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LICIT AND ILLICIT DRUG USE
IN AMSTERDAM II

*Report of a household survey in 1994 on the prevalence of drug
use among the population of 12 years and over*

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The development of drug use

3.1 Introduction

In 1987 and 1990, we conducted surveys almost identical to our 1994 survey on the prevalence of drug use in Amsterdam. With the results for 1994, we are able to evaluate trends found in 1990, or establish new ones. The aim of this analysis was primarily to detect any changes in drug-using behaviour that occurred between 1987 - 1994, i.e. to investigate whether drug use is now more or less widespread than before.

To ensure the validity of our conclusions, we set certain standards for our data. For one thing, we felt that ideally our methods of data collection should be completely consistent. In all three surveys, we applied almost identical instruments to establish drug use figures. Among other things, we used the same questionnaires and the same approach to our respondents, took the same gross and net samples from an identical register of the population. In our previous report (Sandwijk et al. 1991:16), we discussed the possible pitfalls and biases of this kind of survey research, and argued that the possibility of a (constant) bias would have no consequences when comparing figures on drug prevalence over the years.

However, for the 1994 survey, we made one alteration to the method of data collection used in 1987 and 1990: instead of using written questionnaires only, as we did in previous years, half of the respondents were questioned using portable computers. To avoid any possible systematic biases, we decided to limit our data to those collected with identical methods *for our comparisons of drug use figures over time*.

The 1994 net sample which we will work with in this chapter, the 'written version', contains 2,179 cases. For an analysis at the aggregate level as done here, this number is substantial enough. In the following chapters, our analyses will also include the cases compiled using computer interviews so as to minimalize statistical coincidences in working at the multi-variate level. Part II of this report will devote special attention to the question of the quality of data and discuss data collection more extensively.

We also felt it essential to the validity of our comparisons of drug-using behaviour to set a standard for our population. We decided to work with a fairly fixed

population: registered Amsterdam residents aged 12 and over. This was some-thing of a challenge given that a city's population changes over time due to demographic factors: migration in and out of the city, deaths, and a continually new generation of twelve-year-olds. Migration and the other demographic processes operate selectively: the composition of the population may change over the years, for instance with respect to age, gender and ethnic composition. These have proven to be important demographic variables as regarding drug use, and can be checked for their representation of the theoretical population. Minor variations in composition might result in major differences in prevalence figures. Thus, a change in drug prevalence figures over time may indicate a change in behaviour, or simply reflect selective demographic processes and, therefore, the composition of a population.

As can be seen in Appendix 2, there are some differences in demographic composition between the three years. As this study does not aim to compare demographic variables over time and their consequences on drug use, but rather to a study developments in drug using behaviour, all samples must be made comparable with respect to these demographic variables. The 1990 and 1994 samples have been weighted by factors derived from the 1987 sample on age, gender and ethnic composition.

In all analyses of this chapter, all 1990 and 1994 data are weighted with respect to age, gender and ethnic composition. Furthermore, for the 1994 figures, the only data used were taken from the 'written' questionnaire. Figures presented in this chapter can, therefore, not be compared with those in the other chapters of this report.

Before we present the outcome of the comparisons of the developments over time, we should devote some attention to a particular phenomenon related to 'histori-cal' studies of drug use. We called this phenomenon the 'generation effect'. For most drugs, there is a limited age range during which initial use occurs. The initial use of a drug is not evenly distributed over all age groups. In our culture, drug use usually starts among young age groups. Thus, not all present age groups have had equal opportunity to start using a drug introduced in this century. Therefore, lifetime prevalence rates for these drugs are *logically* lower for the eldest age groups.
The older age groups who have had few or no opportunities to use such drugs slowly diminish in number as time progresses. They are replaced by generations who had much easier access to drugs. As a consequence, lifetime prevalence rates for the entire population tend to rise as time goes by - even when the rate of introduction to new users is stable. To get a clear picture of real changes in drug introduction rates, we must make historical comparisons between age groups who have had equal 'access' to drugs.

In the next section we will present the weighted prevalence figures for 1994, together with those for 1987 and 1990 (of which the latter are also weighted).

General prevalence rates will be discussed, as are continuation rates, incidence and cessation of drug use.

To eliminate the generation effect, we analysed the developments of drug use prevalence per age group and present our conclusions in Section 3.3.
Section 3.4 deals with the subject of age at the onset of use: does the age of initial use today differ from that of the population questioned in 1987 and 1990?

3.2   Developments in drug use prevalence

On comparing the 1994 survey with those of 1987 and 1990 (Table 3.1) we made one very significant finding: the prevalence rates (on the items lifetime, last year and last month use) of all licit drugs (tobacco, alcohol, hypnotics and sedatives) have remained more or the less the same[1] since 1990.

Tobacco and alcohol show only minor decreases as compared to 1990. The rate at which the numbers decrease between 1990 and 1994 is too slow to establish a clear-cut (statistical) relationship. However, we can identify a clear trend if we take figures for 1987 into consideration.

Drugs with rising levels of lifetime prevalence are cannabis and ecstasy. Cannabis use has increased since 1987. At least part of the increase in lifetime prevalence can be explained by the generation effect, since this drug was not available until the sixties. The rising levels for the items last year and last month

Table 3.1   Developments in drug use prevalence 1987 - 1994

drug	Lifetime prevalence			Last year prev.			Last month prev.			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
tobacco	71.6	67.4	65.3 °	49.6	46.3	44.9 °	45.9	42.5	40.0 °	4376	4443	2170
alcohol	87.6	85.7	84.5 °	78.8	77.4	76.0 °	71.1	68.4	68.3 °	4370	4443	2168
hypnotics	20.0	18.7	19.0	11.2	9.4	9.8	8.2	6.5	6.4 °	4372	4440	2169
sedatives	22.2	20.2	20.8	10.7	9.2	9.7	7.3	5.9	6.0	4374	4438	2152
cannabis	22.8	24.0	28.5 °	9.3	9.8	10.5	5.5	6.0	6.4	4370	4440	2166
cocaine	5.6	5.3	6.0	1.6	1.2	1.6	0.6	0.3	0.8	4371	4438	2136
amphetamines	4.4	4.0	4.3	0.6	0.5	0.4	0.3	0.2	0.3	4366	4438	2164
ecstasy	-	1.2	3.4	-	0.7	1.7	-	0.1	0.9	-	4440	2126
hallucinogens	3.8	3.9	4.3	0.4	0.3	0.4	0.1	0.1	0.0	4370	4428	2140
inhalants	1.1	0.9	1.3	0.3	0.1	0.1	0.2	0.0	0.1	4366	4428	2156
opiates (all)	9.2	7.2	8.5	2.4	1.9	2.3	1.1	0.6	0.7	4360	4422	2179
heroin	-	1.1	1.2	0.3	0.1	0.2	0.2	0.0	0.0	4360	4422	2179
no drug at all	6.3	8.1	9.3 °	12.0	14.2	14.9 °	17.4	20.4	20.1 °	4378	4443	2179
pharmac. drug	36.6	32.9	33.5 °	19.1	16.7	17.1	13.2	10.9	10.7 °	4378	4443	2179
illicit drug †	23.6	24.7	29.1 °	9.8	10.3	11.2	6.0	6.3	6.7	4378	4443	2179
difficult drug †	8.2	8.1	10.0 °	2.2	2.0	3.0	1.1	0.8	1.5	4378	4443	2179

† In 1987, heroin and xtc are not included.   Sign. test Chi sq. • p <.05 (1987-1990, 1990-1994)   ° p <0.5 (1987-1994)

prevalence of cannabis use represent a real increase in drug-using behaviour. Ecstasy also showed an increase on the items last year and last month prevalence, which is mainly due to the recent introduction of the drug on the market and its relatively fast diffusion. This could be described as a special kind of generation effect, only not just with respect to the extreme age cohorts, but to the entire population. To distinguish this process from the generation effect, we will call it the 'introduction effect'. This effect is not only responsible for rising lifetime prevalence, but also for the increase in recent and current drug use.

The prevalence rates for cocaine use appear to have returned to 1987 levels, although this might also be due to statistical fluctuations. Last month prevalence of cocaine use (0.8%) had reached its highest level since we started measuring. It was significantly higher than in 1990 (0.3%), but not significantly higher than in 1987 (0.6%).

Developments in the use of other drugs are less clear. Considering the generally low levels of prevalence, the figures have a lower level of reliability, i.e. the behaviour of a few respondents can cause relatively large variation due to the small numbers of respondents in these categories. Even if we were to discard our requirement that shifts be supported by a high level of statistical significance, we would not be able to establish a coherent picture. Most drug use remains at roughly the same level or increases slightly. The only exception are opiates (pharmaceutical and/or illicit), for which we encountered more lifetime users.

If all difficult drug users are treated as one group, all prevalence rates rise significantly, with 0.7 percentage points for the item last month use, to almost two

Table 3.2   Developments in continuation rates of drug use prevalence from 1987 - 1994

| | | continuation rate | | | | | | N   lifetime | | |
| | | last year | | | last month | | | | | |
drug	87, 90, 94	1987	1990	1994	1987	1990	1994	1987	1990	1994
tobacco	100	69	69	69	64	63	61	3133	2993	1417
alcohol	100	90	90	90	81	80	81	3827	3809	1833
hypnotics	100	56	50	52	41	35	34 °	873	832	413
sedatives	100	48	46	47	33	29	29	970	896	447
cannabis	100	41	41	37	24	25	22	996	1066	617
cocaine	100	28	23	27	11	6	14	246	236	128
amphetamines	100	14	12	10	7	6	8	193	177	92
ecstasy	100	-	54	50	-	9	26	-	54	72
hallucinogens	100	11	8	10	3	2	0	167	172	93
inhalants	100	23	15	11	15	5	7	47	41	27
opiates (all)	100	26	27	27	12	9	9	402	320	185
heroin	100	-	13	15	-	2	0	-	48	26
pharmac. drug	100	52	51	51	36	33	32	1603	1460	731
illicit drug †	100	42	42	38	25	26	23	1032	1097	635
difficult drug †	100	26	24	30	14	9	15	360	358	218

† In 1987, heroin and xtc are not included among illicit drugs.

percentage points for lifetime prevalence. At the same time, general abstinence from drug use also increased.

A cursory comparison of the continuation rates for the three years (Table 3.2) would reveal a striking similarity for most of the drugs. However, two developments require closer examination. Cocaine and ecstasy both had substantially higher scores on the item last month continuation rate for 1994 than for 1990. Again, the figures for ecstasy are due to its recent introduction: the relatively large percentage of novice users increases lifetime prevalence as well as last year and last month prevalence. Although the findings on cocaine *may* indicate sustained use on the part of more users than was previously the case, the number of users is too small to test this hypothesis. Further research into this subject is necessary.

Table 3.3 and 3.4 show incidence and cessation rates. In other words: what part of the population actually started drug use in the year preceding the interview, and what part ceased using recently[2]? Figures concerning cessation are only available for 1990 and 1994.[3]

Table 3.3   Developments in incidence of drug use prevalence 1987 - 1994

drug	incidence '87		incidence '90					N ('87)	N ('90)	N ('94)
tobacco	39	0.9	41	0.9	24	1.1		4 376	4 394	2 165
alcohol	68	1.6	91	2.1	31	1.4		4 369	4 262	2 162
hypnotics	109	2.5	93	2.1	46	2.1		4 372	4 383	2 162
sedatives	136	3.1	• 93	2.1	46	2.1	°	4 374	4 393	2 162
cannabis	48	1.1	45	1.0	28	1.3		4 370	4 428	2 162
cocaine	14	0.3	7	0.2	2	0.1		4 371	4 442	2 136
amphetamines	6	0.1	9	0.2	5	0.2		4 366	4 440	2 163
ecstasy	-	-	30	0.7	18	0.8		-	4 443	2 126
hallucinogens	4	0.1	5	0.1	8	0.4		4 370	4 443	2 140
inhalants	-	-	3	0.1	1	0.0		-	4 443	2 156
opiates (all)	41	0.9	40	0.9	24	1.1		4 360	4 424	2 179
heroin only	-	-	2	0.0	2	0.1		-	4 424	2 179

Table 3.4   Developments in cessation of drug use prevalence 1987 - 1994

drug	quit '88 - '89		quit '92 - '93			N ('89)	N ('93)
tobacco	141	4.8	54	3.9		2 941	1 372
alcohol	132	3.5	• 42	2.3		3 754	1 800
hypnotics	-	-	47	12.2		-	385
sedatives	-	-	54	12.9		-	418
cannabis	116	11.1	56	9.9		1 044	564
cocaine	36	15.9	16	13.6		226	118
amphetamines	18	10.7	9	10.7		168	84
ecstasy	16	29.6	14	21.2		54	66
hallucinogens	11	6.5	10	11.5		168	87
inhalants	2	5.1	3	12.0		39	25
opiates (all)	22	7.3	13	7.0		302	185
heroin only	3	6.5	1	3.8		46	26

For alcohol, an initial rise of incidence between 1987 and 1990 has been outweighed by a decrease between 1990 and 1994. The number of people that ceased drinking alcohol, however, has also decreased. We were unable to find a clear (i.e. statistically significant) recent change in incidence or cessation for any other drugs as we had too few respondents.

3.3   Developments in drug use prevalence per age cohort

Since age is one of the most important determinants of drug use, we have devoted this section to analysing developments in drug use per individual age group. For most drugs, we have presented the developments of drug prevalence per age group in a small graph (see Figure 3.1). Some illicit drugs have been omitted, but are listed in the last row of the graph, which represents the development of all difficult drugs as a whole (i.e. all illicit drugs, except cannabis).[4]

The trend in 1990 towards less tobacco use in the youngest age group peters out before 1994. Although scores on the lifetime, last year and last month prevalence items rose slightly in the intervening four years, the increases were not significant. The only significant shift in tobacco use was found for the 30-34 age group, where recent prevalence indicators (LYP & LMP) in 1994 were significantly lower than in 1990.

The prevalence figures on alcohol for the youngest age group plummeted. Fewer young people had tried any alcoholic beverage than was previously the case, although that pattern is not reflected in last year and last month figures. All other age groups showed stable patterns of alcohol use. We noticed some changes in the use of such pharmaceutical drugs as hypnotics and sedatives, but most were insignificant.[5]

Our findings for cannabis prevalence were very different, with significant changes for several age groups. First, all age groups over 35 showed an increased lifetime prevalence of cannabis use, which can be attributed to the generation effect discussed earlier.

However, the generation effect cannot account for the significant increase (lifetime prevalence) among 20- to 24-year-olds. This is a 'real' or behavioural increase, from 36 percent in 1990 to 50 percent of the age group in 1994. Closer analysis reveals that the increase from 1990 to 1994 in the percentage of students in higher education (a group that traditionally has high cannabis prevalence) does not account for the increase in lifetime cannabis prevalence. For students, lifetime cannabis prevalence rose from 49 percent in 1990 to 56 percent in 1994, but rose even higher for non-students from 30 percent in 1990 to 46 percent in 1994! Last year and last month cannabis prevalence figures also showed a general increase for this age group, though we were unable to prove a significant change.

For the younger age groups and the 25- to 29-year-olds, none of the increases in cannabis prevalence were significant.

The increase in ecstasy prevalence in the population as a whole appears to be present in all age cohorts. It is most popular among young people aged 16 to 24. So far, ecstasy has not been used by the 50+ age group, although that is expected to change in the next survey.

We found no noteworthy developments for the other illicit drugs. For difficult drugs such as cocaine, we noticed a generation effect in the 35+ age groups. The younger age groups showed no significant increases or decreases in prevalence levels. Strikingly, the graphs show an increase in the prevalence of ecstasy for all age groups, a trend not visibly paralleled in the graphs for difficult drugs as an aggregate. In other words, the group of ecstasy users probably does not entirely consist of novices, but rather of individuals who use or have used as well. We will return to this subject in Chapter 7.

3.4   Developments in age of initial use

To identify developments in the age of initial use, we examined the relevant 1987, 1990 and 1994 figures for cannabis and cocaine, the two illicit drugs with the highest prevalence rates, as well as for the still relatively new drug, ecstasy. We focused on the figures for the population under forty, since they have the highest prevalence rates. Figure 3.2 shows the results.

A comparison of the graphs for these three drugs would reveal hardly any changes in the age of initial use for cannabis and cocaine or ecstasy (people may still start using in their early thirties, though not later). However, the figures for ecstasy do reveal an increase in its popularity. More people started using ecstasy in 1994, though the age of initial use is much the same as was previously the case.

3.5   Summary

Levels of use of the most widespread drugs, tobacco and alcohol, have remained the same since 1990 as did the prevalence of pharmaceutical drugs.
Collectively speaking, illicit drugs show greater prevalence, a finding primarily attributable to the wider spread use of cannabis and ecstasy. Figures went up by 4.5 percentage points to 29 percent of the population (by 2 percentage points to 10% if cannabis is excluded).

However, this increase is due primarily to the so-called 'generation effect'. This is reflected by stable levels of prevalence for most age groups except the oldest ones. The prevalence rates for ecstasy rose in all age groups where use is existent.

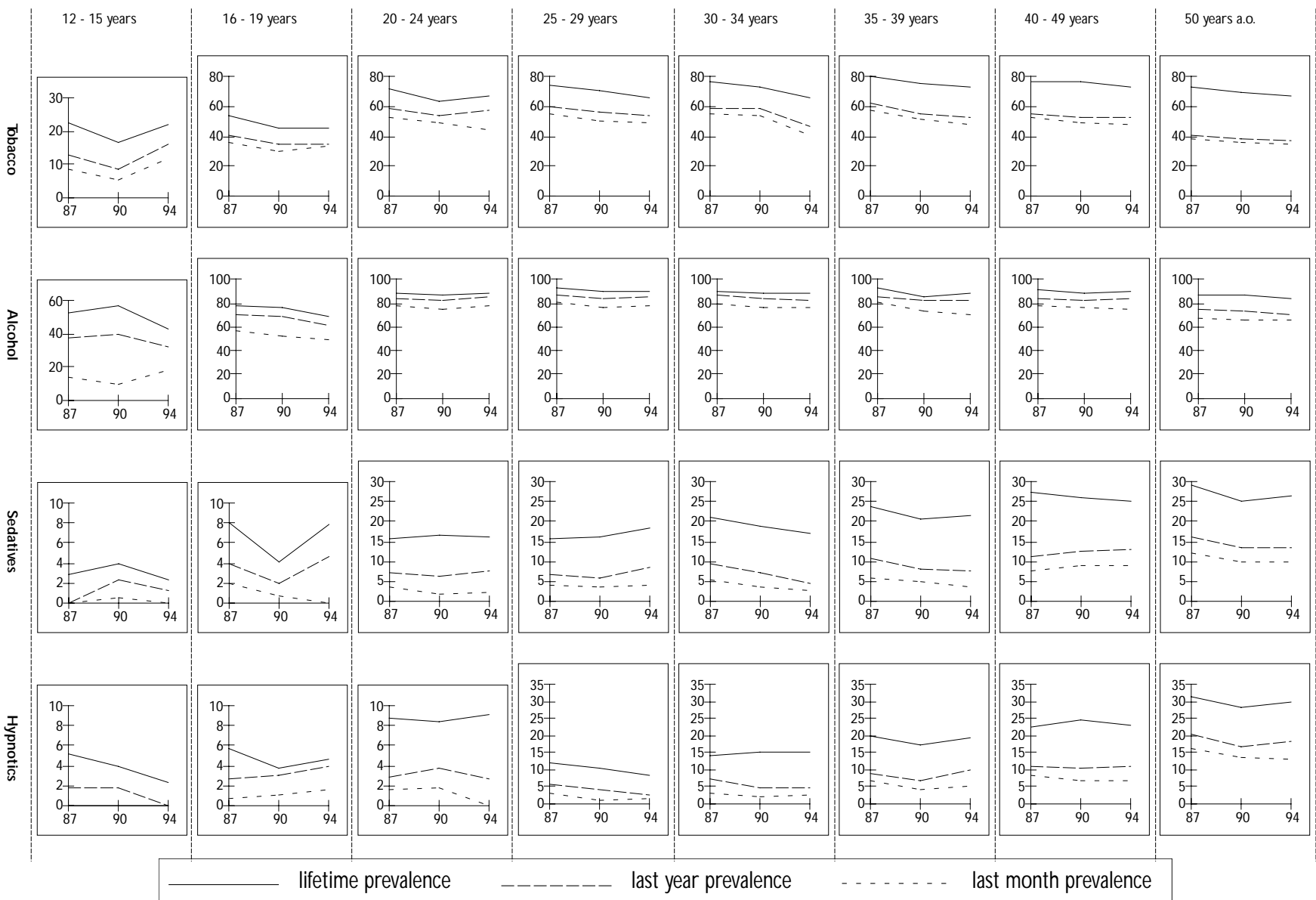Figure 3.1 Developments in drug use prevalence 1987 - 1994 per age group
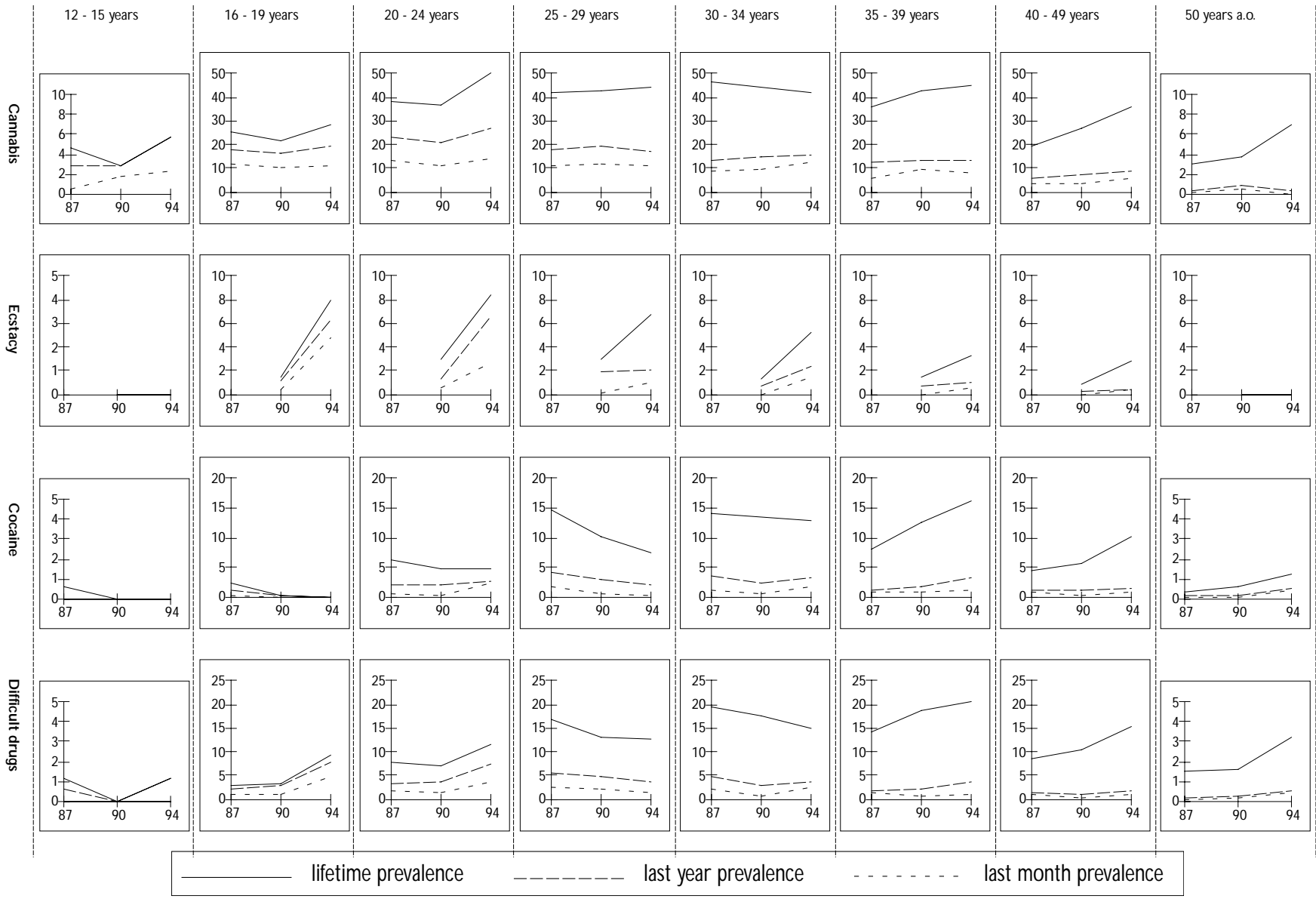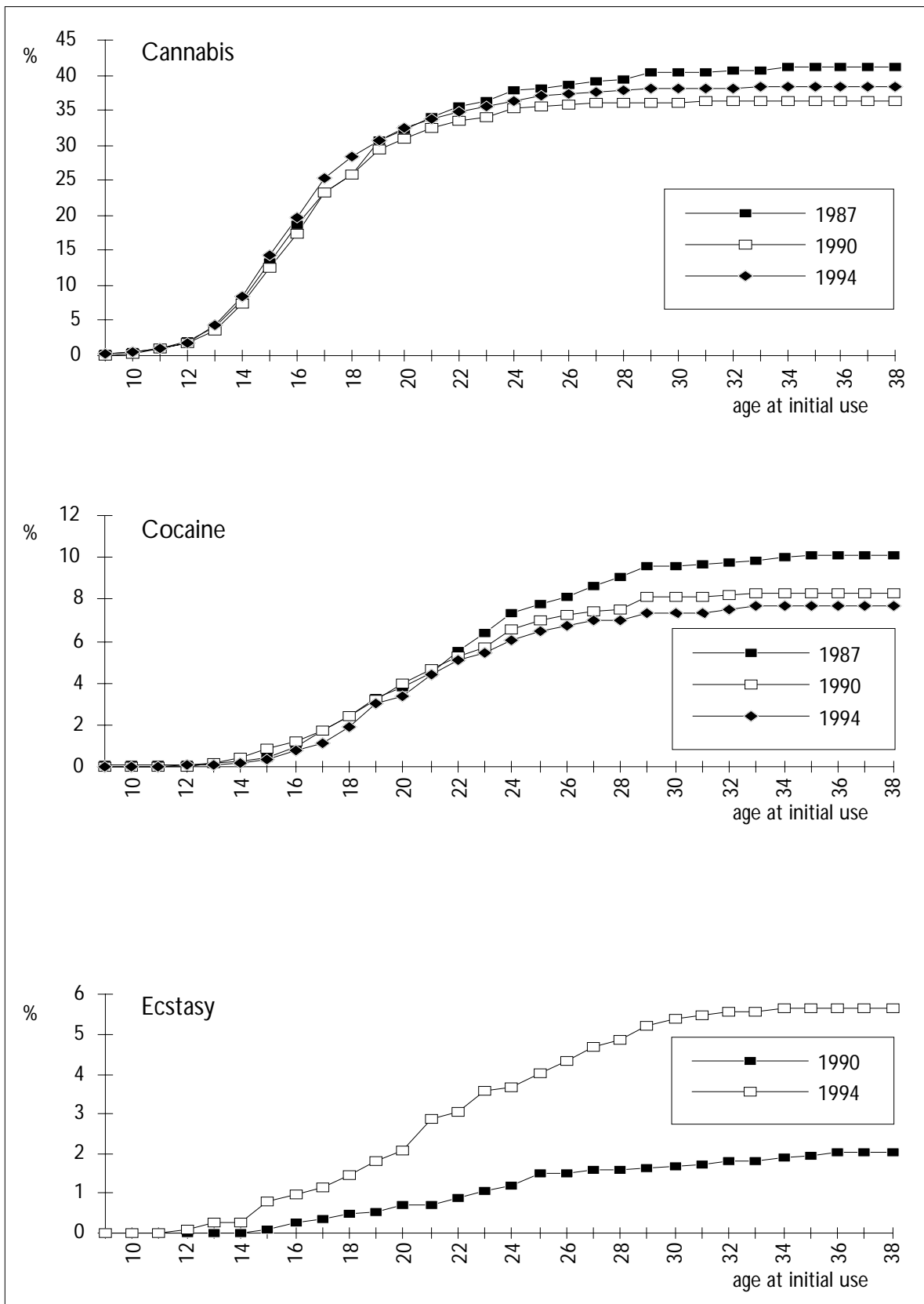
the development of drug use

Figure 3.2 Developments in age of initial drug use, 1987 - 1994 (present age 12 - 39 years, cumulative percentages

However, the drug has not been introduced (yet) in the youngest and the oldest age groups. The increase in the other age groups is due to the large-scale introduction of this drug on the market. Prevalence rates rose most rapidly among 20- to 34-year-olds.

Cannabis use has also increased among 20- to 24-year-olds, from 36 percent in 1990 to fifty percent in 1994. In the same age group, cocaine showed a significant increase in popularity (to 2%) on the last month use item.

Notes

1   To check if differences between the years were due to coincidences, or whether they represented statistical significant shifts, chi squares (with Yates' correction) were computed for every drug. This was done for lifetime, last year and last month prevalence separately. If two figures were significantly different, it is shown by a black bullet (•) between the figures. Significant shifts between 1987 and 1994 are shown as a small open bullet (º) behind the 1994 figure.
2   The number of respondents that stopped using a drug recently is defined as those lifetime users who did not engage use during the year preceding the interview, but did use the drug less than two years prior to the interview.
3   In 1987, the age at which a drug was last used, was not asked.
4   Appendix 3 presents the exact figures on which these graphs were based.
5   See Appendix 3 for significance indicators.