecstasy users that KI had been in contact with. All key informants stated that they were either moderately certain (*n*=5) or very certain (*n*=6) of the information they had provided.

3.0 RESULTS

3.1 Demographic characteristics of ecstasy users

3.1.1 Present sample

Table 1 presents the demographic characteristics of this sample of ecstasy users. Just over half of the sample were males (53%). The mean age was 22.2 years (SD 4.1; range 16-39), and there was no difference in mean age between males (22.7 years) and females (21.6 years). The majority (90%) nominated their sexual identity as heterosexual, although gay males (*n*=4; 6%), gay females (*n*=2; 3%) and bisexuals (*n*=1 male; 1%) were also represented. All but one subject spoke English as their main language at home. The subjects resided in a wide range of metropolitan regions in Adelaide, predominantly the central and eastern suburbs (43%) and the southern suburbs (41%). There were 13% who resided in the western suburbs, and only 3% in the northern suburbs.

The mean number of school years completed by the sample was 11.7 (SD 0.7; range 10-12). Just over 41% of subjects had completed courses after school, with 21% possessing a trade or technical qualification, and 20% having completed a university degree. A further 20% were

currently at university. One-quarter of the sample (24%) were currently employed full-time, and a smaller percentage (19%) was employed on a part-time or casual basis. Only 10% were presently unemployed and the majority (47%) were full-time students. There were no sex industry workers in this sample. None were currently in treatment for a drug problem, and none had a previous criminal conviction for which a custodial sentence was served.

3.1.2 Key informants

The KI descriptions of the ecstasy users with whom they had recent contact were broadly consistent with the characteristics of the present sample of ecstasy users. Seven KI reported that ecstasy use is evenly distributed between males and females. Four KI reported a higher prevalence of use among males (between 60% and 70%). All KI reported that the majority of ecstasy users are in their early-to-mid twenties, with an estimated age range of 15-50 years. This age range is somewhat broader than that reported by the KI in the previous year, which was between 18 and 36 years. The KI believed that ecstasy users are predominantly Caucasian, from middle-class, English-speaking backgrounds. The community drug and alcohol workers and the police officers reported very little contact with Asians or Aborigines who used ecstasy.

Generally, KI considered the ecstasy users with whom they had recent contact to be a well-educated group. They have at least a high school education, and many have tertiary or trade qualifications. They are predominantly full-time workers, or university students who also work part-time. Those who are employed tend to have professional or semi-professional occupations. Three KI reported that ecstasy use is associated with a higher socioeconomic status compared with other drug-user groups, and that although it is widespread across Adelaide, it is often found in the Central and Eastern suburbs.

In contrast, there was no agreement between the KI as to the sexual orientation of ecstasy users. Two KI did not know, three believed they were predominantly heterosexual, and the remaining seven did not believe there was any significant trend based on sexual identity. One KI said that ecstasy use is prevalent in the homosexual and bisexual community, but is also prevalent among heterosexuals.

All KI with experience in drug treatment agreed that ecstasy users do not tend to be in drug treatment programs, and those that are in such programs are poly-drug users who are experiencing problems with other drugs, such as heroin or amphetamines. There was also unanimous agreement that there is a low crime rate among ecstasy users, and that they are unlikely to have a previous prison history. Two KI mentioned that some ecstasy users may also sell the drug, but mainly to their friends and would not consider that they were "drug dealers". They may also have minor traffic offences, but no more so than the general population, and they do not commit violent crimes. One key informant described the ecstasy users as a "clean and clever group of people". The results reported for the 70 ecstasy users in this study were generally consistent with the KI reports.

Table 1: Demographic characteristics of the present sample

Variable	Total (*n*=70)
Mean age (in years)	22.2
% male	53
% English speaking background	99
% ATSI	0
% heterosexual	90
Mean number school years completed	11.7
% tertiary qualifications	41
% employed full-time	24
% full-time students	47
% unemployed	10
% in drug treatment	0
% with a previous conviction	0

3.1.3 Comparison with 2000 sample

Table 2 presents key demographic data for both the present sample of ecstasy users (*n*=70) and the 50 ecstasy users from the study carried out in 2000. Subjects in the present sample were, on average, only one year younger than subjects in the 2000 sample, and a slightly lower percentage was male. These differences were not statistically significant. However, the age range of subjects in the present study was slightly wider than in 2000: 16-39 years compared with 18-32 years. In both samples, most subjects were from English speaking backgrounds and identified as heterosexual.

Table 2: Comparison of demographic data between ecstasy users in 2001 and in 2000

Variable	Present sample (*n*=70)	2000 sample (*n*=50)
Mean age (years)	22.2	23.2
% male	53	54
% English speaking background	99	98
% ATSI	0	0
% heterosexual	90	86
Mean number school years completed	11.7	12.6
% tertiary qualifications	41	54
% employed full-time	24	44
% full-time students	47	12
% unemployed	10	6
% in drug treatment	0	0
% previous conviction	0	2

The two samples had similar levels of school education (11.7 versus 12.6 years). However, a much larger percentage of the present sample were currently full-time students (47% versus 12%), whereas in the 2000 sample the majority of subjects were employed on a full-time basis. The percentage of subjects in the present sample with tertiary or trade qualifications was lower than the previous year (41% versus 54%), but this is most likely because of the high percentage that were still studying full-time. There was no significant change in the percentage unemployed between the 2001 and 2000 samples (10% versus 6%), or in the percentage with a previous criminal conviction (0% versus 2%).

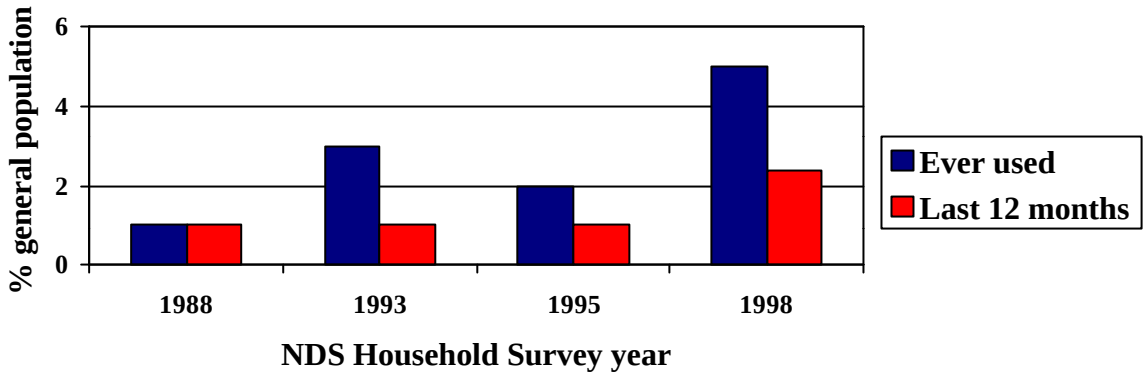
3.1.4 National Drug Strategy Household Surveys

Ecstasy was first included in the National Drug Strategy (NDS) Household Survey in 1988. Figure 1 shows that the lifetime prevalence of ecstasy use among the general population increased from 1988 to 1993, declined slightly in 1995, and increased to 4.8% in the latest survey (1998). In the 1998 survey, more than double the percentage of respondents reported ecstasy use in the prior twelve months (2.4%) compared with the previous three surveys, in which recent use had remained stable at about 1%.

South Australian data from the 1998 Survey showed lower rates than the national average. It was found that 2.8% of persons interviewed had a lifetime prevalence of ecstasy use, and 1% had used in the previous 12 months. Among the general population, ecstasy had greater lifetime and 12 month use than heroin and cocaine. Ecstasy use among schoolchildren was

greater than in the general population. The 1999 South Australian Schoolchildren's Survey reported that 3.1% of schoolchildren aged between 12 and 17 years had tried ecstasy, and 1% had used it in the week prior to the survey (Drug and Alcohol Services Council, 1999).

Figure 1: Prevalence of ecstasy use in Australia, 1988-1998



The prevalence of ecstasy use varies slightly according to gender, although differences are modest compared with other drugs. In the 1998 NDS Survey, 1.6% of females and 3.3% of males reported ecstasy use in the previous 12 months (Higgins, Cooper-Stanbury & Williams, 2000). This is consistent with data from previous surveys; for example, in 1995, males reported a higher lifetime (3% versus 2%) and annual (2% versus 1%) prevalence than females (Commonwealth Department of Health and Family Services, 1996). South Australian data from the 1998 Survey found the same pattern, with 1.5% of males reporting recent use of ecstasy compared with 0.5% of females.

In the 1998 Survey, both lifetime prevalence and recent ecstasy use were most common among those aged 20-29 years. Approximately 18% of males and 10% of females in this age bracket reported lifetime ecstasy use, and 12% of males and 5% of females reported having used ecstasy in the previous 12 months (Darke, Ross, Hando, Hall & Degenhardt, 2000). South Australian data also showed that ecstasy is most prevalent in the 20-29 year age group. Lifetime ecstasy use was reported by 10% of the sample in this age bracket, and recent use by 3.2%, percentages that were much higher than those in other age groups were.

The availability of ecstasy increased between the 1995 and 1998 surveys. In 1995, 3% of the sample reported recent exposure to ecstasy, compared with 5% in the 1998 sample (Darke *et al.*, 2000). Of particular concern is the high prevalence of exposure among young adults (14-29 years). In 1995, 8% of this age group reported exposure to ecstasy in the previous 12 months. In 1998 the percentage increased, with 10% of 14-19 year olds and 14% of 20-29 year olds reported having had the opportunity to use ecstasy.

3.1.5 Summary – Demographics, 2001 sample

- *Ecstasy use was evenly distributed among males and females*
- *Ecstasy users tended to be aged in their early-to-mid twenties*
- *Ecstasy users were from English speaking backgrounds, and the majority were heterosexual*
- *Ecstasy users were relatively well-educated, with the majority having completed high school and a substantial percentage having tertiary qualifications*
- *A high percentage of ecstasy users were either employed or studying*
- *Ecstasy users had no contact with the criminal justice system or drug treatment agencies*
- *Overall, the demographic characteristics of ecstasy users in Adelaide have not changed much since 2000. A much larger percentage of the present sample were currently full-time students, whereas in the 2000 sample the majority of subjects were employed on a full-time basis.*

3.2 Ecstasy use

3.2.1 Patterns of ecstasy use in the present sample

The mean age at which subjects in the present sample had first used ecstasy was 19.2 years (SD 3.5; range 14-34). All subjects had used ecstasy at least monthly at some time, starting regular use at a mean age of 20.2 years (SD 3.7; range 15-36). There were no significant gender differences in the age of initiation, although there was a trend for females to start using at a younger age (18.5 years for females and 20 years for males: t_{54}=1.9, p=0.064).

Subjects had used ecstasy on a median of 13 days in the previous six months (range 6-50 days). There were 46% of subjects who had used between monthly and fortnightly, 34% between fortnightly and weekly, and 20% had used ecstasy once per week or more. Ecstasy was nominated by 46% of the sample as their favourite or preferred drug. The next most preferred drug was cannabis, nominated by 19% of the sample, followed by non-powder methamphetamine (9%), cocaine (6%), powder methamphetamine (6%) and tobacco (4%). Smaller percentages of subjects nominated another drug as their preferred drug: alcohol, LSD and nitrous oxide (3% for each), and ketamine and GHB (1% for each).

Table 3: Patterns of ecstasy use in the present sample

Variable	Total (*n*=70)
Mean age first used ecstasy (years)	19.2
Median no. days used ecstasy previous six months	13
% ecstasy 'favourite' drug	45
% use ecstasy once per week or more	20
Median no. ecstasy tabs in 'typical' session	2
Median no. ecstasy tabs in 'heavy' session	3
% typically use >1 tablet	61
% binged on ecstasy (>48 hours)	49

The median number of ecstasy tablets taken in a 'typical' or 'average' use episode in the previous six months was 2 (range 0.5-15.0). The majority of subjects (61%) reported that they typically used more than one tablet, and 13% typically used three or more tablets in a session. In their 'heaviest' use episode in the previous six months, subjects used a median of 3 tablets (range 1-30) and 59% had taken three or more tablets in a single episode.

Just under half (49%) of the sample had binged on ecstasy in the previous six months, defined as using the drug on a continuous basis for more than 48 hours without sleep (Ovendon & Loxley, 1996). The mean length of the longest binge was 3.4 days (range 2-9 days). A large percentage (82%) of subjects who reported having binged on ecstasy in the previous six months had also binged on powder methamphetamine, non-powder forms of methamphetamine, or both. This is significantly higher than that reported in 2000, where 56% reported having binged on some form of methamphetamine (Fisher's exact test test $p<0.05$). A further 18% reported bingeing on nitrous oxide, and 15% on LSD.

Although a higher percentage of males had binged on ecstasy in the previous six months (60% versus 36%), this difference was not quite statistically significant ($\chi^2_1=2.9$, $p=0.09$). There was also no significant difference in age between bingers and non-bingers. The mean age of those who had binged was 22.1 years, compared with 22.3 years for those who had not binged. However, there were differences in drug use between the two groups. Those who had binged had used ecstasy on a significantly greater number of days in the previous six months (median 17.5 versus 10 days; $U=267$; $p<0.001$), and used significantly more ecstasy in both typical (median 2 versus 1.25 tablets; $U=395$; $p<0.01$) and heavy (median 4 versus 2.25 tablets; $U=348.5$; $p<0.01$) use episodes. Those who had binged on ecstasy in the previous six months also had a more extensive lifetime poly-drug use history than those who had not; they had used significantly more drugs overall (mean 10.7 versus 9.1; $t_{68}=2.2$; $p<0.05$) and in the previous six months (mean 8.8 versus 7.1; $t_{68}=2.6$; $p<0.05$). This differs from the results obtained in 2000 where there was no significant difference in the number of drugs used between bingers and non-bingers in the previous six months.

3.2.2 Routes of administration of ecstasy in the present sample

One of the selection criteria for inclusion in this study was that subjects had used ecstasy at least six times in the previous six months. The most common mode of administration was by swallowing the drug, with all subjects having done at least once in the six months prior to being interviewed. Nearly 56% of subjects had ever snorted ecstasy, and 49% had snorted in the previous six months. In contrast, much lower percentages had ever smoked or injected ecstasy: 14% and 11%, respectively. Similarly, only 6% and 9% had smoked or injected ecstasy in the previous six months.

Subjects were also asked to nominate the main way they had used ecstasy in the previous six months. Most subjects (83%) nominated oral ingestion as their main route of ecstasy administration, followed by 'half-and-half', a mixture of swallowing and snorting (11%). Snorting or injecting were reported by subjects as their main means of ecstasy use over the previous six months by 4% and 1% of the sample, respectively. In contrast to the results reported in 2000, no subjects reported 'shelving' or anal administration of ecstasy.

Table 4: Routes of administration of ecstasy in the present sample

Variable	Total (*n*=70)
% ever swallowed ecstasy	100
% swallowed ecstasy previous six months	100
% ever snorted ecstasy	56
% snorted ecstasy previous six months	49
% ever smoked ecstasy	14
% smoked ecstasy previous six months	6
% ever injected ecstasy	11
% injected ecstasy previous six months	9

Just over one-fifth of the sample (21.4%) had ever injected a drug. The mean number of drugs ever injected by the whole sample was 0.8 (SD 1.9; range 0-8). A total of 11% had ever injected ecstasy, and 8.6% had done so in the previous six months. The mean age of first injection of ecstasy was 23.5 years (SD 3.5; range 19-29 years). Ecstasy was the first drug injected for two subjects, with most having commenced injecting either non-powder methamphetamine (40%; *n*=6) or powder methamphetamine (33%; *n*=5). In addition, one subject had first injected a mixture of methamphetamine and cocaine, and one had first injected heroin.

To ensure that intravenous poly-drug or primary opiate users were not over-sampled and that this was primarily a sample of party drug users, a number of comparisons were drawn between those who had injected a drug at some time (*n*=15) and those who had not (*n*=55). There were no differences between the two groups in either age (mean 23.5 years for injectors and 21.8 years for non-injectors) or gender (60% of injectors were male compared with 51% of non-injectors). There was also no difference between the two groups in the

number of school years completed. There were no subjects in either group who had been in prison, or who were currently in drug treatment. Finally, there was no difference in the areas of Adelaide in which the two groups lived. However, in contrast to the results reported in 2000, there was a significant difference between the groups in employment status. Subjects who had injected were significantly more likely to be unemployed (27% versus 6%: Fisher's exact test $p<0.05$).)

Comparisons were also made between the two groups on factors relating to drug use. Although injectors had used ecstasy on a greater number of days in the previous six months (median 15 days versus 13), the difference was not statistically significant. They had also used slightly more ecstasy in their heaviest use episode (median 4 versus 3 tablets), but again this was not statistically significant. Both groups had used a median of 2 tablets in a typical session. Subjects who had injected drugs used a greater number of drugs in addition to ecstasy, both ever (11.6 versus 8.1) and in the previous six months (8.5 versus 6.5). In contrast to the 2000 results, these differences were statistically significant ($t_{68}=4.7$; $p<0.001$ for the number of drugs used ever, and $t_{68}=2.5$; $p<0.05$ for the number used in the previous six months).

There were some significant differences between the groups in the types of drugs used. Those who had injected a drug were significantly more likely to have ever used cocaine, (87% versus 42%; Fisher's exact test $p<0.01$), amyl nitrate (87% versus 33%; Fisher's exact test $p<0.001$), heroin (33% versus 6%; Fisher's exact test $p<0.01$) and other opiates (20% versus 1.8%; Fisher's exact test $p<0.05$.) In addition, a higher percentage of injectors had ever used benzodiazepines (60% versus 31%) or anti-depressants (40% versus 16%), but the differences were not quite significant (Fisher's exact test $p=0.07$). Similarly, a higher percentage of injectors had ever used point methamphetamine, but the difference was not statistically significant (93% versus 78%; Fisher's exact test $p>0.05$). This contrasts with the 2000 results, where injectors and non-injectors had similar patterns of drug use.

The results in this sample differ somewhat from those reported in 2000, with some differences between injectors and non-injectors. Generally, their demographic characteristics were similar, although a significantly higher percentage of injectors were unemployed. There were also significant differences in their profile of drug use, with those who had injected drugs having used a higher number of drugs, both ever and in the previous six months. However, there were no significant differences in the frequency and quantity of ecstasy use between the two groups. Heroin had only been used in the previous six months by three subjects, and only one of them had injected the drug. No subjects in either group had ever used methadone, and none were in any form of drug treatment. No subjects nominated heroin as their favourite drug. Injectors were no more likely to have binged on ecstasy in the previous six months, a variable that will later be shown to be consistently related to indices of ecstasy-related harm. There were no significant differences in the number of ecstasy-related side-effects between those who had injected a drug and those who had not (see section 3.5). In conclusion, despite some differences, the results pertaining to ecstasy-related harm cannot be accounted for by an over-sampling of intravenous poly-drug users. Subjects in this sample appeared to be primarily party drug users, and a representative population, which meets the aims of the party drug component of the IDRS.

3.2.3 Key informants

Consistent with the reports of users, all KI agreed that the majority of ecstasy users administer the drug orally. However, three observed that there has been an increase in injecting, although those who do so are more likely to be heavy poly-drug users who regularly inject other drugs. Smoking and snorting of ecstasy is rare, as is shafting or shelving, which predominantly occurs in the gay community. Similarly, KI reported that ecstasy was predominantly used in tablet form. These tablets come in a variety of shapes, sizes, colours and textures, although they are predominantly oval and lightly coloured. One KI spoke about a new tablet that is currently on the market. This tablet is orange, with an oval shape. The manufacturers of the tablet seem to be targeted at couples; is a double-strength tablet that can be divided into two pieces for the price of one tablet. The use of capsules is increasing, although as KI observed in the 2000 party drugs report, many users are apprehensive about using capsules and are unsure of their contents. The KI who works as a drug dealer observed that capsules are increasing in popularity. He distinguished between two types currently available: "white caps", which contain a mixture of MDMA, cocaine and speed, and "blue caps" which contain pure MDMA. Powder and liquid forms of ecstasy are rarely seen, and one KI suspected that the liquid form is not actually ecstasy, but fantasy (GBH). The two police officers reported only seeing tablets, and that they look very professional and well-presented at the moment. Those with unusual markings seem to contain substances other than MDMA, such as PMA.

There was agreement on the frequency of ecstasy use, with all KI reporting that ecstasy is used socially and for recreational purposes, and is not a drug that is taken on a daily basis. Frequency of use ranges from once or twice per week, to once per fortnight or even once per month. Use is restricted to weekends, from Thursday night to Sunday night. Ecstasy is also used on holidays or special occasions, and is nearly always taken outside the home environment, at raves or dance clubs. One KI, a community drug and alcohol worker, observed three distinct groups of ecstasy users. The first are binge users, who are also poly-drug users and who party from Thursday to Sunday, until they 'crash'. The second group uses ecstasy once a week on Saturday nights. The third group uses sporadically, once every month or less often, and only if ecstasy happens to be available or offered to them.

The majority of KI considered that most people take one or two tablets during a 'typical' use episode, although six KI reported that some users take up to four tablets over a night. The trend for using multiple tablets is due to two factors: increased frequency of use (ie development of tolerance) and the decreased strength of the pills themselves. Users report that they start to 'come down' halfway through the night and need to take 2-3 tablets over the night to 'top-up' the effects. One KI observed that females are more likely to take only ½ - 1 tablet per session.

Table 5 presents key drug use data for the two samples (2000 and 2001). The similarities between the two samples are noteworthy, in terms of ecstasy use specifically, as well as the number of drugs ever used and recently used. Although the percentage who reported using ecstasy weekly or more dropped from 34% in 2000 to 20% in 2001, the percentage who typically used more than one tablet when they did take ecstasy was higher in the 2001 sample (61% compared with 44%). However, none of these differences were statistically significant.

Table 5: Drug use data for ecstasy users in 2001 and in 2000

Variable	Present sample (*n*=70)	2000 sample (*n*=50)
Mean age first used ecstasy (years)	19.2	19.7
Median no. days used ecstasy previous six months	13	17.5
% ecstasy 'favourite' drug	46	40
% use ecstasy weekly or more	20	34
Mean no. ecstasy tabs in 'typical' session	2	1.7
Mean no. ecstasy tabs in 'heavy' session	3	4.1
% typically use >1 tablet	61	44
% recently binged on ecstasy (>48 hours)	49	54
% ever injected ecstasy	11	16
% ever injected any drug	21	20
Mean no. drugs ever used	10.0	11.5
Mean no. drugs used previous 6 months	7.9	8.5

3.2.4 Summary – Ecstasy use, 2001 sample

- *On average, ecstasy users started using the drug in their late teens*
- *There was a wide range of patterns of ecstasy use, but on average, the drug was used once per fortnight*
- *Just under half of ecstasy users had recently binged on ecstasy, using the drug on a continuous basis for 48 hours or more*
- *On average, ecstasy users used 2 tablets in a typical session, although 61% usually used more than one tablet per session*
- *On average, ecstasy users used 3 tablets in a heavy session*
- *Nearly all ecstasy users (84%) consumed the drug orally and a further 11% administered it either by swallowing or snorting ('half-and-half'). Smoking and injecting were not reported as a common means of ecstasy administration*
- *Only 11% of ecstasy users had ever injected ecstasy, and only 21% had ever injected any drug*

3.3 Other drug use

3.3.1 Patterns of poly-drug use in the present sample

The majority of subjects in this sample were poly-drug users. All 70 subjects had tried at least one drug in addition to ecstasy, both at some point in their life-time and in the previous six months. The mean number of drugs ever tried (including ecstasy) was 9.4 (SD 2.7; range 4-15), and a mean of 7.6 drugs (SD 2.6; range 3-14) had been used in the previous six months. Table 7 shows that the most commonly used drugs in the previous six months were alcohol (94%), cannabis (89%), powder methamphetamine (74%), non-powder methamphetamine (70%) and tobacco (67%). Furthermore, 53% had used nitrous oxide in the previous six months and 50% had used LSD. Comparisons between this sample and the 2000 sample are presented in section 3.3.3.

Over half (n=39; 56%) of the sample had binged on one or more party drugs in the previous six months. Of those who had binged, the most frequently used drugs were non-powder methamphetamine (62%), powder methamphetamine (54%), nitrous oxide (15%) and LSD (13%). There were also four subjects (10%) who had binged on either ketamine or cocaine, and three (8%) who had binged on GHB. The longest binge during this time ranged from 2-9 days, with a mean of 3.4 days.

Most subjects (87%) reported that they normally used other drugs in combination with ecstasy, and also in the 'come down' period (acute recovery) following ecstasy use (83%). Normal use was defined as use of other drugs on two-thirds or more occasions of ecstasy use in the previous six months. A mean of 2.7 other drugs was normally used in conjunction with ecstasy (SD 1.9; range 0-8). There were nine subjects (13%) who did not use any drugs in conjunction with ecstasy. The most frequently used drugs were tobacco (64%), alcohol (47%) cannabis (39%), powder methamphetamine (31%), non-powder forms of methamphetamine (36%) and nitrous oxide (20%). A much smaller percentage reported normally using GHB (7%), cocaine (7%), MDA (4%) or LSD (4%). Of those who typically drank alcohol while using ecstasy, 55% usually consumed more than five standard drinks. This percentage is significantly lower than that reported in 2000 (83%: Fisher's exact test $p<0.05$). No subjects reported using benzodiazepines, heroin or other opiates together with ecstasy. Compared with the results from 2000, a significantly lower percentage of subjects in 2001 used cannabis and powder methamphetamine together with ecstasy (62% and 54% in 2000, respectively).

A mean of 2.1 other drugs was normally used during the come down period (SD 1.5; range 0-6). There were 12 subjects (17%) who did not use any drugs to come down from ecstasy. The most frequently used drugs were cannabis (67%), tobacco (54%), alcohol (19%), non-powder forms of methamphetamine (19%), nitrous oxide (16%) and powder methamphetamine (10%). Nearly 9% of subjects reported using benzodiazepines, which was higher than in the 2000 sample (2%). However, this was not statistically significant. The use of non-powder forms of methamphetamine was also higher in 2001 (6% in 2000), whereas the use of nitrous oxide and alcohol was much lower in 2001 (44% and 32% in 2000, respectively). However, this was only statistically significant for nitrous oxide ($\chi^2_1=110.3$, $p<0.01$). In addition, five subjects (7%) reported using other drugs during the come down. Two subjects used vitamins and herbs, two used anti-depressants and one used anti-nausea tablets.

Table 6 shows the quantity of use of these drugs in the previous six months, both in typical use episodes and heaviest use episodes, among those who reported using the various drugs

during this time frame. It is important to note that non-powder forms of methamphetamine has been divided into two categories. Although there appeared to be some confusion among subjects as to what the various terms refer to and how the forms of methamphetamine relate to each other, some did differentiate between the crystal form and the paste form of the drug. For example, some subjects used the terms interchangeably, some thought the wax and crystal forms were two distinct drugs, and many were unaware that they were all forms of methamphetamine. The generic term used by many was simply 'speed', which was used to describe everything from the powder to the stronger forms. One subject said that there was no distinction between the different types of non-powder methamphetamine when buying the drug. People just ask for "meth" and it comes in whatever form is currently available, with no difference in price according to whether it is in paste form or in crystal form. The main factor that clearly emerged from this confusion was that the powder form that has traditionally been available in Australia has made way for more potent forms of methamphetamine.

Table 6: Quantity of party drugs used in the previous six months in 2001 (among those who reported their use during this period)

Drug class (measure) [1]	'Typical' episode (median, range)	Heaviest episode (median, range)
Powder methamphetamine (grams)[2]	1 (0.1-3)	2 (0.1-8)
Non-powder methamphetamine (points[3])		
Crystal meth/ice/shabu	2 (0.25-7)	3.25 (1-10)
Paste/wax/base	2 (0.3-15)	3 (1-35)
Cocaine (grams) [4]	0.5 (0.1-3)	1 (0.25-3)
LSD (tabs)	1 (0.5-3)	1 (0.5-10)
MDA (capsules)	1 (0.25-5)	1 (0.25-10)
Amyl nitrate (snorts)	3 (1-8)	3 (1-10)
Nitrous oxide (bulbs[5])	10 (2-80)	20 (2-150)
Ketamine (bumps[6]) [7]	1.5 (1-2)	3 (1-5)
GHB (mls) [8]	10 (2.5-50)	30 (15-120)

Table legend:

[1] The measure most frequently mentioned by subjects who had used the drug in the previous six months is reported. Data for subjects who reported some other measure are not included in this table.

[2] Of the 52 subjects who reported using powder methamphetamine in the previous six months, 43 reported the quantities used in grams. Four reported use in 'lines', with an average of 3.5 lines taken in a typical session, and 7 lines taken in their heaviest session. Two reported use in 'points': one taking 2 points in a typical session (2.5 in heaviest) and one taking 3 points (5 in heaviest). The remaining three reported taking unknown amounts mixed in with their drink.

[3] Although there is confusion among subjects, one 'point' equals 0.1 of one gram, so that ten 'points' equals one gram.

[4] Of the 24 subjects who reported using cocaine in the previous six months, 17 reported the quantities used in grams. Six subjects reported use in 'lines', with an average of 2 lines taken in both a typical session and their heaviest session. One subject reported t aking a tablet containing cocaine.

[5] A 'bulb' of nitrous oxide refers to the small canisters in which the gas is sold legally in supermarkets for insertion into an appliance used for whipping cream.

[6] A 'bump' refers to a small amount of powder, typically measured on either the end of a key or a small spoon provided with the container in which the drug is usually purchased.

[7] Of the 11 subjects who reported using ketamine in the previous six months, only two reported the quantities in bumps. Nine referred to other measures of quantity, including capsules, tablets, lines, points, grams and mls.

[8] Of the 13 subjects who reported using GHB in the previous six months, two provided no information on quantity of use.

3.3.2 Key informants

Patterns of extensive poly-drug use among ecstasy users were also described by the KI. With one exception, all agreed that heroin is not taken by this group. They made a clear distinction between people who use ecstasy and those who use heroin, stating that they are two completely different groups of users. The one KI who disagreed with this trend was a community drug and alcohol worker in the Northern suburbs. This KI reported that between 10% and 15% of the ecstasy clients also use heroin. However, this is recreational use only and they are not regular users of heroin.

All KI reported that cannabis is widely used by those who take ecstasy, with percentages ranging from 40% to 100% (average of 86%). Cannabis is used both together with ecstasy and during the come down period, although use is much more frequent in the come down to help deal with depression and anxiety, or to relax and "chill out". Cannabis is also used on a regular basis by most of this group, independently of their ecstasy use. Three KI reported that benzodiazepines are also taken by around 20% to 30% of users to come down from ecstasy, but use is much less prevalent than cannabis.

All KI reported that other stimulant drugs are also commonly taken by ecstasy users. The percentages range between 30% and 60%. The most popular of these are non-powder methamphetamine and powder methamphetamine, although the use of powder has declined due to the increased quality of methamphetamine, usually in crystal form (crystal meth). These drugs are often taken together with ecstasy to enhance and prolong the effects, but are also taken independently, with several KI explaining that these drugs are all part of the club and rave scene. The route of administration varies, but the drugs are usually snorted or added to drinks. Injecting of methamphetamine is rare among this group of users.

Other drugs commonly used by ecstasy users that are also considered to be part of the club and rave scene are GHB ('fantasy') and ketamine ('special k'). Six key informants stated that fantasy is often used together with ecstasy, usually in a liquid form that is mixed into drinks. A key informant who works as a police officer noted that it is hard to detect and monitor the use of fantasy, as it is usually taken in nightclubs mixed in with 'designer drinks' that are of various colours. One key informant also noted a new marketing ploy associated with fantasy use, where blue food colouring is added to the liquid form of the drug and sold as "smurfs". Five key informants also noted the use of cocaine, although the high price tends to preclude the users taking it as often as they would like to. One KI observed that cocaine use is more prevalent among sex industry workers, and the gay and lesbian population. Similarly, several key informants stated that inhalants such as nitrous oxide and amyl nitrate are more prevalent among these groups, as well as among younger ecstasy users who tend to use these drugs together with ecstasy. The use of LSD was reported by four key informants, but it is

becoming less popular. One informant attributed this decline in popularity to the emergence of drugs such as fantasy and ketamine, which users are curious to experiment with.

Ten key informants reported a high level of alcohol intake among ecstasy users ranging from 40% to 90%. One KI commented that it is "almost a pre-requisite" to drink alcohol in conjunction with ecstasy. However, many of these observed that this practice has declined over recent times, and those that do combine the two drugs generally do not drink large quantities of alcohol. It has become more popular to drink bottled water, and to abstain from drinking alcohol altogether when taking ecstasy.

Several key informants made additional comments about the use of other drugs among ecstasy users. This group tends to experiment with a broad range of other drugs, and are predominantly poly-drug users. Ecstasy is not perceived as a dangerous or 'hard-core' drug like heroin, and people who take ecstasy do not consider themselves to be drug users, stating that their use is strictly social and recreational.

3.3.3 Comparison with 2000 sample

Table 7 compares the patterns of poly-drug use between the two samples for drugs other than ecstasy. These data indicate that there may have been some changes since 2000 in the patterns of use of specific drugs. However, it is important to note that while differences have been observed between the 2000 and 2001 groups of ecstasy users, this may be, in part, due to differences in the two samples recruited for each year.

The use of inhalants such as amyl nitrate and nitrous oxide appears to have declined since 2000, both in terms of percentages reporting lifetime and recent use, as well as frequency of recent use. For nitrous oxide, 69% reported lifetime use in 2001 compared with 96% in 2000, and 53% reported use in the previous six months compared with 74% in 2000. These differences were statistically significant (Fisher's exact test $p<0.05$). For amyl nitrate, 44% reported lifetime use in 2001 compared with 74% in 2000, and 17% reported use in the previous six months compared with 32% in 2000. These differences were also statistically significant (Fisher's exact test $p< 0.05$).

Powder methamphetamine was used on a significantly lower number of days in 2001 (median 6 versus 12 days; $U=869$; $p<0.05$). There was also a significant decrease in the percentage reporting use in the previous six months in 2001 (74% versus 90%, Fisher's exact test $p<0.05$), although lifetime use was similar. This finding is consistent with key informants, who reported a decrease in the use of the powder forms of methamphetamine. There has also been a decrease in the use of point methamphetamine, both ever, and in the previous six months, in 2001: 81% versus 92% lifetime use, and 70% versus 80% for recent use. However, these differences were not statistically significant.

In contrast, there appears to have been a significant increase in the use of 'other drugs' in 2001. These drugs include magic mushrooms, dexamphetamine and PMA. In 2001, there was a significant increase in the percentage reporting use both ever, and in the previous six months: 47% versus 22% for lifetime use, 36% versus 12% for recent use (Fisher's exact test $p< 0.01$).

The use of cocaine, tobacco, LSD, MDA, benzodiazepines and anti-depressants, both ever and in the previous six months, was similar between 2001 and 2000. The percentage reporting use of fantasy and ketamine was also similar, but these drugs were used on a slightly greater number of occasions in 2001. The use of alcohol was similar between 2001 and 2000, but was used on a significantly higher number of days in 2001 (median 52 versus 20 days, U=1048; p<0.05). In contrast, cannabis was used on a lower number of days in 2001, although this was not statistically significant (median 65 versus 115 days; U=1253; p>0.05).

Heroin was used by three subjects in the previous six months in 2001 compared with zero in 2000, but only one of these had used on more than one occasion. No subjects reported having used methadone, and there was also a statistically significant decrease in the use of opiates other than heroin in 2001, both ever, and in the previous six months. (6% versus 36% lifetime use and 1% versus 36% for recent use: Fisher's exact test p< 0.001).

Table 7: Patterns of other drug use for ecstasy users in 2001 and in 2000

Variable	Present sample (*n*=70)	2000 sample (*n*=50)
Alcohol		
% ever used	100	100
% used previous 6 months	94	92
days used previous 6 months (median, range[#])	52 (1-180) *	20 (3-130)
Cannabis		
% ever used	96	96
% used previous 6 months	89	88
days used previous 6 months (median, range[#])	65 (1-180)	115 (2-180)
Tobacco		
% ever used	73	82
% used previous 6 months	67	52
days used previous 6 months (median, range[#])	180 (1-180)	180 (1-180)
Cocaine		
% ever used	51	54
% used previous 6 months	34	32
days used previous 6 months (median, range[#])	2 (1-30)	2 (1-5)
Methamphetamine (powder)		
% ever used	94	98
% used previous 6 months	74 *	90
days used previous 6 months (median, range[#])	6 (1-100) *	12 (1-120)

Variable	Present sample (*n*=70)		2000 sample (*n*=50)
Methamphetamine (non-powder)			
% ever used	81		92
% used previous 6 months	70		80
days used previous 6 months (median, range[#])	7 (1-130)		6 (1-151)
Ketamine			
% ever used	19		26
% used previous 6 months	16		16
days used previous 6 months (median, range[#])	4 (1-10)		2 (1-5)
MDA			
% ever used	23		42
% used previous 6 months	21		28
days used previous 6 months (median, range[#])	2 (1-25)		2 (1-6)
LSD			
% ever used	79		94
% used previous 6 months	50		50
days used previous 6 months (median, range[#])	3 (1-16)		4 (1-20)
GHB			
% ever used	23		34
% used previous 6 months	19		18
days used previous 6 months (median, range[#])	3 (1-45)		1 (1-40)
Amyl nitrate			
% ever used	44	*	74
% used previous 6 months	17	*	32
days used previous 6 months (median, range[#])	2 (1-100)		3 (1-40)
Nitrous oxide			
% ever used	69	*	96
% used previous 6 months	53	*	74
days used previous 6 months (median, range[#])	8 (1-104)		20 (2-95)
Heroin			
% ever used	11		8
% used previous 6 months	4		0
days used previous 6 months (median, range[#])	1 (1-10)		-

Variable	Present sample (*n*=70)	2000 sample (*n*=50)
Methadone		
% ever used	0	0
% used previous 6 months	0	0
days used previous 6 months (median, range[#])	-	-
Opiates other than heroin		
% ever used	5.7 ***	36
% used previous 6 months	1.4 ***	36
days used previous 6 months (median, range[#])	1 subject on 1 day	8 (1-35)
Benzodiazepines		
% ever used	37	44
% used previous 6 months	27	24
days used previous 6 months (median, range[#])	3 (1-180)	4 (1-24)
Anti-depressants		
% ever used	21	38
% used previous 6 months	13	14
days used previous 6 months (median, range[#])	42 (1-180)	3 (1-30)
Other drugs##		
% ever used	47 **	22
% used previous 6 months	36 **	12
days used previous 6 months (median, range[#])	4 (1-25)	3 (1-25)

Asterisks denote statistically significant differences between 2001 and 2000 samples: *p<0.05, ** p<0.01, *** p<0.001.

Among those who had used, rounded to the nearest day

Includes anti-histamines, butane, dexamphetamine, Sudafed, steroids, peyote, hallucinogenic mushrooms and paramethoxyamphetamine (PMA)

3.3.4 Summary – Other drug use, 2001 sample

- *Ecstasy users tended to have a lifetime prevalence of poly-drug use and had recently used a wide range of drugs*
- *The most commonly used drugs were alcohol, cannabis, powder methamphetamine, non-powder methamphetamine and tobacco. A large percentage also reported using nitrous oxide and LSD*
- *The majority of ecstasy users (87%) normally used ecstasy in conjunction with other drugs, with an average of 2.7 other drugs being used*
- *Similarly, the majority of ecstasy users (83%) used other drugs in the recovery period following acute ecstasy use, with an average of 2.1 drugs used*
- *Nearly 56% of ecstasy users had binged on one or more party drugs in the previous six months, most commonly non-powder methamphetamine, powder methamphetamine, nitrous oxide and LSD*
- *The longest binge reported by ecstasy users ranged from 2-9 days, with an average binge of 3.4 days*
- *For most drugs, use has remained stable since 2000. However, there appears to have been a decrease in the use of nitrous oxide, amyl nitrate, powder methamphetamine and opiates other than heroin*

3.4 Price, purity and availability of party drugs in Adelaide

3.4.1 Ecstasy

3.4.1.1 Price

Nearly all subjects were able to comment on the price, purity and availability of ecstasy in Adelaide, and all prices given are in Australian dollars (Table 8). It was agreed by both ecstasy users and key informants that virtually all ecstasy available in Adelaide in the six months preceding the interview came in tablet form.

The mean price of ecstasy was reported by users to be $40 per tablet (SD 8.2; range 15-50). This is slightly less than the price in 2000, which was $45. Although the majority of subjects (77%) reported that the price had either remained stable or decreased in the previous six months, 13% stated that the price tended to fluctuate and 8.6% that the price had increased (Table 8).

KI reports on the price of ecstasy were consistent with those of the users. The prices ranged from $30 to $80, with an average price of $40 to $50. Ecstasy is cheaper when larger

quantities are purchased, and several key informants noted that females are often charged less, while sex industry workers receive ecstasy for free. Ten of the 12 KI commented on recent changes in price, nine of whom agreed that the price had either decreased (*n*=4) or remained stable (*n*=5). One key informant thought the price had fluctuated.

The price of one ecstasy tablet according to ABCI data was between $35 and $80 for the period April to June 2001. The price decreased to between $25 and $35 for purchases of more than 25 tablets. This was higher than the price reported by the ABCI in 2000, which ranged from $25 to $50 per tablet.

3.4.1.2 Availability

Table 8 indicates that the majority of users (93%) considered ecstasy to be either very easy or easy to obtain, and 89% reported that the availability had either remained stable or increased in the previous six months. This is very similar to the results found in 2000, indicating that ecstasy is readily available and is becoming easier to obtain. There was a high degree of consistency between users' and KI reports of the availability of ecstasy. Ten KI commented on the availability, and they all considered ecstasy very easy (*n*=9) or easy (*n*=1) to obtain. There was also general agreement that the availability has remained stable over the previous six months (*n*=8) or easier (*n*=2).

3.4.1.3 Sources and purchase locations

The results revealed that subjects had obtained ecstasy from a number of sources. In the majority of cases this was from friends (96%), acquaintances (64%) or dealers (63%). Other people from whom ecstasy had been obtained included work colleagues (reported by 20% of the sample) and people unknown to subjects (usually dealers selling tablets in venues, 13%). The percentage of subjects who reported obtaining ecstasy from strangers has decreased since 2000, where 24% reported scoring from persons unknown to them. However, this difference was not statistically significant. Ecstasy was most often obtained at friends' homes (reported by 61% of the sample). Other common purchase locations included nightclubs (51%), subjects' own homes (49%), raves (47%), dealers' homes (30%), dance parties (40%) and pubs (16%). Twenty-seven percent of the sample also reported scoring ecstasy from other venues. These included public meeting places such as cafes, restaurants, car parks, public parks and on the streets. One subject reported scoring at university.

A variety of methods of paying for ecstasy in the previous six months were reported, most frequently through paid employment (87%); being given ecstasy as a gift by friends (74%); and selling or distributing drugs (46%). Other methods included credit from dealers (30%); borrowing money from friends (30%); bartering other drugs or goods for ecstasy (30%); obtaining money from parents (11%); unemployment or sickness benefits (14%); government study allowances (16%); fraud (4%); pawning goods (3%) and sex work (1%). No subjects reported committing property crimes to purchase ecstasy. Compared with the 2000 results, there appears to have been a significant increase in the percentage who reported selling or distributing drugs to pay for their ecstasy: 46% versus 20% in 2000 (Fisher's exact test $p<0.01$).

Several KI commented on the selling and manufacturing of ecstasy. Street-level dealers are often young males who mostly purchase ecstasy in large quantities and then sell them to their friends. They are not dealers in the strict sense of the word in that they are not trying to make a profit, but deal to finance their own use as well as obtain ecstasy somewhat cheaper through bulk purchases. One KI said that some dealers target new and naive users as they are able to sell them lower quality ecstasy. In contrast, the two key informants who were police officers said that the high-level suppliers tend to be older males aged in their forties, often of European descent with ties internationally. There are not many Asians who sell and distribute ecstasy, although the key informants noted that the number of Vietnamese who sell ecstasy has increased. Ecstasy is distributed from the higher to lower level dealers using several "middle-men", so that no one is ever sure who they are getting it from and if the drug actually contains MDMA.

Most KI could not comment on the manufacture and importation of ecstasy. Those who were able to provide information agreed that most ecstasy is imported to Australia from overseas, usually Europe, and comes into Adelaide from the Eastern states. Although there is some ecstasy produced locally, the quality is inferior and the tablets do not always contain MDMA, but other drugs such as PMA, MDA, ketamine and methamphetamine. In contrast, the ecstasy that comes from Europe is very pure and comes in a variety of shapes, colours and sizes. One of the police officers observed that the ecstasy tablets at the moment are very professional and well presented, as well as being of high quality. There was also agreement that there are two main sources of ecstasy distribution in Adelaide: bikies, and people involved in the rave and clubbing scene, with the quality of the ecstasy available from the bikies markedly higher.

Table 8: Price, purity and availability of ecstasy in 2001

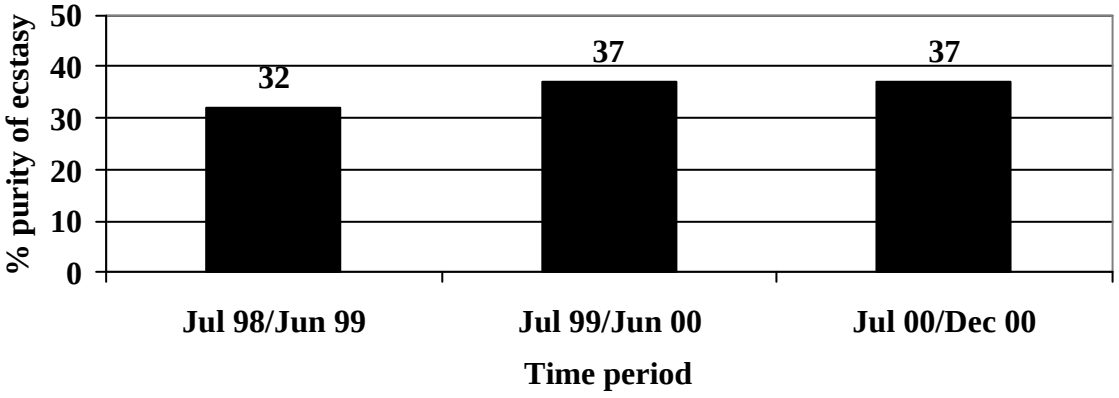
	Total (*n*=70)
Price at the moment (AUD$)	
Median price (per tab)	$40 (SD 8.2; range 15-50)
Median lowest price	$30 (SD 6.0; range 15-50)
Median highest price	$50 (SD 9.8; range 20-80)
Price changes in previous six months (% sample)	
Increasing	9
Stable	51
Decreasing	26
Fluctuating	13
Don't know	1
Purity at the moment (% sample)	
High	14
Medium	30
Low	6
Fluctuates	44
Don't know	3
Purity changes in previous six months (% sample)	
Increasing	10
Stable	39
Decreasing	14
Fluctuating	31
Availability at the moment (% sample)	
('How easy is it to get ecstasy?')	
Very easy	74
Easy	19
Moderately easy	7
Difficult	-
Very difficult	-
Availability changes in previous six months (% sample)	
More difficult	9
Stable	56
Easier	33
Fluctuates	1
Don't know	1

3.4.1.4 Purity

Table 8 indicates that there was some variation in users' estimates of the current purity of ecstasy, and in reports of changes in purity in the previous six months. Less than half of users (44%) found the current purity of ecstasy to be medium or high, and a further 44% reported that it fluctuates. Similarly, 31% found that the purity of ecstasy over the previous six months had fluctuated, 39% thought it had remained stable, with only 10% reporting an increase. This variation was also reflected in KI reports. Six (50%) thought the current purity was medium to high, three did not know, and three stated that the purity of ecstasy fluctuates depending on who manufactures it. Similarly, KI were not able to comment consistently on whether the purity of ecstasy had changed over the past six months, although one-third reported that it fluctuated.

The ABCI reported that the mean purity of seizures of ecstasy (which includes MDMA, MDEA, MDA and PMA) for the periods July-September 2000 and October-December 2000 was 37% (range 8.9%-58.7%) for the SAPOL seizures and 20% (range 14%-33.8%) for those from the AFP. The purity when including both sources of data ranged from 8.9% to 55.7%, based on analysis of 44 samples. This is comparable with 37% purity in 1999/2000 and 32% purity in 1998/1999. The Australian Customs Service recorded a total of 12 AFP seizures of ecstasy in South Australia in the 2000/2001 financial year. The combined weight of these seizures was 1.55 kg. However, not all of these were analysed by the AFDL. Given the small number of AFP seizures that were analysed, the SAPOL average should be considered reasonably representative of all seizures in South Australia (see Figure 2).

Figure 2: Purity of South Australian ecstasy seizures, 1998/99-2000/2001



3.4.2 Comparison with 2000 sample

The average price of a tablet of ecstasy has decreased slightly since the 2000 study, from $45 to $40 (Table 9). In both 2000 and 2001, almost all subjects described ecstasy as 'easy' or

'very easy' to obtain, although the percentage that believed it was 'very easy' increased significantly from 32% in 2000 to 74% in 2001 (χ^2_1=19.6, p<0.001). Similarly, both samples agreed that availability had either remained stable or increased, although again the percentage that believed availability had increased was higher in 2001 (33% versus 20%). However, this difference was not statistically significant. The current purity of ecstasy was lower in 2001, with 44% reporting it was medium or high compared with 52% in 2000. The purity appeared to be more stable over the previous six months in 2001, with a higher percentage in 2000 reporting fluctuations (31% versus 56%). There was some change in reports of where ecstasy was obtained, with a higher percentage in 2001 obtaining ecstasy from acquaintances and a lower percentage from strangers. There was also an increase in the scoring of ecstasy outside users' own homes, predominantly in public places such as cafés, restaurants and on the street.

Table 9: Price, purity and availability of ecstasy in 2001 and in 2000

Variable	**Present sample (*n*=70)**	**2000 sample (*n*=50)**
Median price per tab	$40 (range $15-$50)	$45 (range $30-$55)
% sample reported price stable	51	48
% sample reported price decreased	26	20
% sample reported 'very easy' to obtain	74	32
% sample reported 'easy' to obtain	19	62
% sample availability stable	56	64
% sample availability increased	33	20
% sample purity medium or high	44	52
% sample purity fluctuating	31	56
% sample score from friends	96	98
% sample score from work colleagues	20	22
% sample score from dealers	63	58
% sample score from acquaintances	64	50
% sample score from unknown people	13	24
% score at own home	49	74
% score at dealer's home	30	54
% score at raves/dance parties/clubs	61	72
% score at raves/dance parties/clubs	61	72
% score in public places	27	2

3.4.3 Other party drugs

The number of subjects who were able to comment on the price, purity and availability of other party drugs in Adelaide was smaller than for ecstasy. Moreover, for many drugs, subjects were not able to make any comments on these issues. This suggests that there was relatively limited recent exposure to some of these drugs among the sample, and that they are not as widely available or as widely used as ecstasy, with the possible exception of LSD and the more potent forms of methamphetamine (crystal/ice and wax/paste). For these drugs, 61% and 51% of the sample, respectively, were able to provide at least some information on price, purity and availability.

Most of the key informants were able to comment on the price, purity and availability of other drugs used by ecstasy users. Six agreed that there has been a marked increase in the use of methamphetamine, which has decreased in price and has become more readily available. They also reported an increase in the purity of the drug, which has led to many physical and mental health problems. Three KI commented on fantasy, and generally reported the same trends as for methamphetamine: a decrease in price, and an increase in availability and purity. One KI observed an increase in availability of both cocaine and ketamine, as well as a decrease in the price of these drugs. Three KI commented on heroin, although this is not a drug that is commonly taken by ecstasy users. They observed a decrease in both the availability and purity, the result of which has been an increase in the use of methamphetamine.

3.4.3.1 LSD

Table 10 presents data on the price, purity and availability of LSD, which was commented on by between 49% and 61% of subjects, as not all subjects were able to provide information on all aspects. The median price per tab was $10 (SD 4.0; range 5-25, *n*=43), although some subjects reported paying as little as $3 per tab, and as much as $40. Nearly three-quarters of subjects reported that the price of LSD had remained stable over the previous six months, although 16% believed that the price had increased. Just over 70% reported that the current purity of LSD was medium to high, and 56% stated that the purity had remained stable over the previous six months. However there was some variation among subjects, as nearly one-quarter found that the purity had decreased, and 18% reported an increase. Just over 45% of subjects found that LSD was very easy or easy to obtain, and a further 26% said that it was moderately easy. The remaining 29% reported that it was difficult (24%) or very difficult 5%). There was variation in reports of changes in availability over the previous six months; 51% said that availability had remained stable, 27% reported a decrease, and 20% reported an increase.

The price of LSD, as provided by the ABCI in the period January to June 1999, was $20 to $25 for one tab, and $10 per tab for more than 25 tabs. More recent information on the price of LSD was not available.

Table 10: Price, purity and availability of LSD in 2001

Price at the moment (AUD$)	**(*n*=43)**
Median price (per tab)	$10 (SD 4.0; range 5-25)
Median lowest price	$9 (SD 3.5; range 3-15)
Median highest price	$15 (SD 5.8; range 15-40)
Price changes in previous six months (% sample)	**(*n*=37)**
Increasing	16
Stable	73
Decreasing	8
Fluctuating	3
Purity at the moment (% sample)	**(*n*=37)**
High	27
Medium	43
Low	22
Fluctuates	8
Purity changes in previous six months (% sample)	**(*n*=34)**
Increasing	18
Stable	56
Decreasing	24
Fluctuating	3
Availability at the moment (% sample) ('How easy is it to get LSD?')	**(*n*=42)**
Very easy	24
Easy	21
Moderately easy	26
Difficult	24
Very difficult	5
Availability changes in previous six months (% sample)	**(*n*=41)**
More difficult	27
Stable	51
Easier	20
Fluctuates	2

3.4.3.2 Methamphetamine

There was some confusion among subjects when asked to comment on the price, purity and availability of methamphetamine. As has been mentioned previously, subjects were not always clear as to what the various terms refer to and how the forms of methamphetamine relate to each other. Some subjects used the terms interchangeably, some thought the wax and crystal forms were two different drugs, and many were unaware that they were all forms of methamphetamine. Some provided information on more than one form of point methamphetamine, and others on one only. It is interesting that no subjects provided information on the powder form of the drug. Tables 11a and 11b thus present data on the price, purity and availability of methamphetamine. These data have been divided into the crystal form and the wax/paste forms to reflect the two main types referred to by subjects.

For the wax/paste form of methamphetamine, the median price per point was $30 (SD 11.6, range 10-50, *n*=28). Nine subjects also gave information on the price per gram. The median was $180, ranging from $100 to $280 per gram. Over half of subjects (55%) reported that the price had remained stable over the previous six months, although 35% believed the price had decreased. Nearly 81% reported that the current purity of wax/paste methamphetamine was medium to high, including 55% who believed the purity of the drug was high. There was no consistency in reports of changes in purity over the previous six months: 41% reported it to be stable, while 17% reported that it fluctuated. A further 28% believed that the purity had increased, and 14% that it had decreased. As with the other drugs, the majority of subjects (80%) reported that this form of methamphetamine was easy or very easy to obtain, with only 7% of subjects finding it difficult. The remaining 13% said it was moderately easy to obtain. Seventy percent reported this availability had remained stable over the previous six months, and 23% said it had become easier to obtain.

The results obtained on the price, purity and availability of the crystal form of methamphetamine were generally similar to the wax/paste form. The median price per point was $35 (SD 15, range 7-75, *n*=33). Eight subjects also gave information on the price per gram. The median was $150, ranging from $200 to $250 per gram. Nearly 70% of subjects reported that the price had remained stable over the previous six months, although 21% believed the price had decreased. There were 77% of subjects who reported that the current purity of crystal methamphetamine was medium to high, including 51% who believed the purity of the drug was high. The majority of subjects (65%) reported that the purity was stable, while 12% reported that it fluctuated. A further 9% believed that the purity had increased, and 15% that it had decreased. Again, the majority of subjects (72%) reported that this form of methamphetamine was easy or very easy to obtain, although nearly 14% thought it was difficult or very difficult. The remaining 14% said it was moderately easy to obtain. Seventy percent reported that this availability had remained stable over the previous six months, and 19% said it had become easier to obtain.

These prices are somewhat lower than the prices provided by the Australian Bureau of Criminal Intelligence for the period April to June 2001. The price of one street deal or point of methamphetamine (one 'point' = 0.1 gram) was reported to be $50, one ounce (28 gm) was $1000, and one pound (224 gm) was $10000. There was no information available on the price of one gram in South Australia.

The ABCI also provided quarterly purity data on amphetamine and methamphetamine seized in South Australia during the periods July-September 2000 and October-November

2000. Data from the Australian Customs Service indicate that there were no AFP seizures of methamphetamine in the 2000/2001 period, and only two seizures of amphetamine. However, purity data were based on SAPOL seizures of amphetamine only. The mean purity was 14.6% (range: 0%-78.6%, number of samples analysed = 197). This is similar to that reported in 1999/2000 (16.9%), and is markedly higher than the levels in previous years: 6% during 98/99 and 97/98, and 4% in 96/97. The majority of samples analysed (n=149) were ≤ 2 grams, with 49 samples greater than 2 grams.

The 2000/2001 ABCI purity statistics appear to be inconsistent with the gross estimates provided by the ecstasy users, the majority of whom reported methamphetamine purity as medium or high. However, purity has certainly increased over the last few years, and a distinction is made between the powder and point forms of the drug, which vary considerably in purity.

3.4.3.3 MDA

Table 12 presents data on the price, purity and availability of MDA. However, as information was only available from 13 subjects (19%), the results should be interpreted cautiously. Furthermore, two of these 13 were unable to provide information on all aspects of price, purity and availability. The median price per cap of MDA was $50 (SD 11.8; range 10-50, *n*=13). The majority of subjects (65%) reported that the price had remained stable over the previous six months, 18% reported an increase in price and a further 18% reported a decrease. All subjects agreed that the current purity was medium to high, with no subjects reporting low purity. However, there was some variation in subjects' reports on changes in purity over the previous six months, with 36% reporting that the purity had remained stable, 27% that it had increased and 18% that it had decreased. The remaining 18% reported that the purity had fluctuated. Although 46% reported that MDA was easy or very easy to obtain, the availability appears to be lower than the other drugs investigated in this sample. Nearly 39% reported that MDA was moderately easy to obtain, and the remaining 15% said that it was difficult. Again, there was no consistency in subjects' responses to availability changes in MDA over the previous six months. Nearly 31% said that the availability had increased and 39 % that it was stable. There were 15% who reported a decrease in availability, and the remaining 15% believed that the availability had fluctuated.

3.4.3.4 Other drugs

Most subjects were not able to comment on the price, purity and availability of other party drugs used by this sample. There were nine subjects who were able to provide at least some information on ketamine, and 11 subjects for GHB ('fantasy'). Table 13 presents information on the average prices of these drugs as reported by subjects. For ketamine, there was a huge variation in the prices quoted per gram, presumably dependent on the source from which it was obtained. A further five subjects reported the price of other measures of ketamine. One quoted $50 for a tablet and two $30 per point. The remaining two gave prices in mls, one paying $20 and the other paying $25. Subjects generally agreed that the price was relatively stable, as was the purity of the drug, which was reported to be medium to high. Subjects also reported that ketamine is reasonably easy to obtain, and that availability has been stable to increasing over the previous six months. For GHB, ten subjects provided information on the price in mls, ranging from $1 to $4.50. The price was generally agreed to be stable, and the purity was high. Changes in purity ranged from stable to increasing. The majority agreed that GHB was reasonably easy to obtain, but that availability was decreasing.

Table 11a: Price, purity and availability of wax/paste forms of methamphetamine in 2001

Price at the moment (AUD$)	**(*n*=28)**
Median price (per 'point')	$30 (SD 11.6; range 10-50)
Median lowest price	$25 (SD 8.9; range 10-40)
Median highest price	$45 (SD 10.1; range 20-60)
Price changes in previous six months (% sample)	**(*n*=29)**
Increasing	7
Stable	55
Decreasing	35
Fluctuating	3
Purity at the moment (% sample)	**(*n*=31)**
High	55
Medium	26
Low	7
Fluctuates	13
Purity changes in previous six months (% sample)	**(*n*=29)**
Increasing	28
Stable	41
Decreasing	14
Fluctuating	17
Availability at the moment (% sample) ('How easy is it to get methamphetamine?')	**(*n*=30)**
Very easy	60
Easy	20
Moderately easy	13
Difficult	7
Very difficult	-
Availability changes in previous six months (% sample)	**(*n*=30)**
More difficult	7
Stable	70
Easier	23
Fluctuates	-

Table 11b: Price, purity and availability of crystal forms of methamphetamine in 2001

Price at the moment (AUD$)	**(*n*=33)**
Median price (per 'point')	$35 (SD 15; range 7-75)
Median lowest price	$25 (SD 12; range 7-60)
Median highest price	$50 (SD 22.5; range 30-150)
Price changes in previous six months (% sample)	**(*n*=33)**
Increasing	3
Stable	70
Decreasing	21
Fluctuating	6
Purity at the moment (% sample)	**(*n*=35)**
High	51
Medium	26
Low	14
Fluctuates	9
Purity changes in previous six months (% sample)	**(*n*=34)**
Increasing	9
Stable	65
Decreasing	15
Fluctuating	12
Availability at the moment (% sample) ('How easy is it to get methamphetamine?')	**(*n*=36)**
Very easy	47
Easy	25
Moderately easy	14
Difficult	11
Very difficult	3
Availability changes in previous six months (% sample)	**(*n*=36)**
More difficult	11
Stable	70
Easier	19
Fluctuates	-

Table 12: Price, purity and availability of MDA in 2001

Price at the moment (AUD$)	**(*n*=13)**
Median price (per cap)	$50 (SD 11.8; range 10-50)
Median lowest price	$37.50 (SD 8.4; range 30-50)
Median highest price	$60 (SD 15.9; range 35-90)
Price changes in previous six months (% sample)	**(*n*=11)**
Increasing	18
Stable	64
Decreasing	18
Fluctuating	-
Purity at the moment (% sample)	**(*n*=12)**
High	67
Medium	33
Low	-
Fluctuates	-
Purity changes in previous six months (% sample)	**(*n*=11)**
Increasing	27
Stable	36
Decreasing	18
Fluctuating	18
Availability at the moment (% sample) ('How easy is it to get MDA?')	**(*n*=13)**
Very easy	15
Easy	31
Moderately easy	39
Difficult	15
Very difficult	-
Availability changes in previous six months (% sample)	**(*n*=13)**
More difficult	15
Stable	39
Easier	31
Fluctuates	15

Table 13: Price of other party drugs in 2001

GHB	**(*n*=10)**
Median price (per ml)	$1.25 (SD 0.4; range 1-2)
Median lowest price	$1 (SD 0.4; range 1-2)
Median highest price	$2.75 (SD 0.9; range 2-4.5)
Ketamine	**(*n*=3)**
Median price (per gram)	$40 (SD 66.5; range 30-150)
Median lowest price	$40 (SD 52.9; range 20-120)
Median highest price	$50 (SD 115.5; range 50-250)

3.4.4 Comparison with 2000 sample

The results on the price, purity and availability of these drugs were compared with the results obtained in 2000. For LSD, the current median price ($10 per tab) was identical in 2001 and 2000, although a higher percentage in 2001 reported an increase in price over the previous six months (16% versus 5%). The current purity of LSD appears to be lower in 2001, with 70% reporting it to be medium or high compared with 83% in 2000. Moreover, a higher percentage of subjects in 2001 reported a decrease in purity over the previous six months (24% versus 2%). There also seem to have been changes in availability since 2000. Nearly 93% of subjects in 2000 reported that LSD was currently very easy, easy or moderately easy to obtain, compared with 71% in the 2001 sample. In addition, only 7% of subjects in 2000 reported that LSD was difficult or very difficult, compared with 29% in 2001.

It is difficult to make comparisons for methamphetamine, as there was no distinction made in 2000 between the wax/paste and crystal forms of the drug. The current median prices were lower in 2001: $30 for wax/paste and $35 for crystal compared with $40 in 2000. The current purity of methamphetamine was similar in 2001 and 2000, although a higher percentage in 2001 reported that the purity of crystal meth was low (14% compared with 0%). The availability of crystal meth also appeared to be lower than in 2000, with 14% reporting it was difficult or very difficult to obtain, compared with 0% in 2000.

For MDA, the current median price ($50 per cap) was also identical in 2001 and 2000. However, 63% of subjects in 2000 reported that the price had fluctuated over the previous six months, whereas the majority in the 2001 sample reported the price to be stable. The current purity of MDA appears to have increased. Two-thirds of subjects in 2001 stated the purity was high, compared with no subjects in 2000, who mostly said the purity was medium to low. MDA also appears to be more readily available. In 2001, 46% said MDA was easy or very easy to obtain, compared with no subjects in 2000. In 2000, 63% said the availability was difficult, while only 15% reported this in 2001. Moreover, nearly 31% of subjects in 20001 reported that availability had increased over the previous six months, compared with no subjects in 2000.

3.4.5 Summary – Price, purity and availability, 2001 sample

- *The current median price of ecstasy in Adelaide is $40 per tablet*
- *The price of ecstasy has generally remained stable or decreased in the previous six months*
- *The majority of ecstasy users reported that ecstasy is easy or very easy to obtain*
- *The availability of ecstasy has generally remained stable or increased in the previous six months*
- *Reports of the purity of ecstasy are variable, with 44.3% of ecstasy users finding the current purity to be medium or high, and a further 44.3% reporting that it fluctuates*
- *Ecstasy is obtained from a number of sources, in the majority of cases from friends, acquaintances or dealers. Ecstasy is usually obtained at raves, dance parties and clubs, or from users' own homes*
- *Many ecstasy users commented on the price, purity and availability of other drugs, including LSD, MDA and methamphetamine*
- *The current median price of LSD in Adelaide is $10 per tablet, and for methamphetamine, $30 to $35 per point. Most subjects agreed these drugs are reasonably easy to obtain, and their purity is medium to high*

3.5 Physical and psychological side-effects of ecstasy

3.5.1 Present sample

Tables 14 and 15 show the ecstasy-related physical and psychological side-effects experienced by subjects in the previous six months, as well as their duration and the extent to which these effects were attributed to ecstasy use.

The mean number of total side-effects reported in the previous six months was 16.5 (SD 4.5; range 9-29). Subjects reported a mean of 10.8 physical side-effects (SD 3.1; range 4-20). The most common were teeth problems (caused by teeth grinding and jaw clenching), loss of appetite, muscular aches, loss of energy, trouble sleeping and numbness/tingling. Many subjects also reported blurred vision, heart palpitations, profuse sweating, hot/cold flushes, tremors/shakes and joint pains/stiffness. A mean of 5.7 psychological side-effects were reported (SD 2.2; range 2-11), most commonly confusion (disorientation, short-term memory loss and vagueness), depression, irritability, visual hallucinations and anxiety. Many subjects also reported paranoia and auditory hallucinations.

There were 22 subjects who reported additional effects they had experienced while taking ecstasy over the previous six months. The most common was a feeling of closeness to others, which included bonding, sharing and connecting, and an increase in tactile and demonstrative

behaviour (n=7). Three subjects reported a general feeling of well-being, such as feeling confident, secure and safe, and two reported an increase in energy. Three subjects reported feeling nauseous, and two had experienced distortions in their perception of time.

Males reported a mean number of 10.9 physical side effects and 5.8 psychological side-effects, and females reported a mean number of 10.8 physical side effects and 5.6 psychological side-effects. The number of side-effects was thus very similar between males and females. A comparison was also made between the number of side-effects in subjects aged under 25 years, and those aged 25 years or more. The younger subjects reported a mean number of 11.1 physical side effects and 6 psychological side-effects. In comparison, the older subjects reported a mean number of 9.9 physical side effects and 4.5 psychological side-effects. Although there was no statistically significant difference in the number of physical side-effects according to age, the younger users reported a significantly higher number of psychological side-effects (t_{68}=2.5; p<0.05).

The number of side-effects reported by subjects were also compared according to whether they had injected ecstasy either recently or in the past, or whether they had ever injected a drug. There were no significant differences found, with one exception. Subjects who had injected ecstasy in the previous six months reported a significantly higher mean number of psychological side-effects compared with those who had not (6.2 versus 5.5; t_{68}=2.2; p<0.05). Similarly, there were no significant differences in the number of side-effects according to the number of drugs used by subjects in the previous six months. However, those who had binged on ecstasy in the previous six months reported significantly more psychological side-effects (6.2 versus 5.2; t_{53}=2; p<0.05).

Many of the physical side-effects experienced by subjects were attributed to ecstasy use. The physical side-effects that were attributed *solely* to ecstasy use by more than 70% of those who reported them included blurred vision, vomiting, tremors or shakes, numbness or tingling, hot/cold flushes, inability to urinate and loss of appetite. Moreover, side-effects such as dizziness, loss of energy, difficulty sleeping, headaches, heart palpitations, stomach pains and teeth problems as a result of grinding and jaw clenching were attributed solely to ecstasy by 50-70% of subjects who reported them (Table 14). Although muscular aches and pains were experienced by 80% of subjects, only 12.5% attributed this solely to ecstasy use, saying that these effects were predominantly due to the excessive activity and energy that occurs in the environment where ecstasy is often taken, that is, dancing at raves and clubs.

In contrast, all of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and in most cases by over 70% of subjects. The side-effects attributed to ecstasy by at least three-quarters of subjects included depression, confusion, irritability, memory lapses, visual and auditory hallucinations, flashbacks and violent behaviour (Table 15).

3.5.2 Key informants

All of the key informants were able to comment on the physical and psychological side-effects observed among this population. Those who came into contact with ecstasy users through their work emphasised that this group is not seeking treatment for ecstasy-related problems, but rather want information on the effects of the drug. They are also wanting information on harm minimisation techniques to reduce the risks of adverse effects. This

includes advice on water consumption, how to avoid over heating, and the effects of mixing ecstasy with other drugs. One KI stated that most people do not associate ecstasy with problems; it is not seen as a 'hard' drug, but as relatively safe. Three KI observed that users tend to be very educated and aware of the effects of the drug, and are often looking to confirm and expand on their current knowledge. However, there are reports of side-effects, although they are not regarded by users as problems that are serious or disruptive to their lives. According to KI, the main problems reported by ecstasy users are depression and mood swings (*n*=7), panic and anxiety attacks (*n*=5), paranoia (*n*=4), sleep disturbances (*n*=3), muscular aches and pains (*n*=3), sexual risk-taking behaviour (*n*=2) and loss of appetite (*n*=2). Nearly all KI spoke of problems associated with the 'come down', where users report feeling lethargic, depressed and experience muscular aches and pains. One KI (a community drug and alcohol worker) said that many users find it very hard to return to work or study following a weekend of use. This key informant also noted that the problems associated with ecstasy use appear to be increasing. Similarly, the two drug treatment workers noted that ecstasy use appears to be causing problems in more people, not only among regular users but among those who use less frequently.

Table 14: Physical side effects of ecstasy in the present sample

Symptom	Previous six months (%; *n*) *	Median length of worst case #	Only related to ecstasy (%; *n*) #
Teeth grinding/jaw clenching	91	1 day	66
Weight loss/loss of appetite	86	1 day	77
Muscular aches	80	2 days	13
Loss of energy	79	2 days	60
Trouble sleeping	71	8 hours	66
Numbness/tingling	71	2 hours	88
Blurred vision	69	2 hours	85
Heart palpitations	66	30 mins	54
Profuse sweating	61	3 hours	40
Hot/cold flushes	57	2 hours	73
Tremors/shakes	56	2 hours	87
Joint pains/stiffness	51	2 days	14
Headaches	43	3.5 hours	50
Vomiting	43	4 mins	77
Inability to urinate	36	4 hours	96

Table 14: Physical side effects of ecstasy in the present sample (continued)

Symptom	Previous six months (%; *n*) *	Median length of worst case #	Only related to ecstasy (%; *n*) #
Stomach pains	34	1 hour	63
Dizziness	33	15 mins	61
Shortness of breath	33	10 mins	44
Chest pains	14	30 mins	40
Fainting/pass out	9	3 mins	67
Fits/seizures	1.4 (*n*=1)	40 secs	100

** percentage of total sample; # percentage among those reporting the symptom*

Table 15: Psychological side effects of ecstasy in the present sample

Symptom	Previous six months (%; *n*) *	Median length of worst case #	Only related to ecstasy (%; *n*) #
Confusion	9	1 day	82
Depression	79	2 days	82
Blackout/memory lapse	61	2 hours	77
Irritability	57	1.75 days	75
Visual hallucinations	56	2 hours	77
Anxiety	53	6 hours	73
Paranoia	46	6 hours	69
Auditory hallucinations	46	30 mins	81
Flashbacks	27	2 mins	90
Loss of sex urge	26	7 hours	72
Panic attacks	16	1 hour	64
Violent behaviour	6 (*n*=4)	3.25 hours	75
Suicidal thoughts	3 (*n*=2)	1.25 hours	50
Suicide attempts	0	-	0

** percentage of total sample; # percentage among those reporting the symptom*

3.5.3 Summary – Physical and psychological side-effects, 2001 sample

- *All ecstasy users reported a range of physical and psychological side-effects that they perceived as being at least partly related to their use of the drug*
- *Physical side-effects that were solely attributed to ecstasy use by the majority of subjects included blurred vision, vomiting, tremors or shakes, numbness or tingling, hot/cold flushes, inability to urinate and loss of appetite*
- *All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them. The side-effects attributed to ecstasy by at least 75% of subjects included depression, confusion, irritability, memory lapses, visual and auditory hallucinations, flashbacks and violent behaviour*

3.6 Other ecstasy-related problems

3.6.1 Present sample

In 79% of cases subjects reported at least one problem in the previous six months which they perceived as related, at least in part, to their use of ecstasy. This included relationship and social problems, financial problems, work or study problems, and legal or police problems.

The most common problems were related to occupation or study, with nearly 63% of the sample experiencing them (Table 16). More than half of these problems (52%) involved taking sick leave or not attending classes, and a further 43% involved trouble concentrating (16%), reduced work performance (14%) or feeling unmotivated (14%). A minority (5%) was more serious, such as being dismissed from or quitting a job, or inability to obtain employment.

The use of ecstasy caused financial problems for 39% of subjects in the previous six months. These subjects specified the most serious financial problem they had dealt with. In 56% of cases the problem was minor, with subjects having no money for recreation or luxuries. In 26% of cases the problem was more serious, with subjects being in debt or owing money to people. In the remaining 19% of cases the problem was extremely serious, with subjects not having enough money to pay for food or rent.

The use of ecstasy caused relationship or social problems for 36% of subjects in the previous six months. These subjects also specified the most serious relationship problem they had dealt with. In 80% of cases the problem was relatively minor, such as arguments and the development of mistrust or anxiety in the relationship. In the remaining 20% of cases the relationship actually ended as a result of ecstasy use, and in one case this resulted in violence. Three of these subjects also reported conflict within the family as a result of their ecstasy use, including arguments with parents and siblings.

Only four subjects (6%) reported any legal or police problems related to their use of ecstasy in the previous six months. In one case the person was arrested by police, another had their

car searched by police, and the remaining two reported feeling like they were being followed or were under police surveillance.

A variety of other problems caused by ecstasy in the previous six months were reported by 19 subjects (27%). Eight experienced problems with their general physical health for several days after taking ecstasy, as well as feeling confused, anxious, paranoid and depressed. Three subjects who had experienced a relationship breakdown due to their ecstasy use also reported conflicts with their family. Two spoke of their increased sexual risk-taking behaviour, saying they have unprotected sex while on ecstasy and "don't care about the consequences". Two reported feeling uncomfortable and alienated in social situations when not on ecstasy, that they have trouble interacting and dealing with people.

There were no gender differences in the number or type of ecstasy-related problems experienced by subjects. Overall, 82% of females had experienced at least one problem in the previous six months, compared with 76% of males. Similarly, there was no significant difference according to age. Overall, 80% of subjects aged less than 25 years had experienced at least one problem, compared with 67% of subjects aged 25 years or more.

There were also no statistically significant differences in the number and type of ecstasy-related problems experienced by subjects according to whether they had ever injected a drug. Eighty percent of subjects who had ever injected any drug reported at least one problem, compared with 78% of those who had never injected any drug. Although a higher percentage of subjects who had injected drugs reported financial problems (60% versus 33%), the difference did not quite reach statistical significance (Fisher's exact test p=0.07). Similarly, a higher percentage of subjects who had injected drugs reported relationship or social problems (47% versus 33%) and legal or police problems (13% versus 4%), but again the differences were not statistically significant.

A similar pattern was found for subjects who had injected ecstasy in the previous six months. Again, the majority of these subjects (83%) reported at least one problem, compared with 78% of those who had not recently injected ecstasy. In particular, subjects who had injected ecstasy were more likely to have experienced relationship or social problems (67% versus 33%) and financial problems (50% versus 38%). However, these difference were not statistically significant, probably due to the small sample size of subjects who had injected ecstasy in the previous six months (n=6).

Subjects who had recently binged on ecstasy were also more likely to report problems related to their use of this drug. Overall, 82% reported at least one problem compared with 75% of those who had not recently binged on ecstasy. In particular, those who had binged on ecstasy in the previous six months were more likely to report relationship or social problems which they perceived as being related to their ecstasy use (47% versus 25%), although the difference was not quite statistically significant (Fisher's exact test p=0.08). Similarly, a higher percentage of subjects who had binged on ecstasy reported financial problems (47% versus 31%), but again the difference was not statistically significant. The percentages who reported work or study problems and legal or police problems were similar between the two groups (65% versus 61% and 6% versus 6%, respectively).

An index of total ecstasy-related problems was calculated by adding together the number of different problems reported (work, relationship, financial, legal and other). The mean number of problems experienced was 1.7 (SD 1.3; range 0-5).

Table 16: Other ecstasy-related problems in the previous six months

Ecstasy-related problem	% males (*n*=37)	% females (*n*=33)	% total (*n*=70)
Financial problems	32	46	39
Relationship/social problems	32	39	36
Work/study problems	57	70	63
Legal/police problems	11	0	6
Other problems	27	27	27

3.6.2 Comparison with 2000 sample

Table 17 presents comparative data on side-effects among ecstasy users in 2001 and 2000. The mean number of physical side-effects was almost identical, as was the percentage of users who reported at least one ecstasy-related problem in the previous six months. However, there was a significant difference in the mean number of psychological side-effects between 2001 and 2000 (5.7 versus 4.5, t_{118}=2.7, p<0.01). Moreover, the percentage of subjects who attributed the psychological side-effects they had experienced *solely* to their use of ecstasy was much higher in the 2001 sample. All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and in most cases by over 70% of subjects. In contrast, in the 2000 sample all of the psychological side-effects were attributed solely to ecstasy use by less than half of subjects who reported them.

In addition, a significantly higher percentage of subjects in 2001 had experienced work or study problems as a result of their ecstasy use (63 % versus 34%, χ^2_1=8.6, p<0.01). In contrast, a lower percentage of subjects in 2001 had experienced relationship or social problems, although this difference was not quite statistically significant (39% versus 56%, χ^2_1=2.9, p=0.09).

3.6.3 Alcohol and Drug Information Service data

The South Australian Alcohol and Drug Information Service (ADIS) received 7282 telephone inquiries during the 2000/2001 financial year where a record was made of the main drug type for which information was being sought. The callers were predominantly members of the general public wishing to obtain information about specific drugs. Of these, only 76 (1%) were inquiries about ecstasy. This is comparable with the results from 1999/2000, where 0.9% of calls were about ecstasy. The majority was made about alcohol (28%), cannabis (19%), amphetamines (15%) or heroin (6%). There were also inquires made about other drugs that are frequently taken by ecstasy users, although the percentages were small. These include hallucinogens/other designer drugs (0.6%), inhalants (0.9%) and LSD (0.1%).

Table 17: Side-effects among ecstasy users in 2001 and in 2000

Ecstasy-related problem	Present sample (*n*=70)	2000 sample (*n*=50)
Mean no. physical side-effects	10.8	10.6
Mean no. psychological side-effects	5.7	4.5
At least one ecstasy-related problem in previous six months (%)	79	72
Financial problems (%)	39	56
Relationship/social problems (%)	36	36
Work/study problems (%)	63	34
Legal/police problems (%)	6	2
Other problems (%)	27	12

3.6.4 Summary – Other ecstasy-related problems, 2001 sample

- *In 78.6% of cases ecstasy users reported work, relationship or financial problems that they perceived as being related, at least in part, to their use of the drug*
- *Many of these problems were relatively minor, although some constituted significant disruptions to functioning, such as the ending of relationships, inability to pay for food or rent, and loss of employment*
- *Ecstasy use caused legal or police problems for only four subjects (6%)*
- *Other problems reported included problems with general physical health for several days after taking ecstasy, as well as feeling confused, anxious, paranoid and depressed*
- *There was an increase in work or study related problems in 2001 compared with 2000, although there was also a decrease in relationship or social problems*

3.7 Criminal activity

3.7.1 Present sample

Nearly 53% of the sample had committed at least one crime in the month preceding the interview (Table 18). This is significantly higher than the percentage in 2000, which was 24% (Fisher's exact test $p<0.01$). Drug dealing was the criminal activity subjects were most likely to have engaged in, with 44% of the sample having sold drugs at least once in the month preceding the interview. Nearly one-quarter of the sample had sold drugs on average

less than once a week in the previous month and 20% had sold drugs a week or more. Two subjects reported selling drugs on a daily basis. However, it is important to note that most of the subjects who reported dealing drugs emphasised that they only sold cannabis to friends, and did not deal in the harder drugs. Some also reported dealing ecstasy, but this was to enable distribution to their friends at a discounted price, not to make a profit. This is consistent with earlier results where 46% of subjects reported paying for their ecstasy through drug dealing. In contrast, no subjects reported committing property crimes to pay for their ecstasy. Thus, although there has been an increase in the percentage reporting these crimes since 2000 (13% versus 2%), it is unlikely that users are committing these crimes to finance their ecstasy use (see Table 19 for comparisons with 2000).

Nearly 13% of subjects reported committing at least one property crime in the previous month, with 7% committing these crimes less than once per week and 6% at least once per week. The three subjects who had committed a violent crime all reported one incident only in the previous month. There were two subjects who had been arrested in the previous 12 months. One was arrested for drug possession/use and the other for drug dealing.

Table 18: Criminal activity among ecstasy users in the present sample

	% sample (*n*=70)
Crime committed in previous month	
Property crime	13 (*n*=9)
Drug dealing	44 (*n*=31)
Fraud	9 (*n*=6)
Violent crime	4 (*n*=3)
Any crime	53 (*n*=37)
Arrested in previous 12 months	3 (*n*=2)

3.7.2 Key informants

The key informants all agreed that criminal behaviour is not generally associated with ecstasy use. Two observed that some commit traffic offences such as speeding or drink-driving, as well as drug possession (usually for cannabis). However, they emphasised that they do not tend to commit violent crimes. Violence is not part of the dance/rave culture; indeed it is quite the reverse. People are there to dance, socialise and have a good time, and violent or offensive behaviour is frowned upon. Five key informants said that some ecstasy users will also sell ecstasy, but are not dealers in the true sense of the word as they do not sell drugs to make a profit. Rather they will purchase large amounts of ecstasy as it is cheaper to buy in bulk, and then distribute it among their friends to ensure that everyone can have a good time, and also to finance their own use. This is consistent with the users' reports.

3.7.3 Comparison with 2000

Table 19 indicates that there has been a large increase in criminal activity from 2000 to 2001. Nearly 53% of the present sample had committed any crime in the previous month compared with 24% in the 2000 sample. This was statistically significant (Fisher's exact test $p<0.01$). The increase was mainly due to an increase in drug dealing and in property crimes, which was also statistically significant (Fisher's exact test $p<0.05$). However, although a significantly greater percentage of subjects in 2001 reported paying for their ecstasy through selling drugs, none reported doing so by committing property crimes. This suggests that these crimes were not related to their use of ecstasy. As mentioned previously, between the 2000 and 2001 groups of ecstasy users may be partly due to differences in the two samples recruited for each year.

Table 19: Criminal activity among ecstasy users in 2001 and in 2000

Criminal activity	**% present sample (*n*=70)**	**% 2000 sample (*n*=50)**
Any crime in previous month	53	24
Drug dealing in previous month	44	24
Property crime in previous month	13	2 (*n*=1)
Fraud in previous month	9	-
Violent crime in previous month	4	2 (*n*=1)
Paid for ecstasy through dealing drugs	46	20
Paid for ecstasy through property crime	-	2 (*n*=1)

3.7.4 Summary – Criminal activity, 2001 sample

- *Nearly 53% of ecstasy users reported committing at least one crime in the previous month, which is significantly higher than the percentage recorded in 2000 (24%)*
- *The most common crimes were dealing drugs (44%) and property crimes (14%), and two subjects had been arrested for drug-related activities*
- *The majority of users who reported dealing drugs emphasised that this was to enable distribution to their friends at a discounted price, not to make a financial profit*

3.8 Perceptions of police activity towards participants in the party drug market

3.8.1 Present sample

All but one of the ecstasy users were able to comment on whether there had been any recent changes in police activity over the previous six months (Table 20). The majority (61%) reported that police activity had remained stable, and 7% reported a decrease. The remaining 30% reported an increase in police activity towards party drug users. This is much higher than in 2000, where only four subjects (8%) reported an increase. These subjects were asked to describe the perceived changes in more detail. They consistently stated that there had been an increase in police officers appearing during and after rave parties, both at private and public venues. However, they don't tend to approach or question people at these venues, but observe what is happening and look out for any potential problems arising. Some users said that the police focus more on drug dealing rather than using, which is consistent with reports from the two key informants who were police officers (see following section). There were also reports of an increase in police presence on the streets, and some searching of cars in car parks outside raves and clubs. Several users mentioned that undercover police operated in clubs, but they "stick out" as being police officers and people know not to approach them.

This increase in police presence does not appear to have affected the availability of ecstasy, with only 11% of subjects reporting that police activity has made it more difficult to obtain or 'score'. Similarly, 70% of subjects had not had their friends arrested or cautioned by the police recently, and the remaining 30% believed that a greater number of their friends had been approached by the police in the previous six months.

Table 20: Perceptions of police activity among ecstasy users in the present sample

Perception	**% sample (*n*=70)**
Changes in police activity in previous six months	
Don't know	1
More activity	30
Stable	61
Less activity	7
More difficult to obtain drugs in previous six months	
Yes	11
No	89
Friends arrested more in previous six months	
None of friends arrested/remained stable	70
Less	-
More	30

3.8.2 Key informants

The two police officers that were interviewed as key informants were specifically asked to comment on their experiences with ecstasy. They noted that the arrest rate is very low for ecstasy users, and that police tend to focus more on sellers and dealers. They are however limited by the location in which ecstasy use (and dealing) occurs. As this is often at raves or nightclubs, it is difficult for police to remain inconspicuous. There has been an increase in the number of tablets seized at a transportation level, mainly at airports and in car searches. Seizures of ecstasy do not often occur at domestic premises.

Six key informants (50%) had not heard of any changes in police activity towards ecstasy users over the previous six months. Of the remaining six, five thought there had been an increase in activity and one noted a decrease. Consistent with the users' reports, those who reported an increase said there was a larger police presence at raves and nightclubs, as well as a greater number of street patrols. However, as noted by the users, key informants said that the police tend to just observe, and will approach people and search cars if they suspect a drug deal is taking place. The key informants also highlighted that it is difficult to place undercover police in clubs as the majority of people are young and can spot them easily as they tend to look much older.

3.8.3 Comparison with 2000

The differences observed between 2001 and 2000 are mostly due to the large percentage of users in 2000 (78%) who were unable to comment on changes in police activity. Comparing the data only for those who were able to provide information (*n*=69 in 2001 and *n*=11 in 2000), the percentages were very similar. The only difference was that there were no subjects in 2000 who reported a decrease in police activity, compared with 7% in 2001.

Table 21: Perceptions of police activity among ecstasy users in 2001 and in 2000

Perception	**% present sample (*n*=70)**	**% 2000 sample (*n*=50)**
More police activity recently	30	8
Less police activity recently	7	-
Police activity remained recently	61	14
Unable to comment on police activity	1	78
Police activity not made more difficult to score	89	86
Number of friends in trouble with police stable/none arrested	70	76
More friends in trouble with police recently	30	16

3.9 Other trends in the party drug market

Nearly all subjects (*n*=66; 94%) had perceived recent changes in the party drug market in Adelaide, or had other comments to make regarding patterns and trends in ecstasy use or other party drugs. A wide range of changes was noted, but several common themes emerged. Firstly, a large number of subjects spoke about changes in the type and number of people using ecstasy. It was consistently reported that there has been an overall increase in the number of people taking ecstasy. Two subjects observed an increase in females, and 10 said that the users are getting younger. Five also observed a trend for people to choose ecstasy over alcohol as there is less aggression and violence associated with ecstasy use.

Nearly one-fifth of the sample commented on an emerging trend for ecstasy use to be moving away from the dance or rave scene. One subject commented that ecstasy is "moving out of counter-culture dance scene and has become more mainstream and commercial". It is frequently used by all types of people, not just the young "ravers or clubbies". Older people are using ecstasy, but are more likely to take it at private parties or in their home environment. Several subjects observed that ecstasy is being used by "straight, conservative people who you would never expect to be users".

Many subjects commented on changes in the methods of ecstasy use. Four noted an increase in injecting of both ecstasy and drugs generally; people are discovering that the effects are more intense and that the onset of action is much quicker. For the same reasons, one subject also reported an increase in snorting of ecstasy by crushing the tablets. Four subjects said there has been an increase in the variety of ecstasy tablets available, with different colours and shapes. Specific pills are marketed as having certain effects, and users can choose which ones they take depending on the effects they want to experience. One subject talked about the emergence of 'blue caps', which are cheap, and cause adverse side-effects such as fever, vomiting and chest infections. These capsules are sold as ecstasy but probably contain ketamine. Consistent with this, 11 subjects observed that what is sold as ecstasy often does not contain MDMA, but a variety of other substances including methamphetamine, heroin, PMA, LSD and cocaine, and users can never be completely sure what they are taking. One subject said that people are aware that ecstasy is laced with other drugs. Many don't care, they actually prefer this as it is something new and different. PMA is sold separately ('Dr Death') and is very popular among users as it is being marketed as a more intense version of MDMA.

One subject commented that ecstasy tablets give you either a "smackie or a speedie effect". Another said that for every good quality pill that comes out there is also a cheap, impure imitation. This subject described an international website (www.pillreports.com) that is accessed by people who want general information on ecstasy, or who want to know about a specific type of tablet. The site has users' ratings of certain pills, pictures of the various tablets and warnings on what to avoid and the effects of each tablet. Finally, nine subjects noted an increase in people taking multiple tablets to achieve the desired effects. There was disagreement and uncertainty as to whether this was due to increased tolerance to the drug or the decreased strength of the pills. One subject commented that "one [tablet] doesn't seem to be enough any more".

Several subjects commented on changes in the price, purity and availability of ecstasy. Five said that the ecstasy that comes from overseas or interstate is much stronger and that the pills produced locally are of poor quality. The tablets from overseas are properly pressed with

logos and look very professional. Three observed that ecstasy is much cheaper if it is bought in bulk, for example, if you buy 10 tablets they will cost you $35 each instead of $45-$50, and if you buy 50 tablets you get one free. Seven subjects said that the availability of ecstasy has increased markedly. However, this does not necessarily reflect how much is out there; if you are part of the scene then it is easy to obtain ecstasy through friends and the people that you meet. If you are involved in the scene then ecstasy and other drugs will be cheaper and more available. One subject noted that there tends be an increase in the availability of ecstasy as well as an increase in the price if there is a big rave or dance party coming up, as the dealers know there will be a high demand.

There were also many comments made about the emerging popularity of other drugs among party drug users. Twelve subjects said there has been an increase in poly-drug use generally, people are eager to experiment with new drugs. Some users are becoming a bit bored with ecstasy and want to try new things. Subjects consistently reported the increasing use of three drugs: fantasy, ketamine and crystal meth. Fantasy and ketamine are reported to be very strong at the moment, and are causing people to collapse. Two subjects also said that they are often given to women in clubs and used as date-rape drugs. One subject said that people are drinking high caffeine drinks (e.g. Red Bull) to maintain energy for dancing, and that the mixture of these drinks with ecstasy is also causing problems.

Finally, subjects talked about the positive and negative effects they had experienced after taking ecstasy. Eight subjects noticed an increase in adverse effects among themselves and their friends who are regular users. These effects include paranoia, aggression, depression and problems concentrating. Moreover, these negative effects are more prominent, whereas the positive effects (empathy, social closeness) are reduced or no longer part of the experience. In contrast, there were a large number of subjects who commented on their positive experiences with ecstasy. Six emphasised that ecstasy is safe if it is used responsibly and in moderation, used in this way it was described as the "best drug available". Five subjects said that people look after each other, even strangers will look out for you and help you if you need it. People are actively educating and informing themselves before they take ecstasy, and have a responsible attitude towards the drug. They are accessing websites and other media sources, talking to friends, and exchanging information with both friends and dealers who will tell you the strength and the effects of each type of pill.

Several subjects said that dance party and rave venues are being more pro-active; they know that ecstasy will be used so they provide patrons with water, quiet zones, and a safe and comfortable environment with no violence or aggression. Three subjects highlighted the importance of testing kits being readily available to users. One of these subjects said that these kits can potentially save lives, if a tablet is found to contain PMA or ketamine then many people will not take it. Finally, five subjects argued for the legalisation of ecstasy. They said that it will stop or reduce the number of people having problems. If the contents of the tablets are regulated then this will stop the production of tablets containing impurities, and people know exactly what they are taking. Two subjects said that the public is misinformed about ecstasy and incorrectly associate it with the use of harder drugs. They believed this is a misconception, as ecstasy is a party drug, not a daily habit or addiction.

The key informants also provided information on recent changes and emerging trends in the party drug market. Again, several common themes emerged, and many of these were consistent with the comments from ecstasy users. Firstly, eight key informants spoke about changes in the methods of ecstasy use over the previous six to 12 months. One said there had

been an increase in injecting of ecstasy, and a further two had noted an increase in crushing and snorting of tablets. Two key informants said there had been an increase in the strength of the pills, with users needing to take less to achieve the same effects. One key informant who works as a health promotion worker and who has contact with ecstasy users both through work and personal contacts said that regular users have reported a change over time from the hallucinogenic effects of ecstasy (including closeness, empathy and enhanced perception) to stimulant effects. However, three key informants reported a *decrease* in the strength of ecstasy and that users are taking more pills more often to achieve the same effects. This suggests that the strength of ecstasy is fluctuating, and is consistent with the users' reports. Around 44% of users in this sample reported that the current purity of ecstasy fluctuated, and 31.4% also said that the purity had been fluctuating over the previous six months.

Seven key informants spoke about changes in the type and number of people using ecstasy in the previous six to 12 months. They all agreed that there has been an increase in the number of users. There seems to have been a shift away from just using ecstasy at raves and clubs, and the users are more mainstream, that is, not just "ravers and clubbies". The users are also getting younger, but tend to continue using into their twenties and thirties. The two key informants who work as telephone counsellor for ADIS also noted an increase in the number of calls from people wanting information on the effects of ecstasy before they tried the drug.

Several key informants also commented on the types of drugs taken by ecstasy users. Seven observed an increase in the use of fantasy, estimated to be taken by 60% to 80% of ecstasy users. Two also noted an increase in ketamine use, and one had heard reports that it is used as a "date-rape" drug, which in the past has been associated with the benzodiazepine Rohypnol. It was generally agreed that ecstasy users like to experiment with a variety of drugs, and tend to be poly-drug users. A key informant who works as a police officer noted an increase in people knowingly taking PMA. The symptoms are more intense than MDMA, and this KI noted that the onset of action is also much slower. As a consequence, many users take multiple pills as they think the drug isn't working, and when the effects do manifest themselves there is the increased risk of experiencing negative effects and even overdose.

4.0 SUMMARY AND IMPLICATIONS

4.1 Summary of results

4.1.1 Demographic characteristics and patterns of drug use

The results of this study indicate that party drug users, a population defined in this study by regular use of tablets sold as 'ecstasy', tend to be young, well-educated, heterosexual, from English speaking backgrounds and were either employed or currently studying. Subjects did not report contact with police or other social authorities and did not come from socially deprived backgrounds, and few engaged in crimes other than drug dealing. None were currently in treatment for a drug-related problem and none had a previous criminal conviction.

Subjects typically began to use ecstasy in their late teens, with a mean age of initiation of 19.2 years. The frequency of use varied from once per month to two days per week, with a median of 13 days of use in the previous six months (once per fortnight). One-fifth of the

sample reported using ecstasy at least once per week. Just under half (49%) had 'binged' on ecstasy in the previous six months, defined as continuous use for more than 48 hours. Nearly 59% of the sample had used more than three tablets in a single use episode in the previous six months, and 61% reported that they 'typically' used more than one tablet. Consistent with other reports, use of ecstasy was primarily through oral routes, but 11% had injected ecstasy.

As with other Australian samples of party drug users (e.g., Boys, Lenton & Norcoss, 1997), this sample were extensive poly-drug users, 46% of whom nominated ecstasy as their favourite drug. The average number of drugs ever tried by subjects (including ecstasy) was 9.4, and an average of 7.6 drugs had been used in the previous six months. The most commonly used drugs in the previous six months were alcohol (94%), cannabis (89%), powder methamphetamine (74%), point methamphetamine (70%) and tobacco (67%). Furthermore, 53% had used nitrous oxide in the previous six months and 50% had used LSD. Substantial percentages of the sample regularly used drugs such as tobacco, alcohol, cannabis, powder methamphetamine, point methamphetamine and nitrous oxide concurrently with ecstasy, and drugs such as cannabis, tobacco, alcohol, point methamphetamine, nitrous oxide, powder methamphetamine and benzodiazepines to ease the 'come down' or recovery period following acute ecstasy intoxication. The unpredictable effects of combining use of such as broad range of psychoactive drugs is cause for concern, and warrants ongoing research and education aimed at clarifying and communicating the risks involved.

On average, subjects reported 10.8 recent physical and 5.7 recent psychological side-effects which they perceived as due, at least in part, to their use of ecstasy. The physical side-effects that were attributed *solely* to ecstasy use by more than 70% of those who reported them included blurred vision, vomiting, tremors or shakes, numbness or tingling, hot/cold flushes, inability to urinate and loss of appetite. Moreover, side-effects such as dizziness, loss of energy, trouble sleeping, headaches, heart palpitations, stomach pains and teeth problems as a result of grinding and jaw clenching were attributed solely to ecstasy by between 50% and 70% of subjects who reported them. All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and in most cases by over 70%. The side-effects attributed to ecstasy by at least three-quarters of subjects included depression, confusion, irritability, memory lapses, visual and auditory hallucinations, flashbacks and violent behaviour. These side-effects were consistent with those described in earlier reports of ecstasy users, although current Australian research reports a higher incidence of side-effects among users than earlier research conducted internationally (e.g., Cohen, 1995; Curran & Travill, 1997; Hayner & McKinney, 1986; van Laar & Spruit, 1997). These studies reported adverse effects on mood and cognition after a weekend of ecstasy use (Curran & Travill, 1997), as well as physiological effects such as heart palpitations, tremors, hypertension, sweating and jaw clenching (van Laar & Spruit, 1997). An Australian study by Topp *et al.* (1997) also found evidence of a dependence syndrome for ecstasy users. This study interviewed 185 current ecstasy users using an interview schedule developed by the World Health Organisation. It was found that almost half the sample met the criteria for ecstasy dependence, including those who only used ecstasy infrequently (once per fortnight). Subjects also reported significant levels of ecstasy-related harm, although few believed that their use of ecstasy was problematic and disruptive in their lives.

Ecstasy-related work, relationship and financial problems were also reported relatively frequently by the present sample, and although many of these were minor, some constituted significant disruptions to functioning, including loss of employment, ending of relationships, and an inability to pay for food or rent.

4.1.2 Price, purity and availability

Forty dollars is currently the standard price for a single tablet of ecstasy in Adelaide, with a range of $15 to $50. The price has generally remained stable or decreased in the previous six months. Nearly all ecstasy users reported that ecstasy is easy or very easy to obtain, and that the availability has generally remained stable or increased in the previous six months. Ecstasy is readily obtained from a number of sources, in the majority of cases from friends, acquaintances or dealers. It was agreed by both ecstasy users and key informants that virtually all ecstasy available in Adelaide in the six months preceding the interview came in tablet form.

Reports of the purity of ecstasy were inconsistent in both ecstasy users and the KI, with just over half of ecstasy users finding the current purity to be medium or high, and one-third reporting that it fluctuates. The KI suggested that the level of purity is dependent on who manufactures the drug; whether it is locally made or imported from interstate or overseas.

The subjects in this sample were also able to comment on the price, purity and availability of many other party drugs, including LSD, methamphetamine and MDA, and to a lesser degree, ketamine and GHB. Overall, the results indicated that these drugs are readily available, of medium to high strength, and that the price has generally remained stable over the previous six months. The fact that most subjects felt confident enough to comment on these drugs suggests that they were quite experienced in using other party drugs, and that there is a market for these drugs in Adelaide.

4.1.3 Comparison with other data sources

It is useful to compare the results reported in this study with those in the core IDRS study (Longo *et al.*, 2002). The main study found that ecstasy was not widely used among the group of injecting drug users. Although 55% reporting ever having used ecstasy, only 24% had used in the previous six months. The subjects in the main study mostly used heroin and methamphetamine, and a smaller number had recently used other party drugs such as hallucinogens and inhalants. In contrast, only eight ecstasy users in this sample had ever used heroin (11%), and three had used in the previous six months. This suggests that the subjects in the main study are a distinct and separate group from the ecstasy users interviewed in this study, and thus validates extending the main study to include a party drugs component.

It is interesting that the rates of injecting ecstasy were much higher in the core IDRS study. Twenty-six of the IDU had ever injected ecstasy, and 12% had injected in the previous six months. This contrasts with the ecstasy users in this study. Only 11% of these had ever injected ecstasy, and 9% had done so in the previous six months. Moreover, only 22% of subjects in the main study had taken ecstasy orally in the previous six months, compared with all of the ecstasy users in this study. This also supports the finding that the ecstasy users in the party drugs component comprise a separate group of drug users, distinct from the IDU interviewed in the core study.

The demographic characteristics of ecstasy users were generally similar to those in the main IDRS study that reported ever having used this drug. A slightly lower percentage of ecstasy users were male (53% versus 62%), and the ecstasy users were much younger (mean age 22.2

years versus 30.8 years). However, subjects in the main study were more likely to be unemployed (76% versus 10%), currently be in drug treatment (42% versus 0%), and had a prison history (42% versus 0%).

The age of the ecstasy users was consistent with NDS data reporting use in the general population. These data indicate that ecstasy use is most prevalent among the 20-29 year age group. However, the NDS data report higher rates of ecstasy use among males. In contrast, the results of this study show that ecstasy use is fairly evenly distributed among males and females. It is possible that there has been a change since the NDS survey was carried out in 1998, with an increase in the number of females using ecstasy in recent times.

The average price of ecstasy reported in this study ($50) by both users and KI was similar to the price range reported by the ABCI, which was between $35 and $80. The ABCI data also reported that the purity of ecstasy has remained stable at 37% (37% in 2000). There was no consistent agreement in the present study, around 44% believed the current purity was medium to high, but a further 44% said it was fluctuating.

4.1.4 Comparison with 2000 data

Overall, the demographic characteristics of ecstasy users in Adelaide in 2001 were not significantly different from those reported in 2000. There were also similarities between the two samples in terms of their ecstasy use specifically, as well as the number of drugs ever used and recently used. However, there were some differences. Although the percentage who reported using ecstasy weekly or more dropped from 34% in 2000 to 20% in 2001, the percentage who typically used more than one tablet when they did take ecstasy was higher in the 2001 sample (61% compared with 44%).

The percentage of subjects who attributed the psychological side-effects they had experienced *solely* to their use of ecstasy was also much higher in the 2001 sample. All of the psychological side-effects were attributed solely to ecstasy use by at least 50% of those who reported them, and in most cases by over 70% of subjects. In contrast, in the 2000 sample all of the psychological side-effects were attributed solely to ecstasy use by less than half of subjects who reported them.

4.2 Methodological issues

One of the main aims of the party drugs component of the IDRS which began in 2000 was to examine the feasibility of using the extant IDRS methodology to monitor emerging trends in the party drug market. The results contained in the 2000 report clearly demonstrated that, with minor adjustments to the methodology, the IDRS can successfully monitor trends in this market. As 2000 was the first year that the party drugs component was carried out in Adelaide, the present report was also able to draw comparisons between the data obtained in the previous year and those obtained in 2001.

4.2.1 The appropriate sentinel population

The 2000 and 2001 IDRS party drugs component clearly demonstrated that it is possible to access a sentinel population of illicit drug users who are able to provide information about emerging trends in the party drug market. This population is necessarily different to the population of injecting drug users (IDU) that is accessed in the main IDRS. In support of the need to interview different drug users in the two components is the observation that only 24% of the IDU sample had used ecstasy in the six months preceding the interview, on an average of only one day (Longo *et al.*, 2002). Similarly, only 6% of the IDU sample reported using inhalants such as amyl nitrate or nitrous oxide in the previous six months, compared with 17.1% and 52.9%, respectively, of the ecstasy users in this study. Although a reasonably high percentage of the IDU sample had used hallucinogens in the same time frame (19%) on an average of three days, this was still much lower than the rate reported by the ecstasy users in this study. Fifty percent of these had used LSD in the previous six months, and many also reported using magic mushrooms, which also has hallucinogenic properties. Clearly, the limited exposure of the IDU to drugs such as ecstasy renders this group inappropriate to provide the detailed information required in the party drug component. It is therefore reassuring that an appropriate group of illicit drug users, who were able and willing to provide the required information, were accessed with relative ease. Moreover, this sample contained a reasonably small percentage of past heroin users (11%), and only three subjects had used heroin in the previous six months, on an average of only one day. Furthermore, statistical analyses throughout the report demonstrated that the results pertaining to ecstasy-related harm could not be accounted for by an over-sampling of intravenous poly-drug users.

4.2.2 Number of subjects to be interviewed

Funding restrictions limited the size of the South Australian sample to 50 subjects in 2000. In 2001 the sample size was increased to 70 subjects. Larger sample sizes are preferred as ecstasy is a relatively new drug in Australia, having been widely used for only a decade. Although it is likely that it will remain an established part of the illicit drug landscape in this country, equivalent indicator data sources such as those that exist for heroin or other illicit drugs are yet to be developed. For example, in the main arm of the IDRS, the results are validated by their consistency with the Australian NSP Survey (MacDonald & Topp, 2000). Other data, such as those from the Australian Bureau of Statistics on overdose deaths and toxicology results from state drug analytical laboratories from the urine tests of intoxicated drivers and methadone clients, are also used to validate the subjective reports of IDU and KI to allow more confidence to be placed in the results. Such established and varied sources of indicator data do not yet exist for party drugs, and thus the main sources of data currently available to allow the monitoring of trends in these markets are the reports of users themselves. In a situation in which the monitoring of trends is heavily dependent on information collated from users, a methodologically rigorous study will be one that seeks to interview a broad range and large number of users.

Related to this is the fact that, as yet for ecstasy, there is no professional equivalent to the methadone worker or NSP worker who is able to provide a wealth of information about heroin or amphetamine injectors, knowledge of which the IDRS can take advantage. By their very nature, ecstasy users are highly functioning members of society who are likely to be employed or engaged in studies. They are less likely to present for treatment, to have major legal problems or to die from drug-related complications. In general, they are a much less

'visible' population of illicit drug users than IDU. Therefore, the sample of KI recruited for the party drug component of the IDRS reported their main contact with ecstasy users was through personal or social networks. Although many were drug treatment workers, they had limited experience with ecstasy compared with other drugs (see Section 2.2). Thus, in many cases, KI who are appropriate for the party drug component of the IDRS are not necessarily as knowledgeable as are KI who participate in the main IDRS. Accordingly, this leads to a heavier dependence on the data collected in the user interview component, such that interviewing a larger sample of users is desirable.

4.2.3 Drawing comparisons over time

There are methodological limitations inherent in drawing comparisons between different samples across time, such as those that were drawn in the present report between the ecstasy users recruited in 2001 and those recruited in 2000. In survey research, such as that described and reported here, inferences about the entire population are drawn from the results of studies of sample (Kerlinger, 1986). By definition, illicit drug use is a hidden and socially stigmatised activity. Due to the inherently "hidden" nature of such drug use (Griffiths *et al.*, 1993), it is impossible to define the parameters of an illicit drug-using population (such as ecstasy users in Adelaide, for example), and therefore to obtain a random sample of that population. Although it is perfectly appropriate to draw comparisons across time between random samples drawn from the same population, because such samples can be considered to represent the entire population (Kerlinger, 1986), it is somewhat less appropriate to do so when the samples to be compared are not random and it cannot be confidently ascertained that they represent the entire population from which they were drawn.
The ecstasy users recruited for both the present study and the study conducted in 2000 were obtained through purposive sampling (characterised by the use of judgement and a deliberate effort to obtain representative samples by including presumably typical groups in the sample; Kerlinger, 1986), rather than the more desirable probability sampling (in which each sampling unit has a known probability of being selected such that inferences about the population can be derived from the sample with a measurable degree of precision; Lilienfeld & Lilienfeld, 1980). Although in both studies every effort was made to recruit as wide a cross-section of subjects as possible, it is not possible to state with complete confidence that one or both samples represented the entire population of ecstasy users in Adelaide. Therefore, caution must be exercised when interpreting differences between the two samples as indicative of changes in the ecstasy market over the intervening years.

However, in support of the notion that drawing such comparisons is a reasonable analysis strategy, it should also be noted that the methodology of the two studies was identical. Recruitment methods and entry criteria were the same in both studies, the questions asked of subjects were the same, and the first author of the present report interviewed all subjects in both studies. It is therefore considered that drawing comparisons between the samples is an appropriate strategy and that doing so provided valid information on changes in the ecstasy market between 2000 and 2001. It is also considered that continuing to implement the same methodology in the future will allow the successful monitoring of trends in this market over time, as has now occurred in the main IDRS for five years (Darke, Hall & Topp, 2000).

4.3 Implications

The results contained in this report clearly demonstrate that, with minor adjustments to the methodology, the IDRS can successfully monitor trends in the party drug market. This is information that cannot be obtained through the extant IDRS, due to the low rates of exposure of IDU to party drugs such as ecstasy and LSD. NDS Household Survey data and the reports of both ecstasy users and KI indicate that over the previous decade, ecstasy has become firmly entrenched in the illicit drug landscape of this country, and all indications are that this is unlikely to change. Indeed, a youth culture that revolves around the use of drugs like ecstasy and associated trends in music and fashion is evident not only in Australia but throughout the Western world (EMCDDA, 2000).

It remains unclear what the long-term effects of chronic ecstasy use will be, but the evidence continues to mount that the drug is neurotoxic to serotonergic regions of the brain and that current heavy users may be likely to experience elevated risk of mood disorders and cognitive dysfunctions in the future (Boot, McGregor & Hall, 2000; Hegadoren, Baker & Bourin, 1999). It must be acknowledged that it is difficult to ascertain exactly what users take when they purchase tablets purported to contain ecstasy in Adelaide, as well as to unravel the effects of concurrent poly-drug use. However, this is not reason enough to discontinue the sort of monitoring in this market which the IDRS has successfully conducted in other Australian illicit drug markets for five years (Darke, Hall & Topp, 2000). Substantial rates of drug-related harm were reported by the current sample of ecstasy users, as they were in 1997 (Topp *et al.*, 1998). Although authorities have continued to fight to reduce the importation and local manufacture of drugs such as ecstasy in this country, they remain readily available to interested consumers, and in fact have become cheaper, purer, and more widely used since this time. The importance of continued monitoring of such a dynamic market cannot be understated, given the significant immediate and long-term harms that party drug users are at risk of experiencing.

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