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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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2

The prevalence of drug use

2.1 Introduction

This chapter presents an introductory, general picture of the prevalence of drug use in Amsterdam in 1994. We begin in the section below by addressing the simple question of how many people use or have used a certain drug. It is important to note that a simple yes or no to this question is not sufficient, since there is an important distinction between one-time and regular users. For this reason, drug use will be examined from different angles.

In Section 2.2, we introduce the concepts of lifetime prevalence (LTP), last year prevalence (LYP) and last month prevalence (LMP) in order to gain insight into the proportion of the population who use or have used drugs.
Prevalence figures do give information on the number of users in the population, but fail to tell us how many people start or stop use in a certain period of time. This additional information is presented in the third section.
Subsequently, Section 2.4 will deal with both recent and lifetime frequency of drug use.
Drug use in a population is related to its age structure. With a few exceptions (e.g. hypnotics, sedatives), drug use is more widespread among the younger age cohorts of the population. The exact cause of higher prevalence among young people is an interesting question. Is it age or is it the more widespread availability of drugs in recent decades that accounts for the fact that 80-year-old cannabis users are still quite rare? Although the following chapters concentrate largely on this subject, we will address the question of age in relation to the onset, duration and cessation of drug use as early as Section 2.5.
The extremes in drug use, total abstinence and multiple or simultaneous drug use, are the subject of the sixth and last section of this chapter.

2.2 Prevalence of drug use

Table 2.1 shows the prevalence of various drugs in 1994. The first column represents the lifetime prevalence (LTP). This is the number and proportion of people that have *ever* used the drug in question, the point in time and frequency being of no importance. The second column shows the number and proportion of

Table 2.1 Prevalence of drug use in 1994

drug	lifetime abs.	lifetime %	last year abs.	last year %	last month abs.	last month %	N
tobacco	2 898	66.6	1 966	45.2	1 778	40.8	4 353
alcohol	3 746	86.1	3 358	77.1	3 015	69.3	4 353
hypnotics	844	19.4	435	10.0	292	6.7	4 350
sedatives	876	20.2	399	9.2	240	5.5	4 333
cannabis	1 272	29.2	459	10.6	297	6.8	4 350
cocaine	297	6.9	76	1.8	32	0.7	4 324
amphetamines	203	4.7	22	0.5	12	0.3	4 350
ecstasy	137	3.2	63	1.5	28	0.6	4 309
hallucinogens	192	4.4	22	0.5	5	0.1	4 326
inhalants	47	1.1	10	0.2	5	0.1	4 344
opiates (all)	337	7.7	93	2.1	29	0.7	4 364
heroin only	57	1.3	12	0.3	3	0.1	4 364

Table 2.2 Continuation rates in 1994

drug	lifetime %	last year %	last month %	N
tobacco	100.0	67.8	61.4	2 898
alcohol	100.0	89.6	80.5	3 746
hypnotics	100.0	51.5	34.6	844
sedatives	100.0	45.5	27.4	876
cannabis	100.0	36.1	23.3	1 272
cocaine	100.0	25.6	10.8	297
amphetamines	100.0	10.8	5.9	203
ecstasy	100.0	46.0	20.4	137
hallucinogens	100.0	11.5	2.6	192
inhalants	100.0	21.3	10.6	47
opiates (all)	100.0	27.6	8.6	337
heroin only	100.0	21.1	5.3	57

the population that used a certain drug in the past year (last year prevalence or LYP), and the third refers to drug use in the month prior to interview (last month prevalence or LMP). Hypnotics, for example, were used by almost one fifth of the population at least once. In ten percent of the cases, use took place in the year prior to the interview, and 6.7 percent used a hypnotic in the month preceding the interview.

A different way of looking at the figures is by examining the continuation rate (see Table 2.2). This is the proportion of people that continue use of a certain drug into the year or month before interview.

In Table 2.2, lifetime prevalence is set at 100 percent and the last year prevalence and last month prevalence are calculated as a proportion of lifetime prevalence. In other words: 26 percent of all people who had ever used cocaine had used it in the year preceding the interview, and 11 percent had used it in the month

preceding the interview. Thus, almost 90 percent of all cocaine users do not continue using cocaine on a regular basis.

It is obvious from both tables that there are considerable differences in prevalence between the various types of drugs. With a lifetime prevalence of 86 percent and a last month prevalence of 69 percent, alcohol clearly stands out as the drug with the most widespread use in the population[1]. Furthermore, alcohol is a drug with a high 'continuation rate', i.e. people who have ever used alcohol are also very likely to have done so in the last month. In exact figures: 80.5 percent of those who have ever used alcohol had at least one alcoholic beverage in the month prior to interview.

The second drug with both high prevalence and continuation rate is tobacco. However, figures are much lower than for alcohol. Although two thirds of the population has used tobacco at some time, 'only' 41 percent had used in the month preceding the interview. The continuation rate is 61 percent, in other words, almost 40 percent of all people who ever smoked quit at least one month prior to the interview.

Cannabis ranked in at third, which is high considering that cannabis is, in fact, an illicit drug, but low in the light of its very easy availability in Amsterdam. Cannabis has a lifetime prevalence of 29 percent and a continuation rate of 23 percent. Both figures are very high compared to 'difficult' drugs (e.g. cocaine, amphetamines, ecstasy, hallucinogenics) and approximate the figures for licit drugs, such as sedatives and hypnotics[2].

The development of the prevalence of ecstasy has some striking features. First of all, lifetime prevalence is low. Other difficult drugs, such as cocaine and amphetamines have a higher prevalence on a lifetime basis. However, if we look at the degree to which use of ecstasy is continued, we find figures well above those for other difficult drugs. Almost half continued use into the year preceding the interview, and 20.4 percent had used it in the month preceding the interview. These high figures are a reflection of the recent introduction of this drug on the market. Thus, the incidence of use causes relatively higher figures for the more recent prevalence items (LYP and LMP). In other words, because there are so few 'old' users, every new incidence has a relatively strong impact on the figures. The continuation rate now approaches that of cannabis (23.3%), which means that a fairly large part, roughly a fifth, of those who have ever used these drugs can be regarded as regular users. This will almost certainly change in time, when users of this drug lose interest.

It is noteworthy that most drugs, except tobacco and alcohol, measure a relatively low prevalence. Regular use, of which the last month prevalence is an indicator, is exceptionally rare.

2.3 Incidence and cessation of drug use

An important factor in the development of drug use in a population is the number of new drug users (incidence of drug use), and the number of quitters. The latter category is an inherently uncertain one. First, absence of drug use in the past year does not imply never-ending abstinence. Furthermore, use of some drugs may be limited to a very limited number of occasions, in which case a score of zero on the last year prevalence item does not mean that all use has actually been renounced. The items 'incidence' in Table 2.3 and 'quit year before last' in Table 2.4 should also be interpreted with caution since they concern very few people and thus lend themselves to statistical coincidence.

Table 2.3 illustrates the incidence of drug use. This is the number of people that started using a drug in the year prior to the interview. For example, one percent of the population started smoking and 1.4 percent had an alcoholic beverage for the first time. The other columns in the table are meant to put the incidence in

Table 2.3 Incidence of drug use

drug	incidence		used before		don't know		never used		N
tobacco	43	1.0	2 755	63.3	100	2.3	1 455	33.4	4 353
alcohol	63	1.4	3 411	78.4	272	6.3	606	13.9	4 352
hypnotics	102	2.3	667	15.3	75	1.7	3 506	80.6	4 350
sedatives	101	2.3	699	16.1	76	1.8	3 457	79.8	4 333
cannabis	52	1.2	1 155	26.6	65	1.5	3 078	70.8	4 350
cocaine	13	0.3	272	6.3	12	0.3	4 027	93.1	4 324
amphetamines	9	0.2	187	4.3	7	0.2	4 147	95.3	4 350
ecstasy	31	0.7	103	2.4	3	0.1	4 172	96.8	4 309
hallucinogens	12	0.3	175	4.0	5	0.1	4 134	95.6	4 326
inhalants	2	0.0	41	0.9	4	0.1	4 297	98.9	4 344
opiates (all)	34	0.8	245	5.6	58	1.3	4 027	92.3	4 364
heroin only	6	0.1	46	1.1	5	0.1	4 307	98.7	4 364

Table 2.4 Cessation of drug use

drug	quit year before last		quit before		don't know		not quit, i.e. used last year		never used		N
tobacco	124	2.8	729	16.7	79	1.8	1 966	45.2	1 455	33.4	4 353
alcohol	117	2.7	202	4.6	69	1.6	3 358	77.2	606	13.9	4 352
hypnotics	103	2.4	248	5.7	58	1.3	435	10.0	3 506	80.6	4 350
sedatives	116	2.7	305	7.0	56	1.3	399	9.2	3 457	79.8	4 333
cannabis	105	2.4	629	14.5	79	1.8	459	10.6	3 078	70.8	4 350
cocaine	30	0.7	167	3.9	24	0.6	76	1.8	4 027	93.1	4 324
amphetamines	18	0.4	148	3.4	15	0.3	22	0.5	4 147	95.3	4 350
ecstasy	28	0.6	40	0.9	6	0.1	63	1.5	4 172	96.8	4 309
hallucinogens	15	0.3	139	3.2	16	0.4	22	0.5	4 134	95.6	4 326
inhalants	4	0.1	27	0.6	6	0.1	10	0.2	4 297	98.9	4 344
opiates (all)	19	0.4	179	4.1	46	1.1	93	2.1	4 027	92.3	4 364
heroin only	1	0.0	38	0.9	6	0.1	12	0.3	4 307	98.7	4 364

perspective. The new smokers were added to a relatively large group of one-time smokers (63.3%). Although more people started using sedatives in the year preceding the interview, this group is smaller than that of the new smokers.

Table 2.4 focuses on the cessation of drug use. The respondents who had ever used a drug are categorized here into three groups: recent quitters ('quit year before last'), those who quit at some earlier point in time ('quit before'), and current users ('still using')[3]. For instance, the results for the smoking item showed that 33.4 percent of the respondents had never smoked. The remaining 66.4 percent can be divided into recent quitters (2.8%), earlier quitters (16.7%) and current smokers (45.2%). A small group of 1.8 percent failed to answer the question.

The dynamics of drug use can be expressed in a positive, negative or neutral balance with respect to new users and quitters. It must be pointed out, however, that this kind of analysis has some disadvantages. One of these was mentioned above and concerns the uncertainty of cessation. In some cases, use is resumed after some time, which ultimately results in a lower number of quitters.

Another important point is that cessation is very likely to be higher than incidence because of the larger proportion of the population involved. Whereas incidence mainly occurs in a relatively small group of young people (for instance, ninety percent of all smokers starts under the age of 23), cessation occurs at all ages. Therefore, the probability of finding a quitter is greater than finding a new user. Returning to the figures: there are only two drugs, ecstacy and opiates, with a positive balance (i.e. new users outnumber those that have quit). These differences are not statistically significant. For three drugs, we measured a significantly larger degree of cessation, namely for tobacco, alcohol and cannabis. For all other drugs, new use and cessation show little difference, so the balance is more or less neutral.

2.4 The frequency and intensity of drug use

Until now, little, if anything, has been said about the intensity of drug use. Although the item last month prevalence indicates regular drug use, it takes no account of the possibility that the respondent used the drug for the first and last time in the month prior to the interview. Likewise, a lifetime prevalence of, for instance, alcohol may imply a daily drink or, for that matter, a sip from father's beer during childhood. To obtain more information on the extent of drug use above and beyond 'a one-off try' we asked whether a certain drug was used more than 25 times. The results are presented[4] in Table 2.5.

Most users of tobacco and alcohol can be considered 'experienced'. A large majority used these drugs at least 26 times. The two other licit drugs, hypnotics

Table 2.5 Lifetime frequency of drug use

drug	lifetime frequency ≥ 25 times	< 25 times	don't know	total	N
tobacco	85.9	11.4	2.8	100.0	2 869
alcohol	83.3	13.9	2.8	100.0	3 721
hypnotics	44.9	53.1	2.0	100.0	838
sedatives	40.4	57.1	2.4	100.0	863
cannabis	42.6	56.3	1.1	100.0	1 259
cocaine	29.5	69.8	0.7	100.0	295
amphetamines	27.5	72.0	0.5	100.0	200
ecstasy	16.2	83.8	0.0	100.0	136
hallucinogens	14.6	85.4	0.0	100.0	192
inhalants	20.0	80.0	0.0	100.0	45
opiates (all)	19.6	80.4	0.0	100.0	337
heroin only	42.6	57.4	0.0	100.0	54

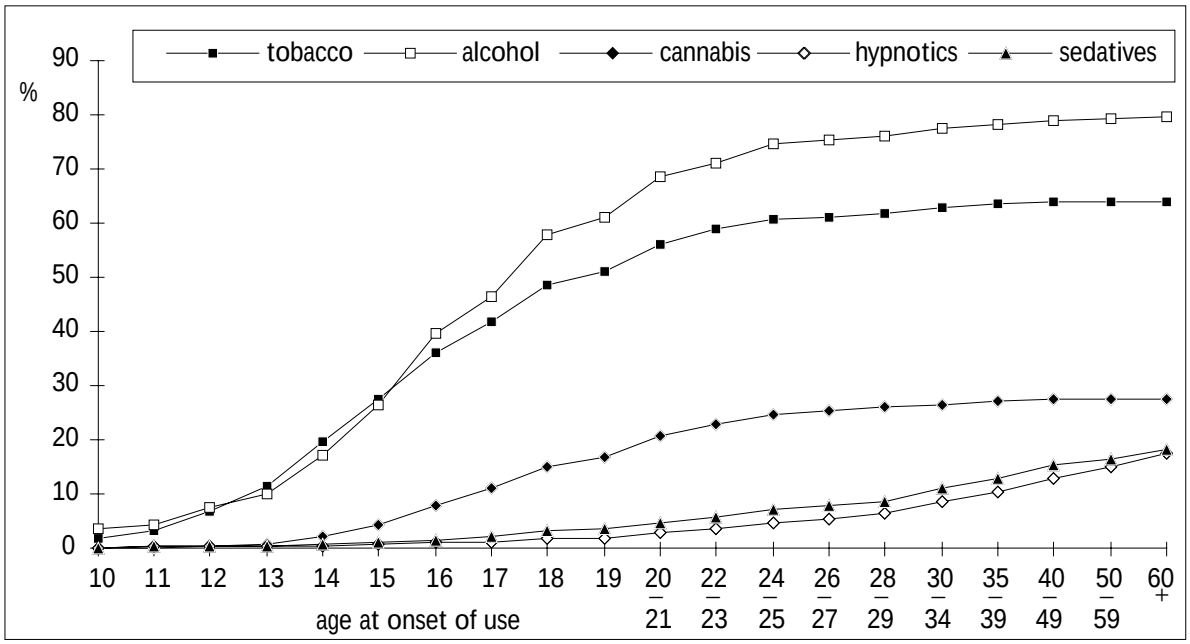
and sedatives, also have a substantial number of experienced users (44.9% and 40.4% respectively).
Cannabis and heroin are the only illicit drugs with a considerable number of experienced users: 42.6 percent. Of course, the score for heroin must be seen in the perspective of a very small group of users.
The proportion of experienced users is low to moderate for the other illicit drugs: ranging from 14.6 percent (hallucinogens) to 29.5 percent (cocaine).

Table 2.6 shows the frequency of use for respondents that used a drug at least once in the month prior to the interview[5]. The results for the different drugs are strikingly similar: use is either limited to a few occasions (1-4 times a month) or is very frequent (over 20 times a month). The former group is invariably the largest. The only drugs to which this bipolarity does not apply are ecstasy and inhalants. Reported frequencies were never higher than 8 times a month.
Alcohol has the largest variation in frequency of use. Moderate and regular use prevail. Only a minority drinks alcohol at a very low frequency (1-4 days per month). To a lesser extent, this is also true of cannabis use.

Table 2.6 Frequency of use in the last month, in percentages

drug	number of days per month 1 - 4	5 - 8	9 - 14	15 - 20	> 20	d.k.	last month users total	N
alcohol	36.0	19.2	12.1	10.8	20.2	1.5	100.0	3 015
hypnotics	51.5	13.3	7.8	6.5	18.4	2.4	100.0	293
cocaine	84.4	6.3	0.0	0.0	9.4	0.0	100.0	32
amphetamines	66.7	8.3	0.0	0.0	16.7	8.3	100.0	12
ecstasy	96.4	3.6	0.0	0.0	0.0	0.0	100.0	28
hallucinogens	80.0	0.0	0.0	0.0	20.0	0.0	100.0	5
inhalants	60.0	40.0	0.0	0.0	0.0	0.0	100.0	5
heroin	33.3	0.0	0.0	0.0	66.7	0.0	100.0	3

Figure 2.1 Age at onset of use, in cumulative percentages of population



2.5 Career of drug use: onset, duration and cessation of drug use

Figure 2.1 shows the age at the onset of drug use[6]. The gradient for tobacco and alcohol is steep, which means that the onset of use is concentrated in a relatively limited period of life. Interestingly, before the age of 25, the number of people that start using one of these drugs increases explosively. After this age, the gradient levels out, which means that there are hardly any first-time users. The same is more or less true of cannabis, even though fewer people use it, and those who do generally start at a later age. From the age of 14, the number of cannabis users steadily increases.
The number of users of hypnotics and sedatives shows a stable increase from about the age of twenty and shows no signs of levelling at any given age. In these two cases, the relation between age and initial use is much weaker.
As far as the use of any illicit drugs other than cannabis is concerned, it can be said that the youngest users start around the age of 15, but the majority of users start in their twenties, or even thirties. The curves for cocaine, amphetamines, hallucinogens and ecstasy continue to rise until the age of 35, after which initial use is rare.

One way of obtaining insight into initial use is to examine the mean age at the onset of use. This is shown in Figure 2.2, along with the mean ages for *cessation* of drug use and present users[7].

Interestingly, the mean age of present users is generally above both the mean ages for the onset and cessation of use. This implies that both starting and quitting are age-related and that above a certain age, which is different for all drugs, use

Figure 2.2 Mean age at initial, last and present use

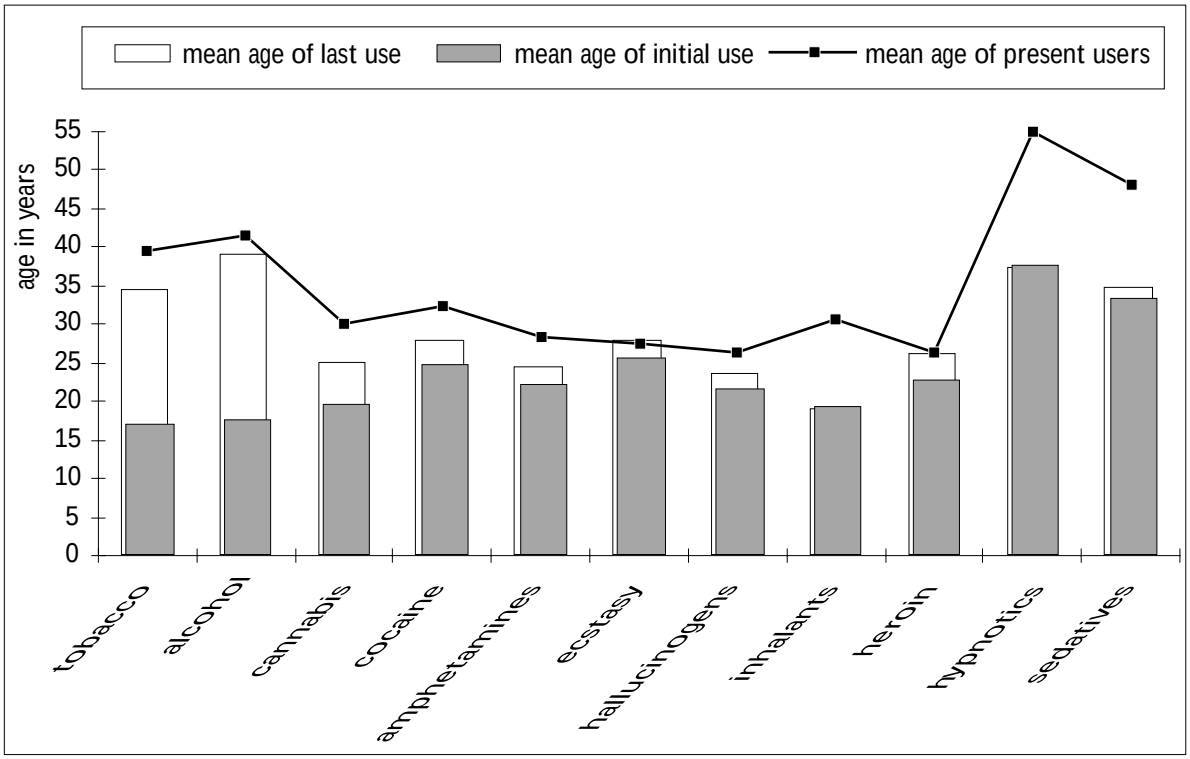
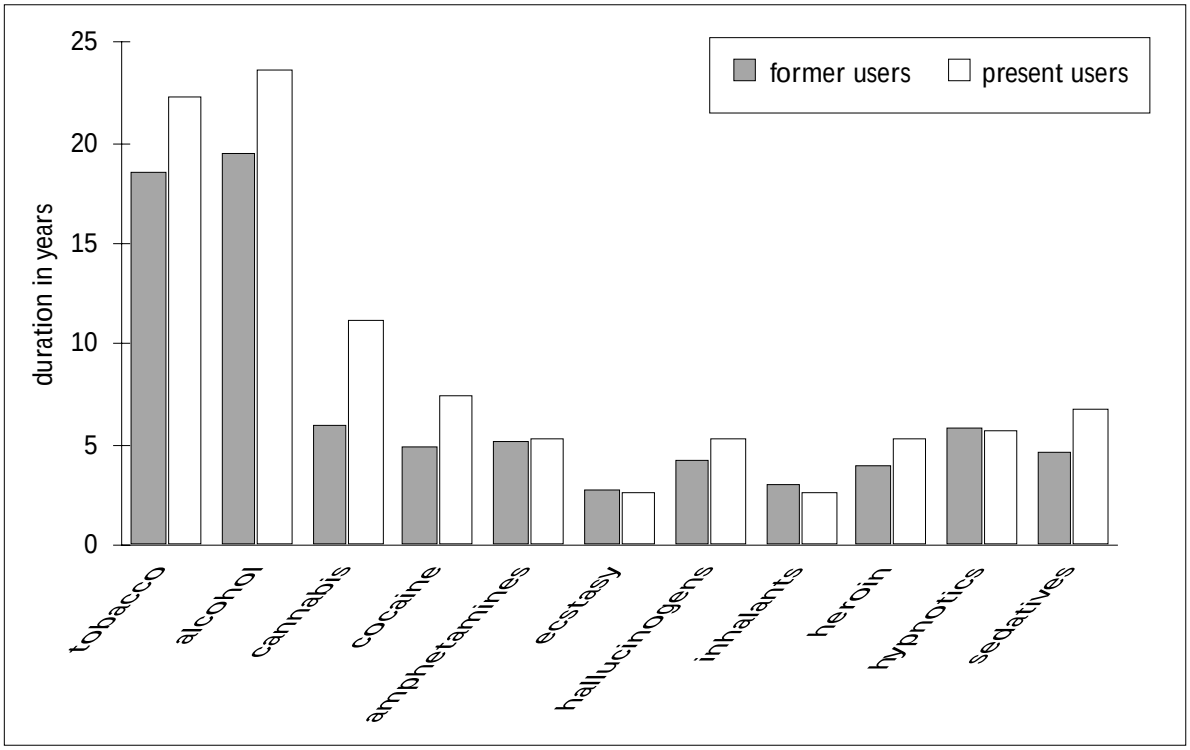


Figure 2.3 Average duration of drug use in years



(or abstinence) becomes more persistent. This is particularly the case for users of pharmaceutical drugs, who show a bipolarity in their use: there are people who have used these drugs at some point in their lives, but only for a relatively short time (mean age of initial use and mean age of last use are not far apart). On the other hand, there are continuing users. The latter group is older than the former.

The only drugs for which the mean age of present users is not higher than mean cessation age, are ecstasy and heroin. In the case of ecstasy, this is probably a feature of its relatively recent appearance on the consumer market.
It should be kept in mind, however, that for difficult drugs the number of (present) users is relatively small. Thus, the figures may be more coincidental than actually representative. In Chapter 3, we will pay some more attention to the question at what age people start using illicit drugs.

Figure 2.3 shows the average length of drug use for present and former users[8]. With the exception of ecstasy, hypnotics and inhalants, current users were more persistent. Careers, however, are relatively short. Alcohol and tobacco have the longest career-users by far.

2.6 Abstinence and multiple drug use

This section will examine two extremes: total abstinence from drug use and multiple illicit drug use and multiple simultaneous drug use.

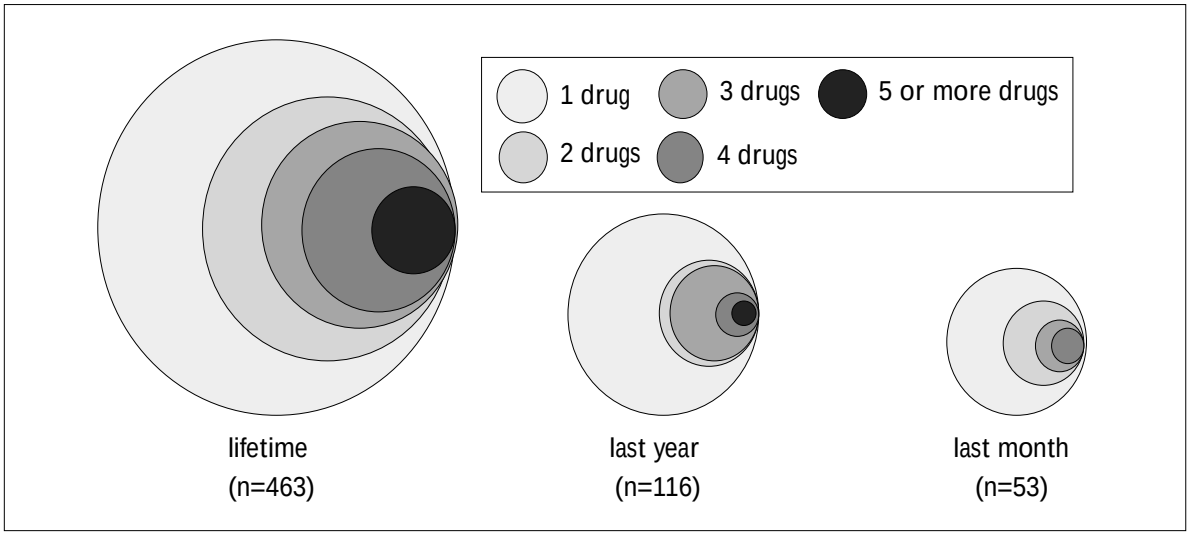
Table 2.7 shows the number of non-users in relation to the number of users[9]. It is obvious that total abstinence is quite rare. Furthermore, additional analysis reveals that abstinence is strongly associated with age. Of the youngest respondents (12-15 years), 29 percent abstains from drug use. In all other age groups, this percentage is never higher than ten[10]. Abstinence for shorter periods is more common: 19.8 percent of the population did not consume drugs in the month prior to the interview.

Exactly one third of the population has used hypnotics, sedatives or one of the pharmaceutical opiates at some time. This percentage is substantially higher than any of the separate pharmaceutical drugs, which means that use is generally limited to either hypnotics or sedatives or pharmaceutical opiates. In other words,

Table 2.7 Abstinence, the use of pharmaceutical and illicit drugs

	lifetime		last year		last month		
drug	n	%	n	%	n	%	N
no drug at all	362	8.3	623	14.3	870	19.9	4 364
pharmaceutical drug	1 454	33.3	738	16.9	467	10.7	4 364
illicit drug (incl. cannabis)	1 309	30.0	494	11.3	307	7.0	4 364
difficult drug (excl. cannabis)	463	10.6	126	2.9	54	1.2	4 364

Figure 2.4 Proportions of multiple difficult drug users (excluding cannabis)



combinations of these are relatively rare.

Almost 17 percent used a pharmaceutical drug in the year preceding the interview; the percentage for the last month prevalence item was 10.7. This indicates regular drug use for a fairly large number of users.

Considering the generally low prevalence figures for difficult drugs (illicit drugs, excluding cannabis), it is not surprising that multiple use of these drugs is even less common. This is clearly illustrated by Figure 2.4.

In total, 10.6 percent of the population has used a difficult drug at some time in their lives. Multiple use however, is limited to 5.5 percent of the population[11]. Confining the analysis to the item, last year prevalence, we see the proportion of multiple users drop sharply to 1.1 percent. Results for the last month prevalence item showed that only 0.4 percent of the population used more than one difficult

Table 2.7 Multiple simultaneous *drug use in 1994*

		tobacco		alcohol		hypnotics		sedatives		cannabis		cocaine	
	(N)	(1 966)		(3 358)		(435)		(399)		(459)		(76)	
drug		abs.	%	abs.	%	abs.	%	abs.	%	abs.	%	abs.	%
alcohol	(3 358)	904	46%										
hypnotics	(435)	35	8%	36	8%								
sedatives	(399)	32	8%	31	8%	20	5%						
cannabis	(459)	188	41%	247	54%	4	1%	3	1%				
cocaine	(76)	38	50%	50	66%	1	1%	0	0%	18	24%		
amphetamines	(22)	12	55%	19	86%	1	5%	2	9%	9	41%	4	18%
ecstasy	(63)	25	40%	27	43%	0	0%	0	0%	16	25%	6	10%
opiates (all)	(83)	7	8%	4	5%	1	1%	2	2%	2	2%	1	1%
	(12)	6	50%	7	58%	1	8%	0	0%	4	33%	3	25%

drug.

Of course, if we include cannabis, the picture changes considerably. In that case, 30 percent of the population has used an illicit drug at some point.
Of all cannabis users, 76 percent never used an illicit drug besides cannabis. However, only 4 percent of all difficult drug users never used cannabis. In other words, *if* illicit drug use is observed, the drug in question is most likely to be cannabis. In the case of multiple drug use, cannabis is generally one of the drugs. Multiple *simultaneous* use of drugs (see Table 2.7) is rare, except in three combinations: tobacco and alcohol, alcohol and cannabis, and tobacco and cannabis[12]. In all other cases, the number of incidences is too small to prove a systematic relationship.

2.7 Summary

This chapter has sought to provide a general overview of drug use in Amsterdam. Prevalence figures were found to be highest for alcohol and tobacco. The majority of all citizens over 12 years of age has used one of these drugs at least once (86.1% and 66.6% respectively). Furthermore, a large percentage continues using. Cannabis ranked third with 29.2 percent of the population having used it at least once.

Analysis of the number of times that drugs are used on a monthly basis reveals a bipolarity in use: most drugs are either used only a few times a month, or very regularly. Multiple difficult drug use is rare: slightly over one percent of the population engaged in it during the year prior to the interview. Multiple *simultaneous* drug use occurs in specific combinations. *If* drug use is established, combinations with alcohol or tobacco are very common. Exceptions to this are hypnotics and sedatives where combinations with other drugs are rare. A look at illicit drugs only would show that cannabis is almost invariably one of the drugs.

One of the most significant conclusions that we have been able to draw from the results presented here is that 80 percent of the Amsterdam's population is engaged in some sort of drug use on a regular basis. However, when pharmaceuticals, other licit drugs and cannabis are excluded, only 1.2 percent can be regarded as a regular consumer.

Notes

1 It is important to note that the use of alcohol and all other drugs can range from relatively harmless to substantial consumption. Prevalence figures in themself do not include quantities of drug use and are, therefore, no measure for the extent to which drug use is problematic or dangerous.
2 The notion of difficult drugs will be explained fully in Chapter 7. In short, difficult drugs are all illicit drugs except cannabis.
3 'Quit year before last' is taken as a measure of cessation instead of 'quit last year'. The reason for this is that, based on our data, cessation in the year prior to the interview cannot be measured because the exact date of last use is unknown.
4 The general prevalence 'N' may differ slightly from the figures earlier in this chapter because missing values on the item >25 times/<25 times are excluded.
5 Due to small numbers, these figures must be interpreted with some caution.
6 It is very important to take note of the variation in the scale of the vertical axis between the two figures. The first goes up as high as 90 percent; the second has 7 as a maximum.
7 If use was absent in the year prior to the interview, the respondent is counted as 'a quitter'.
8 All figures are presented under the assumption of uninterrupted use.
9 Non-use is indicated as absence of use of any drug included in the questionnaire; the category 'pharmaceutical drugs' consists of hypnotics, sedatives and pharmaceutical opiates (codeine, morphine and palfium); illicit drugs are cannabis, cocaine, amphetamines, ecstasy, hallucinogens and heroin.
10 The relation between drug use and age will be discussed at length in chapters that deal with the drugs separately.
11 Multiple drug use is defined as the use of two or more of the following drugs: cocaine, amphetamines, ecstasy, hallucinogens and heroin.
12 The base value for the percentages is the smallest N value of each possible combination. For example: 46 percent of those who smoked tobacco in the previous year, used alcohol simultaneously. 24 Percent of the people that used cocaine, used cannabis on the same occasion.