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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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LICIT AND ILLICIT DRUG USE IN AMSTERDAM **II**

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Preface

In 1994, we performed the third household survey in Amsterdam to measure licit and illicit drug use in the population of 12 years and older. Earlier measurements took place in 1987 and 1990. The material we present here represents the only systematic and scientifically valid comparison of drug use between different points in time in the Netherlands. This work was funded -again- by the *Dutch Ministry of Health* and we thank Mr. A.D.J. Keizer for his active support.
We are grateful as well for the energy invested by Peter Verheyde and Henk Foekema of *NIPO*, the organization that performed the task of interviewing over 4300 respondents. Arjan Sas and Roelf Jan van Til from *BRON UvA BV i.o* performed a major part of the data processing, which they did in a most careful way. The *Vertaalbureau UvA Vertalers* was responsible for correcting our text into proper English.

We hope that the next household survey will be done on a sample that not only represents Amsterdam, but the whole population of the Netherlands. In a period in which drug policy can no longer be made on the basis of anecdote, sound data should be available for those who would like to give drug policy a firm ground in fact. Moreover, some countries – e.g. Sweden, Germany, the United States of America – already perform national household surveys on a regular basis. We consider the availability of ongoing national drug use prevalence data of the Netherlands as one of the most vital data systems we need in order to make unbiased comparisons between different drug policies in the world.

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Introduction

1.1 Introduction

Drug use is an undeniable fact of modern life. Not only is use widespread, the drugs consumed come in all varieties. This bold statement is, in a nutshell, the subject of this book: which population groups use which drugs and how has that evolved over time? In this introductory chapter, we will outline the questions that we have strived to answer in this study, and describe in brief the methodology and structure of this book.

The drug policy in Amsterdam aims primarily at reducing the problems caused by drug use. Examples are the methadone and needle exchange programmes as well as rehabilitation clinics for alcoholics. Other measures include prevention of trade, drug tourism and drug-related crime.

It goes without saying that most research focuses on this problem-directed approach and thus concentrates on the use of illicit drugs and related phenomena. The advantage to this approach is that it reveals much about such aspects as addictive behaviour, health problems of users, the results of treatment, and the necessary policy changes. The disadvantage is that it provides no direct link with society at large. The same conclusion holds for another category of research: that which focuses on young people. This group is of special interest since most drug use starts in adolescence or early adulthood. Although knowledge of the first phase of drug use is very important in developing effective drug policies, the policy makers still lack much information about the population as a whole.

Our research belongs to a third category. We seek to provide figures on drug use in the general population. So far, these figures have been non-existent, a source of much criticism. This type of research can be called epidemiological. It is important to note that the underlying assumption is not problem-directed (as is the case in most epidemiological research), but simply the recording of information about a population. In other words: we do not aim to make any statements concerning the extent to which drug use is hazardous to either personal health or society.

In 1987, the first Amsterdam household survey on drug use was conducted. Three years later, in 1990, a second survey was conducted and in 1994, we were able to

repeat the survey a third time. Although some questions have been added, the survey is comprised of a consistent instrument developed to study drug use in Amsterdam. These three surveys not only enabled us to study drug use at a certain point in time, but also to examine the dynamics in drug use.

An additional advantage is that the three surveys function as a check for each other. Because of its specific nature, drug use is not easy to investigate in a population. Analysis is sometimes based on small numbers and responses on questionnaires may be influenced by the current public opinion on the use of drugs. Longitudinal surveys can serve to put questions in perspective.

The goal of this investigation is threefold:
- to accumulate up-to-date knowledge of drug use in the population as a whole and in subpopulations;
- to gain insight into the dynamics of drug use in the population by comparing current figures with those of 1987 and 1990;
- to explore the question of utility and comparability of different methods of data collection, focusing on drug use

1.2   Research questions

To meet these goals, we formulated the following research questions:

- *What drugs (licit and illicit) are used by the population of Amsterdam? What are the characteristics of use?*

As mentioned earlier, drug use is ingrained in modern society. It is important in this respect to differentiate between different drugs. Alcohol and tobacco are examples of drugs that are widely accepted. Other licit drugs, such as sedatives, hypnotics and pharmaceutical opiates are generally accepted, as long as a doctor prescribes them. The attitudes towards illicit drugs are different. Substances listed in the Dutch opium law are less accepted, a fact reflected in the more limited number of users and higher prices. This is certainly true of heroin, cocaine, ecstasy and hallucinogenics. There is evidence that some pharmaceutical drugs are traded on the same market, a criminalization of otherwise licit drugs.

In the Netherlands, cannabis has a rather special status, as it is neither licit nor illicit. This is a result of a distinction in the opium law between drugs with 'acceptable risks' and drugs with 'unacceptable risks'. Consequently, cannabis-related misdemeanours are low-priority prosecution cases as long as small quantities are involved. The special status of cannabis can be seen in its widespread availability and low prices as compared to other illicit drugs.

Drugs will be studied both separately and in groups. Groups consist of a number of substances that have certain characteristics in common. Examples include the pharmaceutical drugs (sedatives, hypnotics and pharmaceutical opiates), illicit drugs (drugs listed in the opium law) and difficult drugs (illicit drugs, not including cannabis).

Information about the number of people who use a certain drug is, in itself, inadequate. We will derive valuable information from analysis of patterns of use as indicated by frequency, incidence of initial use, cessation, abstinence and simultaneous use. These factors tell us more about the actual scope of drug use in Amsterdam.

- *With which social, cultural and economic characteristics can drug use be associated?*

As Amsterdam has a very heterogeneous population, it is plausible that drug use in the population is distributed unevenly. Several characteristics can be expected to have an impact on drug use. We will begin with a unidimensional analysis to derive the sociodemographic and socio-economic characteristics (age, gender, ethnicity, type of household, level of education and position on the labour market).

In 1994, the issue of drug use in relation to health and well-being was incorporated into the survey for the first time with the introduction of the SF-36, a multi-item scaling method developed to collect standardized data on health issues. The dimensions measured by this procedure deal with different aspects of physical and mental functioning.

The SF-36 was developed as an instrument to measure health from the respondent's point of view and consists of a very short survey. Because both the questions and scoring system are standardized, interpretation across studies is possible. This study will analyse the relation between drug use and perceived health situation.

- *Have patterns of use changed in recent years? Is it possible to detect changes in the development drug use prevalence in an early stage by carrying out regular measurements?*

One of the major goals of drug research is to detect changes in the prevalence of drug use in the population. For one thing, changes may be due to the dynamics of prevalence or the introduction of new drugs. Furthermore, the composition of the population can influence prevalence levels. An ageing population for example, should have a decreasing prevalence of illicit drug use because older people are less likely to use these drugs.

Changes in the prevalence of drug use are especially relevant for actors in the area of drug policy as they reflect the effectiveness of existing policies and, at the same time, indicate where additional action is necessary.

The methodological validity of analyses of patterns of change is essential to producing useful conclusions for fieldworkers, policy makers, et cetera. The crucial question here is whether the population survey is a suitable instrument to detect change, even when relatively small numbers of users are involved. The latter is very important when drugs with a relatively small number of users, for example ecstasy or opiates, are studied.

- *What methods (regarding sampling and data collection) are most suitable to answer the questions above? Are there, for example, essential differences regarding validity and reliability between different methods of data collection? Are response rates different in different data collection settings?*

One reason for experimenting with differentiated questioning is the present discussion in both the Pompidou Group of the Council of Europe and the Drugs unit of the European Community on standardized prevalence research in other European countries. Methodological research on appropriate methods of data collection is relevant to this discussion.

Moreover, sensitive subjects such as drug use lend themselves to selective response. One of the research recommendations of the 1990 survey was to experiment with other methods of questioning, and thus to gain insight into the complex item of non-response. Such insight would, in turn, enable us to improve our interpretations of the results of the survey.

Furthermore, this time we were allowed to interview those who refused to cooperate when asked the first time. The insight in differences between response and non-response should be improved by that.

1.3   Method of research

In the months of April to July 1994, almost 10,000 inhabitants of Amsterdam aged twelve and over were asked to participate in a household-survey on drug use and life style. A total of 4,364 respondents were interviewed. The questionnaire was almost identical to the earlier ones (Appendix I), except for the SF-36 items, which were new in 1994. These items were added to the end of the list. Roughly half of the response group (2,179) was interviewed by an interviewer, who used a copy of the questionnaire, as was the procedure in earlier surveys. The remaining half of the interviews (2,185) were conducted through a computer. In 1,284 cases, the interviewer typed the answers; 901 respondents did this themselves. Although we had intended to divide self-completion and interviewer-completion interviews equally, we did not succeed.

The idea behind this differentiated approach was that face-to-face interviews about a touchy subject such as drug use may be influenced by feelings of embarrassment, fear of disapproval, or on the other side of the scale, boasting about drug use. By using different methods of data collection, we may be able to find out to what extent this is the case. We have devoted a separate chapter to this subject. Analysis will be conducted on all 4,364 cases, except in Chapter 3 where computer-aided questionnaires will be left out to guarantee comparability with the 1987 and 1990 surveys. The smaller group of respondents (n=2,179) provides a limitation to the degree of detail in analysis. Conclusions are valid for the group as a whole and for some major subdivisions. Unfortunately, the number of respondents is too low to allow extensive study of developments in drug use.

An exception to the differentiated method of questioning is the SF-36 health-questionnaire, which was filled in personally by all respondents themselves.

To gain more information on the selectivity of the response, a follow-up survey was held in October and November 1994. Another 314 interviews were completed using a shorter version of the questionnaire: 200 by phone and 114 face-to-face. The respondents were recruited from those who were not at home during the regular survey (156) or had initially refused to participate (158).

1.4 The report

This report is divided into three parts. Part I consists of the next eight chapters and deals with the results of the survey. In our next chapter, Chapter 2, we will present a general overview of prevalence. Chapter 3 links the present survey with those of 1990 and 1987, focusing on the dynamics of drug use in Amsterdam. Chapters 4, 5, 6, 7 and 8 are similar in structure and deal with several drugs separately. The prevalence of tobacco, alcohol, cannabis, difficult drugs and pharmaceutical drugs will be related to the sociodemographic and socio-economic characteristics of the population. Chapter 9 deals with well-being and health in relation to drug use.

Part II is entirely devoted to the question of the quality of data. Chapter 10 focuses on the very important relationship between response and non-response. Non-response is investigated more extensively in Chapter 12. Chapter 11 compares the different methods of interviewing: computer- aided interviews by interviewers, computer-aided interviews by respondents and written questionnaire by interviewers. The report closes with a brief summary.

I LICIT AND ILLICIT DRUG USE

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		last year		last month		N
	abs.	%	abs.	%	abs.	%	
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			total	N
	≥ 25 times	< 25 times	don't know		
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						last month users	
	1 - 4	5 - 8	9 - 14	15 - 20	> 20	d.k.	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
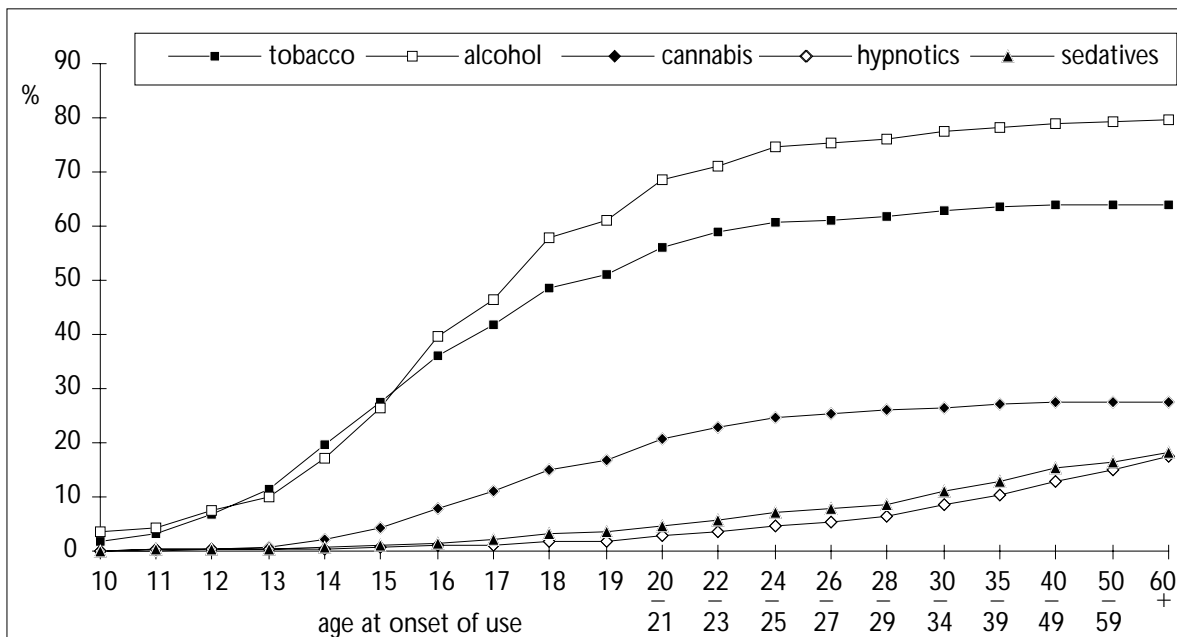
2.5   Career of drug use: onset, duration and cessation of drug use

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
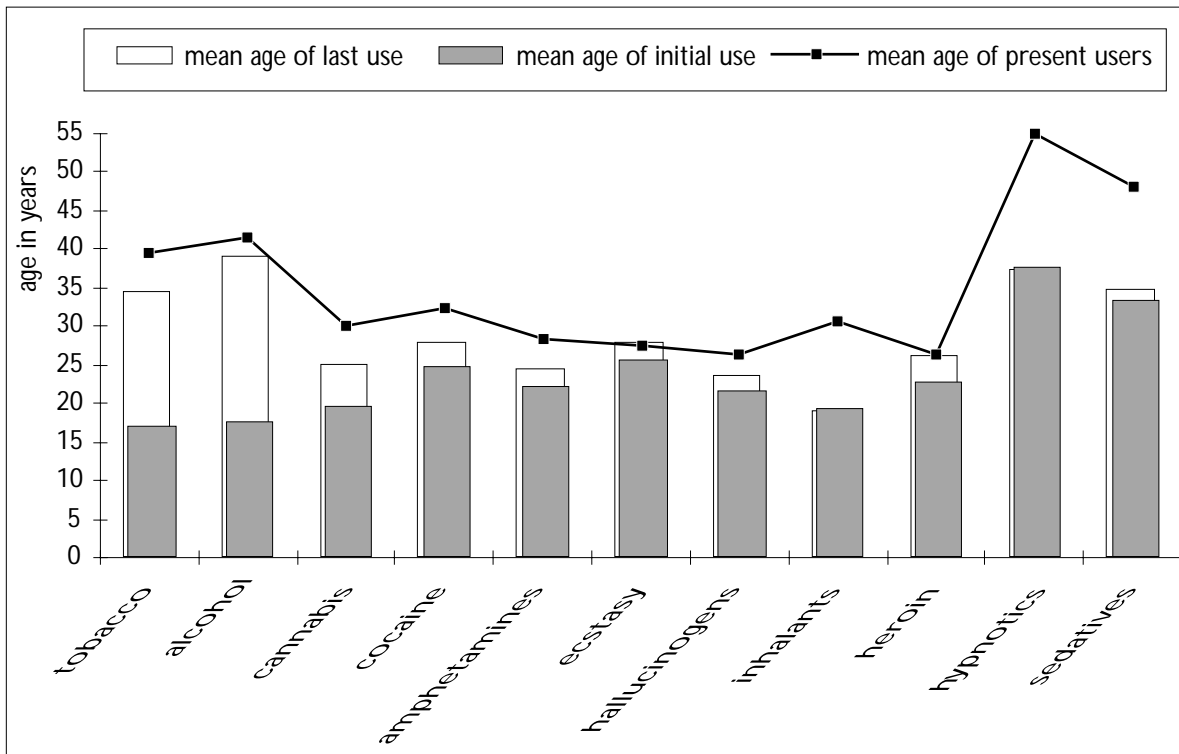
Figure 2.3 Average duration of drug use in years
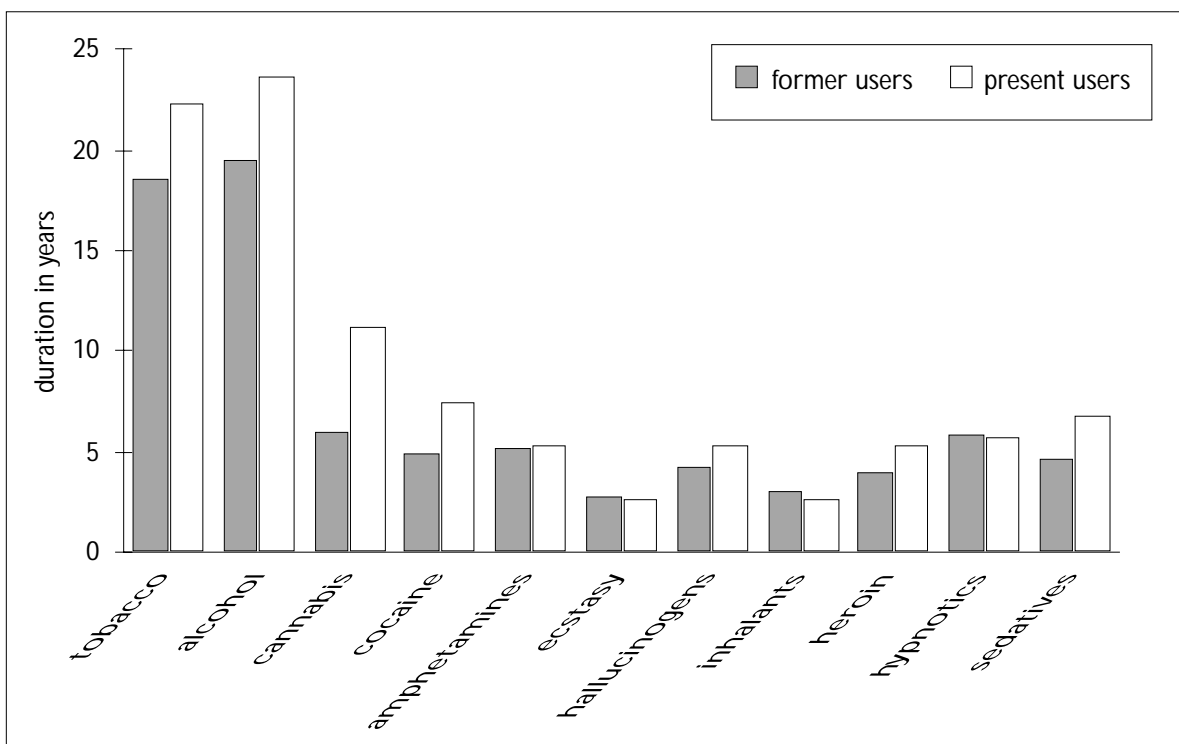
(or abstinence) becomes more persistent. This is particularly the case for users of pharmaceutical drugs, who show a bipolarity in their use: there are people who have used these drugs at some point in their lives, but only for a relatively short time (mean age of initial use and mean age of last use 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

drug	lifetime		last year		last month		
	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)

lifetime
(n=463)

last year
(n=116)
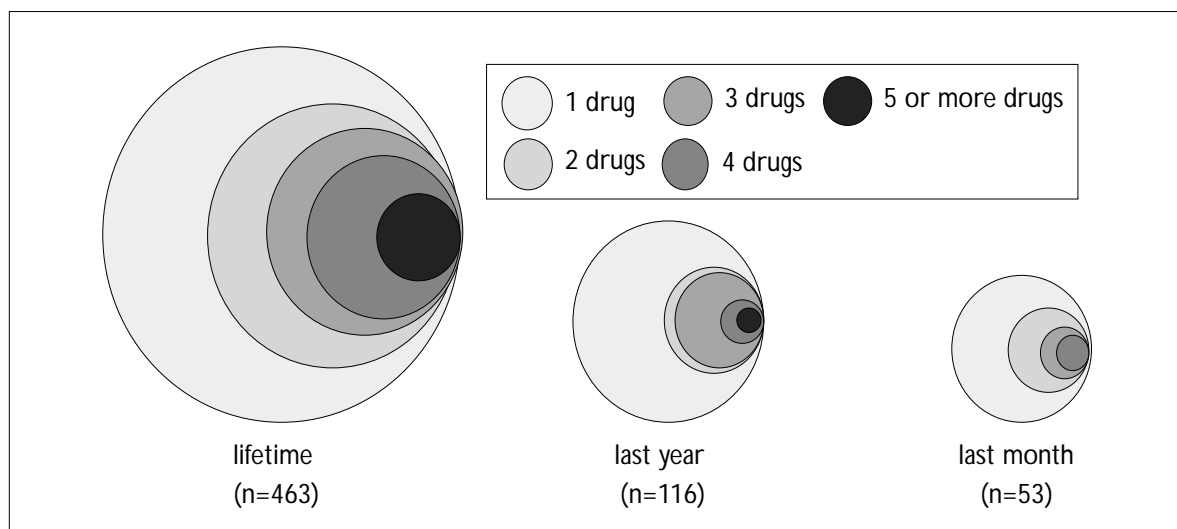
last month
(n=53)

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

drug	(N)	tobacco (1 966)		alcohol (3 358)		hypnotics (435)		sedatives (399)		cannabis (459)		cocaine (76)	
		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.

3

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
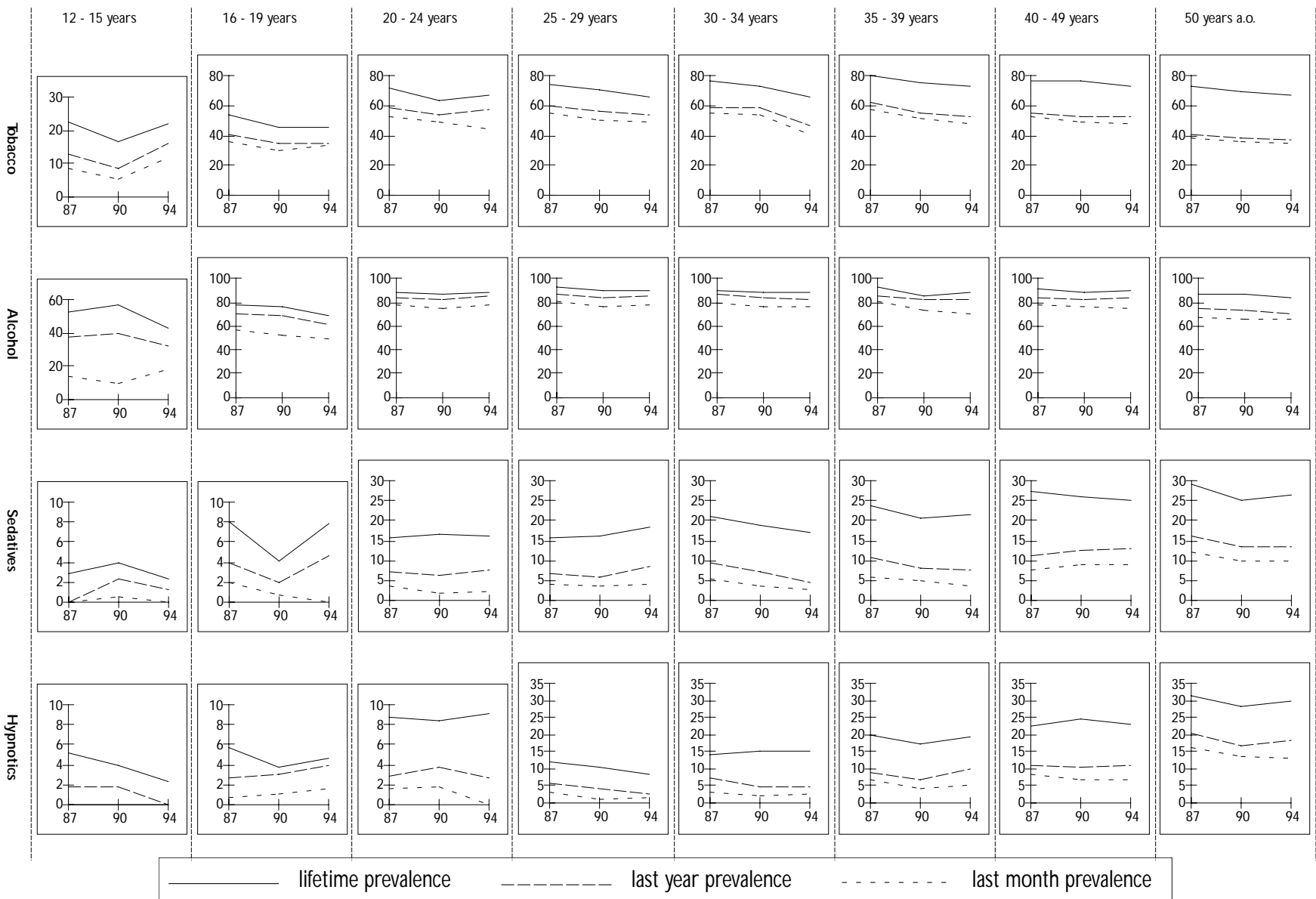
Figure 3.1 Developments in drug use prevalence 1987 - 1994 per age group (cont'd)

the development of drug use

lifetime prevalence — — — last year prevalence - - - - - last month prevalence
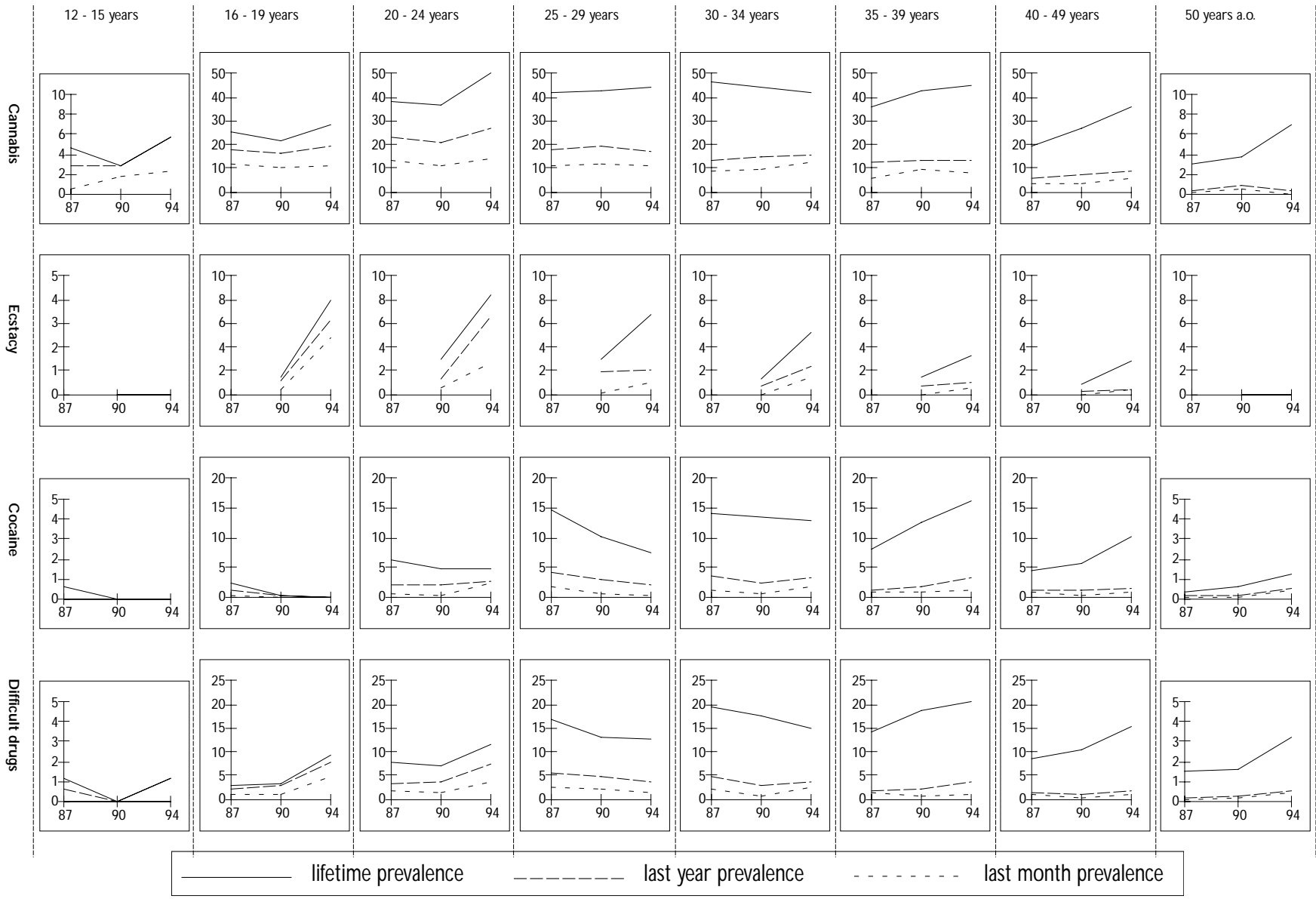
*Figure 3.2 Developments in age of initial drug use, 1987 - 1994 (present age 12 - 39 years,
cumulative percentages*
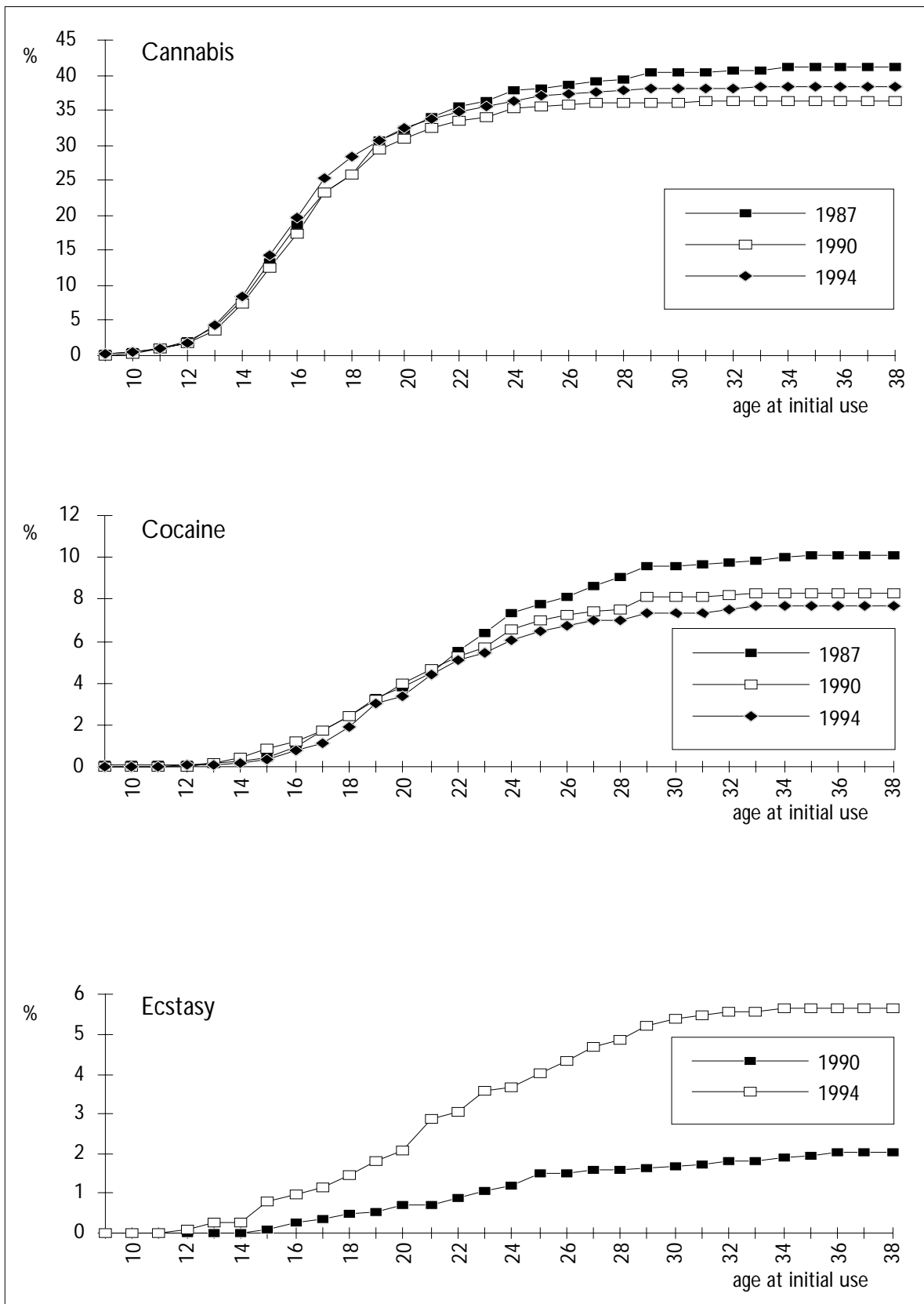
However, the drug has not been introduced (yet) in the youngest and the oldest age groups. The increase in the other age groups is due to the large-scale introduction of this drug on the market. Prevalence rates rose most rapidly among 20- to 34-year-olds.

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.

4

Tobacco

4.1 Introduction

This is the first of a series of five chapters in which use of a particular drug is described in detail. The chapters are similar in layout. After a brief description of the prevalence figures of the drug in question, some social demographic and socio-economic aspects of use will be analysed. Use of tobacco (this chapter), alcohol (Chapter 5), cannabis (Chapter 6), difficult drugs (Chapter 7) and pharmaceutical drugs (Chapter 8) will be associated with age, gender, ethnicity, type of household, level of education, position on the labour market and level of income. The tables on which the analysis is based can be found at the end of each chapter.

This chapter will deal with tobacco use in greater detail. After a short summary of general prevalence figures in Section 4.2, the groups of smokers and non-smokers will be described in terms of social demographic characteristics (age, gender, ethnicity, household characteristics) in the third section. Smoking will be related to socio-economic characteristics in the fourth section. These characteristics include level of education, position on the labour market and income.

4.2 Prevalence

In Chapter 2, we found that a majority of 66.6 percent had used tobacco at least once. That does not mean that the majority of the population can be considered smokers. In the year prior to the interview, 45.2 percent of the population had used tobacco. Recent use (in the last month) is limited to 40.8 percent.

Compared to the country as a whole, the figures for Amsterdam were quite high. Trend figures from the Netherlands Health Interview Survey, conducted annually by the Central Bureau of Statistics show that in 1993, 36 percent of the Dutch population of 16 years and over smoked[1] (CBS 1994). In our Amsterdam population, this percentage was 42.2 (the age group 12-15 excluded).

Continuation rates for tobacco are high: 68 percent of all smokers continued into the year preceding the interview, and 61.4 into the preceding month.

Figure 4.1 Lifetime prevalence of tobacco use by age group and gender
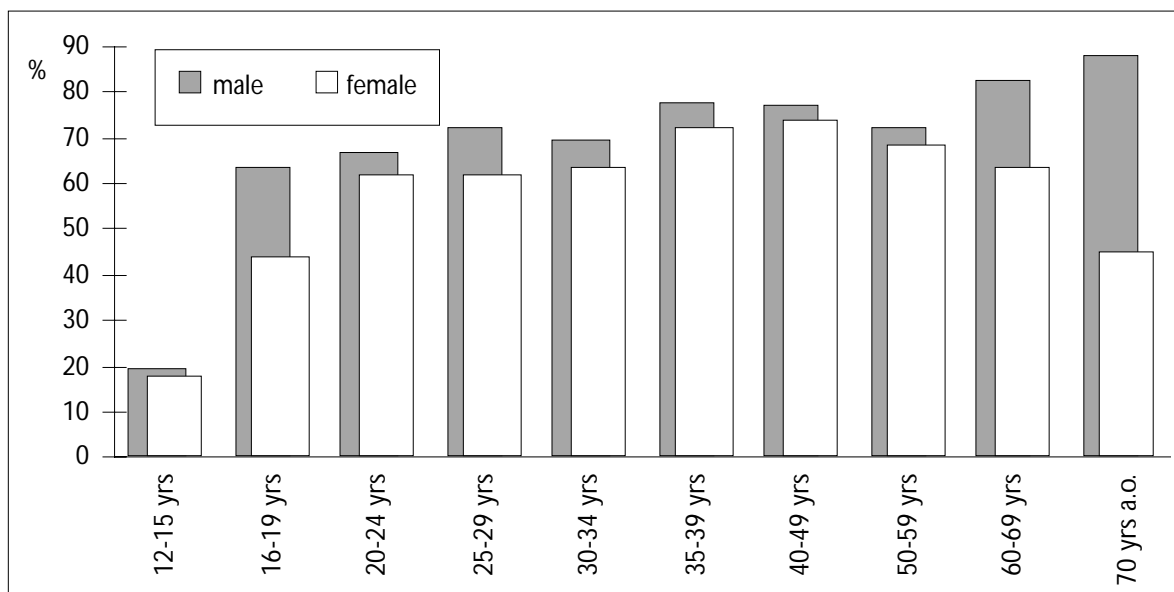
Most smokers can be regarded as experienced users: 85 percent smoked on more than 25 occasions.

4.3   Social-demographic aspects of tobacco use

Figure 4.1 shows the lifetime prevalence of tobacco use by age and gender. The graph clearly shows that the habit of smoking is generally picked up between the ages of 16 and 24. On average, men start smoking at the age of 16.7. Women start almost a year later at the age of 17.5. With one exception, smoking is more prevalent among men than among women. The exception is recent smoking of young girls (12-15 years), where prevalence is actually higher than it is for boys. In the age groups between 35 and 50, the level of smoking among women approaches that of men.

Differences between the sexes are greater among the elderly. In the two highest age groups, men have a higher and women a lower score on lifetime prevalence of tobacco. This difference between the sexes is probably due to the lower degree of acceptance of smoking by women that came to an end after the second World War. Acceptance of women smoking seems to have gone further in Amsterdam than in the country as a whole. Nationally, 31 percent of all women over 16 smoke as compared to 37 percent in Amsterdam. For men, these figures are 42.1 and 43.9 percent respectively. Smoking behaviour varies between and within ethnic groups. Levels are highest for the Dutch and citizens of other European counties and the USA.

Smoking is much less common among people from Surinamese, Antillean and Turkish origin. Even lower levels are measured for Moroccans and citizens from

Figure 4.2 Lifetime prevalence of tobacco use by ethnicity and gender
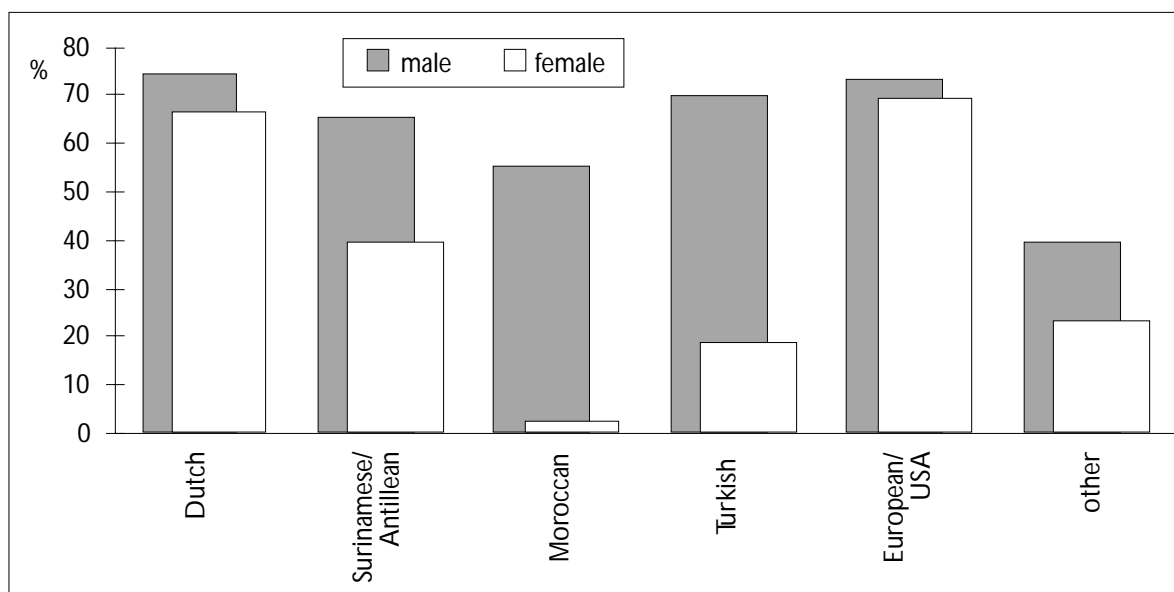
'other' countries. Smoking behaviour does not differ much between the sexes among Dutch nationals or immigrants from European countries or the USA. Moderate to big differences between the sexes were measured in the immigrant communities from developing countries. Moroccan, and to a lesser extent, Turkish women rarely use tobacco in any form.

There are no notable differences between household categories where smoking behaviour is concerned. Lifetime prevalence is on the same level for most categories. The only demographic subgroup with a lifetime prevalence well below average are the respondents that still live at home with their parents ('living in'). Of course, this is more likely to be a matter of age than of household characteristics. Recent use shows more variations between the households. Households with two adults have lower prevalence figures than households with one adult present. It is not very plausible that household characteristics alone are responsible for this difference. It is more likely that a lifestyle component is at work here, in which choices in the area of the family are reflected.

4.4   The socio-economic aspects of tobacco use

Educational background does not have much impact on smoking behaviour. The only categories with a lower level of prevalence are lower elementary school and the category 'other'. This can be attributed to the predominance of elder women (especially of non-Dutch origin) in these categories, a group for which relatively low prevalence was found in the previous section. Position on the labour market is mainly relevant for recent use.

Lifetime prevalence is roughly the same for all groups, but last year and last month prevalence are well below average for retired persons, and above average for

Figure 4.3 Tobacco use by position on the labour market
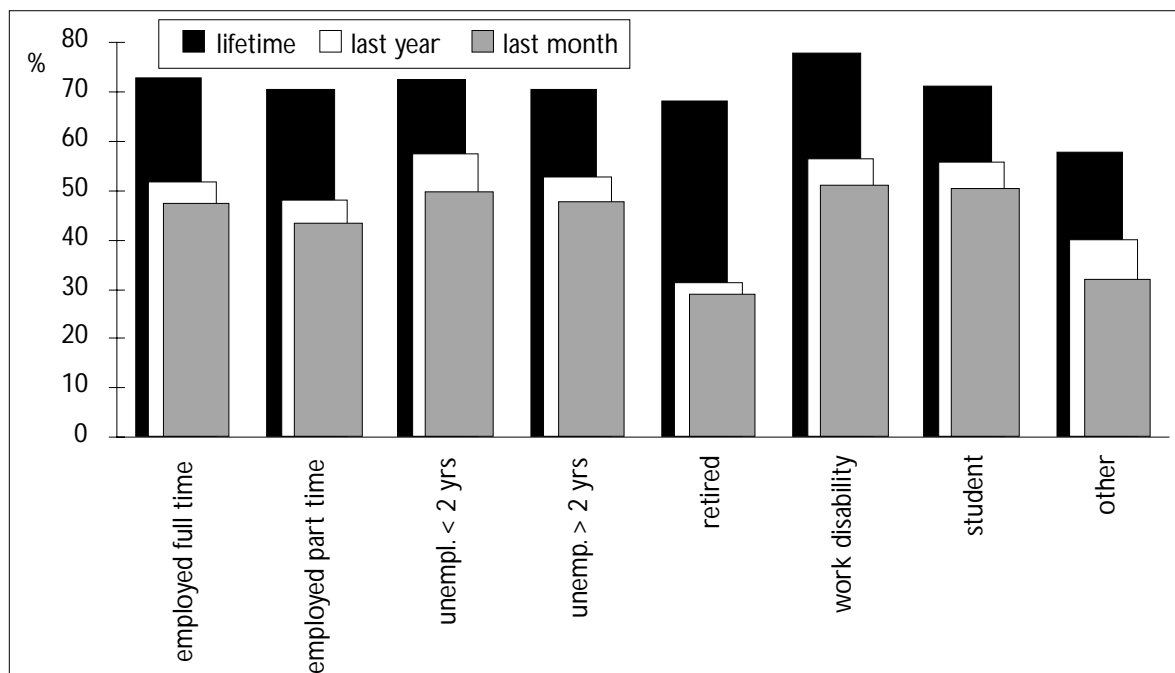
people with a full-time job, the unemployed (both long and short term), people receiving disability benefits and students. Income levels could not be related to tobacco use, except in the category of 750 guilders a month and less, a group consisting mainly of very young respondents, which means low levels of prevalence.

4.5   Summary

Tobacco use is widespread in a large part of society: 66.6 percent scored on lifetime prevalence and 40.8 percent still smoked in the month prior to the interview. Groups with a relatively low level of prevalence included: young men (under the age of 15), young and old women (under 19 and over 60) and women of ethnic minorities, especially those of Turkish and Moroccan origin. Single adults (with or without children) had somewhat higher levels of (recent) prevalence.

Differences based on socio-economic characteristics were less distinct. Generally, these differences were merely a reflection of social characteristics such as age or gender. For instance, the lower prevalence of smoking among people with only primary school education is primarily attributable to the fact that this group is dominated by elder women.

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1   The definition of smoking is an affirmative answer to the question "Do you smoke?" Affirmative answers include: "yes, daily" and "yes, occasionally". These figures were compared to last month prevalence in the 1994 survey.

4.6 Tables regarding the use of tobacco

Table 4.1 Use of tobacco by age group and gender

age group	lifetime			last year			last month			N		
	male	female	total	male	female	total	male	female	total	male	female	total
12-15 yrs	20.0	18.4	19.3	13.3	14.9	14.1	3.8	4.6	9.4	105	87	192
16-19 yrs	63.9	44.4	53.3	54.2	32.3	42.3	50.6	35.4	39.0	83	99	182
20-24 yrs	67.1	62.2	64.2	60.0	51.1	54.7	63.2	52.0	46.8	155	225	380
25-29 yrs	72.6	61.9	67.1	60.0	47.2	53.4	57.5	43.1	48.5	285	299	584
30-34 yrs	69.6	63.6	66.6	50.0	44.6	47.3	56.3	40.5	42.5	270	269	539
35-39 yrs	77.6	72.4	74.9	59.8	52.3	55.8	50.2	47.3	50.4	219	243	462
40-49 yrs	77.2	74.2	75.6	53.5	52.2	52.8	44.6	44.1	48.6	359	372	731
50-59 yrs	72.6	68.7	70.5	46.3	37.8	41.8	60.0	47.0	38.8	190	217	407
60-69 yrs	82.7	63.7	72.8	39.5	33.8	36.5	47.0	30.8	34.5	185	201	386
70 yrs a.o.	88.1	45.1	60.3	36.7	20.7	26.3	43.5	16.4	24.0	177	324	501
total	72.3	61.3	66.4	49.7	41.1	45.1	45.0	37.0	40.7	2 028	2 336	4 364
sign. T-test:	p<.05	n.s.	p<.05	p<.05	p<.05	p<.05	n.s.	p<.05	p<.05			

Table 4.2 Use of tobacco by ethnicity and gender

ethnicity	lifetime			last year			last month			N		
	male	female	total	male	female	total	male	female	total	male	female	total
Dutch	75.0	67.0	70.6	50.8	44.9	47.6	46.4	40.3	43.1	1 617	1 926	3 543
Sur./Ant.	66.0	40.1	51.0	45.6	27.2	35.0	41.5	25.2	32.1	147	202	349
Moroccan	55.8	3.0	32.9	57.4	1.5	27.0	38.4	1.5	22.4	86	66	152
Turkish	70.4	18.8	46.1	57.4	16.7	38.2	51.9	16.7	35.3	54	48	102
Europ./USA	73.7	69.8	71.8	43.9	43.4	43.6	38.6	37.7	38.2	57	53	110
Other	40.0	23.3	33.8	34.0	20.0	28.8	28.0	20.0	25.0	50	30	80
Total	72.3	61.3	66.4	49.7	41.1	45.1	45.0	37.0	40.7	2 011	2 325	4 336
sign. Chi-sq.	p<.05	p<.05	p<.05	n.s.	p<.05	p<.05	p<.05	p<.05	p<.05			

Table 4.3 Use of tobacco by type of household

type of household	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
single	962	71.0	701	51.7	638	47.1	1 355
single parent	168	67.7	119	48.0	113	45.6	248
couple	680	71.1	378	39.5	340	35.5	957
couple with children	577	67.0	394	45.8	356	41.3	861
living at home	205	42.3	155	32.0	136	28.0	485
other	306	66.8	219	47.8	195	42.6	458
total	2 898	66.4	1 966	45.1	1 778	40.7	4 364
signif. Chi-square		p<.05		p<.05		p<.05	

Table 4.4   Use of tobacco by level of education

level of education		lifetime		last year		last month		
		abs.	%	abs.	%	abs.	%	N
elementary	LO	355	58.3	241	39.6	222	36.5	609
vocational (low)	LBO	425	75.1	269	47.5	248	43.8	566
secondary (low)	MAVO	405	67.3	275	45.7	254	42.2	602
vocational (middle)	MBO	297	72.1	199	48.3	179	43.4	412
second. (middle/high)	HAVO/VWO	464	70.1	343	51.8	312	47.1	662
voc. (high)/University	HBO/WO	842	71.3	563	47.7	499	42.3	1 181
other		110	33.1	76	22.9	64	19.3	332
total		2 898	66.4	1 966	45.1	1 778	40.7	4 364
signif. Chi-square		p<.05		p<.05		p<.05		

Table 4.5   Use of tobacco by position on the labour market

position at labour market	lifetime		last year		last month		
	abs.	%	abs.	%	abs.	%	N
employed full time	995	73.0	710	52.1	649	47.6	1 363
employed part time	389	70.6	265	48.1	240	43.6	551
unemployed < 2 years	115	72.8	91	57.6	79	50.0	158
unemployed > 2 years	80	70.8	60	53.1	54	47.8	113
retired	376	68.5	173	31.5	160	29.1	549
work disability	157	78.1	114	56.7	103	51.2	201
student	134	71.3	105	55.9	95	50.5	188
other	652	51.7	448	36.1	398	32.1	1 241
total	2 898	66.4	1 966	45.1	1 778	40.7	4 364
significance	p<.05		p<.05		p<.05		

Table 4.6   Use of tobacco by household income

income (Dutch guilders)	lifetime		last year		last month		
	abs.	%	abs.	%	abs.	%	N
< 750	49	53.8	40	47.6	35	41.7	84
750-1250	214	69.7	161	52.4	145	47.2	307
1250-1500	187	67.0	135	48.4	125	44.8	279
1500-2000	360	65.7	246	44.9	227	41.4	548
2000-2500	325	71.3	226	49.6	208	45.6	456
2500-3000	281	69.4	181	44.7	157	38.8	405
3000-4000	345	71.9	234	48.8	210	43.8	480
4000-5000	275	71.6	169	44.0	155	40.4	384
>5000	320	72.1	199	44.8	178	40.1	444
unknown	542	55.5	375	38.4	338	34.6	977
total	2 898	66.4	1 966	45.1	1 778	40.7	4 364
significance	p<.05		p<.05		p<.05		

5

Alcohol

5.1 Introduction

Drinking alcohol is legal and widely accepted in society. Its use is more wide-spread than the use of any other drug. However, the use of alcohol can have very different forms. It can be a pleasant diversion after a long day at work, a life-threatening compulsory habit, and everything in between. In this chapter, we will focus on the question of who drinks how much. This approach is somewhat different from that of the other chapters, where the quantity of consumption is not subjected to analysis. In this chapter, both the frequency and volume of consumption are studied.

5.2 Prevalence

Very few people have never taken an alcoholic beverage. Lifetime prevalence of alcohol is 86 percent. Recent use too, is higher than any other drug (last year prevalence is 77% and last month prevalence 69%). In other words: many people drink, and a large majority of our respondents did so in the month prior to the interview. This continuation rate, or the proportion of all drinkers that continued drinking into the month preceding the interview is 80 percent: higher than for any other drug.

In Chapter 2, we saw that the frequency of drinking alcohol varies. Of all people that did drink in the month prior to the interview (69 percent of the population), most had a low to moderate frequency of consumption (36 percent 1-4 days; 19 percent 5-8 days and 12 percent on 9-14 days). The remainder drank more often (11 percent on 15-20 days and 20 percent more than that). Thus, use of alcohol was more or less equally divided among low (1-4 days), moderate (8-14 days) and high frequency (more than 14 days). The question that naturally follows is: how much do these people drink? Average daily consumption is expressed in Figure 5.1.

The majority drank little to moderately: 77 percent consumed less than 3 glasses daily. Remarkably, a relatively large group of 6 percent proved unable to answer the question of how much they drink. The remaining group (16%) had a relatively high consumption of 3 or more glasses a day.

Figure 5.1 Average daily consumption of alcoholic beverages (N=3,351)

Figure 5.2 Number of occasions in the six months preceding the interview when more than 6 glasses of alcohol were consumed
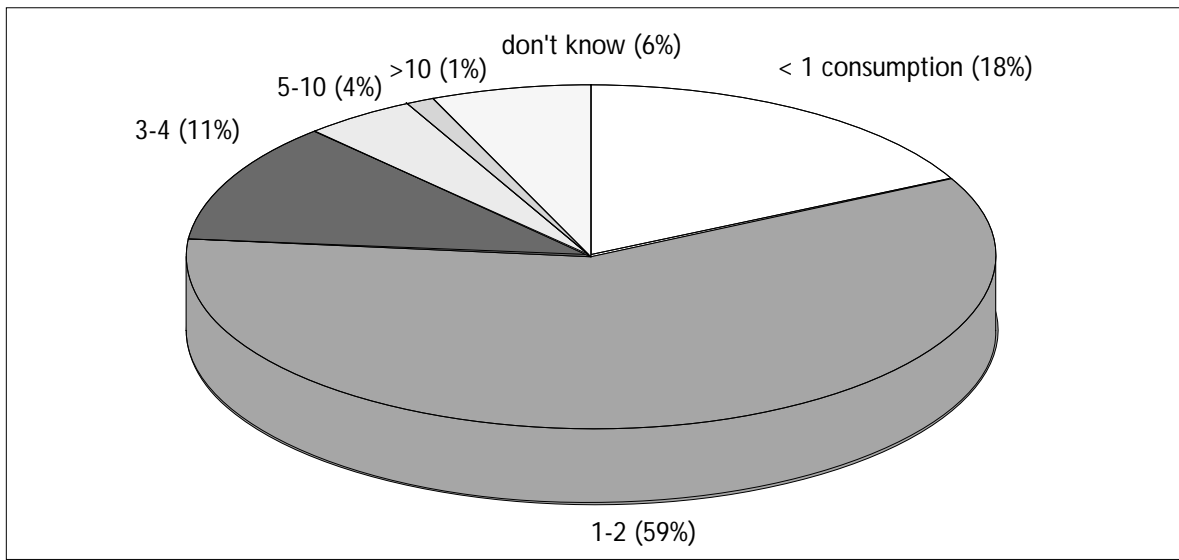
Two additional questions were designed to find out to what extent people drink substantial quantities of alcohol (defined as more than six glasses) on a single occasion and how many of these occasions took place in the six months preceding the interview. Figure 5.2 shows the results for both questions.

Of all those who drank alcohol, less than half (42%) met the criteria of having had 'a substantial quantity' in the preceding six months. The right side of the figure shows the number of occasions when more than 6 glasses were consumed. This is 1-3 times a month for the largest group (29%), but there is substantial variation.

Data on consumption of alcohol in the country as a whole are collected by the Central Bureau of Statistics. Overall differences with the present survey are not

noteworthy. Nationally, 20.4 percent of the population abstained from drinking; in Amsterdam the figure was 21.2 percent. In both cases, 46 percent never drank more than 6 glasses on a single occasion.

Differences in abstinence between the sexes however, are more interesting. In Amsterdam, 25 percent of all women and 17 percent of all men were abstinent. For the country as a whole, the percentages are 28 and 12 percent respectively. Generally speaking, therefore, in Amsterdam, fewer men and more women drink alcoholic beverages.

5.3   Social-demographic aspects of alcohol use

We can conclude from the previous section that drinking is very much integrated into society. If we look at drinking behaviour in relation to age, we find that only the very young show lower prevalence figures. The average age of initial alcohol consumption is approximately 18 years.

Young people also stood out in another interesting respect: women had significantly higher figures for last year and last month prevalence than men (Table 5.1). Surprisingly, the same was true for lifetime prevalence in the age group of 50-59 years (see also Figure 5.3).

The number of days on which alcohol was consumed was lower for younger people (Fig. 5.4). Starting at the age of thirty, regular drinking (on more than 15 days a month) increased. Possibly, younger people only drink when they go out, while others also drink on other occasions.

Figure 5.3 Lifetime prevalence of alcohol use by age group and gender
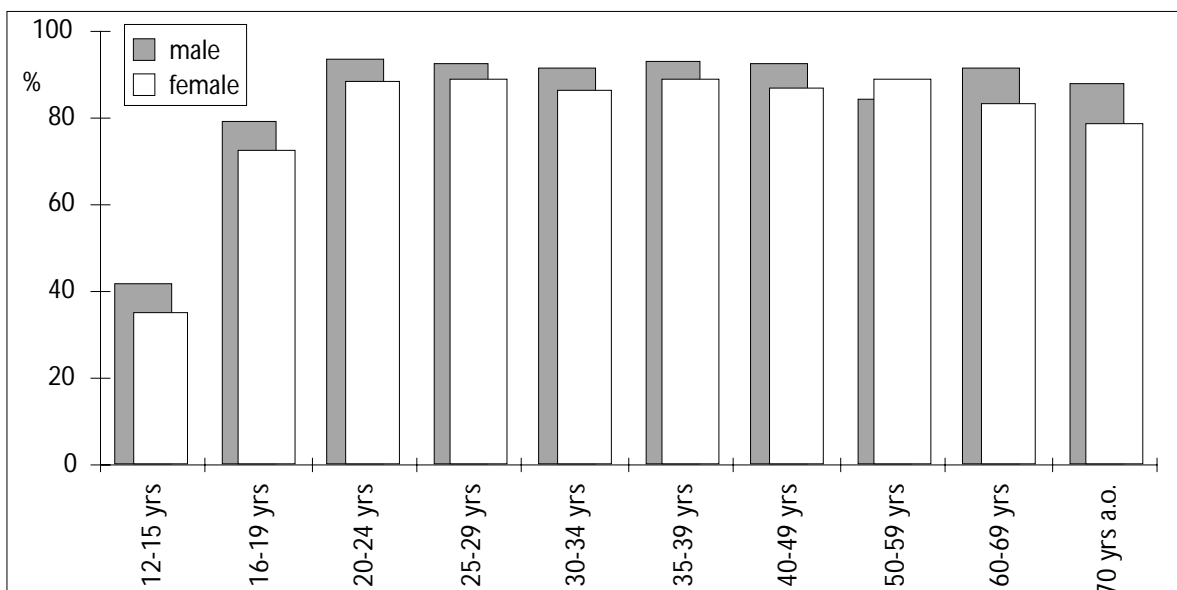
Figure 5.4 Frequency of last month alcohol consumption, by age group
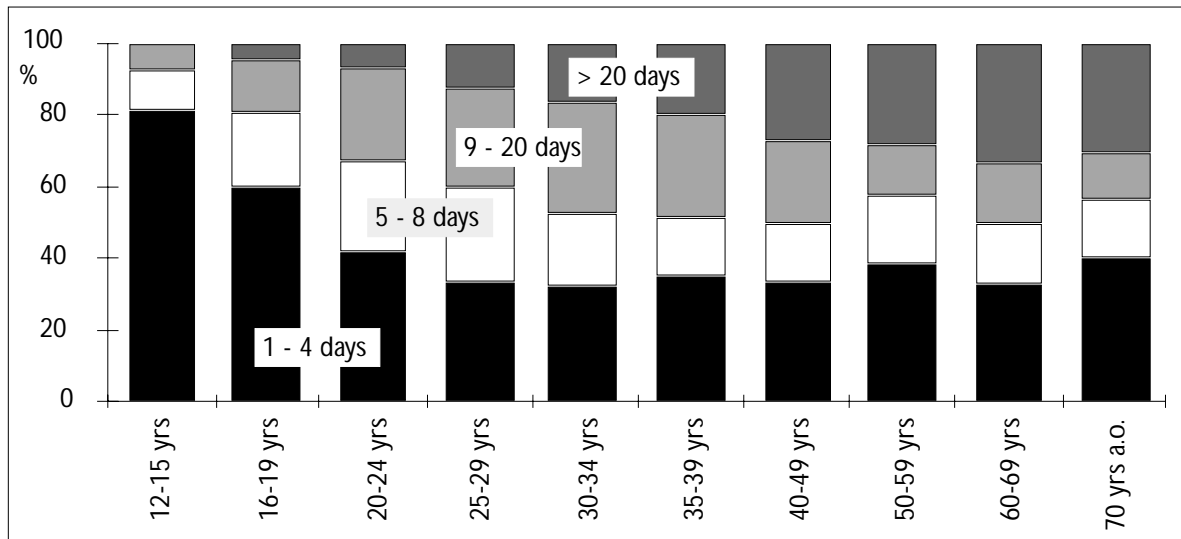
In addition, very young people as well as the elderly did not drink substantial amounts of alcohol on any single occasion (Fig. 5.5)[1]. In the youngest age group, 87 percent never had more than 6 glasses of alcohol on any single occasion in the preceding 6 months. The corresponding figure was 42 percent for the age group 20-24. Occasional substantial drinking occurred mainly in the age groups between 20 and 40 years. After that, the figure of the category 'never' rose rapidly to a percentage of 92. The number of occasions on which much alcohol is consumed showed a complementary pattern. Young people still stood out as a group with low scores. Less than 10 percent of the population under the age of 20 consumed substantial amounts. The age group 20-24 had the highest proportion of 'heavy' drinkers: 23 percent. The other two age groups with a relatively high number of 'heavy' drinkers were 35-39 and 40-49.

Figure 5.5 Number of occasions when more than 6 glasses of alcohol were consumed in the preceding six months, by age group
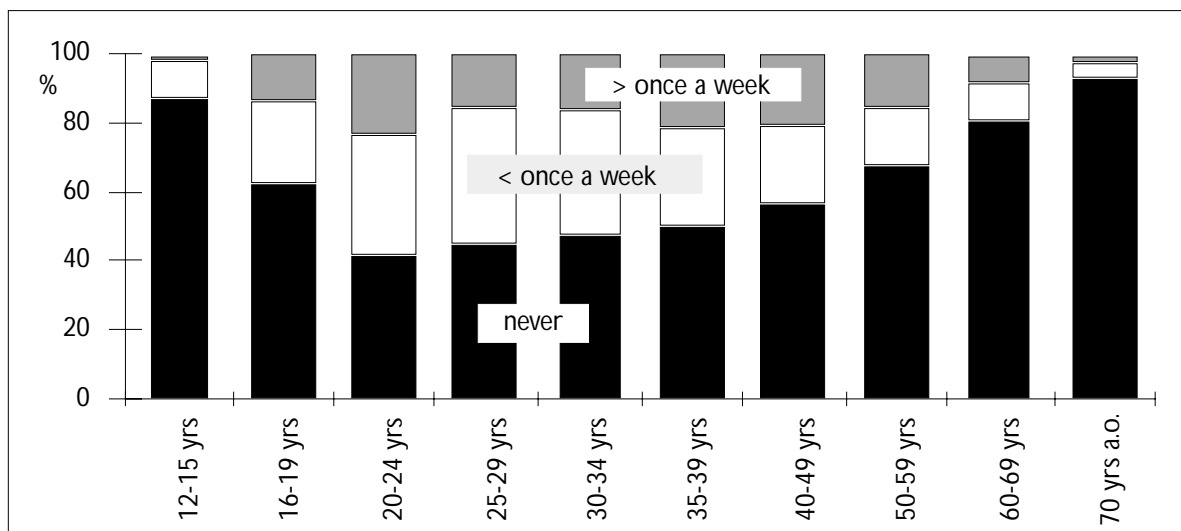
Figure 5.6 Some characteristics of drinking behaviour by gender
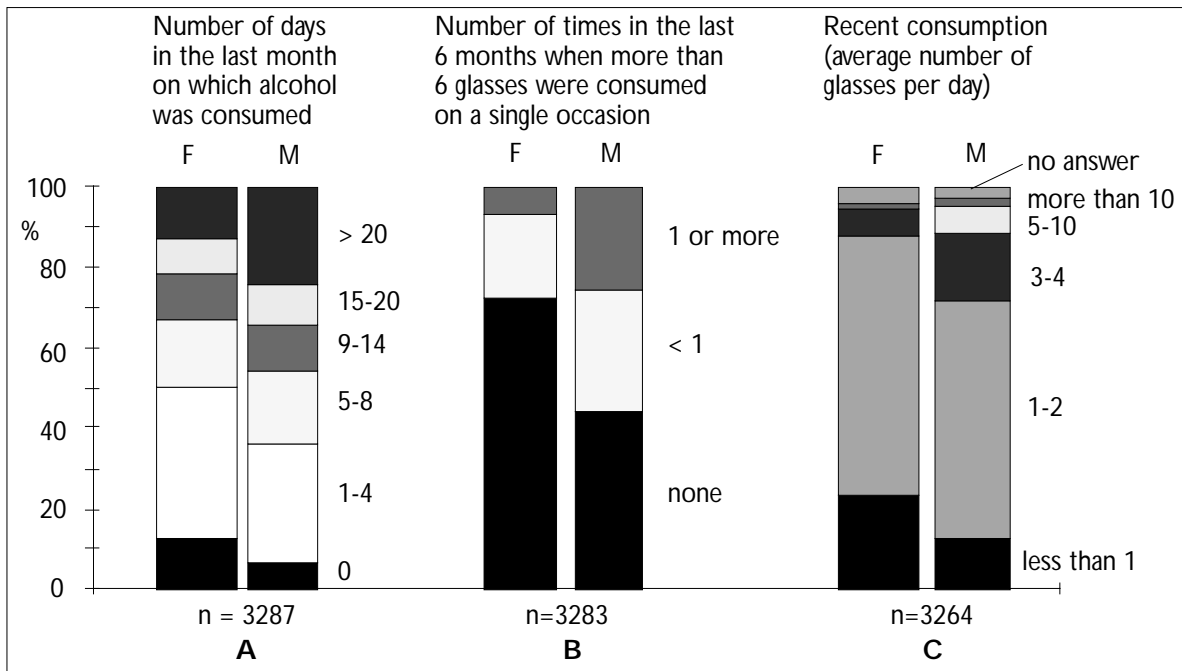
As was mentioned earlier, alcohol consumption is related to gender. Lifetime, last year and last month prevalence was higher for men. Figure 5.6 summarizes some characteristics of alcohol consumption in relation to gender.

Part A clearly shows that men drank on a greater number of days. The differences lie mainly in the lowest categories (0-4 days), where women are strongly represented, and in the highest categories (more than 20 days), which is a male domain. The classes that represent a more or less moderate frequency of consumption (5-20 days) show surprising little difference.
Part B gives the number of times per week that six or more glasses were consumed. It shows that 'substantial drinking' is, above all, a male characteristic: 25 percent drank more than six glasses at least once a week; for women this was seven percent.

The average number of glasses per day is expressed in Part C. On average, the majority of both men and women drank fewer than two glasses of alcohol a day. Higher consumption was rare, especially among women. The highest category, more than ten glasses a day, contains only five women and is, therefore, not visible on the graph. The number of men who drank more than two glasses a day is higher, but here too, the peak category was small. Of course, there are also differences within the two groups. We saw before that older women drank less than young women. Other variables, such as ethnicity and education are very important when it concerns drinking behaviour, especially among women. Apparently, the more emancipated women had drinking patterns more like that of men, while other women drank significantly fewer alcoholic beverages.

Ethnicity is a very important variable in analysing drinking (Table 5.2). People of non-Dutch origin, especially Moroccans, have very low prevalence figures. The explanation for this must be sought in the Muslim religion, which prohibits drinking alcohol. Lifetime prevalence for Moroccans is 19.7 percent. It must be stressed that drinking among Moroccan women is extremely rare: we found only two Moroccan women that admitted drinking alcohol at some point. Furthermore, almost 40 percent of the Moroccans that had ever drank alcohol, had never had more than 25 drinks (in a lifetime), and could not, therefore, be considered experienced in this respect. Fairly low prevalence figures were also found among people of Turkish origin. Here, 42 percent had tried alcohol at some time. As with Moroccans, most abstinent Turkish people are women. Turkish men have a lifetime prevalence of 61 percent. Figures for people from other European countries and North America are comparable to those of Dutch origin.

Differences between types of household are minor. As was the case with smoking, those living with their parents have low prevalence figures. Relatively high figures were found for singles and couples without children.

5.4   The socio-economic aspects of drinking alcohol

Drinking is strongly related to level of education. Strikingly, there is a high level of alcohol consumption among highly educated people. Accordingly, people with elementary school have very low prevalence figures. Although the majority had tried alcohol at least once, less than half had had a drink in the month prior to the interview. It is important to keep in mind that low levels of education are not independent of other variables that influence drinking behaviour (e.g. age, gender, ethnicity).
A higher level of education can also be associated with more frequent drinking. In spite of this, there is no difference between the categories where it concerns the

Figure 5.7 Lifetime, last year and last month prevalence of alcohol use by level of education
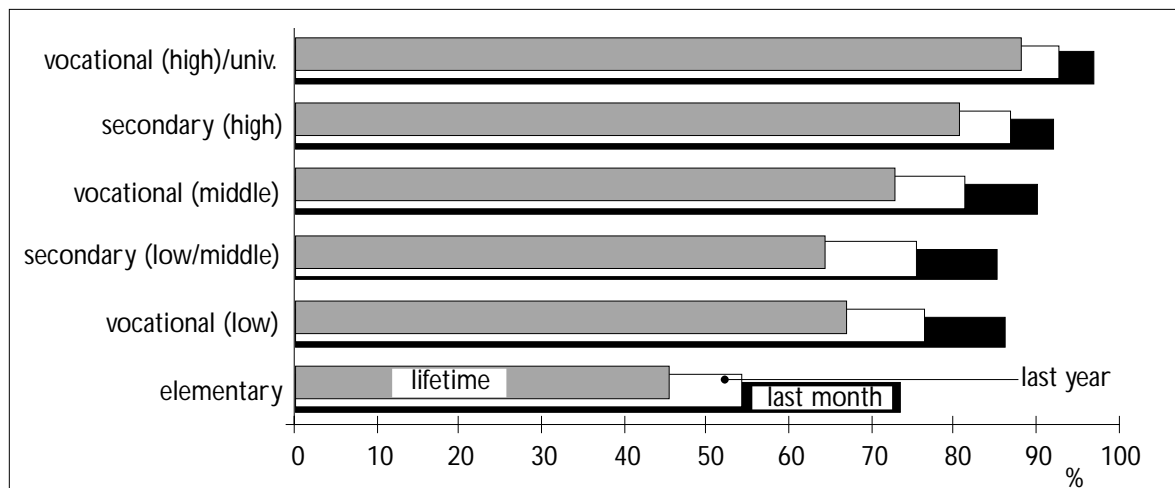
number of glasses consumed. All educational classes drank around 1.6 glasses of alcohol a week on average.

Occupational position shows some differences in that people with a job (full-time or part-time) and especially students have higher levels of prevalence. Students, however, showed unexpected results as regarding the frequency of drinking behaviour and the number of glasses: in both cases their mean alcohol consumption was quite modest. There was an indication that a relatively large group of students drink in 'peaks': instead of drinking small amounts on a very regular basis, they drank large amounts on a few single occasions.

The relation between occupational status and alcohol consumption is reflected in the relation between income and alcohol consumption. The lowest incomes (students) and highest incomes (full-time and part-time working) also had the highest levels of prevalence.

5.5   Summary

Drinking is deeply rooted in society as a whole. The habit is generally picked up during adolescence, when it starts with low quantities and low frequency. A substantial proportion of the population continues drinking, often at an increasing pace. The 'top-years' of drinking generally fall between 30 and 40. Furthermore, characteristics that can be associated with drinking include: single or living with partner, highly educated, working, and of Dutch origin. The respondents of Moroccan or Turkish origin, especially females, had low prevalence figures.

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1   'Substantial' or 'heavy' drinking is defined as drinking more than 6 glasses on a single occasion.

5.6 Tables regarding the use of alcohol

Table 5.1 Use of alcohol by age group and gender

age group	lifetime			last year			last month			N		
	male	female	total	male	female	total	male	female	total	male	female	total
12-15 yrs	41.9	35.6	39.1	25.7	32.2	28.6	11.4	17.2	14.1	105	87	192
16-19 yrs	79.5	72.7	75.8	71.1	65.7	68.1	59.0	45.5	51.6	83	99	182
20-24 yrs	93.5	88.4	90.5	89.0	82.7	85.3	80.0	77.3	78.4	155	225	380
25-29 yrs	92.6	89.3	90.9	88.1	83.3	85.6	91.9	73.2	78.1	285	299	584
30-34 yrs	91.5	86.6	89.1	87.4	80.3	83.9	84.8	71.0	77.9	270	269	539
35-39 yrs	93.2	88.9	90.9	85.8	80.7	83.1	79.9	69.5	74.5	219	243	462
40-49 yrs	92.5	87.1	89.7	85.8	78.0	81.8	82.5	67.7	75.0	359	372	731
50-59 yrs	84.7	88.9	87.0	75.8	79.7	77.9	68.4	73.3	71.0	190	217	407
60-69 yrs	91.4	83.6	87.3	80.0	66.2	72.8	74.6	57.7	65.8	185	201	386
70 yrs a.o.	88.1	78.7	82.0	74.6	59.0	64.5	67.2	51.2	56.9	177	324	501
total	88.2	83.8	85.8	80.4	73.9	76.9	74.4	64.5	69.1	2 028	2 336	4 364
sign. T-test	p<.05	n.s.	p<.05	n.s.	p<.05	p<.05	p<.05	p<.05	n.s.			

Table 5.2 Use of alcohol by ethnicity and gender

ethnicity	lifetime			last year			last month			N		
	male	female	total	male	female	total	male	female	total	male	female	total
Dutch	92.6	89.4	90.9	86.1	79.2	82.4	80.8	71.0	75.5	1 617	1 926	3 543
Sur./Ant.	87.1	78.2	81.9	74.8	65.8	69.6	59.2	44.6	50.7	147	202	349
Moroccan	32.6	3.0	19.7	16.3	1.5	9.9	10.5	0.0	5.9	86	66	152
Turkish	61.1	20.8	42.2	46.3	18.8	33.3	42.6	8.3	26.5	54	48	102
Europ./USA	91.2	86.8	89.1	78.9	79.2	79.1	73.7	62.3	68.2	57	53	110
Other	74.6	48.8	64.8	65.7	41.5	56.5	61.2	29.3	49.1	67	41	108
Total	88.2	83.8	85.8	80.4	73.9	76.9	74.4	64.5	69.1	2 028	2 336	4 364
sign. Chi-sq.	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05			

Table 5.3 Use of alcohol by type of household

type of household	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
single	1 251	92.3	1 136	83.8	1 041	76.8	1 355
single parent	210	84.7	183	73.8	158	63.7	248
couple	871	91.0	783	81.8	713	74.5	957
couple with children	694	80.6	625	72.6	569	66.1	861
living at home	313	64.5	264	54.4	197	40.6	485
other	407	88.9	367	80.1	337	73.6	458
total	3 746	85.8	3 358	76.9	3 015	69.1	4 364
signif. Chi-square		p<.05		p<.05		p<.05	

Table 5.4 Use of alcohol by level of education

level of education		lifetime		last year		last month		N
		abs.	%	abs.	%	abs.	%	
elementary	LO	450	73.9	331	54.4	279	45.8	609
vocational (low)	LBO	489	86.4	433	76.5	380	67.1	566
secondary (low)	MAVO	513	85.2	455	75.6	388	64.5	602
vocational (middle)	MBO	372	90.3	336	81.6	301	73.1	412
second. (middle/high)	HAVO/VWO	612	92.4	576	87.0	536	81.0	662
voc. (high)/University	HBO/WO	1 146	97.0	1 099	93.1	1 043	88.3	1 181
other		164	49.4	128	38.6	88	26.5	332
total		3 746	85.8	3 358	76.9	3 015	69.1	4 364
signif. Chi-square		p<.05		p<.05		p<.05		

Table 5.5 Use of alcohol by position on the labour market

position at labour market	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
employed full time	1 282	94.1	1 211	88.8	1 137	83.4	1 363
employed part time	508	92.2	475	86.2	425	77.1	551
unemployed < 2 years	141	89.2	129	81.6	109	69.0	158
unemployed > 2 years	93	82.3	80	70.8	68	60.2	113
retired	477	86.9	388	70.7	349	63.6	549
work disability	172	85.6	144	71.6	124	61.7	201
student	181	96.3	172	91.5	159	84.6	188
other	892	71.9	759	61.2	644	51.9	1 241
total	3 746	85.5	3 358	76.9	3 015	69.1	4 364
significance	p<.05		p<.05		p<.05		

Table 5.6 Use of alcohol by household income

income (Dutch guilders)	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
< 750	75	89.3	70	83.3	64	76.2	84
750-1250	282	91.1	247	80.5	215	70.0	307
1250-1500	221	79.2	190	68.1	165	59.0	279
1500-2000	431	78.6	368	67.2	319	58.2	548
2000-2500	410	89.9	373	81.8	333	73.0	456
2500-3000	370	91.4	334	82.5	310	76.4	405
3000-4000	438	91.3	401	83.5	371	77.2	480
4000-5000	363	94.5	331	86.2	309	80.5	384
>5000	432	97.3	415	93.5	398	89.6	444
unknown	724	74.1	629	64.4	531	54.4	977
total	3 746	85.5	3 358	76.9	3 015	69.1	4 364
significance	p<.05		p<.05		p<.05		

6

Cannabis

6.1 Introduction

Looking at prevalence figures for cannabis, it may be hard to believe that we are in fact dealing with an illicit drug. In practice, however, the extent to which cannabis should be considered illicit is open to question. The easy availability of cannabis in the Netherlands is the result of a distinction in the opium law, introduced in the 1976, between drugs with 'acceptable risks' and drugs with 'unacceptable risks'. As a result, discouraging use of the latter became the priority. Legal action against soft drugs is to be taken only when large quantities are involved. The lenient attitude towards soft drugs invoked a ready supply for those who wanted to use them. Even today, users of cannabis rarely encounter legal barriers which might prevent or stop them from using.

6.2 Prevalence

The lifetime prevalence of cannabis measured at 29.2 percent. Last year and last month prevalence were 10.6 and 6.8 percent respectively. So while there was a sizeable group that had used cannabis at some time, recent use was modest.

The continuation rate for cannabis lead us to the conclusion that many people try cannabis at least once, but many never become very regular users. Of all the cannabis users, 36 percent had used it in the year preceding the interview, and 23 percent in the preceding month. These are low figures compared to legal drugs such as alcohol or tobacco (80.5 and 61.4 percent respectively), but high compared to other illegal drugs, as we will see later.

Many users never become 'experienced' according to our definition (i.e. used 25 times or more). In 1994, 42.6 percent did not meet this criterion.
In Chapter 2, we found a bipolarity in cannabis use as regarding frequency of use, a finding fairly common for drug use in general. The majority of all regular cannabis users engaged in use at a low frequency (51.5 percent one to four times a month), but a relatively large share used the drug with a high frequency (25 percent more than 15 times a month).

Figure 6.1 Lifetime prevalence of cannabis use by age group
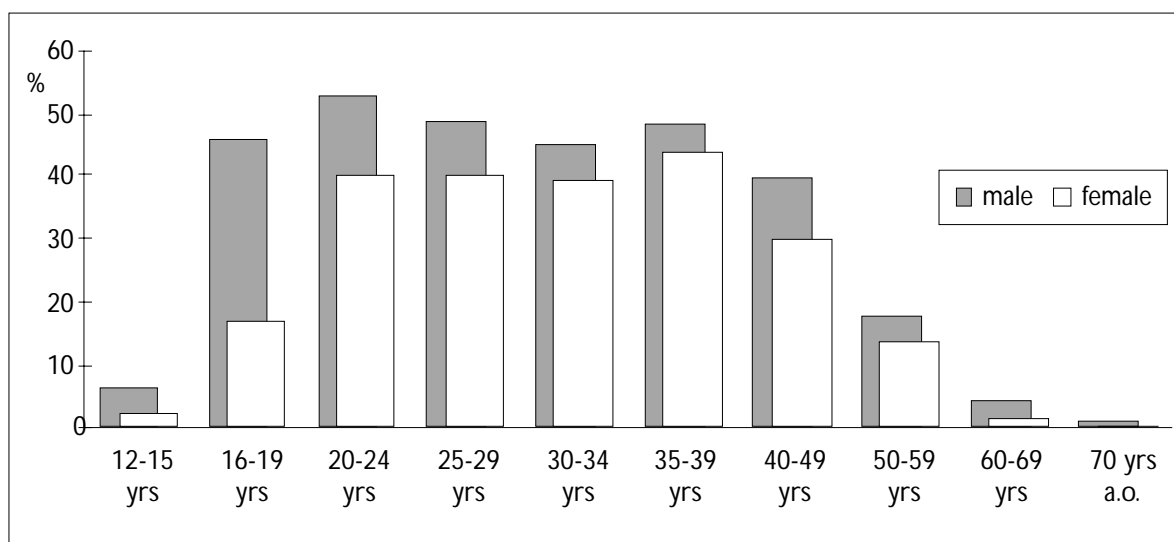
6.3 Social-demographic aspects of cannabis use

There are exceptional cases starting at the age of 10 or 71, but the majority (77%) experiences first use of cannabis between 15 and 25 years of age. For both men and women, the average age of first use is 20.

Lifetime prevalence is distributed almost equally among both sexes: 53 percent is male, 47 female. Of all last month users however, 70 percent is male. So even though men and women start using at, on average, the same age and in more or less the same numbers, women are much less likely to continue using. In exact figures: of all men that ever used cannabis, 30 percent used in the month prior to interview; for women this is 15 percent. Furthermore, men use on a greater number of occasions than women.

Returning to the aspect of age in relation to cannabis use, a generation effect as well as an age effect are visible. The age effect exists in that use of cannabis is something that young people do. When reaching a certain age, use is cut back or ceased completely. The generation effect is working against the age effect. It means that use is getting through to age groups where it was unheard of before. This is a consequence of the fact that cannabis hasn't been on the market forever. Part of the group that started using at the introduction in the sixties has continued using, and by doing so 'introduced' cannabis prevalence in higher age groups. For example: someone who started using in 1965 at the age of 25 now accounts for a score on lifetime prevalence (and maybe even last year and last month prevalence) in the category 50-59 years.

As was the case in previous chapters, ethnicity is a very important determinant of use. There is a clear dichotomy between people of native Dutch parentage, other Europeans and Americans on the one hand, and those of Surinamese, Antillean, Moroccan and Turkish origin on the other. Of the first group, 32 percent had used

cannabis at some time; the corresponding figure for the latter group was only 14 percent, comprised predominantly of Surinamese or Antillean origin.

In households with children, cannabis use (by the parents) is generally low. Lifetime prevalence was lower for people with children, and of those who did use cannabis, a greater proportion had not used it recently. The children themselves (the category 'living at home') had a relatively high score on recent use. Other categories with high scores were singles and 'other'.

In the third version of the prevalence survey, some new questions on cannabis use by other members of the family were included. Figure 6.2 shows the results. The respondents without parents, siblings and/or children were not included in the graph.

The figure represents lifetime prevalence of respondents (on the horizontal axis) by use by several groups of relatives. The first three bars show the relation between cannabis use by the respondent and cannabis use by the respondents' parents. It is clear that if parents use (or have used in the past), the respondent is very likely to use cannabis as well. In exact figures: 76 percent of the respondents with 'using parents' had used cannabis themselves at some time. In the group with non-using parents, the lifetime prevalence of the respondents was 27 percent. The group that was unable to indicate whether or not their parents used cannabis fell in a median position: 52 percent had used cannabis at some time. This lead us to the conclusion that use of cannabis by parents contributes to a higher level of prevalence for children.

In the case of siblings, there was also a clear positive relation between use by the sibling and use by the respondent. If the respondent's children used cannabis, the relation weakens considerably. Levels of prevalence were slightly higher for those whose children used cannabis, but differences were minor.

Two comments must be made here. First, it is important to keep in mind the extent of use by different members of the family. On first sight, use by the parents and

Figure 6.2 Lifetime prevalence of cannabis use, by use by parents, siblings and children
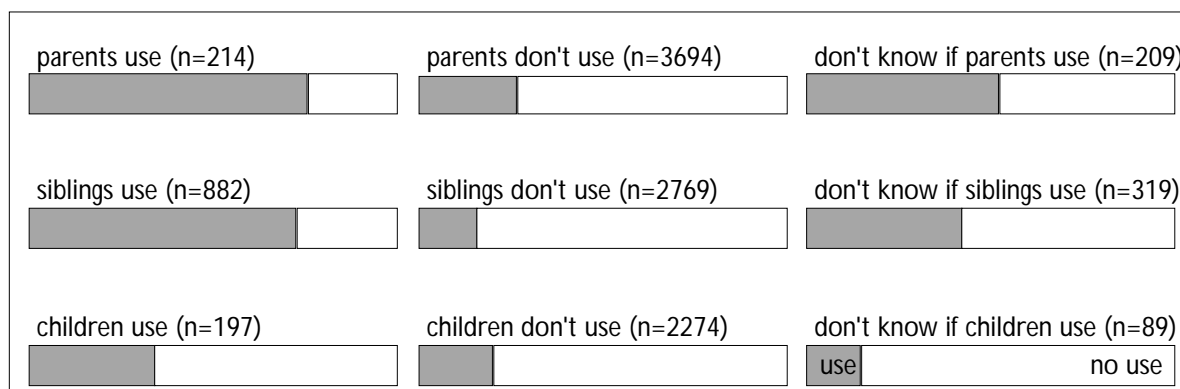
by the siblings seemed to have the same relation to use by the respondent: in both cases, almost three quarters of the respondents also used cannabis. However, the number of respondents with a parent that used cannabis was small: only 5 percent of the population. For the adults in the response group, this was caused by the generation effect: their parents were from non-using generations. The bottom line is that we are talking about three quarters of only five percent of the population, in other words, not a very large group.

The number of respondents with using siblings was substantially larger: 20 percent. Of course this too was a result of the generation effect: since siblings are of the same generation as the respondents, prevalence figures should resemble those in the response group. In this case, the number of cases in which use by the respondent coincided with use by a sibling measured at 15 percent of the whole population and 50 percent of the cannabis users: a sizeable share.

Second, it is important to stress that the actual variable at work here was knowledge of use instead of actual use by other relatives. There are reasons to believe that these two figures differ considerably. In the age group of 12 to 15 year-olds, 9.4 percent of all the respondents indicated cannabis use by the parents. Given that the parents of this particular group of respondents were roughly between 35 and 45 years old, there is reason to suspect that many children were not aware that their parents used cannabis. It may be slightly speculative, but the de facto lifetime prevalence of cannabis in the age group to which most parents of 12 to 15 year olds belong was probably higher than 9.4 percent.

It is not very clear how (knowledge of) use by the parents and use by the child are related. It is possible that use by the parents in itself stimulates use by the children. On the other hand, levels of use by the children may be higher because of a certain cultural environment in the household that is not prohibitive towards cannabis use. The only conclusion we are able to draw here is that if a child indicates cannabis use by the parents, it often coincides with use by the child itself.

Figure 6.3 Use of cannabis by position on the labour market
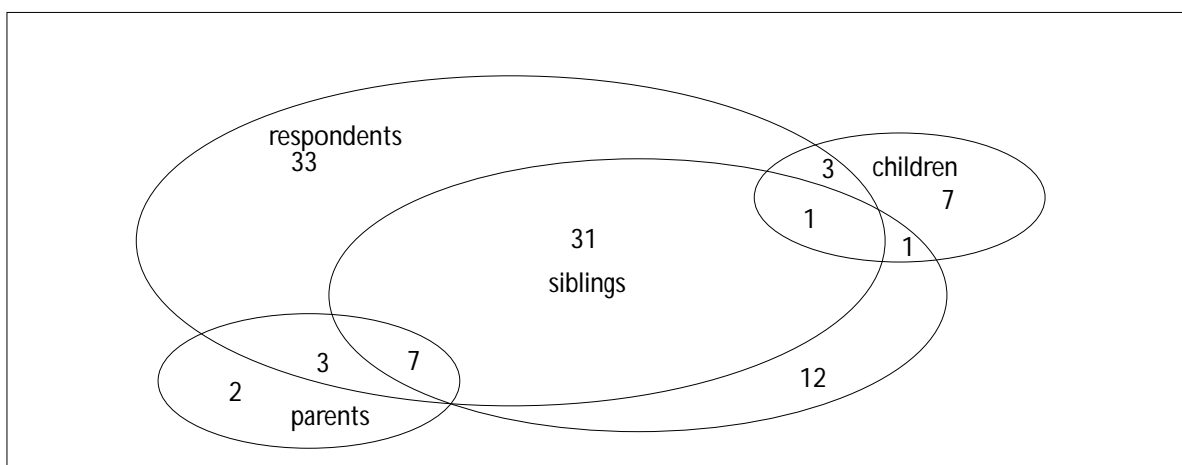
However, the exact causal connection between the two variables remains obscure.

The same phenomenon was found with use by siblings and, to a lesser extent, children. Here too, alleged use by the relative often coincides with use by the respondent.

Figure 6.3 shows the extent to which several members of one family used cannabis[1].

The two largest groups were the respondents who used cannabis but had no using family members (33%) and those whose siblings also used cannabis (31%). A third group with a substantial size was made up of non-using respondents who had using siblings (12%). Families whose members all use cannabis use are virtually unheard of.

6.4   Socio-economic aspects of cannabis use

Once more, the level of education is a very interesting variable. Figure 6.4 clearly shows that cannabis use is greatly influenced by educational background. The higher we go up the educational scale, the greater the number of cannabis users on a lifetime basis. It is important to realize that the age composition of the different groups is an important factor here. The two groups with a clearly higher lifetime prevalence are, on average, younger and thus contain more cannabis users.

It is interesting to examine the extent to which cannabis use decreases over time in the different educational groups. Of all of the one-time cannabis users in the highest educational class, only 15 percent had used the drug in the month prior to the interview. For people in the lowest group, this was 43 percent. In other words, if picked up, the habit of using cannabis is more persistent in lower educational groups. However, the absolute number of people using cannabis in these groups is low.

Occupational groups who showed a high lifetime prevalence were working people, the short-term unemployed and students. Recent use was prevalent among the unemployed (long-term and short-term) and students. Working people could not be categorized in the group of regular cannabis users on the basis of the last month prevalence figures.

The same phenomenon is reflected in income levels. Lifetime prevalence was relatively high for higher incomes, but last year and last month prevalence does not deviate very much from other income groups. The lower income groups, on the contrary, had higher prevalence values on the last year and last month items. There are four possible reasons for this. The first is the strong representation of young people in lower income groups; the second is related to the lifestyle

Figure 6.4 Lifetime prevalence of cannabis use by level of education
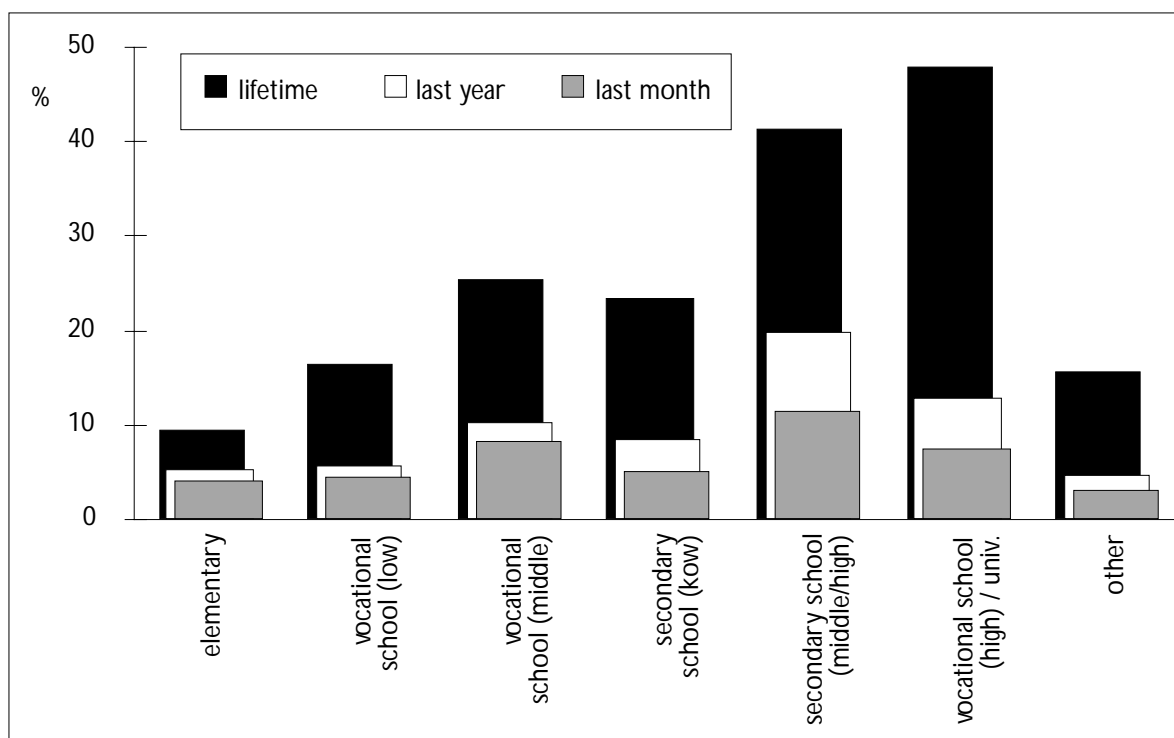
associated with a 'living on the dole'. Most unemployed people have an income in the one of the lower categories. Thirdly, many people in higher income groups probably used cannabis as students, but ceased after they found a job (which placed them in the higher income category). Finally, use of cannabis can no longer be associated with certain subcultures. Use of cannabis is present in all income categories, including the lowest. Viewed from this angle, this is a result of and 'normalization effect', which causes the diffusion of use throughout society.

6.5   Summary

Lifetime prevalence of cannabis is 29 percent. According to our findings on the last year item 11 percent of the population used a cannabis product. The corresponding figure for the last month item was 7 percent.

Almost half of the group that had ever used cannabis (43%) had done so less than 25 times. Men and women have more or less the same lifetime prevalence, but last month users are more likely to be male.

Both an age effect and a generation effect are visible in cannabis use. The age effect exists in that most users are young. The generation effect indicates that use is penetrating into higher age groups, as the generation that first started using cannabis in the sixties grows older. A possible relation seems to exist between use

by relatives and use by the respondent him/herself. Use by the respondent often coincides with (knowledge of) use by a relative. The exact nature of the causal connection of this is not clear.

The socio-economic status provided some very interesting facts in relation to cannabis use. The conclusion is that people with a higher status have higher prevalence figures, but do not differ from other groups on more recent prevalence figures. In lower status groups, there are fewer users, but a greater proportion continues using if use has been established.

1   The base for percentages here was the total number of people that either used cannabis themselves (542), or that had family members who used it (383), or both (730). The total figure is 1,655. Combinations that applied to less than 1 percent are left out of the graph. These are: use by respondents, parents, siblings and children, and use by respondents, parents and children.

6.6 Tables regarding the use of cannabis

Table 6.1 Use of cannabis by age group and gender

age group	lifetime			last year			last month			N		
	male	female	total	male	female	total	male	female	total	male	female	total
12-15 yrs	6.7	2.3	4.7	6.7	2.3	4.7	4.8	1.1	3.1	105	87	192
16-19 yrs	45.8	17.2	30.2	34.9	9.1	20.9	21.7	6.1	13.2	83	99	182
20-24 yrs	52.9	40.4	45.5	33.5	19.1	25.0	21.3	9.3	14.2	155	225	380
25-29 yrs	48.8	40.5	44.5	25.6	11.0	18.2	17.2	7.0	12.0	285	299	584
30-34 yrs	45.2	39.4	42.3	20.4	7.8	14.1	14.4	5.2	9.8	270	269	539
35-39 yrs	48.4	44.0	46.1	20.5	9.5	14.7	11.9	6.6	9.1	219	243	462
40-49 yrs	39.8	30.1	34.9	11.7	4.3	7.9	8.4	2.2	5.2	359	372	731
50-59 yrs	17.9	13.8	15.7	2.1	1.8	2.0	1.6	0.9	1.2	190	217	407
60-69 yrs	4.3	1.5	2.8	0.5	0.0	0.3	0.5	0.0	0.3	185	201	386
	1.1	0.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	177	324	501
total	33.6	25.3	29.1	15.2	6.5	10.5	10.1	3.8	6.7	2 028	2 336	4 364
sign. T-test	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05			

Table 6.2 Use of cannabis by ethnicity and gender

ethnicity	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
Dutch	1 130	31.9	404	11.4	250	7.1	3 543
Sur./Ant.	71	20.3	26	7.4	20	5.7	349
Moroccan	10	6.6	5	3.3	4	2.6	152
Turkish	4	3.9	3	2.9	3	2.9	102
Europ./USA	40	36.4	13	11.8	11	10.0	110
other	17	16.3	8	7.4	5	4.6	108
total	1 272	29.1	459	10.5	293	6.7	4 364
signif. Chi-square	p<.05		p<.05		n.s.		

Table 6.3 Use of cannabis by type of household

type of household	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
single	497	36.7	211	15.6	135	10.0	1 355
single parent	89	35.9	19	7.7	14	5.6	248
couple	200	20.9	54	5.6	38	4.0	957
couple with children	213	24.7	37	4.3	27	3.1	861
living at home	103	21.2	65	13.4	40	8.2	485
other	170	37.1	73	15.9	39	8.5	458
total	1 272	29.1	459	10.5	293	6.7	4 364
signif. Chi-square	p<.05		p<.05		p<.05		

Table 6.4   Use of cannabis by level of education

level of education		lifetime		last year		last month		N
		abs.	%	abs.	%	abs.	%	
elementary	LO	58	9.5	33	5.4	25	4.1	609
vocational (low)	LBO	94	16.6	32	5.7	26	4.6	566
secondary (low)	MAVO	141	23.4	51	8.5	31	5.1	412
vocational (middle)	MBO	105	25.5	43	10.4	34	8.3	602
second. (middle/high)	HAVO/VWO	274	41.4	132	19.9	77	11.6	662
voc. (high)/University	HBO/WO	567	48.0	152	12.9	88	7.5	1 181
other		33	9.9	16	4.8	12	3.6	332
total		1 272	29.1	459	10.5	293	6.7	4 364
signif. Chi-square		p<.05		p<.05		p<.05		

Table 6.5   Use of cannabis by position on the labour market

position at labour market	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
employed full time	556	40.8	175	12.8	111	8.1	1 363
employed part time	223	40.5	55	10.0	33	6.0	551
unemployed < 2 years	74	46.8	37	23.4	19	12.0	158
unemployed > 2 years	44	38.9	23	20.4	18	15.9	113
retired	10	1.8	0	0.0	0	0.0	549
work disability	48	23.9	20	10.0	16	8.0	201
student	88	46.8	53	28.2	30	16.0	188
other	229	18.5	96	7.7	66	5.3	1 241
total	1 272	29.1	459	10.5	293	6.7	4 364
significance	p<.05		p<.05		p<.05		

Table 6.6   Use of cannabis by household income

income (Dutch guilders)	lifetime		last year		last month		N
	abs.	%	abs.	%	abs.	%	
< 750	28	33.3	20	23.8	15	17.9	84
750-1250	111	36.2	59	19.2	38	12.4	307
1250-1500	75	26.9	29	10.4	17	6.1	279
1500-2000	133	24.3	56	10.2	37	6.8	548
2000-2500	141	30.9	64	14.0	43	9.4	456
2500-3000	114	28.1	27	6.7	14	3.5	405
3000-4000	154	32.1	45	9.4	35	7.3	480
4000-5000	136	35.4	38	9.9	20	5.2	384
>5000	180	40.5	36	8.1	23	5.2	444
unknown	200	20.5	85	8.7	51	5.2	977
total	1 272	29.1	459	10.5	293	6.7	4 364
significance	p<.05		p<.05		p<.05		

7

Difficult drugs

7.1 Introduction

The concept of difficult drugs is introduced in this study to avoid definition problems. A simple division into licit and illicit drugs is not sufficient due to the specific wording of the Dutch opium law, which makes a distinction between cannabis and other illicit drugs. Both categories are illicit, but priority for criminal investigation and prosecution is given to the latter. So, while still illegal, the possession of cannabis is not prosecuted as long as small amounts are involved.

In common language, difficult drugs may be referred to as hard drugs. We have decided not to use this term because it gives the erroneous impression that we are referring a particularly hazardous category of drugs and that 'soft' drugs, on the contrary, pose no health hazard at all. However, in both cases, it is mainly the way in which the drugs are used that determines whether a drug, 'soft' or 'hard', is dangerous or not. In other words, ten glasses of beer daily can be considered more harmful than a single sniff of cocaine.

The difficult drugs included in this study were: cocaine, amphetamines, ecstasy, hallucinogens and heroin. Clearly, there are statistical problems involved in studying difficult drugs due to the small number of people that use difficult drugs. This makes it harder to determine whether results can be generalized, i.e. whether results are valid for the population as a whole. It goes without saying that, we remain uncertain in a great many instances[1].

7.2 Prevalence

In 1994, 10.6 percent of the response group had used a difficult drug at some time. Figures for shorter periods of time were much lower. A total of 2.9 percent of the population used a difficult drug in the year preceding the interview, and 1.2 percent in the preceding month.

Continuation rates for most difficult drugs were relatively low compared to the drugs we have studied so far. All in all, 26 percent of all the difficult drug users had engaged in use during the year prior to the interview, and 14 percent in the preceding month[2].

Figure 7.1 Lifetime, last year and last month prevalence of difficult drug use
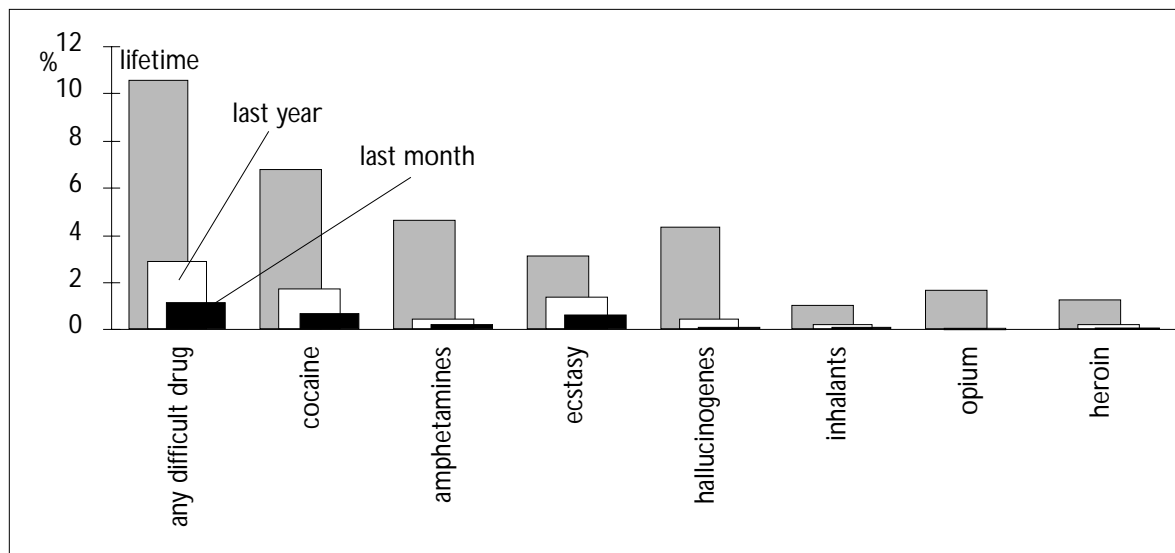
Of all difficult drugs, we found that cocaine was most widely used. Last month prevalence, however, was still lower than 1 percent of the population. Ecstasy came in second on the last month prevalence item. Given that ecstasy was only recently introduced on the market, this figure is quite high. If this trend continues, it will be only a matter of time before ecstasy becomes the prevailing difficult drug.
Prevalence of other difficult drugs, especially on the more recent items, was negligible. Only a very small share (2%) of all difficult drug users ever injected a difficult drug (heroin, opium, hallucinogens and/or amphetamines).

Professional assistance had been sought by nine percent of those who had ever used a difficult drug. This was relatively high compared to the whole group of respondents, two percent had sought assistence at some time.

Chapter 2 devoted some attention to multiple drug use. Naturally, since difficult drug use is rare, multiple difficult drug use is even more unusual. For this reason, we decided to limit the analysis to a few drugs. On a lifetime basis, the combination cocaine, hallucinogens and amphetamines proved to be the most common. Figure 7.2 represents the lifetime prevalence of the 430 persons that use one or more of these three drugs (simultaneously or not).

Almost all difficult drug users are represented in Figure 7.2. It is obvious that once difficult drug use has been established use of several drugs is not uncommon. Last year (Figure 7.3), the most frequent combination of three drugs was cocaine, ecstasy and hallucinogens, the latter being of marginal importance.
Another difference with Figure 7.2 is that use of more than one drug is much less common. The largest group (39%) used cocaine only and slightly over a quarter used only ecstasy. The group of respondents that used both ranked third.

Figure 7.2 Lifetime prevalence of cocaine, amphet-amines and hallucinogens (N=430)
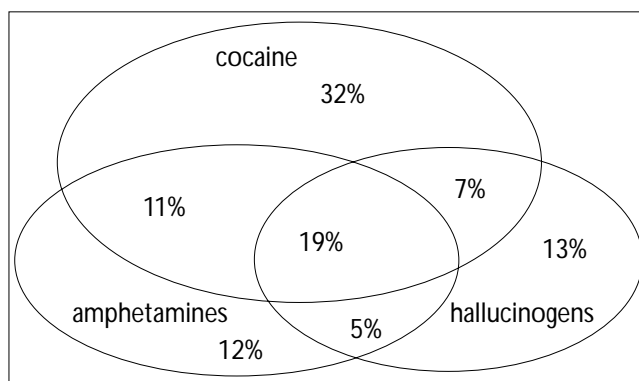
Figure 7.3 Last year prevalence of cocaine, ecstasy and hallucinogens (N=118)
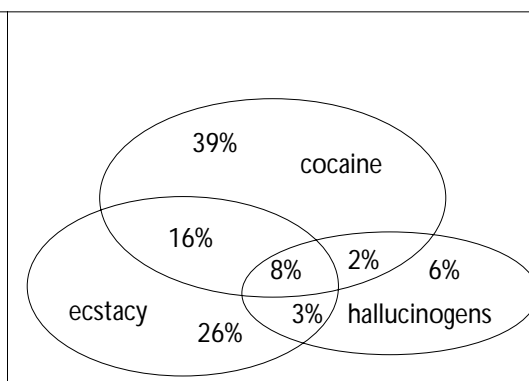
7.3   Social-demographic aspects of difficult drug use

Analysis of the relation between drug use, age and gender is presented somewhat differently from earlier chapters. The reason for this is that the figures were too small to allow three dimensional tables. We decided to present difficult drug use by age and gender in two separate tables, rather than one table.

Table 7.1 presents use of difficult drugs by gender. The figures for the aggregate 'any difficult drug' are followed by the results for cocaine, amphetamines, ecstasy, hallucinogens and heroin separately. Difficult drug use (lifetime prevalence) was found more often among male respondents. Lifetime prevalence for men was 12.6 percent; for women 8.9 percent. Last year prevalence of difficult drugs measured at 3.9 percent for men and 2.0 percent for women. For both men and women, cocaine was the most frequently used difficult drug on a lifetime basis (8.3 and 5.5 percent respectively), followed by hallucinogens for men (5.9%) and amphetamines for women (3.8%).

Difficult drug use by age group is shown in Table 7.2. Except for a few very unusual cases, difficult drug use was unheard of in the age groups of 12 to 19 years and over 60. The age group with highest lifetime prevalence was 40-59 years, 25.3 percent of which had used a difficult drug at some time. Last year prevalence reached a peak in the age group 20-29 years. The generation and age effects are clearly visible here. The generation effect can be traced as those in the age group 40-59 years were in their teens or early twenties when drugs became available on the market and thus, had had the opportunity ever since to use or experiment with drugs. Older generations, were already too old to start using drugs when they first became available. This phenomenon in itself was caused by the age effect, which means that present use prevails in certain (younger) age groups.

As was the case with other drugs, difficult drug use is more prevalent among younger people, i.e. the age group between 20 and 29 years. The relation between

difficult drug use and ethnicity is no different from the use of other drugs and ethnicity. Use of difficult drugs is most frequently found among people of Dutch origin, other Europeans, and Americans. Only very few respondents from Turkish or Moroccan origin had ever used difficult drugs.

Of all household categories, difficult drug users are mainly found among singles and single parents. The scores for the category 'other' were surprisingly high. Most of the users within this category had no children and neither lived with a partner nor alone. These individuals were probably adults who shared housing with roommates, friends or relatives.

7.4   Socio-economic aspects of difficult drug use

The most important socio-economic variable was position on the labour market. The incidence of difficult drug use among retired people was very low. Of course, this is largely a generation effect. The other non-working groups, on the contrary, stand out for high levels of prevalence. The level of drug use for both categories of unemployed people is interesting. Those who were unemployed for a long time scored 30.1 percent on lifetime prevalence but 'only' 5.3 percent had used a difficult drug in the year preceding the interview. Lifetime prevalence for the short-term unemployed was high, but not extreme. Last year prevalence, on the contrary, was very high compared to other categories.

Education and difficult drug use are positively correlated. In other words: a higher level of education coincides with a higher level of lifetime prevalence. Results on the relation with income levels are not significant.

Figure 7.4 Use of difficult drugs by position on the labour market
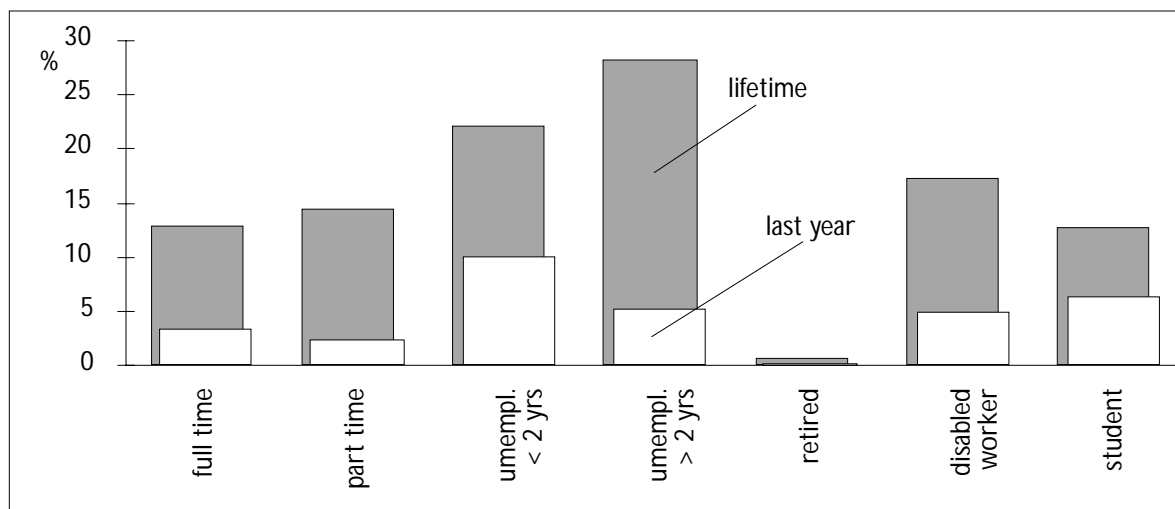
7.5   Summary

The difficult drugs studied here are: cocaine, amphetamines, ecstasy, hallucinogens and heroin. Prevalence of difficult drugs was relatively low. Lifetime prevalence was 10.6 percent. The figures for the last year and last month items were 2.9 percent and 1.2 percent respectively.

Use of cocaine was most widespread, but ecstasy is catching up on last year and last month prevalence. Difficult drug use was more prevalent with men. The age group 40-59 scored highest on lifetime prevalence, but many have apparently given up using, as indicated by a fairly low last year and last month prevalence. The respondents' position on the labour market and educational level proved to be important socio-economic variables, but income showed no significant relation with difficult drug use.

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1   In the tables this will be indicated as 'n.s.' (not significant) which means that there is no statistical certainty whether our measurements in the response group hold for the whole population as well. The notation 'n.a.' (not applicable) indicates that statistical procedures failed to test the significance of our data because of too many empty cells in the table.

2   It is important to realise that difficult drugs are an aggregate. The calculation of the continuation rate may, therefore, be based on different substances. It is possible that a person started using cocaine as a first difficult drug, but took only ecstasy in the year prior to the interview. This is seen as continued use of difficult drugs, even though different drugs are involved. Continuation rates for the drugs separately are presented in Chapter 2.

7.6   Tables regarding the use of difficult drugs

Table 7.1   Use of difficult drugs by age group

lifetime preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
12-19 yrs	13	3.5	1	0.3	4	1.1	9	2.4	5	1.3	0	0.0	374
20-29 yrs	119	12.3	74	7.7	43	4.5	68	7.1	48	5.0	12	1.2	964
30-39 yrs	179	17.9	141	14.1	77	7.7	42	4.2	65	6.5	31	3.1	1001
40-49 yrs	114	15.6	65	8.9	56	7.7	17	2.3	61	8.3	12	1.6	731
50 yrs a.o.	38	2.9	16	1.2	23	1.8	1	0.1	13	1.0	2	0.2	1294
total	463	10.6	297	6.8	203	4.7	137	3.1	192	4.4	57	1.3	4364
sign. chi-sq.	p<.05		p<.05		p<.05		p<.05		p<.05		p<.05		

last year preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
12-19 yrs	9	2.4	1	0.3	2	0.5	6	1.6	4	1.1	0	0.0	374
20-29 yrs	55	5.7	31	3.2	14	1.5	37	3.8	12	1.2	6	0.6	964
30-39 yrs	42	4.2	33	3.3	3	0.3	15	1.5	4	0.4	3	0.3	1001
40-49 yrs	15	2.1	7	1.0	2	0.3	5	0.7	2	0.3	3	0.4	731
50 yrs a.o.	5	0.4	4	0.3	1	0.1	0	0.0	0	0.0	0	0.0	1294
total	126	2.9	76	1.7	22	0.5	63	1.4	22	0.5	12	0.3	4364
sign. chi-sq.	p<.05		p<.05		p<.05		p<.05		p<.05		p<.05		

last month preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
12-19 yrs	3	0.8	0	0.0	1	0.3	3	0.8	0	0.0	0	0.0	374
20-29 yrs	26	2.7	13	1.3	8	0.8	17	1.8	4	0.4	1	0.1	964
30-39 yrs	15	1.5	12	1.2	2	0.2	6	0.6	0	0.0	1	0.1	1001
40-49 yrs	7	1.0	4	0.5	1	0.1	2	0.3	1	0.1	1	0.1	731
50 yrs a.o.	3	0.2	3	0.2	0	0.0	0	0.0	0	0.0	0	0.0	1294
total	54	1.2	32	0.7	12	0.3	28	0.6	5	0.1	3	0.1	4364
sign. chi-sq.	p<.05		p<.05		p<.05		p<.05		n.s.		n.s.		

Table 7.2   Use of difficult drugs by gender

lifetime preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
male	256	12.6	169	8.3	114	5.6	85	4.2	120	5.9	38	1.9	2028
female	207	8.9	128	5.5	89	3.8	52	2.2	72	3.1	19	0.8	2336
total	463	10.6	297	6.8	203	4.7	137	3.1	192	4.4	57	1.3	4364
sign. chi-sq.	p<.05		p<.05		p<.05		p<.05		p<.05		p<.05		

Table 7.2 Use of difficult drugs by gender (continued)

last year preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
male	80	3.9	48	2.4	13	0.6	41	2.0	18	0.9	10	0.5	2028
female	46	2.0	28	1.2	9	0.4	22	0.9	4	0.2	2	0.1	2336
total	126	2.9	76	1.7	22	0.5	63	1.4	22	0.5	12	0.3	4364
sign. chi-sq.	p<.05		p<.05		n.s.		p<.05		p<.05		p<.05		

last month preval.	any diff. drug abs.	%	cocaine abs.	%	amphet. abs.	%	ecstasy abs.	%	hallucinog. abs.	%	heroin abs.	%	N
male	33	1.6	19	0.9	7	0.3	20	1.0	5	0.2	2	0.1	2028
female	21	0.9	13	0.6	5	0.2	8	0.3	0	0.0	1	0.0	2336
total	54	1.2	32	0.7	12	0.3	28	0.6	5	0.1	3	0.1	4364
sign. chi-sq.	p<.05		n.s.		n.s.		p<.05		n.a.		n.a.		

Table 7.3 Use of difficult drugs by ethnicity

ethnicity	lifetime abs.	%	last year abs.	%	last month abs.	%	N
Dutch	423	11.9	108	3.0	47	1.3	3 543
Sur./Ant.	16	4.6	8	2.3	2	0.6	349
Moroccan	3	2.0	2	1.3	1	0.7	152
Turkish	1	1.0	0	0.0	0	0.0	102
Europ./USA	13	11.8	5	4.5	3	2.7	110
other	7	6.5	3	2.8	1	0.9	108
total	463	10.6	126	2.9	54	1.2	4 364
signif. Chi-square	p<.05		n.a.		n.a.		

Table 7.4 Use of difficult drugs by type of household

type of household	lifetime abs.	%	last year abs.	%	last month abs.	%	N
single	193	14.2	54	4.0	19	1.4	1 355
single parent	33	13.3	5	2.0	4	1.6	248
couple	78	8.2	17	1.8	8	0.8	957
couple with children	75	8.7	11	1.3	4	0.5	861
living at home	22	4.5	16	3.3	7	1.4	485
other	62	13.5	23	5.0	12	2.6	458
total	208	8.2	49	1.9	23	0.9	2 551
signif. Chi-square	p<.05		p<.05		p<.05		

Table 7.5   Use of difficult drugs by level of education

level of education		lifetime abs.	%	last year abs.	%	last month abs.	%	N
elementary	LO	32	5.3	15	2.5	8	1.3	609
vocational (low)	LBO	25	4.4	8	1.4	2	0.4	566
secondary (low)	MAVO	52	8.6	15	2.5	7	1.2	602
vocational (middle)	MBO	50	12.1	15	3.6	7	1.7	412
second. (middle/high)	HAVO/VWO	94	14.2	26	3.9	13	2.0	662
voc. (high)/University	HBO/WO	200	16.9	44	3.7	16	1.4	1 181
other		10	3.0	3	0.9	1	0.3	332
total		463	10.6	126	2.9	54	1.2	4 364
signif. Chi-square		p<.05		p<.05		n.s.		

Table 7.6   Use of difficult drugs by position on the labour market

position at labour market	lifetime abs.	%	last year abs.	%	last month abs.	%	N
employed full time	176	12.9	47	3.4	23	1.7	1 363
employed part time	80	14.5	13	2.4	5	0.9	551
unemployed < 2 years	35	22.2	16	10.1	4	2.5	158
unemployed > 2 years	32	28.3	6	5.3	1	0.9	113
retired	4	0.7	1	0.2	1	0.2	549
work disability	35	17.4	10	5.0	6	3.0	201
student	24	12.8	12	6.4	4	2.1	188
other	77	6.2	21	1.7	10	0.8	1 241
total	463	10.6	126	2.9	54	1.2	4 364
signif. Chi-square	p<.05		p<.05		p<.05		

Table 7.7   Use of difficult drugs by household income

income (Dutch guilders)	lifetime abs.	%	last year abs.	%	last month abs.	%	N
< 750	8	9.5	4	4.8	1	1.2	84
750-1250	49	16.0	13	4.2	3	1.0	307
1250-1500	36	12.9	9	3.2	4	1.4	279
1500-2000	61	11.1	13	2.4	6	1.1	548
2000-2500	55	12.1	22	4.8	10	2.2	456
2500-3000	30	7.4	9	2.2	4	1.0	405
3000-4000	55	11.5	13	2.7	4	0.8	480
4000-5000	42	10.9	9	2.3	4	1.0	384
>5000	58	13.1	10	2.3	6	1.4	444
unknown	69	7.1	24	2.5	12	1.2	977
total	463	10.6	126	2.9	54	1.2	4 364
signif. Chi-square	p<.05		n.s.		n.a.		

8

Pharmaceutical drugs

8.1 Introduction

This chapter is about hypnotics, sedatives and pharmaceutical opiates[1]. As a group we will call them 'pharmaceutical drugs'. These are licit drugs, but mostly available on medical prescription only. In this chapter, it is extremely important that the reader bear in mind that it may have been difficult for some respondents to answer the questions in the survey correctly. Lack of pharmaceutical knowledge may have caused incomplete or erratic mention of individual drugs and possibly confusion on the question of whether a drug is a sedative, hypnotic, or neither.

8.2 Prevalence

Lifetime prevalence of any pharmaceutical drug is 33.3 percent. Use was generally limited to a single drug (22.8%), but some respondents had, at some time, used two (9%), three (1.3%) or more (0.2%) drugs.

In the year preceding the interview, 17 percent of the population took one or more pharmaceutical drugs. The last month prevalence was 11 percent. In these cases,

Figure 8.1 Lifetime, last year and last month prevalence of hypnotics, sedatives and pharmaceutical opiates
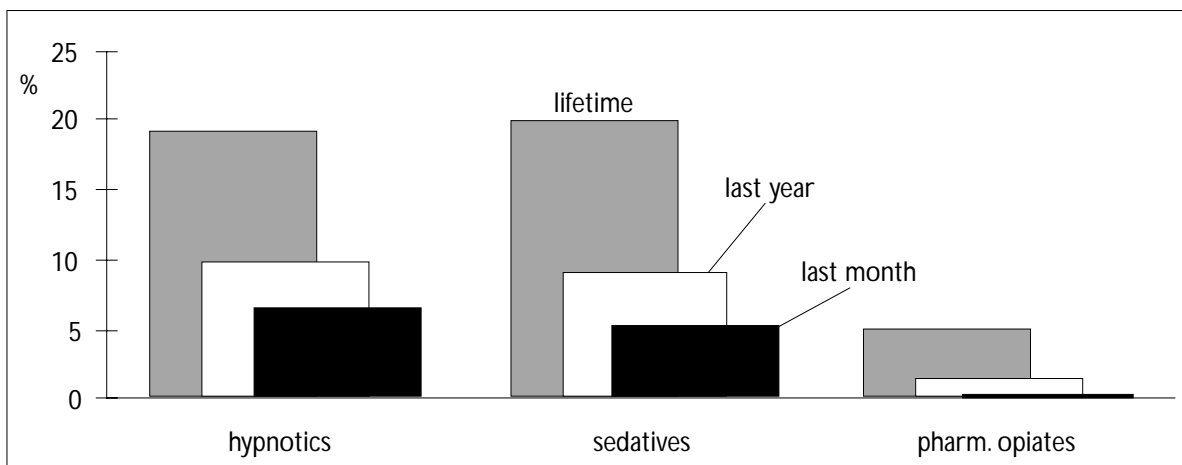
use of more than one distinct drug was rare (3.6% and 1.7% respectively). Figure 8.1 summarizes lifetime, last year and last month prevalence for pharmaceutical drugs separately.

Sedatives and hypnotics both had a lifetime prevalence of about 20 percent. Around ten percent of the population had taken sedatives or hypnotics in the year preceding the interview, and the last month prevalence was 6.7 percent for hypnotics and 5.5 percent for sedatives.

Approximately half of the user group had never used hypnotics and sedatives more than 25 times (53% and 56% respectively). This means that many users never become 'experienced' according to our standards. Furthermore, most of the recent users (73% of all last month users) of any pharmaceutical drug, used one substance. A small group (19%) had used two distinct substances in the preceding month; the remaining eight percent used more than that.

Most hypnotics and sedatives were taken on medical prescription, which is not very surprising since many substances were not available without prescription. Some users, however, used these drugs on their own initiative - in most cases, mild substances requiring no prescription, such as products based on valerian. Surprisingly, some respondents reported using a pharmaceutical drug without a prescription, a drug obtainable only with a prescription. It is not clear whether this finding was due to incorrect responses to the questions or whether these substances were acquired in some alternative way, e.g. through someone else with a prescription or by buying outside the regular channels.

Use of pharmaceutical opiates (morphine, codeine and palfium) was rare. Five percent of the population had, at some time, used one of the opiates studied in this chapter. Last year and last month figures were marginal: 1.6 and 0.4 percent used one of the opiates. Continuation rates were quite high, at least for hypnotics and sedatives. Half of all hypnotics users continued using into the year preceding the interview; 35 percent into the preceding month. For sedatives users, the percentages were 46 and 27 percent respectively. Use of pharmaceutical opiates is generally presented in the course of time: 30 percent of all users had engaged in use during the year preceding the interview, and 7 percent in the preceding month. Last month users were asked to name the particular hypnotic or sedative that they were using. Together, they produced a long list of different hypnotics and sedatives. Of these, the most commonly used were[2]:

Hypnotics		Sedatives	
temazepam/normison	29.7%	valerian/calmolan	17.5%
nitrazepam/mogadon	20.4%	oxazepam/seresta	17.1%
oxazepam/seresta	9.7%	diazepam/valium	15.0%
flurazepam/dalmadorm	5.7%		

Figure 8.2 Lifetime prevalence of hypnotics and sedatives, by age group and gender
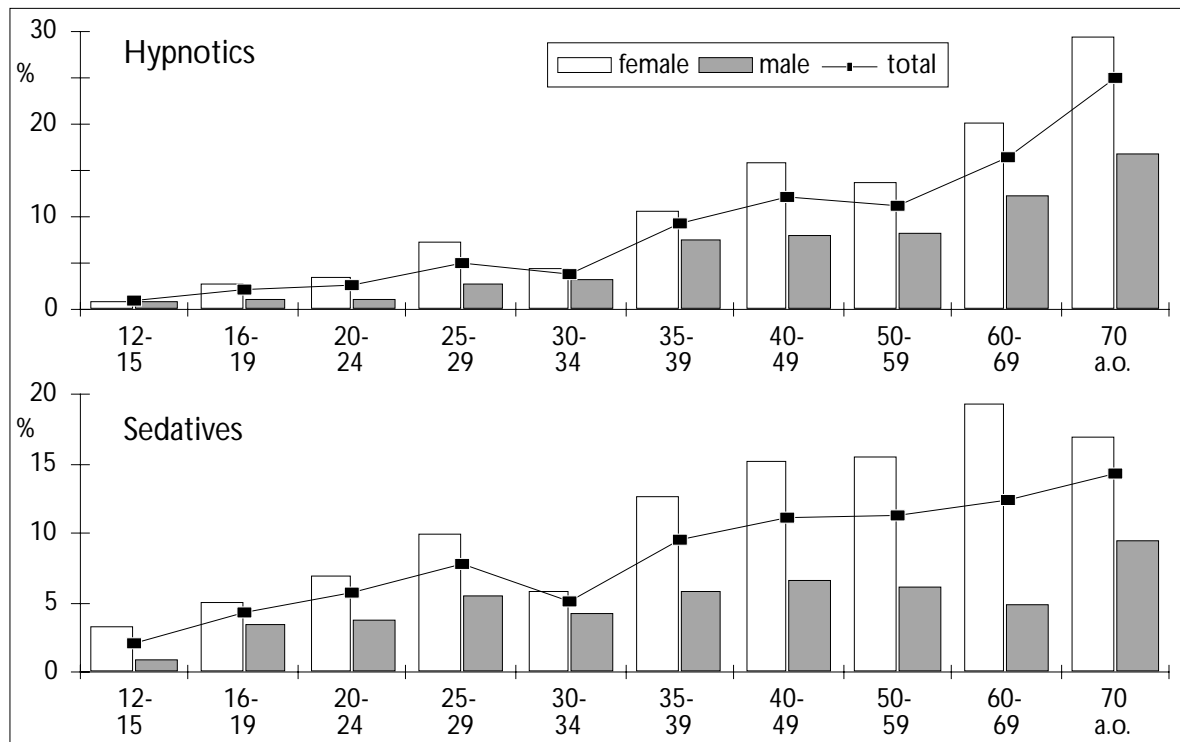
8.3   Social demographic aspects of pharmaceutical drug use

Age and gender proved to be very important determinants for use of pharmaceutical drugs. Looking at Figure 8.2, the difference between men and women is striking. In all of the age groups, more women used pharmaceutical drugs than men. It is obvious that age, for both the women and the men, was positively correlated with the use of sedatives and hypnotics. In other words, as the age increased, so did the use of pharmaceutical drugs. We were surprised by the score for women in the age group 30-34, which is lower than the scores for adjoining age groups. We have no clear explanation for this, but the reason may very well be a greater concern for health in relation with (intended) pregnancy.
On average, we found that use of pharmaceutical drugs started between the late twenties and late thirties. Variations, however, were enormous. Initial use of hypnotics, for example, varied between 4 and 92 years of age.

The relation with ethnicity is by now a familiar one: as was the case in former chapters, people of Dutch origin, other Europeans and US citizens had higher scores than people from Surinam, the Dutch Antilles, Morocco and Turkey. However, the scores of the latter groups were relatively high on recent use of sedatives.

Use of pharmaceutical drugs was lowest in families with two adults and children. Both the parents and the children seldom used hypnotics, sedatives and opiates. Singles and single parents had relatively high scores.

8.4 Socio-economic aspects of pharmaceutical drug use

The use of sedatives and hypnotics can be associated with low levels of education. On lifetime, last year and last month prevalence this group clearly stood out with high figures. As mentioned before, this can be ascribed to the composition of the lowest educational group. It contained only women and/or older people, the very groups that are known for high prevalence rates. In addition, people with a high level of education scored high on (1) lifetime prevalence of hypnotics and (2) lifetime prevalence of pharmaceutical opiates. The high prevalence of hypnotics was not repeated in more recent periods. Last month prevalence of pharmaceutical opiates fell short in number of users, which makes it difficult to interpret the figures.

Employment or a lack of it did not make the difference. It was mainly the termination of employment seemed to cause a rise in levels of prevalence. Of course, this is strongly related to age. With very few exceptions, all of the retired respondents were over 65 and there were only very few people that had had to give up their job because of a handicap. The retired and those unable to work due to a handicap scored higher on use of sedatives and hypnotics. The latter group also seems to stand out for use of pharmaceutical opiates, but here too, absolute figures were too low to be sure of this conclusion. At any rate, it would not be a very unexpected observation, since people that are not fit to work should logically have a history of illness or handicap that was the both the reason for ending the employment as well as for taking pharmaceutical opiates.

The relation between income and use of pharmaceutical drugs is obvious where it concerns the higher income groups, that clearly showed lower levels of use. Explaining differences between lower income groups is more difficult. Lifetime as well as last year prevalence was lower for the lowest income group, but this relation disappears when looking at last month prevalence.

Figure 8.3 Last month prevalence of hypnotics, sedatives and pharmaceutical opiates, by position on the labour market
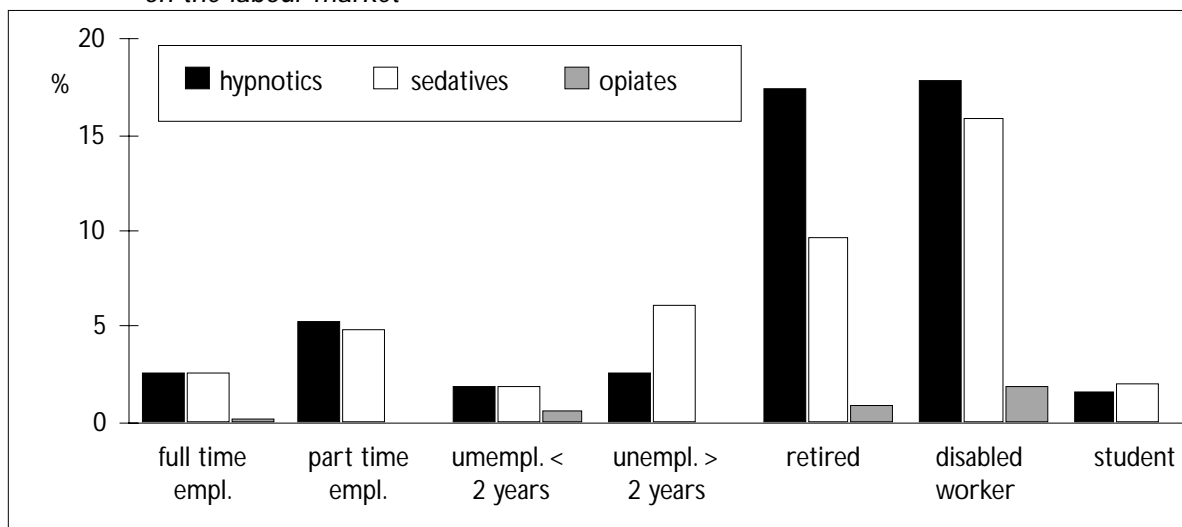
8.5   Summary

Characteristics of the users of pharmaceutical drugs differed very much from the familiar picture of the drug-user that was drawn in earlier chapters. The users of pharmaceutical drugs were older, less well educated, absent from the labour force and very often female. Together, those variables indicate a certain low position on the socio-economic ladder, which seems to determinate the higher level of prevalence. Although not studied explicitly here, it is important to note that health situation is also an important additional factor. In the next chapter we will pay attention to this relationship. We found that most pharmaceutical drugs were taken on prescription, which means that, at one point in time, a doctor found a medical cause to prescribe the drug. Of course, medical condition is strongly related to age, and to a lesser extent to socio-economic status and gender.

1   The pharmaceutical opiates in question are palfium, morphine and codeine.
2   Total number of cases that answered the question was taken as the base for percentages. This was 279 for hypnotics and 240 for sedatives.

8.6 Tables regarding the use of pharmaceutical drugs

Table 8.1 Use of pharmaceutical drugs by age group and gender

hypnotics age group	lifetime male	lifetime female	lifetime total	last year male	last year female	last year total	last month male	last month female	last month total	N male	N female	N total
12-15 yrs	1.9	4.6	3.1	1.0	1.1	1.0	1.0	0.0	0.5	105	87	192
16-19 yrs	3.6	6.1	4.9	1.2	3.0	2.2	0.0	1.0	0.5	83	99	182
20-24 yrs	5.2	10.7	8.4	1.3	3.6	2.6	0.0	0.0	0.0	155	225	380
25-29 yrs	5.6	16.4	11.1	2.8	7.4	5.1	1.8	3.7	2.7	285	299	584
30-34 yrs	11.9	16.4	14.1	3.3	4.5	3.9	1.5	3.3	2.4	270	269	539
35-39 yrs	18.3	25.1	21.9	7.8	10.7	9.3	3.7	4.9	4.3	219	243	462
40-49 yrs	16.7	30.6	23.8	8.1	16.1	12.2	6.4	8.9	7.7	359	372	731
50-59 yrs	16.8	28.1	22.9	8.4	13.8	11.3	5.3	8.3	6.9	190	217	407
60-69 yrs	22.2	33.3	28.0	12.4	20.4	16.6	8.6	15.9	12.4	185	201	386
70 yrs a.o.	27.7	40.4	35.9	16.9	29.6	25.1	14.7	25.6	21.8	177	324	501
total	14.0	24.0	19.3	6.7	12.8	10.0	4.6	8.5	6.7	2 028	2 336	4 364
sign. T-test	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05			

sedatives age group	lifetime male	lifetime female	lifetime total	last year male	last year female	last year total	last month male	last month female	last month total	N male	N female	N total
12-15 yrs	2.9	3.4	3.1	1.0	3.4	2.1	0.0	1.1	0.5	105	87	192
16-19 yrs	4.8	12.1	8.8	3.6	5.1	4.4	1.2	1.0	1.1	83	99	182
20-24 yrs	7.1	17.8	13.4	3.9	7.1	5.8	1.3	2.7	2.1	155	225	380
25-29 yrs	11.9	25.1	18.7	5.6	10.0	7.9	2.1	4.3	3.3	285	299	584
30-34 yrs	13.7	17.1	15.4	4.4	5.9	5.2	1.9	3.3	2.6	270	269	539
35-39 yrs	21.0	25.5	23.4	5.9	12.8	9.5	3.7	5.3	4.5	219	243	462
40-49 yrs	15.6	31.7	23.8	6.7	15.3	11.1	4.2	10.8	7.5	359	372	731
50-59 yrs	16.8	35.5	26.8	6.3	15.7	11.3	5.3	8.8	7.1	190	217	407
60-69 yrs	17.8	32.3	25.4	4.9	19.4	12.4	3.8	14.4	9.3	185	201	386
70 yrs a.o.	18.6	27.5	24.4	9.6	17.0	14.4	6.8	13.3	11.0	177	324	501
total	14.3	25.1	20.1	5.6	12.2	9.1	3.3	7.4	5.5	2 028	2 336	4 364
sign. T-test	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05	p<.05			

opiates age group	lifetime male	lifetime female	lifetime total	last year male	last year female	last year total	last month male	last month female	last month total	N male	N female	N total
12-15 yrs	1.9	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	105	87	192
16-19 yrs	1.2	2.0	1.6	1.2	2.0	1.6	0.0	1.0	0.5	83	99	182
20-24 yrs	1.3	2.2	1.8	0.6	0.9	0.8	0.0	0.0	0.0	155	225	380
25-29 yrs	5.6	5.4	5.5	2.1	1.7	1.9	0.0	0.3	0.2	285	299	584
30-34 yrs	5.9	5.9	5.9	1.1	1.5	1.3	0.0	0.4	0.2	270	269	539
35-39 yrs	4.1	8.2	6.3	0.9	3.3	2.2	0.0	0.0	0.0	219	243	462
40-49 yrs	5.0	8.3	6.7	0.6	3.0	1.8	0.0	0.0	0.0	359	372	731
50-59 yrs	6.3	10.1	8.4	2.1	3.2	2.7	1.1	0.9	1.0	190	217	407
60-69 yrs	4.3	5.5	4.9	1.1	1.5	1.3	0.0	0.5	0.3	185	201	386
70 yrs a.o.	4.0	3.7	3.8	2.3	0.6	1.2	0.0	0.0	0.0	177	324	501
total	4.5	5.8	5.2	1.2	1.9	1.6	0.1	0.3	0.2	2 028	2 336	4 364
sign. T-test	n.s.	p<.05	p<.05	n.a.	n.a.	n.s.	n.a.	n.a.	n.a.			

Table 8.2   Use of pharmaceutical drugs by ethnicity

ethnicity	lifetime			last year			last month			N
	hypn.	sedat.	opiates	hypn.	sedat.	opiates	hypn.	sedat.	opiates	
Dutch	20.9	22.0	5.9	10.9	9.7	1.8	7.3	5.7	0.5	3 543
Sur./Ant.	14.0	11.7	2.9	6.0	5.7	0.9	3.7	4.3	0.0	349
Moroccan	9.9	9.9	0.7	5.9	7.2	0.0	3.9	5.3	0.0	152
Turkish	12.7	11.8	1.0	6.9	9.8	1.0	4.9	7.8	0.0	102
Europ./USA	18.2	21.8	3.6	9.1	12.7	0.0	7.3	5.5	0.0	93
other	6.5	5.6	1.9	2.8	1.9	0.9	0.9	1.9	0.0	125
total	19.3	20.1	5.2	10.0	9.1	1.6	6.7	5.5	0.4	4 364
signif. Chi-square	p<.05	p<.05	p<.05	p<.05	p<.05	n.a.	p<.05	n.s.	n.a.	

Table 8.3   Use of pharmaceutical drugs by type of household

type of household	lifetime			last year			last month			N
	hypn.	sedat.	opiates	hypn.	sedat.	opiates	hypn.	sedat.	opiates	
single	25.2	25.3	6.3	14.3	11.2	2.1	9.6	6.6	0.5	1 355
single parent	22.2	23.4	5.2	11.7	11.7	1.2	6.0	6.9	0.4	248
couple	21.4	21.2	4.4	10.9	9.1	1.5	7.6	6.1	0.3	957
couple with children	15.8	16.6	5.7	6.6	7.7	1.5	4.5	4.6	0.5	861
living at home	4.9	7.2	1.4	1.6	4.3	0.6	0.6	1.2	0.2	485
other	18.1	20.5	6.3	9.4	9.6	1.5	7.0	6.3	0.0	458
total	19.3	20.1	5.2	10.0	9.1	1.6	6.7	5.5	0.4	3 009
signif. Chi-square	p<.05	p<.05	p<.05	p<.05	p<.05	n.s.	p<.05	p<.05	n.a.	

Table 8.4   Use of pharmaceutical drugs by level of education

level of education	lifetime			last year			last month			N
	hypn.	sedat.	opiates	hypn.	sedat.	opiates	hypn.	sedat.	opiates	
elementary	25.6	19.7	4.3	16.9	11.5	1.6	14.6	9.0	0.3	609
vocational (low)	18.9	21.0	3.5	8.8	9.0	1.2	6.4	6.2	0.7	566
secondary (low)	16.8	19.6	5.5	8.5	8.5	1.0	6.1	4.0	0.3	602
vocational (middle)	18.0	21.8	4.9	8.5	8.5	1.7	4.9	5.1	0.5	412
second. (middle/high)	17.8	20.4	5.6	8.0	10.4	2.0	4.8	5.4	0.3	662
voc. (high)/University	21.2	21.8	7.0	10.2	8.6	1.9	5.5	4.3	0.4	1 181
other	11.4	10.8	2.1	6.6	6.3	0.9	3.9	5.4	0.0	332
total	19.3	20.1	5.2	10.0	9.1	1.6	6.7	5.5	0.4	4 364
signif. Chi-square	p<.05	p<.05	p<.05	p<.05	n.s.	n.s.	p<.05	p<.05	n.a.	

Table 8.5   Use of pharmaceutical drugs by position on the labour market

position at labour market	lifetime hypn.	sedat.	opiates	last year hypn.	sedat.	opiates	last month hypn.	sedat.	opiates	N
employed full time	13.6	15.6	5.5	5.7	5.5	1.4	2.6	2.7	0.2	1 363
employed part time	19.8	21.2	6.5	7.6	10.9	1.3	5.4	4.9	0.0	551
unemployed < 2 years	17.7	26.6	4.4	6.3	7.6	1.7	1.9	1.9	0.6	158
unemployed > 2 years	21.2	23.9	6.2	8.0	11.5	3.5	2.7	6.2	0.0	113
retired	32.1	23.3	4.9	20.8	12.6	1.6	17.5	9.7	0.9	549
work disability	42.8	41.8	10.9	23.9	19.4	5.0	17.9	15.9	2.0	201
student	9.6	11.2	2.1	4.8	5.3	0.5	1.6	2.1	0.0	188
other	17.6	19.7	3.9	10.1	9.8	1.3	6.9	6.2	0.2	1 241
total	19.3	20.1	5.2	10.0	9.1	1.6	6.7	5.5	0.4	4 364
signif. Chi-square	p<.05	p<.05	p<.05	p<.05	p<.05	n.a.	p<.05	n.s.	n.a.	

Table 8.6   Use of alcohol by household income

income (Dutch guilders)	lifetime hypn.	sedat.	opiates	last year hypn.	sedat.	opiates	last month hypn.	sedat.	opiates	N
< 750	17.9	15.5	1.2	11.9	9.5	1.2	8.3	7.1	0.0	84
750-1250	25.7	25.1	4.9	15.6	12.4	1.6	11.7	9.4	0.0	307
1250-1500	20.8	24.4	3.9	12.9	12.5	2.2	9.0	7.9	0.7	279
1500-2000	21.9	23.5	4.6	10.6	10.8	1.6	6.9	5.7	0.4	548
2000-2500	21.5	21.3	5.3	11.0	9.0	1.3	8.3	5.0	0.4	456
2500-3000	22.2	19.8	5.7	10.9	9.6	1.7	6.4	4.7	1.0	405
3000-4000	19.0	20.4	7.3	9.0	9.2	1.5	5.0	5.6	0.2	480
4000-5000	15.1	18.5	6.5	6.0	6.3	2.3	2.9	3.1	0.0	384
>5000	17.6	18.0	7.7	8.3	7.2	1.8	5.0	3.2	0.2	444
unknown	16.1	16.7	3.4	8.8	8.1	1.1	6.7	5.8	0.4	977
total	19.3	20.1	5.2	10.0	9.1	1.6	6.7	5.5	0.4	4 364
signif. Chi-square	p<.05	p<.05	p<.05	p<.05	n.s.	n.s.	p<.05	p<.05	n.a.	

9

Drug use and health

9.1 Introduction

In our 1994 household survey, we introduced a series of innovations, resulting in more data for each of the respondents. One of the more important innovations was an instrument to measure aspects of physical and mental health, which was introduced to enable statistical associations between drug use variables and health variables.

Often pure prevalence data are evaluated on their relative position to the same data earlier in time, or in other countries. Thus, policy makers tend to be alarmed when the lifetime prevalence figures for some drug increase or prove to be higher than elsewhere.

As we pointed out earlier (Sandwijk et al. 1991) this type of evaluating pure prevalence is too simple. It may very well be that much drug use is not associated with any particular problems, as we have already found to be the case with cocaine (Cohen and Sas, 1994; see also Harrison 1994). However, proof that drug use is actively and causally associated with health and social problems would be a cause for concern about drug prevalence figures.

Of course, a household survey is no ideal instrument to measure problem-related drug use. That task requires the kind of in-depth investigation of drug use patterns that we are currently conducting on cannabis (Cohen and Sas 1996 forthcoming) and have already done on cocaine (Cohen 1989; Cohen and Sas 1993; Cohen and Sas 1995).

Even high frequency drug use is not a good indicator of problem-related use patterns because frequent drug use is not in itself a reliable indicator of problem-related behaviour. Frequency, combined with the amount of a drug used, *may* be some kind of problem indicator. However, such a combination measurement is impossible within the design of our household study. Thus, we opted for a different approach to gather some preliminary information about problems possibly related to drug use. We decided to introduce a reliable instrument to measure physical and mental health scores and enable comparison of users with non-users for each drug included in the survey. At the very least, that would enable us to determine whether drug users have consistently different (lower) scores on one or more of the health assessment dimensions than do non-users. If that proved to be the case, it would be an indication of a connection between drug use and health problems.

9.2 The Short Form 36 Health Status Scale

The department of Psychosocial Research and Epidemiology (headed by Dr. Neil Aaronson) of the Netherlands Cancer Institute (NCI) was evaluating the suitability of the SF-36 Health Survey[1] (SF-36) for the Dutch population. The SF-36 is a multi-purpose survey of general health status. It measures eight concepts which are not specific to any age, disease or treatment group and which are among those concepts most frequently measured in widely-used health surveys. (Ware and Sherbourne 1992; Ware et al. 1993; Ware et al 1994). The SF-36 has been translated into 30 languages and has been tested for Dutch respondents through the International Quality of Life Assessment (IQOLA) Project (Aaronson et al 1992.; Ware, Gandek et al. 1994). The SF-36 has been translated and tested for Dutch respondents and we assume a sufficient level of validity for use in the Netherlands.[2]

If we were able to detect significant differences between drug users and non-users on one or more of the health dimensions of the SF-36, we would be better prepared to assess associations between drug use and the quality of health or social relations.

The following matrix outlines in brief the structure of the SF-36 and the meaning of its dimensions (Ware et al. 1993)

Table 9.1   Meaning of the nine dimensions in the SF-36 Health Survey

Dimension	No of items	No of levels	Meaning of low score	Meaning of high score
	10	21	Limited a lot in performing all physical activities including bathing or dressing due to health	Performs all types of physical activities including the most vigorous without limitations due to health
Role Physical	4	5	Problems with work or other daily activities as a result of physical health	No problems with work or other daily activities as a result of physical health
Bodily Pain	2	11	Very severe and extremely limiting pain	No pain or limitations due to pain
General Health	5	21	Evaluates personal health as poor and believes it is likely to get worse	Evaluates personal health as excellent
Vitality	4	21	Feels tired and worn out all of the time	Feels full of energy all of the time
Social Functioning	2	9	Extreme and frequent interference with normal social activities due to physical or emotional problems	Performs normal social activities without interference due to physical or emotional problems
Role Emotional	3	4	Problems with work or other daily activities as a result of emotional problems	No problems with work or other daily activities as a result of emotional problems
Mental Health	5	26	Feelings of nervousness and depression all the time	Feels peaceful, happy and calm all of the time
Health transition	1	5	Believes general health is much better now than one year ago	Believes general health is much worse now than one year ago

Table 9.2   Mean scores and standard deviations on health dimensions for the US and Amsterdam populations

	US population			Amsterdam	
	mean	st.dev.		mean	st.dev.
physical index	50.0	10.0		50.6	9.9
mental index	50.0	10.0		51.5	9.7
bodily pain	75.5	23.6		80.8	24.2
general health perc.	72.2	20.2		71.8	20.7
mental health	74.8	18.0		76.2	17.5
physical functioning	84.5	22.9		85.3	22.9
role emotional	81.3	33.0		83.3	32.4
role physical	81.2	33.8		79.9	35.0
social functioning	83.6	22.4		85.4	21.3
vitality	61.1	20.9		68.9	19.2

Normally, the ninth dimension of the scale, a one-item rating, is not used to calculate health-scores. It can, however, provide useful information about "changes in health status during the year prior to the administration of the SF-36" (Ware et al. 1993).

To simplify interpretation of the health scores, the designers of the SF-36 have devised a method of dividing the scores into two main categories:

• the physical health components score and
• the mental health components score.

Scoring and weighing of the scores result in average scores for the U.S. population of 50 points on each index. Although the SF-36 Health Assessment Instrument is still being adapted for use in the Netherlands, so much progress has been made on its validation that we have no reason to believe that the scoring algorithms we applied -provided to us by the owners of the instrument- were not applicable to the Dutch population.

These two indices provide a condensed score of all the physical as well as all the mental items of the SF-36, taken from the relevant dimensions.

As can be seen from Table 9.2, the respective scores for the US and Amsterdam populations are slightly different.

9.2   Health scores and drug use

We have presented the data that show relations between health scores and drug use in Table 9.3, which compares the scores on the items last year and last month for users of alcohol, pharmaceutical drugs, cannabis and difficult drugs to those of non-users.

These data show that drug users scored higher on the physical index than non-users, with the exception of pharmaceutical drug users. On the mental index, almost the opposite is true: drug users scored lower (with the exception alcohol users). These differences are hard to explain. It could be that we were measuring

Table 9.3   Health scores for last year and last month users of several drugs

	alcohol				pharm. drugs			
	last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes
N =	924	3197	1234	2874	3429	700	3687	442
physical index	46.8 •	51.7	47.4 •	52.0	51.6 •	45.6	51.4 •	43.7
mental index	51.4	51.5	51.0 •	51.7	52.7 •	45.7	52.4 •	43.8
bodily pain	74.9 •	82.5	75.6 •	83.1	83.3 •	68.6	82.8 •	64.2
general health perc.	65.9 •	73.5	66.9 •	73.9	74.2 •	59.7	73.7 •	55.6
mental health	74.5 •	76.8	74.3 •	77.1	78.6 •	64.8	78.1 •	60.9
physical functioning	75.7 •	88.2	77.4 •	88.8	87.6 •	74.2	87.2 •	69.5
role emotional	79.8 •	84.4	79.8 •	85.0	86.7 •	66.8	86.1 •	60.1
role physical	71.4 •	82.4	72.1 •	83.4	83.9 •	60.6	83.0 •	54.0
social functioning	82.1 •	86.4	81.8 •	87.1	88.1 •	72.4	87.6 •	67.4
vitality	66.0 •	69.7	65.9 •	70.2	71.1 •	57.7	70.6 •	54.7

	cannabis				difficult drugs			
	last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes
N =	3656	438	3840	282	4007	122	4078	51
physical index	50.1 •	54.0	50.4 •	53.6	50.5 •	52.6	50.5	52.7
mental index	51.9 •	48.5	51.7 •	48.3	51.6 •	48.2	51.5 •	48.3
bodily pain	80.4 •	84.1	80.6 •	84.1	80.8	82.0	80.8	82.3
general health perc.	71.3 •	75.4	71.6 •	74.3	71.7	72.3	71.7	73.1
mental health	76.7 •	72.4	76.6 •	71.8	76.4 •	71.0	76.3 •	70.5
physical functioning	84.4 •	92.4	84.9 •	91.4	85.2	88.8	85.3	86.5
role emotional	83.9 •	78.6	83.8 •	77.4	83.5	77.8	83.4	78.9
role physical	79.2 •	85.7	79.6	83.7	79.9	81.6	79.9	82.7
social functioning	85.4	85.1	85.5	84.4	85.5	82.3	85.5	82.2
vitality	69.0	67.7	69.0	67.6	68.9	66.5	68.9	67.3

Significance on F-test   •   p < 0.05

the effects of age or other variables that influence health scores *and* drug use prevalence. The consistently higher scores on the physical index by drug users may be not much more than a reflection of the fact that drug users are usually young and physically healthy.

To prevent elementary mistakes in interpreting health scores of drug users, we decided to begin by examining variation in health scores according to certain important independent variables other than drug use. We found that health scores were correlated to age (scores fall with increasing age), gender (scores were lower for women), ethnicity (scores were highest for North Americans living in Amsterdam, and lowest for Turkish immigrants), education (scores on the physical index fall with lower levels of education), and lifestyles (individuals with a more out-of-house oriented lifestyle scored much higher on the mental index). The effects of these variables can be seen in Table 9.4.

Because all five of the variables we selected showed significant associations with health scores, we decided to control for the variables that were also very relevant to drug use prevalence. Although our selection of three of the five variables may

Table 9.4   Health scores of the Amsterdam population by gender, lifestyle (level of out-of-house orientation), age, education and ethnicity

		gender					out-of-home orientation		
		men	women				low	medium	high
N =		1931	2198			N =	1791	1114	1214
physical index		51.7	49.6	•			47.4	51.7	54.1 •
mental index		52.4	50.7	•			51.6	51.7	51.1
physical functioning		88.3	82.8	•			77.7	88.6	93.8 •
role physical		83.6	76.7	•			72.9	82.0	88.4 •
bodily pain		83.6	78.4	•			76.1	82.9	85.8 •
social functioning		87.7	83.4	•			82.7	87.2	87.9 •
mental health		78.2	74.5	•			75.4	76.8	77.0 •
role emotional		86.0	81.0	•			80.9	84.6	85.7 •
vitality		71.9	66.3	•			66.7	70.1	70.9 •
general health perc.		73.4	70.3	•			66.7	73.5	77.7 •

		age group								
	12-15	16-19	20-24	25-29	30-34	35-39	40-49	50-59	60-69	70 a.o.
N =	183	175	370	559	512	442	688	382	354	464
physical index	53.1	53.2	54.4	53.7	54.3	52.3	51.1	47.3	46.4	41.2 •
mental index	54.3	52.0	50.8	51.4	51.1	50.2	50.7	51.0	53.9	52.3 •
	88.6	90.6	92.6	93.3	93.6	90.6	88.1	79.6	75.7	61.6 •
role physical	89.3	87.9	88.8	86.0	88.4	83.6	80.4	69.4	73.8	59.3 •
bodily pain	87.4	84.8	87.0	85.4	87.2	81.4	80.1	74.8	77.1	67.7 •
social functioning	92.3	89.9	88.9	87.9	87.7	84.8	85.4	82.3	85.1	76.4 •
mental health	82.8	77.3	77.0	77.4	77.1	74.8	74.8	74.0	78.7	73.7 •
role emotional	87.8	86.2	83.3	85.8	86.3	83.2	83.2	78.8	85.0	77.5 •
vitality	75.6	72.5	69.5	70.6	70.1	67.4	68.3	66.5	70.3	64.2 •
	82.0	77.1	78.8	78.3	78.0	73.1	70.1	64.7	64.4	58.4 •

		eductional level						
		lo	lbo	mbo	mavo	havo	hbo	other
N =		555	534	394	568	644	1127	117
physical index		44.5	48.0	50.6	50.2	53.1	53.6	46.7 •
mental index		50.8	52.5	51.6	51.7	51.1	51.2	51.1
physical functioning		69.0	79.4	87.4	84.8	91.4	93.1	76.0 •
role physical		65.8	74.5	79.0	78.7	85.8	86.7	74.7 •
bodily pain		71.1	77.4	79.7	80.8	84.4	85.6	75.1 •
social functioning		79.5	84.7	85.2	84.9	87.8	87.1	84.2 •
mental health		72.0	77.2	76.7	76.4	76.8	77.0	72.3 •
role emotional		75.8	81.8	83.7	84.2	84.0	86.4	83.9 •
vitality		64.2	69.1	69.3	69.5	69.6	69.9	64.3 •
general health perc.		61.9	67.8	72.0	70.8	76.0	76.2	64.4 •

Table 9.4   Health scores of the Amsterdam population by gender, lifestyle (level of out-of-house orientation), age, education and ethnicity (continued)

		ethnicity					
		Neth.	Sur./Ant	Mor.	Tur.	o. Eur.	N-Am.
N =		*3359*	*327*	*1465*	*91*	*88*	*16*
physical index		50.7	50.2	48.5	46.5	50.3	52.2 ·
mental index		51.8	50.8	50.4	49.7	48.6	53.5 ·
physical functioning		85.6	85.5	79.5	75.7	85.4	93.4 ·
role physical		80.5	76.9	75.5	70.1	75.9	91.2 ·
bodily pain		81.4	77.5	76.8	74.3	76.7	81.1 ·
social functioning		85.6	84.9	82.4	81.7	84.7	94.1
mental health		76.7	75.2	73.8	71.1	70.0	80.4 ·
role emotional		84.3	79.7	76.0	79.0	75.6	96.1 ·
vitality		69.3	67.2	66.8	62.8	64.9	67.0 ·
general health perc.		72.2	71.8	66.7	61.9	68.9	76.2 ·

Significance (F-scores)   ·   *p < 0.05*

be seen as somewhat arbitrary, we decided to control for age, gender and lifestyle. We felt that controlling for education would yield inconclusive information given the strong relation between age and educational level. Similarly, we decided to omit ethnicity because of the small numbers of the ethnic minorities.

The control procedure for each drug was identical. Consequently, we were able to compare health scores between users of all the different drugs, and not bother about possible differential effects of age, gender or lifestyle on these scores *per drug using group* (Table 9.5).

In the following sections, we will compare health scores of last month and last year users of cannabis, alcohol, difficult drugs and pharmaceutical drugs.

With the exception of alcohol users, the effects of controlling for age, gender and lifestyle were visible for all other drug users, as can be seen by comparing health scores of drug users in Table 9.3 with those presented in Table 9.5 above. Although the effects of controlling were fewer than we expected, we consider the weighted data more reliable for our comparisons. Thus, the weighted data will be the basis for all our further comparisons between users and non-users on health data. Section 9.3, which compares drug users and non-users, broken down per lifestyle is the only exception: our method of controlling there is somewhat different.

Table 9.5 reveals significant differences between users and non-users of drugs, *regardless of the drug*. However, the direction of these differences is sometimes quite surprising. Only two comparisons reveal no differences: the mental index shows no difference whatsoever between last year users and non-users of alcohol. Moreover, the physical index in the comparison between last year difficult drug users and non-users remained identical.

Users of sedatives and/or tranquillizers showed considerable differences on each of the two indices. Non-users scored much higher than users on both the physical and the mental index. Differences between users and non-users of pharmaceu-

Table 9.5 Health scores of Amsterdam users and non-users of different drugs on 8 dimensions, as well as on the physical and mental index, controlled for age, gender and lifestyle

	alcohol				pharm. drugs			
	last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes
N =	932	3181	1298	2793	3415	704	3725	394
physical index	48.0 •	51.2	48.3 •	51.5	51.2 •	47.7	51.2 •	45.6
mental index	51.3	51.7	51.0 •	51.8	52.7 •	45.6	52.4 •	42.9
bodily pain	76.8 •	82.0	77.2 •	82.6	82.8 •	71.5	82.4 •	66.3
general health perc.	67.0 •	73.1	68.0 •	73.4	73.6 •	62.7	73.2 •	57.8
mental health	75.1 •	76.8	74.9 •	77.2	78.5 •	65.5	77.9 •	60.3
physical functioning	79.7 •	87.0	80.5 •	87.7	86.7 •	79.8	86.6 •	75.3
role emotional	80.8 •	84.3	80.8 •	84.8	86.6 •	68.5	86.0 •	60.1
role physical	73.8 •	81.5	74.0 •	82.5	83.0 •	65.0	82.5 •	55.7
social functioning	83.1 •	86.2	82.6 •	86.9	87.7 •	73.9	87.2 •	67.6
vitality	66.5 •	69.5	66.4 •	70.0	70.9 •	58.6	70.3 •	54.6

	cannabis				difficult drugs			
	last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes
N =	3656	445	3836	259	3999	104	4063	40
physical index	50.6 •	52.8	50.6 •	53.8	50.6	51.0	50.6 •	49.0
mental index	51.9 •	49.7	52.0 •	46.5	51.6 •	46.2	51.5 •	46.2
bodily pain	81.0 •	84.8	81.1 •	85.2	80.9 •	72.7	81.0 •	60.2
general health perc.	72.1	72.6	72.1	73.0	71.9 •	66.8	71.9 •	65.5
mental health	76.9 •	72.3	76.9 •	68.5	76.4 •	68.3	76.3 •	68.1
physical functioning	85.4	86.4	85.1 •	91.0	85.4 •	77.5	85.5 •	67.1
role emotional	84.3	81.2	84.6 •	74.9	83.6	78.5	83.4 •	83.5
role physical	80.2 •	87.4	80.9	82.0	80.0 •	73.3	80.0 •	66.1
social functioning	85.8	86.3	86.1 •	82.3	85.6 •	77.4	85.5 •	76.6
vitality	69.3	69.9	69.7 •	64.6	69.0 •	63.6	68.9 •	65.5

ticals were also larger than were those between users and non-users of other drugs. We know, of course, that use of these drugs increases sharply with age and, therefore, with all manner of physical and mental health problems. However, the differences in the health scores reported here can not be explained by age differences alone because we first controlled for this variable.

In all likelihood, these differences are attributable to the combined effect of certain underlying variables. In other words, users of pharmaceutical drugs may consume these substances *because* they suffer under conditions (underlying variables) that lower their health scores. However, this may be plausible but we cannot be certain of this. Our findings are limited to the statistical association between these variables (use of pharmaceuticals and health scores) and we are unable, as yet, to explain these associations in causal way. The same is true of our findings on other drugs.

In Table 9.6, we summarise our findings of the difference between users and non-

Table 9.6   *Differences between users and non-users, on SF-36 scores in physical and mental health index, per prevalence level, and drug. A negative difference indicates a lower score than that of non-users. Data were controlled for age, gender and lifestyle.*

SF 36 scores of last year users minus last year non-users	physical index	mental index	overall index	SF 36 scores of last month users minus last month non-users	physical index	mental index	overall index
pharm. drugs	-3.5 •	-7.1 •	-10.6	pharm. drugs	- 5.6 •	-9.5 •	-15.1
difficult drugs	0.4	- 5.4 •	-5.0	difficult drugs	-1.6 •	-5.3 •	-6.9
cannabis	2.2 •	- 2.1 •	0.1	cannabis	3.3 •	-5.5 •	-2.2
alcohol	3.3 •	0.4	3.7	alcohol	3.2 •	0.8 •	4.0

users of each of the drugs we listed among the physical index and mental index scores. This table shows the average difference between users and non-users in health index scores per index, per drug and per prevalence class (last year or last month). A negative difference indicates that the users' score is lower than that of the non-users, whereas a positive difference indicates the opposite. Table 9.6 is based on the data presented in Table 9.5.

We show here, among other things, that last year users of pharmaceutical drugs scored an average of 3.5 points lower on the physical index than non last year users of pharmaceutical drugs. On the mental index they scored an average of 7.1 points lower than non-users.
The differences between the average index scores, arranged per category of user, reveal a certain pattern. Very clearly, the users of *alcohol* scored higher on both indices than non-users. This was the case for both last year users of alcohol and for last month users.
The differences between last year and last month use were negligible, and the total positive difference on health scores for both indices was around 4.
Last year and last month users of *cannabis* differed from alcohol users on the mental index only. There, the cannabis users scored lower than non-users, but higher on the physical index, much as users of alcohol. We found a conspicuous difference between last year and last month users of cannabis. On the mental index, the scores of last month users were markedly lower -compared to non users- than those of last year users (-5.5 as compared to -2.1), resulting in a higher overall negative difference for last month users of cannabis. Overall differences -the sum of the differences on each index between users and non-users- were positive for alcohol users.
Users of difficult drugs also scored higher on the physical index than non-users, but these differences were very small (and statistically not significant). Differences on each of the indices *between* last year use and last month use were negligible. But the overall negative difference for difficult drug users was considerable, mainly due to the large differences between users and non-users on the mental index. Last year users of difficult drugs scored an average of 4.9 points lower than non-users on the combined indices, and last month users 6.9 points.

Users of pharmaceutical drugs scored, as mentioned earlier, lower than non-users on both indices. Overall differences were large for last year users as compared to non-users. These differences reach their highest level for all drug users when we look at last month consumption. The negative difference of 15.0 points on the combined indices for last month users of pharmaceutical drugs was almost three times higher than the same difference for difficult drug users, and seven times higher than for cannabis users.

Apparently, drug use is clearly related to health scores, ranging from positive to highly negative, with very different results for the drugs we studied.

In Section 9.3, we will examine whether the large differences we report here between drug users remain if we regroup the users and non-users of these drugs according to their respective lifestyles. In our earlier surveys, we already established a close connection between drug use prevalence and lifestyle. We found that the greater an individual's out-of-house orientation (visiting café's, theatres, restaurants, friends), the higher the probability that he/she had used (illicit) drugs (Sandwijk et al. 1991, p. 75). Earlier in this chapter, we reported our finding that the more outgoing the lifestyle, the higher the health score. By regrouping all respondents according to drug use and lifestyle, we might find differences in health scores between different kinds of users of the same drug that help us explain the differences between users and non-users of drugs.

9.3 Drug use, lifestyle and health scores

In this section we will examine whether the differences that we found in Section 9.2 between users and non-users of a drug remain once we break down respondent groups according to lifestyle and drugs used. We will also investigate whether the often positive relation between outgoing behaviour and physical health scores (presented in Table 9.4) remains once we control for age and gender and break down respondent groups according to lifestyle and drugs used. Thus, we will examine such questions as: do alcohol users score higher than non-users, regardless of the former's lifestyles; and of those alcohol users, do individuals with an outgoing lifestyles score higher than non-outgoing individuals.

It was impossible to use the same data for these comparisons that were used for our earlier comparisons, controlled for age, gender and lifestyle. Controlling for lifestyle would prevent us from obtaining optimal results on the effects of lifestyle. Therefore, the data on which the comparisons of this section are based were not controlled for lifestyle. For the individual lifestyles, however, we did control for age and gender as both vary drastically per lifestyle.

The concept of lifestyle

In our 1987 household survey of the Amsterdam population, we introduced the concept of lifestyle as a possible determinant of drug use prevalence. Lifestyle was reduced to and measured as a set of variables that simply measure the type and frequency of entertainment people seek.

We divided leisure behaviour into three categories of preferred entertainment: 1)

Table 9.7   Drug use by leisure behaviour

leisure behavior	no drug	alcohol	tobacco	cannab.	diff.drug	pharm.	N
never visits cafes, etc.	23%	65%	36%	3%	1%	19%	2 311
rarely visits cafes, etc.	7%	88%	48%	12%	2%	14%	1 059
occasionaly visits cafes, etc.	2%	95%	61%	24%	8%	14%	670
regularly visits cafes, etc.	2%	94%	69%	37%	12%	100%	283
never visits theaters, etc.	17%	71%	44%	7%	2%	19%	2 488
rarely visits theaters, etc.	14%	82%	46%	13%	4%	14%	806
occasionaly visits theaters, etc.	7%	88%	46%	17%	5%	16%	707
regularly visits theaters, etc.	7%	90%	50%	17%	7%	15%	321
never visits restaurants, etc.	23%	63%	39%	4%	1%	20%	1 645
rarely visits restaurants, etc.	12%	82%	43%	8%	2%	15%	701
occasionaly visits restaurants, etc.	9%	86%	46%	12%	3%	14%	1 015
regularly visits restaurants, etc.	6%	89%	55%	21%	6%	16%	969
total	14%	77%	45%	11%	3%	17%	4 351

Table 9.8   Drug use by level of out-of-home orientation

out-of-house orientation	no drug	alcohol	tobacco	cannab.	diff.drug	pharm.	N
low orientation	23%	63%	37%	2%	1%	20%	1 925
medium orientation	10%	83%	47%	11%	2%	16%	1 171
high orientation	4%	92%	56%	23%	7%	14%	1 255
total	14%	77%	45%	11%	3%	17%	4 351

dance halls, disco's or café's, 2) ballets, concerts or theatres, and 3) fast food establishments or restaurants (Sandwijk et al. 1991, p. 72). As in our earlier household surveys, we found in 1994 as well that the probability respondents will report last year use of cannabis rises steeply by type of entertainment respondents patronize. In 1994, only three percent of the respondents who never visited cafés had used cannabis in the year preceding the survey. The corresponding figure for regular café visitors was 37 percent.

In Table 9.7, we present what we have described as 'leisure behaviour' of our respondents, broken down per type of drug they report having used during the year prior to our interview.

This leisure behaviour is then recomputed into a simple scale of level of 'out-of-home orientation', in which respondents are categorized as low, medium or high. In Table 9.8, we show out-of-home orientation for our 1994 sample, broken down per type of (last year) drug that respondents report having used.

Next, we present Table 9.9 containing all scores of users and non-users (last year and last month) on the physical and mental index, for three lifestyle categories. The scores of these groups on all eight health dimensions are given separately in Appendix 5.

Table 9.9 *Health scores per drug per lifestyle, for users and non-users. Data were controlled per lifestyle for age and gender*

Alcohol

	out-of-home orientation											
	low				medium				high			
	last year		last month		last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	*639*	*1143*	*829*	*944*	*184*	*929*	*285*	*816*	*94*	*1115*	*147*	*1057*
Phys. index	47.6 •	50.1	47.9 •	50.4	48.0 •	52.1	48.9 •	52.3	49.1 •	53.7	50.6 •	53.7
	50.4 •	51.7	50.2 •	52.1	52.3	51.6	51.9	51.7	51.9	51.2	50.4	51.3

Cannabis

	out-of-home orientation											
	low				medium				high			
	last year		last month		last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	*1749*	*41*	*1765*	*23*	*980*	*120*	*1022*	*78*	*921*	*283*	*1039*	*163*
Phys. index	49.0	51.8	49.0	53.3	51.5 •	53.8	51.6	53.3	52.9 •	54.5	53.3	53.0
	51.8	49.4	51.9 •	43.7	51.9 •	47.1	51.8 •	46.2	51.7 •	47.4	51.7 •	43.9

Pharm. drugs

	out-of-home orientation											
	low				medium				high			
	last year		last month		last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	*1436*	*363*	*1581*	*218*	*932*	*179*	*1013*	*98*	*1040*	*168*	*1115*	*94*
Phys. index	50.1 •	45.8	49.9 •	44.0	51.9 •	48.6	51.9 •	46.4	53.0	52.6	53.0	52.3
	52.8 •	44.7	52.4 •	41.8	52.9 •	45.3	52.7 •	41.9	52.8 •	45.3	52.4 •	43.9

Diff. drugs

	out-of-home orientation											
	low				medium				high			
	last year		last month		last year		last month		last year		last month	
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	*1782*	*10*	*1789*	*4*	*1088*	*25*	*1107*	*6*	*1126*	*85*	*1156*	*55*
Phys. index	49.0	52.5	49.0	51.3	51.5	54.0	51.5	56.1	53.1	52.8	53.1	53.3
	51.7 •	40.1	51.7 •	31.5	51.8 •	45.1	51.6	48.2	51.2	51.5	51.1	52.4

Because the importance of these data lies in the differences between users and non-users per lifestyle, we also prepared tables showing *only* these differences (Tables 9.10 to 9.13) and their statistical significance.

First, we will compare health scores of *last year* users and last year non-users of pharmaceuticals (sedatives, hypnotics and opiates), difficult drugs (all non-cannabis illicit drugs), cannabis and alcohol, per lifestyle.

In Table 9.10, we observe that users of pharmaceutical drugs almost always score worse than non-users on both indices, irrespective of lifestyle. However, the large difference we found between all pharmaceutical drug users and all non-users on the physical index disappears completely for those scoring high in outgoing

Table 9.10   *Difference between last year users and non-users of drugs on the physical and mental indices and combined indices, per lifestyle. A negative difference indicates that users scored lower than non-users. Data were controlled for age and gender per lifestyle.*

SF 36 scores of last year users minus last year non-users	outgoing behaviour								
	low			medium			high		
	phys. index	mental index	N	phys. index	mental index	N	phys. index	mental index	N
pharm. drugs	-4.3 •	-8.1 •	383	-3.3 •	-7.6 •	179	-0.4	-7.4 •	94
difficult drugs	3.5	-11.6 •	10	3.5	-5.7 •	25	-0.3	0.3	85
cannabis	2.8	-2.4	41	2.3 •	-4.8 •	120	1.6 •	-4.3 •	283
alcohol	2.5 •	0.7 •	1143	4.1 •	-0.7	929	4.6 •	0.7	1115

behaviour. Apparently the breakdown of drug users into different lifestyles uncovers a group of pharmaceutical drug users for whom drug use was not connected to physical aspects of health. On the mental index scores, the breakdown according to lifestyle had almost no effects.

Users of difficult drugs scored a little better or lower on the physical index than non-users over all three lifestyles, but these differences are statistically not significant. On the mental index, difficult drug users clearly scored far below non-users, *except when they were very outgoing*. In fact, very outgoing users of difficult drugs were statistically identical to non-users , on both indices.

Cannabis users scored significantly higher than non-users on the physical index, but lower on the mental index, irrespective of lifestyle. In contrast to other drug users, we found that the very outgoing cannabis users showed poorer results on both indices (compared to non-users). For difficult drugs and pharmaceutical drugs this was exactly the opposite: with these drugs outgoing users scored best. Alcohol users showed very little differences between lifestyles. Users scored higher than or the same as non-users on both indices.

In Table 9.11, we show the differences between users and non-users for the combined indices only. We expected to see the combined scores rise as behaviour becomes more outgoing. This was indeed the case, except for cannabis users. Last year, very outgoing cannabis users scored lower than very outgoing difficult drug

Table 9.11   *Differences between last year users and non-users on combined indices per lifestyle. A negative difference occurred when users scored lower than non-users.*

SF 36 scores of last year users minus last year non-users	outgoing behaviour					
	low		medium		high	
	phys. + mental index	N	phys. + mental index	N	phys. + mental index	N
pharm. drugs	-12.4	383	-10.9	179	-7.8	94
difficult drugs	-8.1	10	-2.2	25	0	85
cannabis	0.4	41	-2.5	120	-2.7	283
alcohol	3.2	1143	3.4	929	5.3	1115

users, although they did not reach the very low score of the pharmaceutical drug users. Apparently, lifestyle had a tremendous influence on these scores, and clearly we can recognise totally different groups of drug users. Very outgoing last year alcohol users scored higher than non-users of alcohol and far higher than not very outgoing users of pharmaceutical drugs. Alcohol use was connected to relatively high health scores (compared to non use), which may reflect that, very often, alcohol use is functional under conditions of good health, good and frequent social relations or conditions of pleasure seeking. The alcohol users in our sample showed the largest (positive) differences in health scores with non-users.

Of course, this connection is not causal. These figures may show only that those who do not drink alcohol may have some slight form of health problem (illness and/or use of pharmaceutical drugs) or live in social conditions that often prevent them from drinking alcohol (as is the case with Moroccans or Turkish immigrants).

The scores of pharmaceutical drug users reflected totally different functions of use than alcohol. Since users scored so consistently lower than non-users, irrespective of lifestyle, the use of these drugs can be interpreted as functional in relation to certain problems in health. Although this interpretation is rather trivial, it reflects the soundness of the SF-36 scores for analysing differences between drug users.

Among pharmaceutical drug users, the home-oriented users scored lowest of all, as one could expect. The sickest persons would stay home. It would be ridiculous to interpret these data as indicating that the use pharmaceutical drugs *causes* low scores.

Following this line of analysis, we might interpret the low scores of home-oriented users of difficult drugs (compared to home-oriented non-users) as similar to the low scores of home-oriented users of pharmaceutical drugs. Both sets of scores bear some relation to health impairing conditions.

On the physical index users of difficult drugs score somewhat lower than alcohol users but not worse than non-users of difficult drugs. However, when difficult drug users are home oriented, they score far worse than non-users on the mental index. This might reflect serious situations that impair mental health. However, there is no reason here to presume that difficult drug use *causes* these conditions. We have to be very careful here, because our data on home-oriented users of difficult drugs come from very small groups.

The majority of difficult drugs users (70%) are the very outgoing ones, and they scored much higher than the home-oriented users of difficult drugs. They showed no differences with non-users at all. This may indicate there are important differences *within* the group of difficult drug users. Outgoing users find these drugs functional within an outgoing and socially well adjusted lifestyle. Use of these drugs was not associated with impaired health. But, the home-oriented users of difficult drugs may have found these drugs functional in dealing with health impairments, as was the case with home-oriented users of pharmaceutical drugs. We see here that the relevant contrast was not made between users and non-users, but between home-oriented and outgoing users.

We will present the data given in Tables 9.10 and 9.11 for last year users and non-

Table 9.12   Difference between last month users and non-users of drugs on physical and mental indices. A negative difference indicates that users scored lower than non-users. Data were controlled for age and gender, per lifestyle.

| SF 36 scores of last month users minus last month non-users | outgoing behaviour | | | | | | | | |
| | low | | | medium | | | high | | |
	phys. index	mental index	N	phys. index	mental index	N	phys. index	mental index	N
pharm. drugs	-5.9 •	-10.6 •	218	-5.5 •	-10.8 •	98	-0.7	-8.5 •	94
difficult drugs	2.3	-20.2 •	4	1.1	-3.4	6	0.2	1.3	55
cannabis	4.3	-8.2	23	1.7	-5.6	78	0.3	-7.8 •	163
alcohol	2.5 •	1.9 •	944	3.4 •	-0.2	816	3.1 •	0.9	1057

users, as well as for last month users and non-users (Table 9.12 and 9.13). Although for last month use we occasionally have small cell sizes, these data are interesting. If the assumption is true that last month users can be seen as the most regular drug users, we would expect to see the tendencies of the last year users at least confirmed or even amplified, i.e. lowest health index scores for home-oriented users of difficult drugs and pharmaceutical drugs.

The data here on the last month drug users clearly magnify the associations we found earlier between health index scores and the use of drugs. By far, the lowest score is seen with home-oriented last month users of difficult drugs on the mental health index. Again, outgoing users of difficult drugs showed no difference with outgoing non-users.
Last month users of pharmaceutical drugs did not show this marked difference in lifestyles, although differences with non-users rose consistently with the degree of home orientation. But even outgoing last month users scored much lower than outgoing non-users.
Last month cannabis users, both the home-oriented and outgoing individuals, scored low compared to non-users on the mental health index only. Outgoing last month cannabis users scored much worse on the mental index (compared to non-users) than outgoing last month users of difficult drugs! Given the widely accepted notions that difficult drugs (cocaine, amphetamine, ecstasy, hallucino-

Table 9.13   Differences between last month users and non-users, corrected for age and gender per lifestyle- on combined indices per lifestyle. A negative difference occurred when users scored lower than non-users.

| SF 36 scores of last month users minus last month non-users | outgoing behaviour | | | | | |
| | low | | medium | | high | |
	phys. + mental index	N	phys. + mental index	N	phys. + mental index	N
pharm. drugs	-16.5	383	-16.3	179	-9.2	94
difficult drugs	-17.9	10	-2.3	25	1.5	55
cannabis	-3.9	41	-3.9	120	-7.5	163
alcohol	4.4	1143	3.2	929	4	1057

gens and heroin) are more related to health risks than cannabis, these data are quite unexpected. The secret of this datum lies of course in the different groups that use these drugs, for different purposes.

Table 9.13 outlines in brief the differences between last month users and non-users per lifestyle for the two indices combined. The negative differences between users and non-users of pharmaceutical drugs were enormous, as we saw before. Home-oriented last month users of difficult drugs scored lowest of all compared to non-users, while home-oriented alcohol users score highest, compared to non-users.

The conceptual function of tables such as those above is that they show how difficult it is to produce causal explanations for the association between drug use and health. One clearly cannot maintain that sitting at home and using alcohol causes one to be healthier than sitting at home and not using alcohol!

Can we say that sitting at home and using pharmaceutical drugs causes one to be a lot unhealthier than sitting at home and not using these drugs? Apparently not. Could we say that using difficult drugs like cocaine, heroin, XTC or amphetamine in a very outgoing lifestyle causes one to be slightly more healthy than not using these drugs, as our data would suggest? Again, the answer is no. Still, in discussing illicit drug use, our data could easily be misinterpreted as indicating that a very outgoing lifestyle and cannabis use *causes* one to be unhealthy as compared to an outgoing lifestyle and abstinence from cannabis. Apparently, this is also wrong.

Unfortunately, our understanding of illicit drug use is such that we are tempted to explain negative associations between the use of these drugs and health scores as causal. We would not do this for pharmaceutical drugs, let alone for positive correlations between drug use and health scores.

We will have to consider that drug use in general is not a very probable cause of health problems, or for that matter, a factor contributing to better health than non-users (as our alcohol data would suggest). A tentative explanation could be that individuals select drugs for certain *functions*, that may be determined by their short-term life situation. According to our findings, outgoing difficult drug users were statistically not different than outgoing non-users. This might mean that the function of their drug use was fundamentally different (mainly recreational) from difficult drug use among home-oriented users (mainly reactive to limitations in life situations). This interpretation of mainly recreational drug use by outgoing last month difficult drug users is supported by the high value of the total health score of the combined indices of outgoing last month difficult drug users (106). This combined score was higher than combined scores of any other group of respondents, all non-users included.[3]

However, upon comparing cannabis users with non-users of cannabis, we see that the outgoing cannabis users scored the highest negative differences with outgoing non-users of cannabis. Outgoing behaviour as well as cannabis use may have very particular functions for these cannabis users, functions determined by a complex set of underlying variables. Such variables may be psychological but also social, as in the case of unskilled and unemployed youth in Amsterdam, who

Table 9.14 *Average scores of drug users on Vitality dimension, per lifestyle. Data were corrected for age and gender per lifestyle.*

	scores on Vitality dimension per lifestyle						
	last year				last month		
	out-of-home orientation				out-of-home orientation		
drug	low	medium	high		low	medium	high
alcohol	69	70	72		69	71	72
cannabis	69	67	68		61	65	60
diff. drugs	57	67	70		59	76	72
pharm. drugs	54	60	63		52	56	61

are bored and have nothing else to do but hang around in café's or coffeeshops. An indication of this can be found in the scores on the 'Vitality' dimension in the SF-36 scale (Table 9.14, see also Appendix 5). Very outgoing last month cannabis users score an average of 60 on this scale, which is very low compared to non-outgoing cannabis users (average score 69).[4]

However, in the Amsterdam population, the vitality score of last month outgoing cannabis users was very similar to the vitality score of outgoing last month users of pharmaceutical drugs (average 61). On comparing these low scores to the vitality score of very outgoing last month users of difficult drugs (average 72) and of alcohol (average 72) we might infer that, for many respondents, the combination of going out and cannabis use reflects some sort of compensation for particular kinds of non-well being. However, contrasting data are easily found. When we look at the dimension 'Social Functioning' in the SF-36 scale (Table 9.15), we find very outgoing cannabis users scoring among the highest of the total sample, together with very outgoing difficult drug users and alcohol users! Apparently the interpretation of these health scores across drug users is not easy.

Outgoing users of pharmaceutical drugs showed the now familiar low score on Social Functioning. Again, the lowest scores were found among home-oriented users of difficult drugs and pharmaceutical drugs (scores of 70 and lower)[5].
 We found the most consistent data (low scores) for the home-oriented users of

Table 9.15 *Average scores of drug users on Social Functioning, per lifestyle. Data were corrected for age and gender per lifestyle.*

	scores on Social Functioning dimension per lifestyle						
	last year				last month		
	out-of-home orientation				out-of-home orientation		
drug	low	medium	high		low	medium	high
alcohol	85	87	88		87	88	88
cannabis	84	83	86		75	82	83
diff. drugs	69	78	90		63	82	92
pharm. drugs	70	75	78		65	67	75

pharmaceutical and difficult drugs, which indicates health limitations. Medication and self medication might be among the important functions of drug use for these categories of users.[6] However, much drug use does not fit within these functions, as is reflected by outgoing users of difficult drugs and of alcohol.

These interpretations have to be looked at with caution. Not only did we base some of them on data from very small groups, we were, to a great extent, unable to validate them with other data on our respondents, which, unfortunately, we lack. However, designing an explanatory model in which these sometimes contrasting data would fit implies the concept of 'function of drug use'. If we were able to find further empirical evidence for the idea that all drugs can be used for different and even contrasting functions, we would be better able to explain the contrasting data we found on the health association with drug use.

9.4　Cannabis use and health scores

Because we had such strange findings on the cannabis users in our data (usually scoring lower than non-users, especially when very outgoing), we decided to take a particularly close look at experienced cannabis users. Although we have the problem again of small cell sizes, we expected to find some clues about cannabis users if we looked exclusively at those who have used it more than 25 times.
Of course, our lifestyle data were for a period of at most 8 weeks prior to the interview, so lifetime data on cannabis are related to a quite different time span. Table 9.16 repeats some of the findings presented in Table 9.10, but adds last year cannabis users with a lifetime experience of at least 25 occasions of use. We compared these experienced last year cannabis users to the group of non-users

Table 9.16　Difference between last year users and non-users of drugs on physical and mental index. A negative difference indicates that users scored lower than non-users. Data were corrected for age and gender per lifestyle.

SF 36 scores of last year users minus last year non-users	outgoing behaviour								
	low			medium			high		
	phys. index	mental index	N (users)	phys. index	mental index	N (users)	phys. index	mental index	N (users)
cannabis	2.8	-2.4	41	2.3 •	-4.8 •	120	1.6 •	-4.3 •	283
> 25 times	-4.5 •	-1.5	29	2.9 •	-2.7 •	29	1.7 •	-3.8	184

SF 36 scores of last year users minus last year non-users	outgoing behaviour					
	low		medium		high	
	phys. + mental index	N (users)	phys. + mental index	N (users)	phys. + mental index	N (users)
cannabis	0.4	41	-2.5	120	-2.7	283
> 25 times	-6	1 143	0.2	929	-2.1	184

Table 9.17   *Scores of experienced (>25 times) last year cannabis users, compared to last year*
non-users or inexperienced users. Data were corrected for age and gender per
lifestyle.

		out-of-house orientation							
	low		medium		high			total	
	no	>25 x	no	>25 x	no	>25 x		no	>25 x
N =	1290	29	1021	87	1004	184		3743	302
physical index	51.0 ·	46.5	51.4 ·	54.3	53.0 ·	54.7		50.5 ·	54.8
mental index	52.1	50.6	51.8 ·	49.1	51.4 ·	47.6		51.7 ·	49.1
bodily pain	83 ·	60	83	83	84 ·	87		81 ·	87
general health perc.	73	73	73	76	75	73		72 ·	77
mental health	78 ·	71	77 ·	72	77 ·	70		77 ·	71
physical functioning	86 ·	70	88	90	92 ·	94		85 ·	92
role emotional	84	73	85	82	84 ·	75		84	84
role physical	81	82	81 ·	90	86	82		80 ·	90
social functioning	87	83	87	84	87	88		86	86
vitality	70	68	70	70	71 ·	68		69	69

and unexperienced users combined. The 'difference' scores we found this way
are quite similar to the difference scores of all cannabis users compared to all non-
users (last year), except for the least outgoing ones. Here, the physical index was
much lower for the experienced cannabis users, which resulted in a higher overall
difference with non-users and inexperienced users. The now familiar pattern, of
lowest scores for not very outgoing drug users, is established when we look
exclusively at the physical index for experienced users only. On the mental index,
our findings on the experienced cannabis users were still opposite to those on
other drug users: the more outgoing the individual, the lower the average score
as compared to non-users. This problem can not be solved here, and requires
much further secondary analysis. Also, we may find some clues about this in our
ongoing investigations into use patterns of experienced cannabis users in
Amsterdam.

9.5   Summary and conclusion

In our household survey 1994, we introduced a new instrument, the SF-36 Health
Status Survey. This instrument enabled us to obtain self-reported health scores of
each of our respondents.
We compared health scores of drug users to health scores of non-users.
Conspicuous negative associations were found between health scores and phar-
maceutical drug use, irrespective of lifestyle. To a lesser degree, we also observed
negative associations for outgoing cannabis users, and home-oriented difficult
drug users.
However, very outgoing users of difficult drugs (heroin, cocaine, amphetamine,
XTC, LSD) showed no difference with very outgoing non-users. Alcohol users

scored, on average, higher than non-users of alcohol on all health dimensions, irrespective of lifestyle.

The differences in health scores between drug users, especially when divided into different lifestyle categories, does not show evidence for the existence of linear causal relations between drug use and higher or lower health scores. Probably, this is due to the large and contradictory variety of functions drug use can have. An overall view does not allow for other hypothetical conclusions than *that drug use can be supporting different lifestyles in which drugs either support depressing or stimulating functions*. In other words, some drugs may be used as reactions to health impairing conditions by one group of users, but for pleasure by another group of users (cf. difficult drugs). A further reaching hypothesis that is suggested by our data is that drugs (it is not really important which ones) may be taken for pleasure, for (self) medication, or alternatively for both functions. As suggested by our cannabis use data, a drug might even be chosen for both functions at the same time. Which of these functions or combinations of functions is chosen depends on many underlying variables that are hardly discussed in this chapter. Pharmaceutical drugs are exceptional in that they seem to be chosen mainly in functions relating to impaired health.

In our perspective, drug use does not *cause* the lower or higher health scores that we were able to measure. Drug use is a particular expression, or rather an adaptation, to general life conditions. In this sense, the use of drugs is active behaviour, intentional in relation to the functions it is required to fulfil.

1   The SF-36 Health Survey is reproduced with permission of the Medical Outcomes Trust, Copyright © 1992. For permission to use the SF-36 Health Survey, contact the Medical Outcomes Trust, 20 Park Plaza, Suite 1014, Boston, MA 02116-4313, USA.
2   Personal communication Dr Neil Aaronson, Feb. 1995.
3   This outstanding score is approached only by outgoing alcohol users (105).
4   However, this score is very near the average score of the US population as a whole on the dimension of vitality (which is 61, see Table 9.2)
5   Average score on Social Functioning is 85.4 for the entire Amsterdam population, and 83.6 for the US population.
6   Self medication is a vague term, that may indicate purposes of drug use ranging from sedation to stimulation, depending on user needs.

II DATA QUALITY

10

Representativeness

10.1 Introduction

In our previous report (Sandwijk et al. 1991) a lot of attention was paid to the data-quality issue. In that report, special attention was given to the variety of 'solutions' chosen by researchers who are trying to solve their methodological problems, in particular their non-response problems. In discussing the latter, we elaborated upon strategies for approaching the persons in the sample, as well as the weighting and statistical imputation strategies applied in many surveys, and focused in some detail on the statistical imputation methods that were applied in the US National Household Survey on Drug Abuse. Reasons were also given for our decision to calculate only the so-called 'logical' imputation scores (missing values were replaced by real values if these real values could be deducted logically) and to refrain from statistical imputation of 'unknown' values on the basis of the known 'other' characteristics of the response group. We will not repeat all the reasons here, but instead will focus on the new information gathered and on some additional methodological investigations. In doing so, we will illustrate the fact that both the Ministry and the University regard highlighting the data-quality issue a matter of major concern. In this report we will pay attention to two data-quality aspects that we did not investigate before. Chapter 11 will deal with the effects of the application of different approaches to obtain the information. In Chapter 12, which can be regarded an extension of Chapter 10, we will deal with the non-response problem in depth. The Registration Commission of the Municipality of Amsterdam (whose job it is to protect the privacy of the City's inhabitants) made an exception to its usual rule and granted us permission to re-approach those who were initially interviewed in our survey project but who refused to cooperate. Since the best method to overcome the non-response problem is a re-approach method, the response-information of this non-response category is extremely important. It offers the opportunity to estimate the specificity of the non-response group relative to the response group, and to get a better view of the representativeness of the response group.

But first we will look at the basic information on response and non-response. In Section 10.2 we will present a total scheme of information regarding the theoretical and empirical population, the gross and net sample, frame errors, the response and non-response and the categories we distinguished within the response and non-response groups. In Section 10.3 the (dis)similarities between the response

and non-response groups will be discussed. The overview will be concluded in Section 10.4, where we will (again) pay attention to the consistency of the instrument we applied and to the importance of it in the context of analyses of the dynamics of the use of drugs.

10.2 Population, sample, response and non-response groups

The sample was drawn from the Municipal Population Registry of Amsterdam, as was done in former years. While that frame may be of relatively good quality compared to other sample frames, it is well-known that metropolitan population registers are increasingly 'contaminated'. Sometimes incidents occur which reveal some of the failures of such registries. A recent example of such an incident occurred in Amsterdam Bijlmermeer a few years ago, when an aeroplane crashed into a pair of residential apartment blocks. It turned out to be extremely difficult to find out who had lived in those blocks on the basis of the population registry. It must be pointed out, though, that the blocks involved were known as being places in which many illegal, non-registered persons (such as asylum-seekers who had been refused a residence permit) could find a place to live. Often it is estimated that about ten per cent of the population registry would not parallel the real situation. The information given in Table 10.1 shows us some empirical information about these aspects.

Table 10.1 shows us the frame errors that were encountered during the survey carried out in Amsterdam in 1994, and also some information about the response and non-response groups.

Something over ten per cent of the addresses appeared to be invalid in one way or another, and had to be labelled as frame error. Of course a number of these errors, perhaps as much as half, had nothing to do with the bad quality of the population registry, but must be ascribed to the time lag between the moment the gross sample was drawn and the moment of planned interviews. Even though we worked with a team of some one hundred interviewers, we could not of course approach the approximately 4,500 persons we planned to interview face-to-face in just a few weeks. It took in fact about four months (April-August 1994) to obtain the results presented in this paper. Earlier research had shown that the time of year interviews are held is unrelated to the type of response (Sandwijk et al. 1991).

The most elementary information in this respect shows a response rate, after corrections for frame errors and non-used addresses, of just over 50 per cent. Of all valid addresses, 30 per cent refused to cooperate, and 14 per cent was repeatedly not at home. The response percentage is the result of a supreme effort to achieve an as high as possible percentage. Repeated attempts to interest as many persons as possible, in which we tried to reach persons at different times of the day (morning, afternoon, evening) and on several days over a period of a couple of weeks, did not result in really satisfactory response percentages. The

Table 10.1   Frame errors, unused addresses, responses and non-responses

gross sample	abs.	perc.
frame errors	1 078	10.8
non-used addresses	236	2.4
response	4 364	43.6
non-response	4 322	43.2
total gross sample	10 000	100.0

net sample	abs.	perc.
response	4 364	50.2
non-response	4 322	49.8
total net sample	8 686	100.0

frame errors	abs.	perc.
moved	360	33.4
unknown at address	279	25.9
vacancy	52	4.8
address not found	104	9.6
deceased	47	4.4
other	236	21.9
total frame errors	1 078	100.0

non-response categ.	abs.	perc.	perc. of valid adresses
refusal	2 627	60.8	30.2
not-at-home	1 233	28.5	14.2
illness	101	2.3	1.2
language problems	48	1.1	0.6
other	313	7.2	3.6
total non-response	4 322	100.0	49.8
total response	4 364		50.2
total valid addresses	8 686		100.0

figures that were realized four years ago were: just over 55 per cent response, 25 per cent refusals, and almost 13 per cent not at home. The differences between the results obtained in 1987 and 1990 on the one hand and 1994 on the other could not be ascribed to differences in terms of strategies applied, since in general they were identical to those employed in 1987 and 1990 (Sandwijk et al. 1988; Sandwijk et al. 1991). Nevertheless, the results are a little worse compared to four years ago. The only important factor we think may have affected the response was the slightly different group of interviewers we used - due to the hiring of a different bureau to manage the day-to-day activities related to the fieldwork - and the level of payment to these interviewers. Compared to former years, the group of interviewers consisted of somewhat older persons, a higher degree of whom dropped out and had to be replaced. Furthermore, there appeared to be a close relation between the level of incentives offered to the interviewers and the efforts they were prepared to make. This is the reason why the incentives were raised the moment it became clear that the response rate tended to be very low.

Although the results in terms of response percentage remain relatively disap-pointing, they were not alarming, as we will see later on in this and the following chapters. Of course, we were happy to be able to pay a lot of attention to the non-response issue proper. In Chapter 12 we will give the results of the intensive, non-response research follow-up project, carried out in the autumn of 1994 among a sample of those who were repeatedly not at home and those who refused to cooperate in the first run.

In the next section, however, we will first show the information we used to judge the representativeness of the response group relative to the sample and to the population in general using information derived from the population registry

itself. The non-response survey that forms the basis for the analyses in Chapter 12 may be of some help in refining the estimation of the representativeness of the response group.

10.3 Representativeness of the response group

The registry-sample-response relation is shown in Table 10.2. As noted before we aimed at a total response of approximately 4,400 persons. To reach that goal, some 8,700 valid addresses had to be approached and some 9,800 persons had to be randomly selected from the population registry (in fact 10,000 persons of 12 years or older were selected, but of these over 200 were not used). The sample we compared with the population numbered 8,686 persons. The final response was 4,364. The data compare the population, sample and response group for various items. These items are age, gender, residential district, marital status, household status, settlement date, and various ethnically defined classifications.

The comparison is based on the information as recorded in the population registry. For example, the category 30-34 years old constitutes 13.0 per cent (N=81,778) of the entire Amsterdam population of 12 years and older. In the sample that was drawn, this age category constituted 13.5 per cent (N=1,173). In the response group we calculated a percentage of 13.0 (N=576). Age was not derived from information supplied by the interviewee, but from that recorded in the registry.

As can be concluded from the information presented in Table 10.2 the differences between the sample and the population are only minor. Despite the relative low response rate, the same conclusion can be drawn with respect to the response-sample and response-population relations. The response group appears to be a good representation of the population. There are only some (small) under- or over-representations. People aged 25-29 are slightly over-represented in the response group (compared to the sample, but not if compared to the population), and those 20-24 and 50-59 years old are slightly under-represented. The spatial distribution of the response group across Amsterdam nicely fits the distribution of the population. And even rather detailed information, such as the percentage of divorced persons, reveals only very small differences between the population (10.2%), the sample (10.3%) and the response group (10.1%).

In fact, the only substantial differences concerned the field of country of origin/ birth. People originating from non-Dutch countries (from Turkey and Morocco, and from Surinam or the Antilles in particular) are under-represented in the response group. The under-representation rate for people from Surinam/Antilles is ten per cent, for people from Turkey and Morocco approximately thirty per cent. Since Moroccan and Turkish persons make up only 7.6 per cent of the entire population of 12 years or older, and almost five per cent in the response group, we decided not to weigh the data-set on the basis of this, overall, small effect. The other important reason why we did not do that is that ethnic bias described here does not differ from that measured four years ago, when we also decided not to weigh.

Table 10.2   Population according to registry, sample and response group, by age group, gender, residential district, marital status, household status, country of birth, nationality, ethnicity and year of settlement

age group	(N=629 064) popul.	(N=8 686) sample	(N=4 364) response
12 - 14 years	2.6	2.1	2.4
15 - 19 years	4.9	4.8	5.7
20 - 24 years	9.4	8.2	8.1
25 - 29 years	13.5	11.9	13.1
30 - 34 years	13.0	13.5	13.0
35 - 39 years	10.2	10.4	10.6
40 - 49 years	16.0	16.6	16.8
50 - 59 years	10.2	10.9	9.6
60 - 69 years	8.6	8.9	8.8
70 years a.o.	11.6	12.6	11.9
chi square	58.8 ***	23.6 **	
gender	**popul.**	**sample**	**response**
male	48.9	47.6	46.4
female	51.1	52.4	53.6
chi square	5.5 *	2.7	
residential district	**popul.**	**sample**	**response**
A binnenstad	11.7	10.9	11.5
B west.haven	0.0	0.0	0.0
C spaarnd.b.	4.6	4.3	4.5
D oud west	4.9	5.1	4.8
E pijp	5.1	5.4	6.0
F oost	4.6	4.6	4.1
G indische b.	4.0	4.2	4.0
H bos & lommer	4.3	4.0	3.5
J admiral.b.	5.1	5.0	4.7
K zuid	7.6	7.6	8.1
L rivierenbuurt	4.0	4.3	4.7
M watergr.meer	3.3	3.5	3.4
N noord	11.7	11.8	11.8
P slotermeer	4.9	4.6	4.8
Q osdorp	5.0	4.4	4.2
R slotervaart	4.8	5.5	5.1
S buitenveldert	2.8	2.9	2.7
T zuidoost	11.6	11.7	12.1
chi square	30.6 *	18.0	
marital status	**popul.**	**sample**	**response**
unmarried	46.6	44.6	46.6
married	36.3	38.0	36.6
divorced	10.2	10.3	10.1
widowed	6.9	7.2	6.7
chi square	15.6 **	7.7	

Table 10.2   Population according to registry, sample and response group, by age group, gender, residential district, marital status, household status, country of birth, nationality, ethnicity and year of settlement (continued)

household status	popul.	sample	response
head of family	22.9	24.0	23.9
partner	16.4	17.3	17.0
child	10.9	10.6	11.1
single/other	49.8	48.0	48.0
chi square	15.9 **	1.2	

country of birth	pop.	sample	response
Netherlands	72.2	74.4	78.1
Surinam/Antillean	8.0	8.0	7.2
Morocco	4.4	3.8	2.9
Turkey	3.2	3.1	2.0
other	12.2	10.6	9.8
chi square	28.8 *	41.5 ***	

nationality	pop.	sample	response
Dutch	84.5	82.1	86.0
Surinamese	0.9	0.7	0.5
Moroccan	4.0	3.5	2.6
Turkish	2.9	2.7	1.7
other	7.7	11.0	9.2
chi square	136.2 ***	48.6 ***	

ethnicity	pop.	sample	response
Dutch	72.2	75.1	79.6
Surinamese	8.0	7.7	6.9
Moroccan	4.4	3.5	2.6
Turkish	3.2	2.8	1.8
other	12.2	11.0	9.2
chi square	41.8 ***	54.1 ***	

settlem. date	pop.	sample	response
before 1969	36.5	42.3	42.2
1969 - 1978	17.0	15.1	15.0
1979 - 1988	23.8	22.3	22.6
1989 - 1994	22.7	20.3	20.1
chi square	129.8 ***	0.6	

Significance test used: Chi square (with sample frequencies as expected frequencies)

* p < .05	** p < .01	*** p < .001

10.4 Conclusion: still a consistent instrument

In 1987, when we carried out the first project aimed at measuring the prevalence and incidence of drug use, we already knew we would have to be patient for a while. We would have to wait until 1990 and beyond, to 1994, before we would we really be able to report something of value about drug-use behaviour.
Any empirical 'evidence' resulting from measurements even if using such large-scale instruments as the survey applied here must be regarded a pale shadow of the real world. Any survey can ultimately be criticized for its moderate response, its instruction strategy, the approach, frame-errors, the way questions are asked, the people involved, and so forth. And although we again tried to operate as conscientiously and as carefully as possible to avoid all such criticism, in the end we agree with such a notion.
For that reason, already in 1987 we decided to pay attention to not only the quality of the instrument itself, but also to the consistency of the instrument in the long run. We therefore tried to keep the instrument as it was in former measurements. In short: a constant, unchanged, consistent instrument had to be applied. The instrument may be somewhat biased, but as long as it has not been changed - and assuming the bias is unchanged too - we at least can tell something about the changes going on.

Of course it is an illusion to think the instrument can really be kept unchanged in all its details. Sometimes a researcher, who played an important role in instructing interviewers, will no longer be able to join the project, or perhaps a new fieldwork organization has to be hired. On top of this, the interviewers who were involved in former years may not be the same as those who played a role in later years. Also specific events may have occurred, that may effect the results, and so on. We referred to some of these changes as possibly affecting the response rate.
Overall, however, we assume these fluctuations will not have disturbed too greatly the consistency of the entire instrument applied. A comparison of the biases in the response-sample relation between 1990 and 1994 gives us an example of the consistency of the instrument, and also of its biases. In both 1990 and in 1994 the response-sample-population relations and deviations were most comparable. The only under-representation worth mentioning appeared to be of those who were born outside the Netherlands. The under-representation in 1994, however, was not different from that of 1990.
We can therefore conclude that the instrument is more or less constant, and that the biases too are probably constant. The changes in the use of drugs are therefore expected to be real changes, that must be ascribed to age cohort effects and other factors rather than to the instrument applied.

At this stage we think we should point out that only registered persons were included in the research. Tramps, street-persons, drug tourists and prisoners are not registered in the population registry, and therefore were not included in the survey.

11

Different Approaches

11.1 Introduction

It may be argued that it is important to investigate the effects of the application of other instruments. One reason for investigating the effects of (small) changes to the instrument applied, is technological progress that may help to obtain reliable response. More and more surveys are now making use of computer assisted methods. Interviews can easily be organized in such a way that response can be fed directly into a portable computer, thus achieving several gains in terms of reliability. A second reason to look at (slightly) different methods is that in surveys in which questions are asked that need some privacy in the interview situation in order to be answered correctly, the conditions should be created to guarantee that privacy. Here one might think of offering the interviewee the opportunity to administer the questionnaire him/herself. A third reason to look at different survey methods is '(future) international comparability'. Most surveys carried out in other countries have so far differed from those carried out in Amsterdam. The use of computers and the self-completion variation are examples of such differences. To improve the comparison of the results of the Amsterdam survey with those of other cities, insight into the effects of these variations has to be improved.

There are reasons to expect effects from a variation in the way people are approached. One can think of the existence of some population categories comprising people who are still somewhat 'afraid' of computers (the elderly), or of differences in terms of the specific answers given depending on whether or not the questionnaire is self-completed. It can reasonably be expected that the use of illegal drugs will be mentioned more often if the interviewee's privacy can be guaranteed. That expectation is supported by a recent publication of Aquilino (1994; see also Turner et al. 1992) on interview-mode effects in surveys of drug and alcohol use. He found a somewhat higher rate of admission of illicit drug use where interviewees were allowed to complete questionnaires themselves. He ascribed that effect to response anonymity. These effects were derived from analyses in the 37 largest Standard Metropolitan Statistical Areas in the United States. Only persons in the 18-45 age category were interviewed. Of that group, 25 per cent of those who came under the self-administered category stated that they had used cocaine at least once, whereas only 22 per cent of those who were personally interviewed admitted using it. However, American culture and the

attitudes of Americans to the use of drugs may well differ from that of Dutch culture and the attitudes of the Dutch, particularly of those living in Amsterdam. Harrell (1985) provides evidence from which it can be concluded that even within cultures differences may show up as far as the response to questions are concerned. She found that differences in personal values, expectations, and reference group norms appeared to be key factors in how willing respondents are to provide authentic answers. Harrison (1995) too pointed at such effects on the validity of the methodology used. She argued that valid self-reporting of drug use is a function of the recency of the event, but also of the desirability of the drug, and nuances of the data collection methodology. Various strategies may, in other words, have various effects on different response categories in various circumstances. It is important, therefore, that we too look at the effects of such variations in some detail, and that is the purpose of this chapter. We subdivided the sample into categories that had to be approached differently. Section 11.2 gives a brief comparison between those persons who participated in the so-called written version (the method we used in former years to measure drug use) and those who participated in the computer version. In Section 11.3 we focus attention on the difference between the interviewer-completed and the self-completed versions that were distinguished within the computer version approach. Section 11.4 summarizes the most relevant results.

11.2 Written versus computer version

The samples drawn from the population registry were randomly split into a sub-sample to be approached with a questionnaire printed on paper, and a sub-sample to be approached with a questionnaire displayed on the screen of a portable computer. Sample- and response differences from the general population were almost negligible.

In general, there are no important differences between the two versions as far as drug prevalence is concerned (Table 11.1a). The only significant differences were in the 'ever used' categories, but these were small. The computer version reveals somewhat higher prevalences in tobacco- and alcohol use, and the written version a significantly higher prevalence score for opiates and an insignificantly higher score for cannabis. At first sight these small differences seem to be related with small variations in response rates per age category. The written version response gives a slightly higher rate among persons in the 25-29 years old category, which is one of the categories with the highest cannabis-and opiates prevalence figures. The computer version has, relative to the written version, a higher share of respondents in the 30-34 and 60-69 years old categories, who together may be responsible for the somewhat higher tobacco- and alcohol rates. However, an age effect on the differences between the drug prevalence figures of the written- and the computer version could not be found. Nor did the effect of gender, lifestyle, education, ethnicity, labour-market position or type of household have an effect. In Table 11.1b the prevalence figures are presented once

Table 11.1   Prevalence of drug use, by fieldwork version (written or computer)
A) non-standardised, and B) standardised on age, educational level and ethnicity

A: non-stand. drug	lifetime	written		last year	written	last month computer	written	N comp.	written
tobacco	68.3	64.8	•	45.2	45.1	41.4	40.3	2 184	2 169
alcohol	87.5	84.7	•	78.2	76.1	68.7	67.7	2 185	2 167
hypnotics	19.6	19.2		10.2	9.8	7.1	6.4	2 183	2 167
sedatives	19.4	21.0		8.8	9.6	5.2	5.9	2 183	2 150
cannabis	28.5	30.0		10.6	10.5	6.6	6.5	2 184	2 166
cocaine	6.8	6.9		1.8	1.7	0.6	0.9	2 185	2 139
amphetamines	4.6	4.8		0.6	0.4	0.3	0.2	2 185	2 165
ecstasy	3.1	3.2		1.5	1.5	0.5	0.8	2 185	2 124
hallucinogens	4.1	4.8		0.6	0.4	0.2	0.0	2 185	2 141
inhalants	0.9	1.3		0.3	0.1	0.1	0.1	2 185	2 159
opiates	6.5	8.9	•	1.9	2.3	0.6	0.3	2 185	2 179
heroin	1.2	1.4		0.3	0.2	0.0	0.0	2 185	2 179

B: standardised drug	lifetime	written		last year	written	last month computer	written		N comp.	written
tobacco	67.9	64.8	•	44.6	45.1	40.9	40.3		2 184	2 169
alcohol	87.0	84.7	•	78.0	76.1	70.3	67.7	•	2 185	2 167
hypnotics	19.7	19.2		10.2	9.8	6.9	6.4		2 183	2 167
sedatives	19.4	21.0		8.5	9.6	4.9	5.9		2 183	2 150
cannabis	28.9	30.0		10.5	10.5	6.8	6.5		2 184	2 166
cocaine	6.9	6.9		1.6	1.7	0.6	0.9		2 185	2 139
amphetamines	4.6	4.8		0.6	0.4	0.3	0.2		2 185	2 165
ecstasy	3.1	3.2		1.4	1.5	0.5	0.8		2 185	2 124
hallucinogens	4.2	4.8		0.6	0.4	0.2	0.0		2 185	2 141
inhalants	1.1	1.3		0.4	0.1	0.2	0.1		2 185	2 159
opiates	6.8	8.9	•	2.0	2.3	0.7	0.3		2 185	2 179
heroin	1.2	1.4		0.3	0.2	0.1	0.0		2 185	2 179

more, this time after the written- and computer versions have been made comparable (standardised) in terms of age, education and ethnicity. The differences are slightly smaller, but still significant. Clearly these differences beg for further analysis, in which the class effects of 'third' variables should be taken into account.

Table 11.2 shows some details with regard to the significant differences between the written- and computer versions, as well as some elaboration of the possible explanations of the differences. Without any weighting, three types of drugs (tobacco, alcohol and opiates) show lifetime prevalence figures that differ significantly between the written- and computer versions (Table 11.2a). Income and ethnicity appeared to be the only two variables significantly associated with the version (written, or computer) applied. Therefore, analyses have been repeated after weighting for income (Table 11.2b) and ethnicity (Table 11.2c). In both situations only small changes in percentages can be shown. Also the weighting on the basis of a combination of income and ethnicity does not result in significant

Table 11.2 Significant differences in prevalence of drug use by version, standardised and non-standardised

a (non-standardised)	computer	written
lifetime prevalence tobacco	68.3	64.8
lifetime prevalence alcohol	87.5	84.7
lifetime prevalence opiates	6.5	8.9

signficant differences for: income and ethnicity

b (standardised on income)	computer	written
lifetime prevalence tobacco	68.4	64.6
lifetime prevalence alcohol	87.7	84.4
lifetime prevalence opiates	6.5	8.9

signficant differences for: household status and ethnicity

c (standardised on ethnicity)	computer	written
lifetime prevalence tobacco	68.0	65.1
lifetime prevalence alcohol	87.3	85.3
lifetime prevalence opiates	6.5	9.0

signficant differences for: income

d (standardised on income and ethnicity)	computer	written
lifetime prevalence tobacco	68.2	64.8
lifetime prevalence alcohol	87.6	84.7
lifetime prevalence opiates	6.6	8.9

signficant differences for: household status

e (standardised on income, household status and ethnicity)	computer	written
lifetime prevalence tobacco	68.4	64.7
lifetime prevalence alcohol	87.8	84.7
lifetime prevalence opiates	6.7	8.8

signficant differences for: none

f (standardised on 'interviewed single')	computer	written
lifetime prevalence tobacco	68.7	64.8
lifetime prevalence alcohol	87.8	84.3
lifetime prevalence opiates	6.7	8.8

signficant differences for: income, household status and ethnicity

changes (Table 11.2d). Since in that situation a new significant relation shows up between type of household and version applied, an additional analysis was performed weighting on the basis of income, ethnicity and type of household. None of these variables, however, even in combination, appeared to reduce the

differences in LTP figures on tobacco, alcohol and opiates between the written- and computer version (Table 11.2e).

A close examination of various associations revealed that differences between the two versions in terms of the number of single persons present might provide an explanation for the different prevalence scores. In Table 11.2f the results are shown in a situation in which the type of household (single person or not) was taken into account. However, no effect was demonstrated.

Our conclusion must be that there are a few small but significant differences between the written version and the computer version applied in our research project. We tried to explain these differences by referring to small differences between the two sub-populations involved, but did not succeed. However, being aware of these differences (even though we are not able to explain them) will allow us from now on to compare results of research carried out using either one of the two ways described here, simply by applying a weighting procedure.

11.3 Self-completed version versus interviewer-completed version

Another variation in the method applied is related to the differences in the level of privacy or anonymity. Some people in the sample were asked to fill in the questionnaire him/herself, and others were interviewed personally. The comparison elaborated upon below refers only to the computer version. Table 11.3 shows some results in terms of the prevalence figures of the drugs involved. Although most differences are small and insignificant, others appeared to be significant. Lifetime prevalence of cannabis use is significantly higher in the self-completed version than in the interviewer-completed version. The same holds true for the 'last year' prevalence figures of the use of alcohol.

However, these differences, and also the insignificant differences appear to be strongly related to the specificity of the response group in each of the two versions. Apparently, some selectivity was developed as far as the method used. There appeared to be evident and significant differences between the self-completed version and the interviewer-completed version in terms of age category, ethnicity, labour-market position, education, type of household, income and lifestyle. Differences in terms of age category in particular seem to be important when interpreting the differences shown in Table 11.3a. The response group in the self-completed version is somewhat younger than the response group of the interviewer-completed version. Therefore the latter scores higher on sedatives and hypnotics, whereas the former scores higher on cannabis and (insignificantly) on cocaine, amphetamines and ecstasy.

While selectivity was not planned, it was allowed to develop. For example, if an old person was asked to fill in the questionnaire him/herself directly on the computer, and that person then asked the interviewer to input it for him/her, it was allowed. The same applied to people from specific ethnic origin (language problems) and educational level (reading skills). People from either group may have asked the interviewer to fill in the questionnaire, instead of doing it

Table 11.3   Prevalence of drug use, by interview version (self- or interviewer completion)
A) non-standardised, and B) standardised on age, educational level and ethnicity

| A non-stand. | lifetime | | last year | | | last month | | | N | |
drug	self	interv.	self	interv.		self	interv.		self compl.	interv.
tobacco	66.4	69.7	43.4	46.5		39.7	42.6		901	1 283
alcohol	88.2	86.9	81.4	75.9	•	70.4	67.5		901	1 284
hypnotics	17.9	20.8	8.7	11.3		6.1	7.7		900	1 283
sedatives	17.5	20.8	8.5	9.1		5.0	5.3		899	1 284
cannabis	31.2	26.6	•	11.3	10.0		6.6	6.7	900	1 284
cocaine	7.7	6.2	1.3	2.1		0.3	0.8		901	1 284
amphetamines	4.9	4.4	0.4	0.8		0.3	0.2		901	1 284
ecstasy	3.8	2.6	1.9	1.2		0.7	0.5		901	1 284
hallucinogens	4.2	4.0	0.6	0.7		0.3	0.2		901	1 284
inhalants	0.7	1.1	0.0	0.5		0.0	0.2		901	1 284
opiates	6.5	6.5	1.9	1.9		0.6	0.6		901	1 284
heroin	0.9	1.5	0.3	0.3		0.1	0.2		901	1 284

| B standardised | lifetime | | last year | | | last month | | | N | |
drug	self	interv.	self	interv.		self	interv.		self compl.	interv.
tobacco	65.9	69.2	41.5	46.8	•	38.1	42.9	•	901	1 283
alcohol	86.3	87.5	79.1	77.3		70.8	69.9		901	1 284
hypnotics	18.8	20.3	9.4	10.7		6.9	6.9		900	1 283
sedatives	17.9	20.5	8.2	8.6		5.0	4.8		899	1 284
cannabis	28.3	29.4	10.1	10.7		6.3	7.2		900	1 284
cocaine	6.8	6.9	1.0	2.1		0.3	0.8		901	1 284
amphetamines	4.7	4.6	0.4	0.8		0.3	0.2		901	1 284
ecstasy	3.3	2.9	1.6	1.2		0.6	0.5		901	1 284
hallucinogens	3.9	4.4	0.4	0.7		0.2	0.2		901	1 284
inhalants	0.8	1.2	0.0	0.6		0.0	0.3		901	1 284
opiates	6.4	7.0	2.0	1.9		0.7	0.7		901	1 284
heroin	0.8	1.6	0.3	0.3		0.1	0.2		901	1 284

themselves. It was therefore expected that the resulting differences between the self-completed version and the interviewer-completed version were merely an effect of selectivity.

Therefore it was hardly a surprise that after correction for age category, ethnicity and education all connections between the use of drugs and the version applied disappeared (Table 11.3b).

11.4 Conclusion

In this chapter two varieties of interview approaches have been compared. One of the conclusions is that traditional approaches in which the questionnaire is printed on paper, and approaches in which the computer plays a central role, are providing small but significant differences that are not easy to explain. Different strategies with regard to the way the questionnaire is completed (self-

or interviewer-completed) appear to be unimportant, if both categories which are to be compared are made comparable in terms of age, ethnicity and education. The differences that did show up in our comparison initially, had to be ascribed to selective processes during the interview phase rather than to the privacy/anonymity aspect that was expected to be related to the self-completed version in particular, and which was also found in the American context (Aquilino 1994). Apparently, the inhabitants of Amsterdam are less sensitive to the anonymity aspect than are their North American counterparts.

12

Non-response revisited

12.1 Introduction

Where the response results in general give cause for concern, it is extremely important to investigate the specificity of the response group relative to the non-response category. As was shown in Chapter 10, almost 90 per cent of the non-response group belongs to either the category of those who refused to cooperate or those who were not at home. Already in the 1990 project we were able to carry out research among the not-at-home category. Most important, however, is the category of those who refused (60 per cent of the non-response group). For that reason we were very happy to obtain permission from the Registration Commission to re-visit those who refused to cooperate in the main survey. A strategy was developed in an effort to get the most relevant information out of these respondents. That relevant information included the reasons why they not wanted to cooperate in the main survey, and some information about the use of drugs, with which we would be able to estimate the specificity of the response group. In Sections 12.3 and 12.4 we will deal with both of these items. But first we will in Section 12.2 elaborate upon the strategy we followed in order to reach a satisfactory result.

12.2 Strategy applied

The objective of the special non-response project was to obtain 150 responses from those who were initially not at home, as well as 150 responses from those who refused in the main survey. Two relatively large samples from the not-at-home category and the refusal category were taken. We carefully prepared a standard text to be used when contacting the selected persons (Appendix 2). In that text we stressed the right of every person to decide not to participate in whatever research project. We also stressed that at the same time we would like to know whether we had made any mistakes and/or people's reasons for non-cooperation. We also decided to offer an incentive of ƒ 20,- to those who formerly had refused and were now being asked whether they would cooperate this time (as an alternative, we offered to transfer the incentive to an ideological institution, such as Amnesty International or the World Wildlife Fund).
Those who could be contacted by telephone were interviewed that way. Other persons received a letter and a reply card, so they could let us know when and how

Table 12.1   Frame errors, unused addresses, responses and non-responsesfor refusers and absentees

refusers

by telephone				face to face		
gross sample	abs.	perc.		*gross sample*	abs.	perc.
frame errors	21	8.2		frame errors	22	13.3
non-used addresses	8	3.1		non-used addresses	5	3.0
response	100	39.1		response	58	34.9
non-response	127	49.6		non-response	81	48.8
total gross sample	256	100.0		total gross sample	166	100.0

	abs.	perc.	perc. of valid adr.		abs.	perc.	perc. of valid adr.
total refusal	30	23.6	13.2	total refusal	43	53.1	30.9
partial refusal	41	32.3	18.1	partial refusal	12	14.8	8.6
not-at-home	37	29.1	16.3	not-at-home	24	29.6	17.3
illness	10	7.9	4.4	language problems	1	1.2	0.7
other	9	7.1	4.0	other	1	1.2	0.7
total non-response	127	100.0	55.9	total non-response	81	100.0	58.3
total response	100		44.1	total response	58		41.7
total valid addresses	227		100.0	total valid addresses	139		100.0

absentees (not-at-home)

by telephone				face to face		
gross sample	abs.	perc.		*gross sample*	abs.	perc.
frame errors	15	7.4		frame errors	36	20.1
non-used addresses	8	3.9		non-used addresses	4	2.2
response	100	49.0		response	56	31.3
non-response	81	39.7		non-response	83	46.4
total gross sample	204	79.7		total gross sample	179	107.8

	abs.	perc.	perc. of valid adr.		abs.	perc.	perc. of valid adr.
refusal	25	30.9	11.0	refusal	33	39.8	23.7
not-at-home	37	45.7	16.3	not-at-home	50	60.2	36.0
illness	10	12.3	4.4	illness	0	0.0	0.0
other	9	11.1	4.0	other	0	0.0	0.0
total non-response	81	100.0	35.7	total non-response	83	100.0	59.7
total response	100		44.1	total response	56		40.3
total valid addresses	181		79.7	total valid addresses	139		100.0

(telephone or face-to-face) they wanted to be interviewed, if they wished to take part. If no reaction was received after a couple of days, then selected, well-trained interviewers were sent to these addresses.

The result of this combination of approach strategies was good. The response rate even appeared to be almost as high as in the main survey. The reduction of the questionnaire to a two-page list will no doubt have been an important factor, too (Appendix 2). The sample frames totalled 383 not-at-home persons and 422 refusing persons. Corrections for frame-errors (such as moved away, address not existent, etc.) resulted in sample frames of 339 not-at-home persons and 370 refusing persons, respectively. The 156 responses from the not-at-home category therefore constitute a 46 per cent response. Only 68 (20%) refused cooperation, whereas 26 per cent could not be contacted. The 158 responses from the refusal category constitute a 43 per cent response. Here, 22 per cent refused to cooperate (Table 12.1).

As in the main survey, the representativeness of the responses from both categories can be estimated by comparing the characteristics of the response group with the samples from which they were drawn (Table 12.2). In general, no significant differences between the samples (that is, the 'normal' (main) response in the main survey, and the responses in the second runs) could be shown. The only significant and relatively large differences were related to marital status. People who were initially not at home often appeared to be unmarried, while those who refused to cooperate initially often were married.

12.3 Reasons for refusal in the main survey

The first question posed to the 'new' response, who had refused the first time around, was the reasons for their refusal. It may be interesting to distinguish between those who answered this question but refused to answer further questions (see Appendix 2) and those who answered this question and then continued to answer further questions. The reasons given are summarized for both situations in Table 12.3.

Contrary to what is often expected, most reasons have nothing to do with either the complexity or the specificity of the topic. No less than 37 per cent gave a reply coming under the category 'do not remember why'. Most of these were willing to cooperate the second time around. Another 22 per cent replied that they 'had no time', although this did not imply a principal refusal. Of those 62 persons (28 per cent) who answered 'never cooperate', 'no interest', '(objective of) survey makes no sense', or 'do not want to answer personal questions', as many as 35 persons (56 per cent) decided to cooperate the second time around!

The conclusion is that in general there are only few principal reasons to refuse cooperation. Most of the 'refusals-in-the-main survey' were willing to cooperate the second time. The high percentage of people who were unaware that they had refused the first time around suggests that some interviewers may have tended

Table 12.3   Response from main survey, sample and response groups from non-response survey, by age group, gender, residential district, marital status, household status, country of birth, nationality, ethnicity and year of settlement

		total		absentees		refusals	
age group	(N=4 364) norm. resp.	(N=805) sample	(N=314) response	(N=383) sample	(N=156) response	(N=422) sample	(N=158) response
12 - 14 years	2.4	1.7	1.9	1.3	1.9	2.1	1.9
15 - 19 years	5.7	4.8	4.2	5.2	3.8	4.5	4.5
20 - 24 years	8.1	7.8	6.7	8.4	5.8	7.3	7.6
25 - 29 years	13.1	11.6	12.5	12.5	13.5	10.7	11.5
30 - 34 years	13.0	16.3	15.3	18.5	16.7	14.2	14.0
35 - 39 years	10.6	10.2	10.9	11.2	12.8	9.2	8.9
40 - 49 years	16.8	15.2	13.4	14.9	14.7	15.4	12.1
50 - 59 years	9.6	13.2	12.8	11.2	9.6	14.9	15.9
60 - 69 years	8.8	8.8	11.9	8.1	12.3	9.5	11.5
70 years a.o.	11.9	10.4	10.5	8.6	9.0	12.1	12.1
chi square		5.3		6.6		2.0	
gender	norm. resp.	sample	response	sample	response	sample	response
male	46.4	49.9	48.2	50.9	44.9	49.1	51.6
female	53.6	50.1	51.8	49.1	55.1	50.9	48.4
chi square		0.4		2.3		0.4	
resid. distr.	norm. resp.	sample	response	sample	response	sample	response
A binnenstad	11.5	11.8	10.2	14.4	12.2	9.5	8.3
B west.haven	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C spaarnd.b.	4.5	4.3	4.5	4.7	7.1	4.0	1.9
D oud west	4.8	6.0	7.3	5.5	7.7	6.4	7.0
E pijp	6.0	7.3	8.0	10.7	9.0	4.3	7.0
F oost	4.1	5.3	5.4	3.9	2.6	6.6	8.3
G indische b.	4.0	3.5	3.2	3.7	5.1	3.3	1.3
H bos & lommer	3.5	6.1	6.4	6.3	4.5	5.9	8.3
J admiral.b.	4.7	6.5	4.5	5.5	5.1	7.3	3.8
K zuid	8.1	7.1	6.7	7.3	5.8	6.9	7.6
L rivierenbuurt	4.7	4.1	3.5	3.4	2.6	4.7	4.5
M watergr.meer	3.4	3.4	4.8	3.1	5.1	3.6	4.5
N noord	11.8	8.1	8.9	5.7	5.8	10.2	12.1
P slotermeer	4.8	3.9	3.8	4.4	5.8	3.3	1.9
Q osdorp	4.2	5.6	6.7	6.3	6.4	5.0	7.0
R slotervaart	5.1	6.3	7.0	6.5	7.1	6.2	7.0
S buitenveldert	2.7	2.7	3.5	1.3	3.2	4.0	3.8
T zuidoost	12.1	8.1	5.4	7.3	5.1	8.8	5.7
chi square		10.8		15.5		16.8	
marital status	norm. resp.	sample	response	sample	response	sample	response
unmarried	46.6	44.7	41.2	49.9	45.5	40.0	36.9
married	36.6	40.0	45.7	35.2	41.7	44.3	49.7
divorced	10.1	8.6	4.8	9.1	4.5	8.1	5.1
widowed	6.7	6.7	8.3	5.7	8.3	7.6	8.3
chi square		9.8 •		7.9 •		3.2	

Table 12.3 Response from main survey, sample and response groups from non-response survey, by age group, gender, residential district, marital status, household status, country of birth, nationality, ethnicity and year of settlement (continued)

household status	(N=4 364) norm. resp.	total (N=805) sample	(N=314) response	absentees (N=383) sample	(N=156) response	refusals (N=422) sample	(N=158) response
head of family	23.9	24.3	27.5	21.1	26.3	27.3	28.7
partner	17.0	17.5	21.1	15.4	19.2	19.4	22.9
child	11.1	10.6	12.1	9.1	10.3	11.8	14.0
single/other	48.0	47.6	39.3	54.3	44.2	41.5	34.4
chi square		8.8 •		6.6		3.6	
country of birth	n. resp.	sample	response	sample	response	sample	response
Netherlands	78.1	73.9	82.4	70.2	78.8	77.3	86.0
Surinam/Antillean	7.2	6.6	3.2	5.5	3.2	7.6	3.2
Morocco	2.9	5.1	4.8	7.0	6.4	3.3	3.2
Turkey	2.0	4.8	3.5	5.2	3.2	4.5	3.8
other	9.8	9.6	6.1	12.0	8.3	7.3	3.8
chi square		13.7 ••		6.2		8.4	
nationality	norm. resp.	sample	response	sample	response	sample	response
Dutch	86.0	79.5	85.0	75.7	82.1	82.9	87.9
Surinamese	0.5	0.7	0.3	0.8	0.6	0.7	0.0
Moroccan	2.6	4.6	3.5	5.7	4.5	3.6	2.5
Turkish	1.7	4.3	2.9	5.0	3.2	3.8	2.5
other	9.2	10.8	8.3	12.8	9.6	9.0	7.0
chi square		6.1		3.5		3.4	
ethnicity	norm. resp.	sample	response	sample	response	sample	response
Dutch	79.6	73.8	82.1	71.3	79.5	76.1	84.7
Surinamese	6.9	6.5	3.2	5.2	3.2	7.6	3.2
Moroccan	2.6	4.6	3.5	5.7	4.5	3.6	2.5
Turkish	1.8	4.3	2.9	5.0	3.2	3.8	2.5
other	9.2	10.8	8.3	12.8	9.6	9.0	7.0
chi square		12.3 •		5.3		7.3	
settlem. date	norm. resp.	sample	response	sample	response	sample	response
before 1969	42.2	44.1	53.0	37.3	46.8	50.2	59.2
1969 - 1978	15.0	13.9	10.2	13.6	8.3	14.2	12.1
1979 - 1988	22.6	22.6	24.0	25.1	26.9	20.4	21.0
1989 - 1994	20.1	19.4	12.8	24.0	17.9	15.2	7.6
chi square		16.0 ••		9.5 •		8.9 •	

Significance test used: Chi square (with sample frequencies as expected frequencies)

*	p < .05	**	p < .01	***	p < .001

Table 12.3   Reasons for non-participation in main survey

total cooperation				total and partial cooperation			
reason	abs.	perc. resp.	perc. cases	reason	abs.	perc. resp.	perc. cases
can't remember refusal	45	26.8	28.7	can't remember refusal	53	23.7	25.1
no time / not convenient	39	23.2	24.8	no time / not convenient	50	22.3	23.7
can't remember reason	14	8.3	8.9	I never participate in studies	24	10.7	11.4
I never participate in studies	12	7.1	7.6	not interested	23	10.3	10.9
not interested	12	7.1	7.6	can't remember reason	15	6.7	7.1
I did not refuse	7	4.2	4.5	language problems	9	4.0	4.3
disliked interviewer	7	4.2	4.5	don't know	8	3.6	3.8
language problems	5	3.0	3.2	I did not refuse	7	3.1	3.3
don't know	4	2.4	2.5	goal of research is useless	7	3.1	3.3
reasons of privacy	4	2.4	2.5	disliked interviewer	7	3.1	3.3
goal of research is useless	4	2.4	2.5	reasons of privacy	5	2.2	2.4
illness, handicap	3	1.8	1.9	illness, handicap	4	1.8	1.9
don't want strangers in house	3	1.8	1.9	don't want strangers in house	3	1.3	1.4
questionnaire too long	2	1.2	1.3	questionnaire too long	2	0.9	0.9
poor research	2	1.2	1.3	poor research	2	0.9	0.9
I don't use any drugs	1	0.6	0.6	I don't use any drugs	1	0.4	0.5
research is waste of money	1	0.6	0.6	research is waste of money	1	0.4	0.5
cooperation was not paid	1	0.6	0.6	cooperation was not paid	1	0.4	0.5
no answer	2	1.2	1.3	no answer	2	0.9	0.9
total	168	100.0	107.0	total	224	100.0	106.2

to register people as 'refusers' too quickly.

The overview presented does not indicate a clear deviancy of the main survey-refusal category. We will pay more attention to this issue in Section 12.4. But first attention will be given to another aspect that may have influenced the refusal rate in the main survey. That is the circumstances under which the respondent would agree to cooperate in a survey. Table 12.4 provides further information on this matter.

Only 15.5 per cent of former refusals stated that they never take part in surveys. However, 61 per cent of them appeared to be willing to cooperate in this questionnaire, and answered sixteen questions!

Some fifty per cent answered indifferently ('don't know', 'not applicable') or gave no answer at all. Another almost ten per cent answered 'if it were a more convenient time'. All other reasons reflect various circumstances that may be improved (privacy guarantee, 5%; shorter questionnaire, 3%; prefer telephone interview, 3%; better interviewer, 2%; better information, 2%).

In conclusion, only very few people referred to the topic of the survey itself as a reason to refuse cooperation. Indifference seems to be the most obvious factor that we need to deal with. Only carefully developed procedures and approach strategies, as well as the input from motivated, well-trained interviewers, may help reduce the refusal percentage. In the meantime, the refusal category does not seem to be automatically a category that has 'escaped' from the topic dealt

Table 12.4   Circumstances under which respondents will take part in survey

	total cooperation				total and partial cooperation		
circumstance	abs.	perc. resp.	perc. cases	circumstance	abs.	perc. resp.	perc. cases
don't know	30	29.4	30.0	don't know	36	24.3	24.8
I never participate in studies	14	13.7	14.0	I never participate in studies	23	15.5	15.9
more convenient time	10	9.8	10.0	more convenient time	13	8.8	9.0
privacy insured	7	6.9	7.0	privacy insured	7	4.7	4.8
less time investment	4	3.9	4.0	interesting subject	7	4.7	4.8
interesting subject	3	2.9	3.0	less time investment	4	2.7	2.8
more information	3	2.9	3.0	no visit at home	4	2.7	2.8
no visit at home	3	2.9	3.0	better interviewer	3	2.0	2.1
better interviewer	2	2.0	2.0	more information	3	2.0	2.1
personal interest	2	2.0	2.0	personal interest	3	2.0	2.1
other	2	2.0	2.0	other	2	1.4	1.4
interview during daylight	1	1.0	1.0	interview during daylight	1	0.7	0.7
payment for cooperation	1	1.0	1.0	payment for cooperation	1	0.7	0.7
not applicable	11	10.8	11.0	not applicable	23	15.5	15.9
no answer	9	8.8	9.0	no answer	18	12.2	12.4
total	102	100.0	102.0	total	148	100.0	102.1

with in the survey. More details of the refusal- and not-at-home categories can be found in the next section.

12.4 Non-response characteristics and drug-use prevalence

The not-at-home responses and the refusal responses are compared with the normal responses received in the main survey. The comparison has been performed in two ways, unweighted, and weighted on marital status. The results did not differ very much, and therefore only the weighted version is shown. Table 12.5 includes the comparison for several lifestyle-, household- and socio-economic characteristics of the respondents.
One of the hypotheses was that those who were (frequently) not at home during the main survey or who refused to cooperate would be persons with outdoor lifestyles and outdoor behaviour, often single-person households, who were not tied to their house by a partner and/or children, but instead would often go out to discos, cafes, etcetera. Some differences between those who refused and those who were not at home could exist.
Such a profile of both categories would automatically result in relatively high prevalence scores in the spheres of alcohol and cannabis.
The results show us that such a hypothesis (and its sub-hypotheses) must be rejected almost entirely. The profiles of both the not-at-home category and the refusal category are contrary to what was expected, although some differences between the two can easily be demonstrated. Both categories indeed appeared to be frequently not at home, and therefore showed some form of outdoor

Table 12.5   Response from main survey, from absentees and from refusers, by lifestyle-, house-hold- and socio-economic characteristics

evenings per week at home	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
5 - 7 evenings	2468	56.8	38	24.7	42	26.9	80	25.8
3 - 4 evenings	1276	29.4	43	27.9	46	29.5	89	28.7
less	602	13.9	73	47.4	68	43.6	141	45.5
total	4346	100.0	154	100.0	156	100.0	310	100.0

leisure behaviour: going out	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
rarely	2100	48.1	76	48.7	81	51.3	157	50.0
occasionally	1177	27.0	43	27.6	41	25.9	84	26.8
regularly	1087	24.9	37	23.7	36	22.8	73	23.2
total	4364	100.0	156	100.0	158	100.0	314	100.0

lifestyle	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
home oriented	1925	44.2	53	34.2	64	41.0	117	37.6
medium	1171	26.9	45	29.0	35	22.4	80	25.7
outdoors oriented	1255	28.8	57	36.8	57	36.5	114	36.7
total	4351	100.0	155	100.0	156	100.0	311	100.0

type of household	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
single parent	199	4.8	4	2.6	9	5.7	13	4.2
couple	961	23.2	48	30.8	47	29.9	95	30.4
couple with kids	861	20.8	40	25.6	47	29.9	87	27.8
single	1710	41.3	48	30.8	36	22.9	84	26.8
other	412	9.9	16	10.3	18	11.5	34	10.9
total	4143	100.0	156	100.0	157	100.0	313	100.0

kids living at home	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
no	3025	73.5	107	69.5	95	60.1	202	64.7
yes	1093	26.5	47	30.5	63	39.9	110	35.3
total	4118	100.0	154	100.0	158	100.0	312	100.0

level of education	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
elementary	778	18.0	29	18.8	35	22.2	64	20.5
vocational (low)	566	13.1	18	11.7	32	20.3	50	16.0
secondary (low)	412	9.5	18	11.7	20	12.7	38	12.2
vocational (middle)	602	13.9	14	9.1	21	13.3	35	11.2
secondary (middle/high)	662	15.3	27	17.5	16	10.1	43	13.8
vocational (high) / university	1181	27.3	47	30.5	32	20.3	79	25.3
other	127	2.9	1	0.6	2	1.3	3	1.0
total	4328	100.0	154	100.0	158	100.0	312	100.0

*Table 12.5   Response from main survey, from absentees and from refusers, by lifestyle-, house-
hold- and socio-economic characteristics* (continued)

studying	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
no	3342	77.2	119	76.3	131	82.9	250	79.6
yes, full time	754	17.4	23	14.7	20	12.7	43	13.7
yes, part time	234	5.4	14	9.0	7	4.4	21	6.7
total	4330	100.0	156	100.0	158	100.0	314	100.0

labour market position	norm. response		absentees		refusals		total	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
wage-worker	1745	42.0	56	35.9	64	40.5	120	38.2
entrepeneur	218	5.2	14	9.0	8	5.1	22	7.0
free lancer	133	3.2	2	1.3	3	1.9	5	1.6
working for temp. agency	74	1.8	3	1.9	0	0.0	3	1.0
unemployed/in search of job	273	6.6	9	5.8	8	5.1	17	5.4
on benefits/not in search	103	2.5	1	0.6	3	1.9	4	1.3
work disability	203	4.9	6	3.8	10	6.3	16	5.1
retired	551	13.3	23	14.7	28	17.7	51	16.2
housewife /houseman	477	11.5	23	14.7	21	13.3	44	14.0
other	380	9.1	19	12.2	13	8.2	32	10.2
total	4157	100.0	156	100.0	158	100.0	314	100.0

behaviour. But clearly that behaviour is linked to neither consumptive (outgoing) outdoor behaviour or to single person households. The share of couples and couples with children (very often children were still living at home) appeared to be much higher in both categories as compared to the normal response. From the information regarding age structure and labour-market position it can be concluded that in general the former refusal category is somewhat older, retired, and often not highly educated. The former not-at-home category is often of the type of independent entrepreneur, relatively active in terms of achieving a higher education by studying at night. Both categories seem to be 'traditional' household types that find themselves in different phases in the household cycle, but who are trying to achieve a 'good' socio-economic position and/or a family-oriented life. Not surprisingly, the figures regarding the prevalence of alcohol and cannabis (the only two substances we asked about in the second run) were lower (alcohol) or even much lower (cannabis) as compared to the response group in the main survey (Table 12.6).

12.5   Recalculated response

The analysis of the non-response group shows clearly and, because of the high response rate, convincingly that our initial opinion about the characteristics of this category must be revised. There appear to be only a few people who fundamentally do not want to cooperate in a research project such as the one we confronted them with. Often the most important reason for refusing to cooperate was simply,

Table 12.6   Prevalence of alcohol and cannabis use for response group in normal survey, absentees and refusals (standardised)

alcohol	norm. resp. (N=4 352)		absentees (N=156)		refusals (N=158)		total (N=314)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	3746	86.1	126	80.8	129	81.6	255	81.2
last year prevalence	3358	77.2	116	74.4	114	72.2	230	73.2
last month prevalence	3015	69.3	106	67.9	102	64.6	208	66.2

cannabis	norm. resp. (N=4 350)		absentees (N=156)		refusals (N=158)		total (N=314)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	1272	29.2	33	21.2	32	20.3	65	20.7
last year prevalence	459	10.6	7	4.5	13	8.2	20	6.4
last month prevalence	293	6.7	6	3.8	5	3.2	11	3.5

and particularly, lack of time at the moment they were asked to cooperate. Reasons of frequently not being at home were often linked to outdoor activities, but not specifically to those activities linked to consumptive behaviour. The impression was gained that quite a number of persons initially did not want to cooperate because of a wide variety of vague but unimportant reasons.

Clearly the non-response category appears to consist of persons who generally have lower drug-prevalence scores as compared to those who answered in the main survey. Table 12.7 gives the results of a comparison of the prevalence figures for alcohol- and cannabis use without and with recalculation on the basis of what we now know of the non-response group. Two variant recalculation exercises were carried out. In the first we assumed all persons who refused cooperation or were not at home, to have the same score pattern as those who refused or were not at home in the main survey but could be counted with the response group in the second run. If all non-response would be treated as if they have the same character as the non-response of whom we know the characteristics, the prevalence figures clearly drop to substantial lower levels. The effect is stronger in case of the use of cannabis compared to that of alcohol, but significant in both situations. The absolute drop in the percentage of persons who 'ever used' cannabis is as much as four percent, which is a relative drop of fourteen percent. The relative drop is even higher for 'last month' prevalence figures. There the drop (1.5%) is over twenty percent in relative terms.

But, of course, this type of recalculation may be criticized for its assumption that all of the non-response group behave the same way as the response group in the second run, that was non-response in the main survey. However, what may be more realistic is to recalculate figures so as to raise the response rate to the level it was in our former research project (1990), when we reached the level of 55.4 per cent. Recalculation to that level reveals only small and almost negligible reductions in the percentage scores. We therefore think it correct to state that the somewhat lower response rate in the 1994 survey has no significant effect on the prevalence figures.

Table 12.7 *Prevalence of alcohol and cannabis use for response group in normal survey, recalculated numbers of absentees and refusals, and recalculated total (standardised)*
A) recalculation towards total response, and B) recalculation towards 55% response

A

alcohol	norm. resp. (N=4 352)		absentees (N=1 233)		refusals (N=2 627)		total (N=8 212)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	3746	86.1	996	80.8	2145	81.7	6887	83.9
last year prevalence	3358	77.2	917	74.4	1895	72.1	6170	75.1
last month prevalence	3015	69.3	838	68.0	1696	64.6	5549	67.6

cannabis	norm. resp. (N=4 350)		absentees (N=1 233)		refusals (N=2 627)		total (N=8 210)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	1272	29.2	261	21.2	532	20.3	2065	25.2
last year prevalence	459	10.6	55	4.5	216	8.2	730	8.9
last month prevalence	293	6.7	47	3.8	83	3.2	423	5.2

B

alcohol	norm. resp. (N=4 352)		absentees (N=144)		refusals (N=307)		total (N=4 803)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	3746	86.1	116	80.6	251	81.8	4113	85.6
last year prevalence	3358	77.2	107	74.3	222	72.3	3687	76.8
last month prevalence	3015	69.3	98	68.1	198	64.5	3311	68.9

cannabis	norm. resp. (N=4 350)		absentees (N=144)		refusals (N=307)		total (N=4 801)	
	abs.	perc.	abs.	perc.	abs.	perc.	abs.	perc.
lifetime prevalence	1272	29.2	30	20.8	62	20.2	1364	28.4
last year prevalence	459	10.6	6	4.2	25	8.1	490	10.2
last month prevalence	293	6.7	6	4.2	10	3.3	309	6.4

At this point, one remarkable feature remains to be clarified. In the survey we carried out four years ago, we also investigated part of the non-response group. We then focused our attention on the not-at-home (the absentees) category. At that time we succeeded in getting a response from only 142 persons out of a sample of 500 (28%). A special team of interviewers tried to reach those persons to interview them face-to-face. One of the conclusions regarding the use of drugs was that the non-response category tended to consist of persons with *higher* drug-use prevalence scores.

So, there are two important differences with the actual survey, carried out in 1994. The first refers to the response rate of those who were formerly classified as 'not-at-home'. In the most recent non-response survey, we achieved a 46% response rate. The second refers to the level of drug-use. In the most recent survey, the drug

prevalence scores of those who were not-at-home during the main survey but were contacted later, tended to be slightly *lower* as compared to the response group in the main survey.

The interpretation of these differences is quite complicated. We suppose the way people were approached may have played a major role in causing these differences. In 1990 the non-response persons were revisited in order to try to conduct a face-to-face interview. In 1994 we applied several strategies and approached people by telephone (if possible) and face-to-face (otherwise). The response percentage of those who were approached by telephone amounted to 55 per cent, as opposed to approximately 40 per cent in the face-to-face category. Additionally, we offered financial incentives to those who would cooperate and to the interviewers who succeeded in completing a non-response interview. The new strategy may have resulted in a distinctive (new) category of not-at-home responses being reached as compared to four years ago. That distinction in turn is reflected in the lower drug-prevalence scores.

12.6 Data-quality analysis: conclusions

In Chapters 10, 11 and 12 we investigated three different methodological aspects that are of major importance with regard to the quality of the data obtained. We discussed the representativeness and effects of different approach strategies, and analyzed the non-response group in some detail and calculated its effects on the response group.
Again, our primary objective was to apply a consistent instrument, one with which we could measure real changes in the use of drugs. Changes should only be ascribed to changing population compositions (for which effects too we would be able to standardise the scores), or to real increases or declines in the use of drugs. To achieve that objective, we tried (as we did in 1987 and 1990) to use the same instrument. The experiments with other approaches were left out of the comparisons with former measurements; these were intended for learning purposes, to improve comparisons with other research carried out elsewhere, and/or to help us to change the approach in the future.

Despite the application of the same instrument, the response turned out to be significantly lower (approximately 5 %) than in 1990. Only half of the number of people approached decided to cooperate. We tend to explain this different response rate by the fact that we made use of a different bureau (compared to the one we hired in 1987 and 1990) to manage the survey as far as the fieldwork was concerned.
However, the lower response rate did not result in other differences between the response and non-response group in 1994, compared to the differences in 1990. The bias appeared to be much the same as four years ago. Our first important conclusion is that the representativeness of the 1994 data set is comparable to that of 1990.

However, due to the high non-response rate it was even more important to investigate the characteristics of the non-response group. We were able to reach a substantial number of the former refusals (43% response in the second run) and those who were not at home in the main survey (46% response in the second run). The somewhat surprising conclusion of the non-response analysis is that there were only a very few people who fundamentally refused to cooperate. Various simple and 'innocent' reasons were given by people who did not cooperate in the main survey. The outdoor lifestyle of those not at home in the main survey explained this type of non-response in the main survey. However, that outdoor behaviour was not specifically linked to consumptive behaviour.

Recalculation of the response weighted on the basis of the knowledge of the non-response group to the level of the response of 1990, did not, however, result in significantly different drug-prevalence scores. Our second important conclusion is that the differences between the response and the non-response category does not significantly affect the prevalence figures.

Remarkably, the response from those in the not-at-home category who we were able to reach in the second run, appeared to have lower drug-prevalence scores compared to the former not-at-home category we succeeded in reaching in the 1990 non-response investigations. We explain the difference by reference to the higher intensity of the 1994 re-approach strategy. And although the response / non-response differences did not result in significant changes in drugs-prevalence figures after weighting, our third important conclusion is that a higher response figure and an intensified approach strategy will, at least in the Amsterdam context, result in lower drug-prevalence scores than is shown by the low-response data sets acquired.

13

Summary and conclusions

13.1 Introduction

In 1987, the first Amsterdam household survey on drug use was conducted. Three years later, in 1990, a second survey was carried out and in 1994, we repeated the survey a third time. Although some questions were added, we developed a consistent instrument to study drug use in Amsterdam. The three surveys not only enabled us to study drug use at a certain point in time, but also to look at dynamics in drug use.

In the months of April to July 1994, almost 10,000 inhabitants of Amsterdam of twelve years and over were approached with a request to participate in a household-survey on drug use and lifestyle. A total of 4,364 respondents were interviewed. The questionnaire was almost identical to the earlier ones, except for some items regarding health and well-being (the so-called SF-36) which were new in 1994. These items were added to the end of the list.

The major goal of the 1994 research project was threefold:
- to accumulate up-to-date knowledge of drug use in the population as a whole and in subpopulations (summarized in Section 13.2 (prevalence) and 13.3 (patterns of use));
- to gain insight into the dynamics of drug use in the population by comparing current figures with those of 1987 and 1990 (summarized in Section 13.4).;
- to explore the question of utility and comparability of different methods of data collection, focusing on drug use (summarized in 13.5).

In addition, we also investigated the relationship between the use of drugs and the health of the respondents. The results of that investigation are summarized in Section 13.6.

13.2 The prevalence of drug use

Prevalence of drug use is described in different ways in the second chapter of this report. Looking at prevalence figures (lifetime, last year and last month; see Table 13.1), it is obvious that only alcohol, and, to a lesser extent, tobacco are used by large parts of the population. Cannabis, ranked in at third, having been used at least once by 29 percent of the population. Use, especially regular use, of hypnotics, sedatives and difficult drugs (an aggregate of cocaine, amphetamines, ecstasy, hallucinogens and heroin; see below) was relatively rare.

Table 13.1 Prevalence of drug use in 1994

drug	lifetime		last year		last month		
	abs.	%	abs.	%	abs.	%	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
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

Our findings o the prevalences of drug use were reflected in the continuation rates, which can be calculated on the basis of the prevalence figures. Where difficult drugs were involved, the continuation rate was low: for instance only six percent of all people that ever used amphetamines, did so in the month prior to the interview. In other words: the majority of respondents that started using at some point in time, did not continue that behaviour. The only difficult drug for which we found a relatively high continuation rate was ecstasy: 20 percent. However, this is still a low figure as compared to, for instance, alcohol: here 81 percent of those who had ever had a drink, had at least one drink in the month prior to the interview. Tobacco too, scored fairly high with a percentage of 61. The remaining drugs, hypnotics, sedatives and cannabis, came in somewhere in between: the continuation rate was around 30 percent.

Lifetime frequency also confirmed the pattern: by far, most of the users of difficult drugs and the majority of the users of hypnotics, sedatives and cannabis did not engage in use on more than 25 occasions. Our findings on smoking and drinking contrast sharply: in 11 and 14 percent respectively, use was limited to less than 25 occasions.

Not surprisingly, 'drug careers' were longest for alcohol and tobacco. The average age of initial use was around 18, younger than was the case with all other drugs. The average age of cessation (if at all) was 39 and 35 respectively. Initial and last use of most other drugs generally occurred between 20 and 30 years of age. Exceptions were sedatives and hypnotics, which had many of relatively old users. (For exact figures concerning onset and cessation ages, see Chapter 2, Section 2.5, Figures 2.1 and 2.2.)

Total lifetime abstinence was rare: only eight percent in our sample never touched a single drug. A somewhat larger group, however, had been abstinent for

quite some time: 14 percent did not use any drug in the year prior to the interview and 20 percent was abstinent in the preceding month.

The other extreme, multiple use of difficult drugs, was also quite exceptional. A percentage of 5.5 had used more than one difficult drug at some time, though not necessarily at the same point in time.

13.3 Patterns of drug use

tobacco

Although the majority of the population had smoked at one point in time (67%), present prevalence was 40 percent. This was higher than the average for the whole country (36%). More smoking men than women were found, but differences were concentrated in the older part of the population and in ethnic minority groups. In these specific groups, disapproval of tobacco use by women was probably the cause of lower prevalence. Age, gender and ethnicity are the most important variables in explaining tobacco use. Other variables have little influence (for instance income level), or are strongly related to age structure, which can make a false impression of a causal correlation (for instance, with regard to the position on the labour market).

alcohol

Drinking alcohol is clearly an established habit in Amsterdam. Lifetime prevalence was 85 percent; last month prevalence was still high at 69 percent. Nevertheless, consumption was usually rather moderate. Most drinkers (78%) consumed fewer than three glasses a day. On the whole, drinking started moderately in the teenage years. Until the age of 20, the frequency use hardly ever exceeded eight days a month. At the same time, the number of glasses was only rarely higher than six at one occasion. Starting from roughly the age of 20, both frequency and volume expand. From around the age of 50 the number of drinkers started to decrease somewhat. The people that continued drinking, changed their pattern to a more moderate one (fewer days a month, fewer glasses on one occasion).

Differences between men and women resemble those between the age groups: there were fewer women who drank, and those who did, drank less in terms of volume and frequency.

Drinking was rare among members of ethnic groups, especially from Morocco and Turkey. Within this subgroup, the women stand out for very low prevalence figures.

cannabis

In the Netherlands, cannabis has a somewhat strange position of a drug that is neither licit nor illicit. This is a result of a distinction in the opium law between drugs with 'acceptable risks' and drugs with 'unacceptable risks'. As a conse-

quence, prosecution of cannabis misdemeanors are low priority cases as long as small quantities are involved. The special position of cannabis is reflected by wide availability and low prices in relation to the other illicit drugs.

This wide availability was not reflected in an enormous percentage of (former) cannabis users. Lifetime prevalence of cannabis was 29 percent. Last year, 11 percent of our population had used a cannabis product; last month 7 percent. Almost half of the group that had ever used cannabis (43%), had done so less than 25 times.

Men and women have more or less the same lifetime prevalence, but last month users are more likely to be male. Both an age-effect and a generation effect were visible in cannabis use. Most of the users were young. The generation effect indicates that use is penetrating into higher age groups, as the generation that first started using in the sixties, grows older.

There seemed to be a possible relation between use by relatives and use by the respondent him/herself. Use by the respondent often coincides with (knowledge of) use by a relative. The exact nature of the causal connection of such use behaviour is not clear yet.

The socio-economic status provided some very interesting facts in relation to cannabis use. The conclusion is that people with a higher status have higher prevalence figures, but do not differ from other groups on more recent prevalence figures. In lower status groups, fewer people use, but a greater proportion continues using once use has been established.

difficult drugs

The concept of difficult drugs was introduced in this study to avoid definition problems. A simple division into licit and illicit drugs is not sufficient, due to the specific formulation of the Dutch opium law, which distinguishes between cannabis and other illicit drugs. Both categories are illicit, but priority for criminal investigation and prosecution is given to the latter. So, while still illegal, the possession of cannabis is not prosecuted as long as small amounts are involved. In common language, difficult drugs may be referred to as hard drugs. We have decided not to use this term because it gives the erroneous impression that we are dealing with a particular hazardous category of drugs and that 'soft' drugs, on the contrary, pose no health hazard at all. However, in both cases, it is mainly the way in which the drugs are used that determines whether a drug, 'soft' or 'hard', is dangerous or not. In other words, ten glasses of beer daily can be considered more harmful than a single sniff of cocaine.

The difficult drugs included in this study consist of the following substances: cocaine, amphetamines, ecstasy, hallucinogenes and heroin.

The prevalence of difficult drugs was relatively low. The lifetime prevalence (of any difficult drug) was 10.6 percent, last year prevalence 2.9 percent and last month prevalence 1.2 percent. Use of cocaine is most widespread but ecstasy is catching up on last year and last month prevalence.

Difficult drug use is more prevalent among men. The age group 40-59 scored highest on lifetime prevalence, but many had apparently given up the use of

drugs, as indicated by the fairly low last year and last month prevalence.
On socio-economic aspects, position on the labour market and educational level proved to be important, but income showed no significant relation with difficult drug use.

pharmaceutical drugs

Characteristics of users of pharmaceutical drugs differed very much from the familiar picture of the drug user as drawn in earlier chapters. The users of pharmaceutical drugs were older, less well educated, absent from the labour force and very often, female. Together, those variables indicated a certain, low, position on the socio-economic ladder, which seemed to determine the higher level of prevalence. Although not studied explicitly here, it is important to note that health is an important additional factor here. In Section 13.6, some interesting findings of that relationship with health will be summarized. Most pharmaceutical drugs were taken on prescription, which means that, at one point in time, a doctor found medical cause to prescribe the drug. Of course, medical condition is strongly related to age, and to a lesser extent, to socio-economic status and gender.

13.4 Developments in drug use

As can be seen in Table 13.2, levels of drug use have generally remained rather stable in Amsterdam over the years investigated. Levels of use of the most widespread drugs, tobacco and alcohol, remained the same after 1990. The prevalence of pharmaceutical drugs also remained on the same level.

Table 13.2   Developments in drug use 1987, 1990 & 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)

An overall look at illicit drugs would show rising levels of lifetime prevalence, mainly due to more widespread use of cannabis and ecstacy. Figures went up by 4.5 percent points to 29 percent of the population (figures for illicit drugs went up by 2 percent points to reach a level of 10%, if cannabis is excluded).

However, this increase was caused primarily by the so-called 'generation effect'. This is reflected by stable levels of prevalence for most age groups except the oldest ones. For ecstasy, prevalence rates rose in all age groups where use was present, but this drug has not (yet) been introduced in the youngest and in the highest age groups. The increase in the other age groups is due to the large-scale introduction of this drug on the market. Prevalence rates rise fastest among the 20-34 year old.

Cannabis use has also increased among the 20-24 year old, from 36 percent in 1990 to fifty percent in 1994. In the same age group last month cocaine use has become significantly more popular (now 2%).

13.5 Data quality

In Chapters 10, 11 and 12 we investigated three different methodological aspects that are of major importance with regard to the quality of the data. We discussed the representativity, the effects of different approach strategies, and we analyzed the non response in some detail and calculated its effects on the response.

Again, our primary objective was to apply a consistent instrument, with which we could measure real changes in the use of drugs. Changes should only be ascribed to changing population compositions (for which effects we also would be able to standardise the scores), or to real increases or declines in the use of drugs.

To attain that goal, we tried, as in former years (1987, 1990) to use the same instrument. The experiments with other approaches were left out of the comparisons with former measurements. We had only included them to learn from them and to help us to improve comparisons with other research done elsewhere, or to change the approach in the future.

Despite the application of the same instrument, the response proved out to be significantly (approximately 5 per cent) lower than in 1990. Only half of the number of people approached, decided to participate. We tend to explain this different response rate by the fact we made use of a different bureau that managed the survey as far as the fieldwork was concerned, compared to the bureau we hired in 1987 and 1990.

However, the lower response rate did not result in other differences between the respons and non-respons group in 1994, compared to the differences in 1990. The bias appeared to be much the same compared to four years previously. Our first important conclusion is that the representativeness of the 1994 data was comparable to the representativeness of the 1990 data set.

However, due to the high non-response rate, it was even more important to investigate the characteristics of the non-response. We were able to reach a substantial number of former refusals (43% response in the second run) and of those who were not at home in the main survey (46% response in the second run).

The somewhat surprising conclusion of the non-response analysis was that there were only very few people who fundamentally refused to cooperate. Various simple and 'innocent' reasons were mentioned for not participating in the main survey. The outgoing lifestyle of those not at home in the main survey explained this type of non-response in the main survey. However, that outdoor behaviour was not specifically linked to consumptive behaviour.

Recalculation of the response weighted on the basis of the knowledge of the non-response group until the level of the respons of 1990, did not, therefore, result in significantly different drug prevalence scores. Our second important conclusion was that the differences between the respons and the non-respons category did not affect the prevalence figures significantly.

The response in the 'not-at-home' category, which we were able to reach in the second run, appeared to have lower drug prevalence scores, compared to the former not-at-home category we succeeded to reach in the 1990 non-response investigations. We attribute the difference to the higher intensity of the 1994 re-approach strategy. And although the response - non-response differences did not result in significant changes in drug prevalence figures after weighting, our third important conclusion was that a higher response figure and an intensified approach strategy will, at least in the Amsterdam context, result in lower drug prevalence scores, than those obtained from the low response datasets acquired.

13.6 Drug use and health

In our 1994 household survey, we introduced a new instrument, the SF 36 Health Status Survey. This instrument enabled us to obtain self-reported health scores for each of our respondents. We compared health scores of drug users to health scores of non users, while controlling for relevant variables such as age and lifestyle. Conspicuous negative associations were found between health scores and pharmaceutical drug use, irrespective of lifestyle. To a lesser degree, we also observed negative associations for 'out of home' oriented cannabis users, and home-oriented difficult drug users. However, highly outgoing users of difficult drugs (heroin, cocaine, amphetamine, ecstasy, hallucinogens) show no difference compared with highly outgoing non-users. Alcohol users scored, on average, higher than non-users of alcohol on all health dimensions, irrespective of lifestyle. The differences in health scores between drug users, and more so when we split these drug users into different lifestyle categories, did not show any evidence for the existence of linear causal relations between drug use and higher or lower health scores. Most probably, this is due to the large and contradictory variety of functions drug use can have. An overall view does not allow for any hypothetical conclusions other than that drug use can support different lifestyles in which either depressing or stimulating functions are dominant. In other words, some drugs may be used as reactions to health impairing conditions by one group of users, but for pleasure amplification purposes by another group of users (cf. difficult drugs). A further-reaching hypothesis suggested by our data was that drugs (it is not really important which ones) may be taken for pleasure, for (self)

medication, or alternatively for both functions. As suggested by our cannabis use data, a drug might even be chosen for both functions at the same time. The particular function chosen depends on many underlying variables that were not discussed in this chapter.

However, pharmaceutical drugs seem to be chosen mainly in functions relating to impaired health.

In our view, drug use does not *cause* the lower or higher health scores that we were able to measure, but is an expression, or rather, an adaptation to general conditions in an individuals's life. In this sense, the use of drugs is active behaviour, intentional in relation to the functions it is intended to serve.

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App. 1 Questionnaire main survey

You have received a letter explaining what this interview is about:
your lifestyle, use of amusement facilities and use of medical and luxury drugs. We asked about 7500 people in Amsterdam to participate in this study.

(When respondent is not alone:) In the interest of this investigation, I would like to ask you if I could speak to you alone, without any other people to influence your answers? Can we sit somewhere apart, i.e. out of hearing distance of other people?
(When this is not possible:) In that case, I will continue the interview in writing. I will show to you how to go through the questionnaire.

INTERVIEWER Is the situation fit to   - no, in writing .... [1]
    continue orally or better in writing?   - yes, orally .... [2]

LEISURE

First of all, I would like to know something about your activities in your leisure time.

01   How many evenings a week do you   - all evenings at home .... [1]
         usually spend at home?   - 5 to 6 evenings at home .... [2]
         I mean evenings on which you don't have - 3 to 4 evenings at home .... [3]
         any fixed or regular activities   - 1 to 2 evenings at home .... [4]
         outdoors (e.g., sport) or appointments   - hardly ever at home............................ [5]
         with other people.   - irregularly at home .... [6]
                                                  - works at night .... [7]
                                                  - no answer .... [8]

Amsterdam has a lot of cafes, pubs, restaurants, cinemas, theaters, etc. Some people frequently visit them, other people only seldom.

02   How many times did you go to pubs,   - not a single time .... [1]
         discos, dance halls, etc. *during the*   - once... [2]
         past four weeks?   - 2 to 3 times .... [3]
                                                  - 4 to 9 times .... [4]
                                                  - 10 times or more .... [5]
                                                  - don't know .... [6]
                                                  - no answer .... [7]

03   How many times did you go to   - not a single time .... [1]
         restaurants or other dining places,   - once... [2]
         during the past four weeks?   - 2 to 3 times .... [3]
                                                  - 4 to 9 times .... [4]
                                                  - 10 times or more .... [5]
                                                  - don't know .... [6]
                                                  - no answer .... [7]

04   How many times did you go to
the cinema or art house
during the past eight weeks?

- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

05   How many times did you go to
theatre, ballet, opera, etc.
during the past eight weeks?

- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

06a   Do you pursue any sports, by yourself or
within a club? I also mean
jogging, cycling, home training
or aerobics.

- no .... [1]   **7a**
- yes .... [2]   **6b**
- no answer .... [3]   **7a**

06b   How frequently do you do this?
Daily, regularly or occasionally?

- (almost) daily .... [1]
- regularly .... [2]
- occasionally .... [3]
- no answer .... [4]

07a   How frequently do you meet relatives
who are not part of your own
household?

INTERVIEWER: Give card A.

- never .... [1]
- daily .... [2]
- 2 to 3 times a week .... [3]
- at least once a week .... [4]
- at least once a month .... [5]
- less frequently .... [6]
- very irregularly .... [7]
- not applicable .... [8]
- no answer .... [9]

07b   How frequently do you meet friends?

INTERVIEWER: Give card A.

- never .... [1]
- daily .... [2]
- 2 to 3 times a week .... [3]
- at least once a week .... [4]
- at least once a month .... [5]
- less frequently .... [6]
- very irregularly .... [7]
- not applicable .... [8]
- no answer .... [9]

07c   How frequently do you meet neighbours,
relatives, friends or acquaintances *living
in your neighbourhood*?

INTERVIEWER: Give card A.

- never .... [1]
- daily .... [2]
- 2 to 3 times a week .... [3]
- at least once a week .... [4]
- at least once a month .... [5]
- less frequently .... [6]
- very irregularly .... [7]
- not applicable .... [8]
- no answer .... [9]

QUESTIONS 8 TO 13 JUST FOR YOUNGSTERS TO 15 YEARS OF AGE

08	Are you still in school?	- no	[1]	**10**
		- yes	[2]	**9**
		- no answer	[3]	**10**

09	What kind of school?	- primary school	[1]	**11**
		- transitional year	[2]	**11**
	INTERVIEWER: Give card B.	- LBO (LTS, LHNO, LEAO, INAS)	[3]	**11**
		- MBO (MTS, MEAO, etc.)	[4]	**11**
		- MAVO, IVO, IVKO	[5]	**11**
		- HAVO, VWO	[6]	**11**
		- other	[7]	**11**
		- no answer	[8]	**11**

10	What kind of school did you most recently attend?	- primary school	[1]
		- transitional year	[2]
		- LBO (LTS, LHNO, LEAO, INAS)	[3]
	INTERVIEWER: Give card B.	- MBO (MTS, MEAO,etc.)	[4]
		- MAVO, IVO, IVKO	[5]
		- HAVO, VWO	[6]
		- other	[7]
		- no answer	[8]

11	Do you have paid emplyment? That includes delivering newspapers or baby sitting.	- no	[1]	**13**
		- yes	[2]	**12**
		- no answer	[3]	**13**

12	How many hours a week do you work? Less than 4 hours , 4 to 8 hours, 8 to 20 hours, or more than 20 hours?	- less than 4 hours	[1]
		- 4 to 8 hours	[2]
		- 8 to 20 hours	[3]
		- more than 20 hours	[4]
		- irregular	[5]
		- no answer	[6]

13	Can you tell me with the aid of this card how much money you earn or get from your parents each month?	- less than f50	[1]
		- f50 - f99	[2]
		- f100 - f199	[3]
		- f200 - f499	[4]
	INTERVIEWER: Give card C.	- more than f500	[5]
		- no answer	[6]

TOBACCO

And now for something different. I would like to know something about your habits in smoking, drinking, and the use of pharmaceutical and other drugs.

14	Have you ever used any tobacco? (cigarettes, cigars, pipe)	- no	[1]	**19**
		- yes	[2]	**14b**
		- no answer	[3]	**19**

14b	Have you used it 25 times or more?	- no, less	[1]
		- yes, 25 times or more	[2]
		- don't know	[3]
		- no answer	[4]

15	At what age did you first smoke tobacco?	- age .... [|] - don't know .... [97] - no answer .... [99]	
16	Have you used tobacco during the past 12 months?	- no .... [1] - yes... [2] - no answer .... [3]	**17** **18** **17**
17	At what age did you quit smoking?	- age .... [|] - don't know .... [97] - no answer .... [99]	**19** **19** **18**
18	And over the past 30 days?	- no .... [1] - yes... [2] - no answer .... [3]	

ALCOHOL

19	Have you ever used any alcohol? (beer, wine, gin, liqueur, etc.)	- no .... [1] - yes... [2] - no answer .... [3]	**27** **19b** **27**
19b	Have you used it 25 times or more?	- no, less .... [1] - yes, 25 times or more .... [2] - don't know .... [3] - no answer .... [4]	
20	At what age did you use alcohol for the first time?	- age .... [|] - don't know .... [97] - no answer .... [99]	
21	Have you used alcohol over the past 12 months?	- no .... [1] - yes... [2] - no answer .... [3]	**22** **23** **22**
22	At what age did you last drank alcohol? (Round up/down to nearest age)	- age .... [|] - don't know .... [97] - no answer .... [99]	**27** **27** **27**
23	Have you drunk *6 or more* alcoholic beverages in one day over the past 6 months?	- no .... [1] - yes... [2] - no answer .... [3]	**25** **24** **25**
24	How often did you drink 6 or more alcoholic beverages in one day? *INTERVIEWER: present card D.*	- more than 4 times a week.................. [1] - 3 to 4 times a week .... [2] - 1 to 2 times a week .... [3] - 1 to 3 times a month .... [4] - 3 to 5 times past 6 months .... [5] - 1 to 2 times past 6 months .... [6] - don't know .... [7] - no answer .... [8]	

25 Have you used alcohol
over the past 30 days?

INTERVIEWER: *present card E.*

- no .... [1]
- yes, 1 to 4 days .... [2]
- yes, 5 to 8 days .... [3]
- yes, 9 to 14 days .... [4]
- yes, 15 to 20 days .... [5]
- yes, more than 20 days .... [6]
- don't know .... [7]
- no answer .... [8]

26 On average, how many glasses of alcohol have you
drunk per day recently? (In case you don't drink
every day, please make an estimate of your weekly
consumption and divide that by seven.)

- glasses .... [|]
- don't know .... [97]
- no answer .... [99]

HYPNOTICS

27 As you probably know, there are a lot of
pharmaceutical drugs available to facilitate
sleeping. Have you ever used any of these
on prescription by a medical doctor or on
your own initiative?
INTERV. we don't mean anything like a glass of warm milk, or aspirin)

- no .... [1] **32**
- yes .... [2] **27b**
- no answer .... [3] **32**

27b Have you used it 25 times or more?

- no, less .... [1]
- yes, 25 times or more .... [2]
- don't know .... [3]
- no answer .... [4]

28 At what age did you
use hypnotics for the first time?

- age .... [|]
- don't know .... [97]
- no answer .... [99]

29 Have you used hypnotics over the
past 12 months?

- no .... [1] **32**
- yes .... [2] **30**
- no answer .... [3] **30**

30 Have you used hypnotics over the
past 30 days?

- no .... [1] **32**
- yes .... [2] **31**
- no answer .... [3] **32**

31 Can you tell me which hypnotic(s) you have used over the past 30 days? I mean the
names or brands. And will you tell me if you took them on prescription by a medical
doctor or on your own initiative?

INTERVIEWER: Write down literally! When respondents hesitate or say they don't know,
ask them to have a look at the bottle or box of packing (in case it's still there).

name hypnotic		doctors prescr.	own init.	both	d.k.	n.a.
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]

SEDATIVES

32 Other pharmaceutical drugs are sedatives or tranquillizers, to calm you down. Have you ever used any of these, on prescription by a medical doctor or on your own initiative?
INTERVIEWER: we don't mean yoga, meditation and the like.

- no .... [1]   **37**
- yes .... [2]   **32b**
- no answer .... [3]   **37**

32b Have you used it 25 times or more?

- no, less .... [1]
- yes, 25 times or more .... [2]
- don't know .... [3]
- no answer .... [4]

33 At what age did you first use sedatives?

- age .... [|]
- don't know .... [97]
- no answer .... [99]

34 Have you used sedatives over the past 12 months?

- no .... [1]   **37**
- yes .... [2]   **35**
- no answer .... [3]   **37**

35 And over the past 30 days?

- no .... [1]   **37**
- yes .... [2]   **36**
- no answer .... [3]   **37**

36 If so, can you please tell me which sedative(s) you have used over the past 30 days? I mean the names or brands. And will you tell me if you took them on prescription by a medical doctor or on your own initiative?.

INTERVIEWER: Write down literally! When respondents hesitate or say they don't know, ask them to have a look at the bottle or box of packing (in case it's still there).

name sedative	doctors prescr.	own init.	both	d.k.	n.a.
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]
.... [		]	[1]	[2]	[3]	[4]	[5]

CANNABIS

37 Have you ever used any cannabis (hash, marijuana or weed)?

- no .... [1]   **42**
- yes .... [2]   **37b**
- no answer .... [3]   **42**

37b Have you used it 25 times or more?

- no, less .... [1]
- yes, 25 times or more .... [2]
- don't know .... [3]
- no answer .... [4]

38 At what age did you first use cannabis?

- age .... [|]
- don't know .... [97]
- no answer .... [99]

39	Have you used cannabis over the past 12 months?	- no .... [1]	**40**
		- yes .... [2]	**41**
		- no answer .... [3]	**40**

40	At what age did you last use cannabis?	- age .... [|]	**41a**
		- don't know .... [97]	**41a**
		- no answer .... [99]	**41a**

41	Have you used cannabis over the past 30 days? *INTERVIEWER: present card E.*	- no .... [1]
		- yes, 1 to 4 days .... [2]
		- yes, 5 to 8 days .... [3]
		- yes, 9 to 14 days .... [4]
		- yes, 15 to 20 days .... [5]
		- yes, more than 20 days .... [6]
		- don't know .... [7]
		- no answer .... [8]

41a	Has one of your parents ever used cannabis?	- no .... [1]
		- yes .... [2]
		- don't know .... [3]
		- not applicable (has no parents) .... [4]
		- no answer .... [5]

41b	Has one of your siblings ever used cannabis?	- no .... [1]
		- yes .... [2]
		- don't know .... [3]
		- not applicable (has no siblings) .... [4]
		- no answer .... [5]

41c	Has one of your children ever used cannabis?	- no .... [1]
		- yes .... [2]
		- don't know .... [3]
		- not applicable (has no children) .... [4]
		- no answer .... [5]

COCAINE

42	Have you ever used any cocaine?	- no .... [1]	**47**
		- yes .... [2]	**42b**
		- no answer .... [3]	**47**

42b	Have you used it 25 times or more?	- no, less .... [1]
		- yes, 25 times or more .... [2]
		- don't know .... [3]
		- no answer .... [4]

43	At what age did you first use cocaine?	- age .... [|]
		- don't know .... [97]
		- no answer .... [99]

44	Have you used cocaine over the past 12 months?	- no .... [1]	**45**
		- yes .... [2]	**46**
		- no answer .... [3]	**46**

45	At what age did you last use cocaine?	- age .... [|]	**47**
		- don't know .... [97]	**47**
		- no answer .... [99]	**47**

46	Have you used cocaine over the past 30 days?	- no .... [1]	
		- yes, 1 to 4 days .... [2]	
		- yes, 5 to 8 days .... [3]	
	INTERVIEWER: present card E.	- yes, 9 to 14 days .... [4]	
		- yes, 15 to 20 days .... [5]	
		- yes, more than 20 days .... [6]	
		- don't know .... [7]	
		- no answer .... [8]	

AMPHETAMINES

47	Have you ever used any amphetamines? (stimulants, pep, speed , etc.)	- no .... [1]	**52**
		- yes .... [2]	**47b**
		- no answer .... [3]	**52**

47b	Have you used it 25 times or more?	- no, less .... [1]	
		- yes, 25 times or more .... [2]	
		- don't know .... [3]	
		- no answer .... [4]	

48	At what age did you first use amphetamine?	- age .... [|]	
		- don't know .... [97]	
		- no answer .... [99]	

49	Have you used amphetamines over the past 30 days?	- no .... [1]	**50**
		- yes .... [2]	**51**
		- no answer .... [3]	**51**

50	At what age did you last use amphetamines?	- age .... [|]	**52**
		- don't know .... [97]	**52**
		- no answer .... [99]	**52**

51	Have you used amphetamines over the past 30 days?	- no .... [1]	
		- yes, 1 to 5 days .... [2]	
		- yes, 5 to 8 days .... [3]	
	INTERVIEWER: present card E.	- yes, 9 to 14 days .... [4]	
		- yes, 15 to 20 days .... [5]	
		- yes, more than 20 days .... [6]	
		- don't know .... [7]	
		- no answer .... [8]	

ECSTASY

52	Have you ever used any ecstasy (XTC, MDMA)?	- no .... [1]	**57**
		- yes .... [2]	**52b**
		- no answer .... [3]	**57**

52b	Have you used it 25 times or more?	- no, less .... [1]	
		- yes, 25 times or more .... [2]	
		- don't know .... [3]	
		- no answer .... [4]	

53	At what age did you first use ecstasy?	- age .... [|]	
		- don't know .... [97]	
		- no answer .... [99]	

54	Have you used ecstasy over the past 12 months?	- no .... [1]	**55**
		- yes .... [2]	**56**
		- no answer .... [3]	**56**

55	At what age did you last use ecstasy?	- age .... [|]	**57**
		- don't know .... [97]	**57**
		- no answer .... [99]	**57**

56	Have you used ecstasy over the past 30 days? *INTERVIEWER: present card E.*	- no .... [1]	
		- yes, 1 to 4 days .... [2]	
		- yes, 5 to 8 days .... [3]	
		- yes, 9 to 14 days .... [4]	
		- yes, 15 to 20 days .... [5]	
		- yes, more than 20 days .... [6]	
		- don't know .... [7]	
		- no answer .... [8]	

HALLUCINOGENS

57	Have you ever used LSD or other hallucinogens (mescaline, mushrooms)?	- no .... [1]	**62**
		- yes .... [2]	**57b**
		- no answer .... [3]	**62**

57b	Have you used it 25 times or more?	- no, less .... [1]	
		- yes, 25 times or more .... [2]	
		- don't know .... [3]	
		- no answer .... [4]	

58	At what age did you first use hallucinogens?	- age .... [|]	
		- don't know .... [97]	
		- no answer .... [99]	

59	Have you used hallucinogens over the past 12 months?	- no .... [1]	**60**
		- yes .... [2]	**61**
		- no answer .... [3]	**61**

60	At what age did you last use hallucinogens?	- age .... [|]	**62**
		- don't know .... [97]	**62**
		- no answer .... [99]	**62**

61	Have you used hallucinogens over the past 30 days? *INTERVIEWER: present card E.*	- no .... [1]	
		- yes, 1 to 4 days .... [2]	
		- yes, 5 to 8 days .... [3]	
		- yes, 9 to 14 days .... [4]	
		- yes, 15 to 20 days .... [5]	
		- yes, more than 20 days .... [6]	
		- don't know .... [7]	
		- no answer .... [8]	

INHALANTS

62 Have you ever used inhalants (to get 'high') like ether, glue or tri? (not when mending tires)

- no .... [1]   **67**
- yes.. [2]   **62b**
- no answer .... [3]   **67**

62b Have you used it 25 times or more?

- no, less .... [1]
- yes, 25 times or more .... [2]
- don't know .... [3]
- no answer .... [4]

63 At what age did you first use inhalants?

- age .... [|]
- don't know .... [97]
- no answer .... [99]

64 Have you used inhalants over the past 12 months?

- no .... [1]   **65**
- yes.. [2]   **66**
- no answer .... [3]   **65**

65 At what age did you last use inhalants?

- age .... [|]   **67**
- don't know .... [97]   **67**
- no answer .... [99]   **67**

66 Have you used inhalants over the past 30 days?

INTERVIEWER: present card E.

- no .... [1]
- yes, 1 to 4 days .... [2]
- yes, 5 to 8 days .... [3]
- yes, 9 to 14 days .... [4]
- yes, 15 to 20 days................................. [5]
- yes, more than 20 days .... [6]
- don't know .... [7]
- no answer .... [8]

OPIATES

67 Have you ever used any opiates, like the ones mentioned on this card?
INTERVIEWER.: present card F.

- no .... [1]   **71**
- yes.. [2]   **68**

68 Can you please indicate which one of these ....
    You have ever used?
    You used 25 times or more?
    At what age did you *first* use this opiate?
    At what age did you *last* use this opiate?
    Did you use it the last time on prescription of a medical doctor, on your own initiative, or both?

	ever used	more than 25 times	age 1st time	age last time	on prescr.
opium	[ ]	[ ]	[	]	[	]	[ ]
morphine	[ ]	[ ]	[	]	[	]	[ ]
heroin	[ ]	[ ]	[	]	[	]	[ ]
codeine	[ ]	[ ]	[	]	[	]	[ ]
palfium	[ ]	[ ]	[	]	[	]	[ ]
methadone	[ ]	[ ]	[	]	[	]	[ ]
other opiates	[ ]	[ ]	[	]	[	]	[ ]
CODES:	no [1]	no, < 25 x [1]	don't know [97]	don't know [97]	no [1]
	yes [2]	yes, ≥ 25 x [2]	n.a. [99]	n.a. [99]	yes [2]
	n.a. [3]	n.a. [3]			both [3]

69 Have you used opiates
over the past 30 days?

- no .... [1] **71**
- yes .... [2] **70**
- no answer .... [3] **71**

70 Can you please tell me which opiates you have used over the past 30 days and with what frequency?
INTERVIEWER: present card E and ask per separate opiate.

	not	1 to 4 days	5 to 8 days	9 to 14 days	15 to 20 days	more than 20 days	don't know	no answer
opium	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
morphine	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
heroin	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
codeine	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
palfium	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
methadone	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
other opiates	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]

COMBINATIONS

INTERVIEWER: present card G.

71 Some people use different drugs at the
same time. Look for instance at the
combinations on card G. Have you yourself
used any combination *over the past 12 months*?

- no .... [1] **76**
- yes .... [2] **72**
- no answer .... [3] **76**

72 Can you tell me which one?

	alco-hol	hyp-notic	sedative	hash marij.	cocaine	amphet, stim.	XTC	heroin, meth.	other opiates
tobacco	01	02	03	04	05	06	07	08	09
alcohol		10	11	12	13	14	15	16	17
hypnotics			18	19	20	21	22	23	24
sedatives				25	26	27	28	29	30
hash, marij.					31	32	33	34	35
cocaine						36	37	38	39
amphetamine							40	41	42
XTC, ecstasy								43	44
heroin, meth.									45

INTERVIEWER. When no answer, fill : [99]

73 Have you ever used one of the previously
mentioned drugs intravenously or
received an injection of any of them?

INTERVIEWER: present card H

- no .... [01]
- hypnotics .... [02]
- sedatives .... [03]
- heroin .... [04]
- methadone .... [05]
- opium .... [06]
- codeine .... [07]
- palfium .... [08]
- morphine .... [09]
- hallucinogens .... [10]
- stimulants .... [11]
- other .... [12]
- don't know .... [13]
- no answer .... [14]

(DRUG) ASSISTANCE

80	Have you ever had contact with an institution for drug treatment? (CAD, Jellinek, GG&GD, etc.)?	- no .... [1] **83** - yes .... [2] **80b** - no answer .... [3] **83**

80b	Was this institution in Amsterdam?	- no, outside Amsterdam .... [1] - yes, in Amsterdam .... [2] - both in and outside A'dam .... [3] - don't know .... [4] - no answer .... [5]

81	When did you last have contact with such an institution? Over the past 30 days, over the past 12 months, or longer ago?	- more than a year ago .... [1] - last year .... [2] - last month .... [3] - no answer .... [4]

82	For what drug? *INTERV.: more answers possible*	- alcohol .... [1] - cocaine, amphetamines, etc. .... [2] - heroin .... [3] - pharmaceutical drugs .... [4] - gambling habits .... [5] - other .... [6] - no answer .... [7]

GENERAL

Interviewer: To finish, i would like to ask a few general questions

83	*INTERVIEWER. Write down gender of respondent.*	- male .... [1] - female .... [2]

84	How long have you lived in Amsterdam?	- .... [	] - no answer .... [99]

85	How long have you lived in this neighborhood?	- .... [	] - no answer .... [99]

86	How long have you lived in this house?	- .... [	] - no answer .... [99]

87	Do you have definite plans to change residence within a year? If yes, within or outside this neighborhood or Amsterdam?	- no .... [1] - yes, within this neighborhood .... [2] - yes, within Amsterdam .... [3] - yes, outside Amsterdam .... [4] - yes, don't know where to .... [5] - don't know whether I'll move .... [6] - no answer .... [7]

88	What is your date of birth?	[	]-[	]-[	] .... [day]-[month]-[year] ....

89	What is the country of origin of your father?	- .... [	] - d.k./no answer .... [99]

90 What is the country of origin of your mother?
- .... [|]
- d.k./no answer .... [99]

91 What is your own home country?
- .... [|]
- no answer .... [99]

92 What is your nationality?
- .... [|]
- no answer .... [99]

93 Do you live independently or
- independently .... [1] **94**

with your parents or are you being supported?
- with one parent/supporter .... [2] **99**
- with two parents/supporters .... [3] **99**
- in commune .... [4] **94**
- in a service flat .... [5] **94**
- other .... [6] **94**
- no answer .... [7] **94**

94 How many people live in your household? (including yourself)
- one person .... [1] **99**
- two people .... [2] **95**
- three people .... [3] **95**
- four people .... [4] **95**
- five or more people .... [5] **95**
- no answer .... [6] **95**

QUESTIONS 95 TO 115 JUST FOR PEOPLE OF 16 YEARS AND OVER

95 What type of household do you belong to?

INTERVIEWER: Give card I.
- one parent family .... [1] **96**
- two adults without children at home [2] **99**
- two adults with children . ... [3] **96**
- other .... [4] **96**
- no answer .... [5] **96**

96 How many children belong to this household?
- none .... [1] **99**
- one child .... [2] **97**
- two children .... [3] **97**
- three or more children .... [4] **97**
- no answer .... [5] **97**

97 What is the age of the oldest child?
- younger than 6 years .... [1]
- 6 to 12 years .... [2]
- 12 to 18 years .... [3]
- 18 years and over .... [4]
- no answer .... [5]

98 What is the age of the youngest child?
- younger than 6 years .... [1]
- 6 to 12 years .... [2]
- 12 to 18 years .... [3]
- 18 years and over .... [4]
- not applicable (1 child) .... [5]
- no answer .... [6]

99 What is your occupation or profession?
INTERV. Ask also when resp. has no job
- .... [|]
- no answer .... [99]

100	Do you currently have a (paid) job?	- no .... [1]	**104**
		- yes .... [2]	**101**
		- no answer .... [3]	**104**

101	How many hours a week do you work? Less than 8 hours, between 8 and 20 hours, between 20 and 32 hours, or more than 32 hours a week?	- less than 8 hours .... [1]
		- 8 to 20 hours .... [2]
		- 20 to 32 hours .... [3]
		- more than 32 hours .... [4]
		- no answer .... [5]

102	Is this a steady job (i.e., a permanent job)?	- yes .... [1]
		- no .... [2]
		- no answer .... [3]

103	Do you have freedom to schedule your own working time?	- great freedom .... [1]
		- moderate freedom .... [2]
		- little or no freedom .... [3]
		- d.k./no answer .... [4]

104	Do you belong to one of these groups?	- wage-worker .... [01]	**106**
		- entrepreneur .... [02]	**106**
		- free-lance worker .... [03]	**106**
		- working for temporary agency .... [04]	**106**
		- jobless/in search of job .... [05]	**105**
		- on benefits/not in search .... [06]	**106**
	INTERVIEWER: Give card J.	- work disability .... [07]	**105**
		- retired .... [08]	**106**
		- military service .... [09]	**106**
		- housewife/houseman .... [10]	**106**
		- other .... [11]	**106**
		- no answer .... [12]	**106**

105	For how long have you been jobless or unable to work?	- shorter than 6 months .... [1]
		- 6 to 12 months .... [2]
		- 1 to 2 years .... [3]
		- longer than 2 years .... [4]
		- no answer .... [5]

106	Can you tell me what is the highest level of education you completed?	- primary school .... [1]
		- LBO (LTS, LHNO, LEAO) .... [2]
		- MBO (MTS, MEAO, INAS) .... [3]
		- ULO, MULO, MAVO .... [4]
	INTERVIEWER: Give card K.	- MMS, HBS, HAVO, VWO .... [5]
		- HBO, univ. (HTS, HEAO, Soc.Acad.) [6]
		- other .... [7]
		- no answer .... [8]

107a	Do you currently attend any day-time courses?	- no .... [1]	**107b**
		- yes .... [2]	**108**
		- no answer .... [3]	**107b**

107a	Do you currently attend evening courses?	- no .... [1]	**110**
		- yes .... [2]	**108**
		- no answer .... [3]	**110**

108 What kind of school
do you go to?

INTERVIEWER: Give card L.

- primary school .... [1]
- LBO (LTS, LHNO, LEAO) .... [2]
- MBO (MTS, MEAO, INAS) .... [3]
- ULO, MULO, MAVO .... [4]
- MMS, HBS, HAVO, VWO .... [5]
- HBO, univ. (HTS, HEAO, Soc.Acad.) [6]
- other .... [7]
- no answer .... [8]

109 How many hours a week do you
spend on your courses? 20 or more hours
or less than 20 hours?

- less than 20 hours .... [1]
- 20 or more hours .... [2]
- no answer .... [3]

110 Do you have a partner
sharing your household?

- no .... [1]   **114**
- yes .... [2]   **111**
- no answer .... [3]   **114**

111 Does he or she have a paid job?

- no .... [1]   **114**
- yes .... [2]   **112**
- no answer .... [3]   **114**

112 How many hours a week does he
or she work?

- less than 8 hours .... [1]
- between 8 and 20 hours .... [2]
- between 20 and 32 hours .... [3]
- more than 32 hours .... [4]
- d.k./no answer .... [5]

113 Is this a steady job (i.e., a permanent job)?

- yes .... [1]
- no .... [2]
- no answer .... [3]

114 I will now give you a card which
shows income groups. Can you please tell
me in which group your personal net monthly
income falls?

INTERVIEWER: Give card M.

- less than ƒ750 .... [01]
- ƒ750 to ƒ1250 .... [02]
- ƒ1250 to ƒ1500 .... [03]
- ƒ1500 to ƒ2000 .... [04]
- ƒ2000 to ƒ2500 .... [05]
- ƒ2500 to ƒ3000 .... [06]
- ƒ3000 to ƒ4000 .... [07]
- ƒ4000 to ƒ5000 .... [08]
- more than ƒ5000 .... [09]
- don't know .... [10]
- no answer .... [11]

115 Can you tell in which group the net
income of your <u>*entire household*</u> falls,
i.e. from all household members together?

- less than ƒ750 .... [01]
- ƒ750 to ƒ1250 .... [02]
- ƒ1250 to ƒ1500 .... [03]
- ƒ1500 to ƒ2000 .... [04]
- ƒ2000 to ƒ2500 .... [05]
- ƒ2500 to ƒ3000 .... [06]
- ƒ3000 to ƒ4000 .... [07]
- ƒ4000 to ƒ5000 .... [08]
- more than ƒ5000 .... [09]
- don't know .... [10]
- no answer .... [11]

SF-36 HEALTH SURVEY

INSTRUCTIONS: This survey asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.

Answer every question by marking the answer as indicated. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is: *(circle one)*

Excellent	1
Very good	2
Good	3
Fair	4
Poor	5

2. Compared to one year ago, how would you rate your health in general now? *(circle one)*

Much better now than one year ago	1
Somewhat better now than one year ago	2
About the same as one year ago	3
Somewhat worse now than one year ago	4
Much worse now than one year ago	5

3. The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much? *(circle one number on each line)*

ACTIVITIES	Yes, Limited A Lot	Yes, Limited A Little	No, not Limited At All
a. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing **several** flights of stairs	1	2	3
e. Climbing **one** flight of stairs	1	2	3
f. Bending, kneeling, or stooping	1	2	3
g. Walking **more than a mile**	1	2	3
h. Walking **several** blocks	1	2	3
i. Walking **one** block	1	2	3
j. Bathing or dressing yourself	1	2	3

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? *(circle one number on each line)*

	Yes	No
a. Cut down on the **amount of time** you spent on work or other activities	1	2
b. **Accomplished less** than you would like	1	2
c. Were limited in the **kind** of work or other activities	1	2
d. Had **difficulty** performing the work or other activities (for example, it took extra effort)	1	2

5. During the <u>past 4 weeks</u>, have you had any of the following problems with your work or other regular daily activities <u>as a result of any emotional problems</u> (such as feeling depressed or anxious)?
   (circle one number on each line)

		Yes	No
a.	Cut down the **amount of time** you spent on work or other activities	1	2
b.	**Accomplished less** than you would like	1	2
c.	Didn't do work or other activities as **carefully** as usual	1	2

6. During the <u>past 4 weeks</u>, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups? *(circle one)*

Not at all 1
Slightly 2
Moderately 3
Quite a bit 4
Extremely 5

7. How much <u>bodily</u> pain have you had during the <u>past 4 weeks</u>? *(circle one)*

None..1
Very mild 2
Mild 3
Moderate 4
Severe 5
Very severe 6

8. During the <u>past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)? *(circle one)*

Not at all 1
A little bit 2
Moderately 3
Quite a bit 4
Extremely 5

9. These questions are about how you feel and how things have been with you <u>during the past 4 weeks</u>. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u> -

(circle one number on each line)	All of the Time	Most of the Time	A Good Bit of the Time	Some of the Time	A Little of the Time	None of the Time
a. Did you feel full of pep?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt downhearted and blue?	1	2	3	4	5	6
g. Did you feel worn out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6

10. During the <u>past 4 weeks</u>, how much of the time has your <u>physical health or emotional problems</u> interfered with your social activities (like visiting with friends, relatives, etc.)? *(circle one)*

All of the time 1
Most of the time 2
Some of the time 3
A little of the time 4
None of the time 5

11. How TRUE or FALSE is <u>each</u> of the following statements for you? *(circle one)*

		Definitely True	Mostly True	Don't Know	Mostly False	Definitely False
a.	I seem to get sick a little easier than other people	1	2	3	4	5
b.	I am as healthy as anybody I know	1	2	3	4	5
c.	I expect my health to get worse	1	2	3	4	5
d.	My health is excellent	1	2	3	4	5

App. 2 Invitation and questionnaire non-response survey

Dear sir/madam,

During this spring or early summer, you received an invitation from the University of Amsterdam to participate in a research project concerning lifestyles and the use of medical and luxury drugs by the Amsterdam population.

We have sent the invitation to thousands of people in Amsterdam, who were randomly selected (by a computer) from the entire population. Meanwhile more than 4,000 people have agreed to participate in our study.

A number of people refused to participate. You belong to this group.
Of course you have the right to refuse, there is no question about that. However, we would like to know if we made any mistakes or did not explain ourselves fully. For that reason, and to find out why people refuse, we would like to ask you this question:

Why did you refuse to participate at the time?

Also we would like to ask you whether we should improve our research methods and presentation. We would appreciate it very much if you would help us with this. We would like to offer you ƒ 20.00 as an incentive to talk to us . If you do not want to receive any money, we will transfer this amount to a charity foundation of your choice (e.g. World Wildlife Fund, Amnesty International, etc.).

If you prefer, we can call you at home and ask a few questions by phone. Another possibility is a visit by one of our employees. The conversation will not take more than five minutes. You can fill in the return card to let us know what you prefer, a visit or a call. You can also use this card to refuse to cooperate at all. For all information, you can contact us at the following telephone number (…). Should you choose to cooperate, we will send you your incentive or give it to you directly through our employee.

Yours sincerely,

Institute for Social Geography,

University of Amsterdam

Questionnaire non-response survey for refusers

1 Can you please tell us why you did not want to participate in this survey?

- no .... [1]
- I did not refuse .... [2]
- no time / not convenient .... [3]
- questionnaire too long .... [4]
- reasons of privacy .... [5]
- I never participate in studies .... [6]
- goal of research is useless .... [7]
- poor research .... [8]
- I don't use any drugs .... [9]
- illness, handicap .... [10]
- language problems .... [11]
- research is waste of money .... [12]
- aversion to interview company .... [13]
- can't remember reason .... [14]
- can't remember refusal .... [15]
- other .... [16]
- no answer .... [17]

2 Can you please tell us under what condition you can and will participate in a survey like this one?

- if the questionnaire does not take much time (less than … minutes) ...... [1]
- if extrordinary measures are taken to preserve privacy .... [2]
- other .... [3]
- dont'know .... [4]
- not applicable .... [5]
- no answer .... [6]

Thank you very much for your cooperation. We would be very grateful if you could answer a few more questions, which are very important to us. You are totally free to do so, and it won't cost you more than a few minutes of your time

ALL

3 How many evenings a week do you usually spend at home?
I mean evenings on which you don't have any fixed or regular activities outdoors (e.g., sport) or appointments with other people.

- all evenings at home .... [1]
- 5 to 6 evenings at home .... [2]
- 3 to 4 evenings at home .... [3]
- 1 to 2 evenings at home .... [4]
- hardly ever at home .... [5]
- irregularly at home .... [6]
- works at night .... [7]
- no answer .... [8]

4 How many times did you go to pubs, discos, dance halls, etc. *over the past four weeks*?

- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

5 How many times did you go to restaurants or other dining places, *over the past <u>four</u> weeks?*
- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

6 How many times did you go to the cinema or art house *over the past <u>eight</u> weeks?*
- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

7 How many times did you go to theatre, ballet, opera, etc. *over the past <u>eight</u> weeks?*
- not a single time .... [1]
- once .... [2]
- 2 to 3 times .... [3]
- 4 to 9 times .... [4]
- 10 times or more .... [5]
- don't know .... [6]
- no answer .... [7]

8 Have you ever used any alcohol? (beer, wine, gin, liqueur, etc.)
- no .... [1]   **10**
- yes .... [2]   **9**
- no answer .... [3]   **10**

9 When was the last time you used any alcohol?
- less than four weeks ago .... [1]
- less than a yeart ago .... [2]
- more than a year ago .... [3]
- not applicable .... [4]
- no answer .... [5]

10 Have you ever used cannabis? (hasj, marihuana, weed, etc.)
- no .... [1]   **12**
- yes .... [2]   **11**
- no answer .... [3]   **12**

11 When was the last time you used cannabis?
- less than four weeks ago .... [1]
- less than a yeart ago .... [2]
- more than a year ago .... [3]
- not applicable .... [4]
- no answer .... [5]

12 Do you have kids living at home?
- no .... [1]
- yes .... [2]
- not applicable (resp. is a kid himself) [3]
- no answer .... [4]

13 What type of household do you belong to?

INTERVIEWER: Give card I.
- one-parent family .... [1]
- two adults without children .... [2]
- two adults with children . ... [3]
- other .... [4]
- no answer .... [5]

14 Do you belong to one of the following groups?

- wage-worker .... [01]
- entrepreneur .... [02]
- free-lance worker .... [03]
- working for temporary agency .... [04]
- jobless/in search of job .... [05]
- on benefits /not in search .... [06]

INTERVIEWER: Give card J.

- work disability .... [07]
- retired .... [08]
- military service .... [09]
- housewife/houseman .... [10]
- other .... [11]
- no answer .... [12]

15 Do you currently attend any courses?

- no .... [1]
- yes, a daytime course .... [2]
- yes, an evening course .... [3]
- no answer .... [4]

16 Can you tell me
the highest level of
education you *finished*?

- primary school .... [1]
- LBO (LTS, LHNO, LEAO) .... [2]
- MBO (MTS, MEAO, INAS) .... [3]
- ULO, MULO, MAVO .... [4]

INTERVIEWER: Give card K.

- MMS, HBS, HAVO, VWO .... [5]
- HBO, univ. (HTS, HEAO, Soc. acad.) [6]
- other .... [7]
- no answer .... [8]

Thank you very much for your cooperation.

App. 3 Net response by age group, gender and ethnicity

age group	1987	1990	1994
12 - 15 years	3.9	3.5	4.7
16 - 19 years	5.9	5.4	3.8
20 - 24 years	10.5	10.0	8.8
25 - 29 years	13.4	12.9	13.9
30 - 34 years	10.1	10.9	11.5
35 - 39 years	8.9	9.9	10.9
40 - 49 years	13.2	15.1	17.0
50 - 59 years	10.4	10.0	9.6
60 - 69 years	12.0	10.2	8.4
70 years a.o.	11.7	12.1	11.5
total	100.0	100.0	100.0

gender	1987	1990	1994
male	47.8	46.8	46.0
female	52.2	53.2	54.0
total	100.0	100.0	100.0

ethnicity	1987	1990	1994
Dutch	82.4	82.5	81.0
Surinamese/Antillean	6.1	6.6	7.6
Moroccan	3.1	2.9	4.1
Turkish	2.9	2.9	2.4
other European	2.1	2.9	2.0
American	0.4	0.4	0.1
other	2.3	1.5	2.4
unknown	0.7	0.2	0.4
total	100.0	100.0	100.0

App. 4 Developments in drug use prevalence, by age group, 1987 - 1994 (percentages)

tobaco	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	22.7	16.6	22.1	12.8	8.6	16.3	8.7	5.1	11.6	172	175	86
16-19 years	53.5	45.1	45.7	41.2	34.8	34.9	35.8	30.3	33.3	260	264	129
20-24 years	72.3	63.7	66.7	58.3	54.2	57.0	53.3	48.6	44.3 °	458	465	228
25-29 years	74.2	70.5	66.1 °	60.0	55.7	53.6	54.7	50.8	49.5	585	594	289
30-34 years	77.3	73.3	66.5 °	58.1	59.1	46.6 °	54.7	54.2	40.3 °	444	450	221
35-39 years	80.2	75.2	72.9	62.9	55.4	53.1 °	57.5	51.4	47.9 °	388	395	192
40-49 years	77.3	77.3	73.1	55.2	52.3	53.1	52.8	48.9	47.6	576	585	286
50 years a.o.	73.1	69.4	67.4 °	40.3	38.1	36.8	38.0	35.3	34.4	1 492	1 515	739
total	71.6	67.4	65.3 °	49.6	46.3	44.9 °	45.9	42.5	40.0 °	4 375	4 443	2 170

alcohol	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	52.3	57.1	43.0	37.8	40.0	32.6	14.0	9.7	18.6	172	175	86
16-19 years	77.3	75.8	68.2	70.8	68.6	61.2	56.9	53.0	49.6	260	264	129
20-24 years	89.1	87.1	89.0	83.2	82.8	85.0	77.3	75.1	78.0	458	465	227
25-29 years	93.0	90.2	90.0	87.2	84.2	85.5	81.3	76.1	77.9	584	594	290
30-34 years	90.3	89.1	88.2	86.2	84.4	81.9	79.2	76.0	76.5	443	450	221
35-39 years	92.5	85.8	89.0	85.8	82.3	81.7	80.9	73.7	69.6 °	388	395	191
40-49 years	90.8	88.7	90.5	83.9	83.1	83.4	77.3	76.8	74.9	576	585	283
50 years a.o.	87.5	86.4	84.2 °	74.2	73.4	71.1	66.9	65.9	65.2	1 488	1 515	741
total	87.6	85.7	84.5 °	78.8	77.4	76.0 °	71.1	68.4	68.3 °	4 369	4 443	2 168

hypnotics	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	5.2	4.0	2.3	1.7	1.7	0.0	0.0	0.0	0.0	172	175	86
16-19 years	5.8	3.8	4.7	2.7	3.0	3.9	0.8	1.1	1.6	260	263	129
20-24 years	8.7	8.4	9.2	2.8	3.7	2.6	1.5	1.7	0.0	458	464	228
25-29 years	12.2	10.6	8.2	5.5	3.9	2.7	2.9	1.2	1.4	584	594	291
30-34 years	14.0	15.3	15.4	7.2	4.9	4.5	3.2	2.2	2.7	444	451	221
35-39 years	19.9	17.5	19.6	9.0	6.8	9.8	7.0	4.3	5.2	387	395	194
40-49 years	22.4	24.6	23.0	10.9	10.6	11.1	8.5	6.8	6.6	576	585	287
50 years a.o.	31.5	28.4	29.7	20.5	16.9	18.5	16.2	13.4	13.2	1 490	1 514	744
total	20.0	18.7	19.0	11.2	9.4	10.0	8.2	6.5	6.4 °	4 371	4 440	2 179

sedatives	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	2.9	4.0	2.4	0.0	2.3	1.2	0.0	0.6	0.0	172	175	84
16-19 years	8.1	4.2	7.8	3.8	1.9	4.7	1.9	0.8	0.0	260	263	128
20-24 years	15.7	16.8	16.3	7.0	6.0	7.5	3.7	1.5	2.2	458	464	227
25-29 years	15.9	16.2	18.6	6.8	5.6	8.3	3.9	3.4	4.1	585	594	290
30-34 years	21.2	18.7	16.9	9.2	7.3	4.6 °	5.4	3.3	2.7	444	450	219
35-39 years	24.0	20.8	21.7	10.6	8.1	7.4	5.7	5.1	3.7	387	395	189
40-49 years	27.2	26.2	25.4	11.1	12.5	13.0	7.8	9.1	9.2	577	585	284
50 years a.o.	29.2	25.3	26.4	16.0	13.2	13.4	12.3	9.7	9.8	1 490	1 512	732
total	22.2	20.2	20.8	10.7	9.2	9.7	7.3	5.9	6.0	4 373	4 438	2 152

App. 4 (cont'd) Developments in drug use prevalence, by age group, 1987 - 1994 (percentages)

cannabis	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	4.7	2.9	5.8	2.9	2.9	5.8	0.6	1.7	2.3	172	175	86
16-19 years	25.5	21.7	28.7	17.8	16.7	19.4	11.6	10.3	10.9	259	263	129
20-24 years	38.2	36.3	50.0 °	23.4	20.6	26.8	13.1	11.4	14.0	458	465	228
25-29 years	41.9	42.8	44.1	17.8	19.2	16.9	11.1	12.0	11.4	585	594	290
30-34 years	46.5	44.4	42.3	13.1	14.9	15.9	8.8	9.3	12.3	443	450	220
35-39 years	36.2	42.8	45.3 °	12.4	13.4	13.5	6.2	9.6	7.8	387	395	192
40-49 years	19.1	26.7	36.1 °	5.7	7.2	8.8	3.3	3.9	5.6	576	584	285
50 years a.o.	3.0	3.7	6.9 °	0.4	0.9	0.3	0.2	0.6	0.0	1 489	1 515	737
total	22.8	24.0	28.5 °	9.3	9.8	10.5	5.5	6.0	6.4	4 369	4 440	2 166

cocaine	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172	173	84
16-19 years	2.3	0.4	0.0	1.2	0.4	0.0	0.4	0.0	0.0	260	263	125
20-24 years	6.1	4.7	4.9	2.2	1.9	2.7	0.4	0.2	2.2	458	465	226
25-29 years	14.5	10.1	7.3 °	4.3	3.0	2.1	1.7	0.7	0.3	585	594	286
30-34 years	14.2	13.6	12.9	3.6	2.4	3.2	1.1	0.7	1.8	443	450	217
35-39 years	8.0	12.5	16.2 °	1.0	1.8	3.2	0.8	0.8	1.1	388	393	185
40-49 years	4.5	5.6	10.3 °	1.2	1.0	1.4	0.7	0.3	0.7	575	585	282
50 years a.o.	0.3	0.7	1.2 °	0.1	0.1	0.5	0.1	0.1	0.4	1 489	1 515	732
total	5.6	5.3	6.0	1.5	1.2	1.6	0.6	0.3	0.8	4 370	4 438	2 136

amphetam.	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	172	173	84
16-19 years	1.2	2.3	1.6	0.8	1.5	1.6	0.8	0.8	1.6	260	263	127
20-24 years	4.2	2.2	1.8	1.3	0.4	0.9	0.9	0.2	0.9	457	465	227
25-29 years	8.4	6.6	5.2	1.9	1.5	1.0	0.5	1.2	0.7	584	592	289
30-34 years	10.8	9.1	6.8	1.1	0.9	0.5	0.2	0.0	0.0	443	450	220
35-39 years	8.5	10.9	10.4	0.3	0.0	0.5	0.3	0.0	0.5	388	395	192
40-49 years	4.9	4.6	7.3	0.3	0.0	0.0	0.3	0.0	0.0	575	585	286
50 years a.o.	0.8	0.7	2.0 °	0.0	0.1	0.0	0.0	0.1	0.0	1 486	1 515	739
total	4.4	4.0	4.3	0.6	0.5	0.4	0.3	0.2	0.3	4 365	4 438	2 164

ecstasy	Lifetime		Last year		Last month		N	
	1990	1994	1990	1994	1990	1994	1990	1994
12-15 years	0.0	0.0	0.0	0.0	0.0	0.0	173	84
16-19 years	1.5	7.9	1.1	6.3	0.4	4.8	263	126
20-24 years	3.0	8.4	1.3	6.6	0.6	2.6	465	227
25-29 years	3.0	6.7	1.9	2.1	0.2	1.1	594	285
30-34 years	1.3	5.2	0.7	2.4	0.0	1.4	450	212
35-39 years	1.5	3.2	0.8	1.1	0.0	0.5	395	187
40-49 years	0.9	2.8	0.3	0.4	0.0	0.4	585	282
50 years a.o.	0.0	0.0	0.0	0.0	0.0	0.0	1 515	723
total	1.2	3.4	0.7	1.7	0.1	0.9	4 440	2 126

App. 4 (cont'd) Developments in drug use prevalence, by age group, 1987 - 1994 (percentages)

hallucin.	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	0.0	0.0	1.2	0.0	0.0	1.2	0.0	0.0	1.2	172	173	85
16-19 years	1.9	0.8	3.2	0.8	0.8	1.6	0.4	0.0	0.0	260	261	125
20-24 years	4.1	2.6	4.9	1.1	0.9	0.4	0.0	0.6	0.4	458	465	225
25-29 years	7.2	5.6	5.6	1.0	0.7	0.7	0.5	0.0	0.7	585	593	286
30-34 years	9.0	9.1	6.0	0.7	0.0	0.5	0.0	0.0	0.5	444	449	218
35-39 years	9.0	11.2	9.7	0.3	0.5	0.5	0.3	0.0	0.5	389	394	185
40-49 years	3.5	5.3	8.5 °	0.0	0.2	0.0	0.0	0.0	0.0	577	585	282
50 years a.o.	0.4	0.6	0.8	0.1	0.0	0.0	0.0	0.0	0.0	1 492	1 508	733
total	3.8	3.9	4.3	0.4	0.3	0.4	0.1	0.1	0.3	4 377	4 428	2 140

inhalants	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	2.3	0.6	0.0	0.6	0.0	0.0	0.6	0.0	0.0	171	173	85
16-19 years	0.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	260	261	127
20-24 years	2.0	1.3	2.2	0.9	0.2	0.0	0.7	0.0	0.0	456	465	227
25-29 years	1.4	2.2	3.1	0.2	0.7	0.7	0.0	0.3	0.3	585	593	291
30-34 years	2.7	0.7	0.9	0.7	0.0	0.5	0.5	0.0	0.5	443	449	217
35-39 years	1.3	1.8	1.6	0.3	0.0	0.0	0.3	0.0	0.0	388	394	192
40-49 years	0.7	1.0	1.4	0.2	0.2	0.0	0.0	0.0	0.0	575	585	285
50 years a.o.	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1 487	1 508	732
total	1.1	0.9	1.3	0.3	0.1	0.1	0.2	0.0	0.1	4 365	4 428	2 156

opiates	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	1.2	0.6	1.2	0.0	0.6	0.0	0.0	0.0	0.0	169	168	86
16-19 years	2.7	1.9	4.7	1.2	0.8	4.7	0.0	0.0	1.6	259	262	129
20-24 years	7.5	6.0	2.2 °	2.4	1.7	0.9	0.9	0.9	0.0	455	465	228
25-29 years	8.9	9.6	9.6	2.9	2.7	3.4	1.5	0.7	1.0	583	593	291
30-34 years	14.9	9.8	12.2	4.1	2.0	2.7	1.8	0.9	0.9	444	449	221
35-39 years	15.8	10.2	12.4	3.1	2.8	3.1	1.6	1.0	1.0	387	394	194
40-49 years	8.7	8.1	11.5	1.7	2.2	2.8	0.7	0.3	0.3	575	583	287
50 years a.o.	8.7	6.5	8.3	2.1	1.6	1.6	1.0	0.7	0.9	1 487	1 508	743
total	9.2	7.2	8.5	2.3	1.9	2.3	1.1	0.6	0.7	4 359	4 422	2 179

heroin	Lifetime		Last year			Last month			N		
	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	169	168	86
16-19 years	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	259	262	129
20-24 years	0.9	0.0	0.4	0.2	0.0	0.2	0.0	0.0	451	465	228
25-29 years	2.5	1.7	0.5	0.7	0.7	0.2	0.2	0.0	577	593	291
30-34 years	2.7	2.7	1.1	0.2	0.0	0.7	0.0	0.0	435	449	221
35-39 years	1.8	4.6	0.8	0.0	0.5	0.3	0.0	0.0	383	394	194
40-49 years	1.0	1.4	0.0	0.0	0.3	0.0	0.0	0.0	569	583	287
50 years a.o.	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1 475	1 508	743
total	1.1	1.2	0.3	0.1	0.2	0.1	0.0	0.0	4 318	4 422	2 179

App. 4 (cont'd) Developments in drug use prevalence, by age group, 1987 - 1994 (percentages)

no drug	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	40.1	39.4	48.8	57.6	56.6	61.6	82.0	87.4	74.4	172	175	86
16-19 years	17.7	21.2	26.4	24.2	28.8	31.0	36.2	40.2	44.2	260	264	129
20-24 years	6.6	8.6	8.8	11.4	11.6	11.0	14.8	17.6	14.5	458	465	228
25-29 years	3.6	5.4	5.8	6.3	9.8	8.6	9.9	14.6	13.7	585	594	291
30-34 years	5.2	6.2	6.3	8.8	9.5	11.8	12.2	12.9	17.2	444	451	221
35-39 years	4.1	7.6	4.1	8.0	9.6	8.8	11.3	14.4	14.4	389	395	194
40-49 years	3.5	3.6	5.6	7.8	7.4	8.0	11.6	10.8	11.8	577	585	287
50 years a.o.	3.6	5.5	6.9 °	10.8	14.4	15.3 °	15.8	19.7	19.1	1 492	1 515	743
total	6.4	8.1	9.3 °	12.0	14.2	14.9 °	17.4	20.4	20.1 °	4 377	4 443	2 179

pharm. drug	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	8.7	6.9	5.8	1.7	4.0	1.2	0.0	0.6	0.0	172	175	86
16-19 years	13.8	7.6	11.6	7.3	4.2	8.5	2.7	1.9	2.3	260	264	129
20-24 years	24.7	23.9	21.5	10.9	9.7	8.8	5.0	2.8	2.2	458	465	228
25-29 years	28.5	26.1	27.5	11.8	9.1	11.3	6.2	4.0	4.5	585	594	291
30-34 years	35.6	30.6	30.3	14.2	11.5	10.0	7.2	5.3	4.5	444	451	221
35-39 years	42.2	33.4	34.5	17.5	14.2	14.9	10.5	8.6	8.2	389	395	194
40-49 years	40.6	40.2	39.0	19.1	20.5	22.0	13.7	13.0	14.6	577	585	287
50 years a.o.	47.9	43.3	45.2	30.6	26.2	25.7 °	24.1	20.3	19.4 °	1 492	1 515	743
total	36.6	32.9	33.5 °	19.1	16.7	17.1	13.2	10.9	10.7 °	4 377	4 443	2 179

illicit drug	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	5.8	2.9	5.8	2.9	2.9	5.8	0.6	1.7	2.3	172	175	86
16-19 years	25.8	22.3	28.7	18.5	17.4	19.4	11.9	10.6	10.9	260	264	129
20-24 years	38.2	36.6	50.0 °	23.4	21.3	27.6	13.5	12.5	14.5	458	465	228
25-29 years	43.1	43.3	44.7	19.0	20.5	17.9	11.8	12.8	11.7	585	594	291
30-34 years	47.1	45.9	42.5	14.9	15.3	15.8	10.1	9.8	12.7	444	451	221
35-39 years	37.0	43.0	45.9 °	12.6	13.7	15.5	6.7	9.9	7.7	389	395	194
40-49 years	20.5	27.4	36.2 °	6.2	7.7	9.1	3.8	4.1	5.6	577	585	287
50 years a.o.	3.8	4.6	8.5 °	0.5	1.1	0.8	0.3	0.7	0.4	1 492	1 515	743
total	23.6	24.7	29.1 °	9.8	10.3	11.2	5.9	6.3	6.7	4 377	4 443	2 179

diff. drug	Lifetime			Last year			Last month			N		
	1987	1990	1994	1987	1990	1994	1987	1990	1994	1987	1990	1994
12-15 years	1.2	0.0	1.2	0.0	0.0	1.2	0.6	0.0	0.0	172	175	86
16-19 years	3.1	3.4	9.3 °	2.3	3.0	7.8 °	1.2	1.1	4.7	260	264	129
20-24 years	7.9	6.9	11.4	3.5	3.7	7.5 °	1.7	1.5	3.5	458	465	228
25-29 years	16.9	13.0	12.7	5.6	4.7	3.8	2.4	2.2	1.4	585	594	291
30-34 years	19.4	17.5	14.9	4.7	2.9	3.6	2.0	0.7	2.7	444	451	221
35-39 years	14.4	18.7	20.6	1.8	2.3	3.6	1.5	0.8	1.0	389	395	194
40-49 years	8.5	10.4	15.3 °	1.4	1.2	1.7	1.0	0.3	1.0	577	585	287
50 years a.o.	1.5	1.7	3.2 °	0.2	0.3	0.5	0.1	0.1	0.4	1 492	1 515	743
total	8.2	8.1	10.0 °	2.1	2.0	3.0 °	1.1	0.8	1.5	4 377	4 443	2 179

App. 5 Health scores by drug prevalence and out-of-home orientation (data weighted on age and ethnic composition)

ALCOHOL

	out-of-home orientation											
	low				medium				high			
	last year use				last year use				last year use			
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	639	1143	829	944	184	929	285	816	94	1115	147	1057
Physical Index	47.6	50.1	47.9	50.4	48.0	52.1	48.9	52.3	49.1	53.7	50.6	53.7
Mental Index	50.4	51.7	50.2	52.1	52.3	51.6	51.9	51.7	51.9	51.2	50.4	51.3
Bodily Pain	76	81	76	82	79	83	80	84	77	85	80	85
General Health Perc.	65	72	66	72	69	74	71	74	70	76	72	76
Mental Health	74	77	73	77	76	77	76	77	76	77	75	77
Physical Functioning	78	84	79	85	81	89	82	90	84	93	85	93
Role Emotional	78	84	78	85	83	85	84	85	83	84	79	85
Role Physical	72	79	72	80	71	83	73	84	77	88	79	88
Social Functioning	81	85	81	87	85	87	85	88	87	88	86	88
Vitality	65	69	66	69	68	70	67	71	68	72	67	72

PHARM. DRUGS

	out-of-home orientation											
	low				medium				high			
	last year use				last year use				last year use			
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	1436	363	1581	218	932	179	1013	98	1040	168	1115	94
Physical Index	50.1	45.8	49.9	44.0	51.9	48.6	51.9	46.4	53.0	52.6	53.0	52.3
Mental Index	52.8	44.7	52.4	41.8	52.9	45.3	52.7	41.9	52.8	45.3	52.4	43.9
Bodily Pain	81	67	81	61	84	74	84	68	85	80	85	79
General Health Perc.	71	63	71	58	75	62	74	57	76	70	76	68
Mental Health	78	63	78	58	79	65	78	59	79	67	78	65
Physical Functioning	84	75	83	71	89	83	89	76	91	90	91	89
Role Emotional	86	66	85	56	88	67	87	55	88	69	87	67
Role Physical	81	59	80	50	84	65	84	54	87	78	87	77
Social Functioning	87	70	86	65	89	75	89	67	90	78	89	75
Vitality	70	54	69	52	72	60	71	56	73	63	73	61

CANNABIS

	out-of-home orientation											
	low				medium				high			
	last year use				last year use				last year use			
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	1749	41	1765	23	980	120	1022	78	921	283	1039	163
Physical Index	49.0	51.8	49.0	53.3	51.5	53.8	51.6	53.3	52.9	54.5	53.3	53.0
Mental Index	51.8	49.4	51.9	43.7	51.9	47.1	51.8	46.2	51.7	47.4	51.7	43.9
Bodily Pain	79	84	79	84	83	84	83	84	84	85	85	82
General Health Perc.	70	69	70	69	73	75	73	74	76	74	77	65
Mental Health	76	70	76	62	77	70	77	68	78	70	78	65
Physical Functioning	82	82	81	88	88	89	88	89	91	94	92	93
Role Emotional	82	82	83	72	85	75	85	72	85	74	85	63
Role Physical	77	88	77	79	82	83	82	79	86	82	87	74
Social Functioning	85	84	85	75	87	83	87	82	88	86	88	83
Vitality	68	69	68	61	70	67	70	65	72	68	72	60

DIFF. DRUGS

	out-of-home orientation											
	low				medium				high			
	last year use				last year use				last year use			
	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
N =	1782	10	1789	4	1088	25	1107	6	1126	85	1156	55
Physical Index	49.0	52.5	49.0	51.3	51.5	54.0	51.5	56.1	53.1	52.8	53.1	53.3
Mental Index	51.7	40.1	51.7	31.5	51.8	45.1	51.6	48.2	51.2	51.5	51.1	52.4
Bodily Pain	79	72	79	54	83	87	83	94	84	84	84	86
General Health Perc.	69	67	69	60	73	66	73	74	75	74	75	75
Mental Health	76	63	76	59	77	66	77	75	77	75	77	75
Physical Functioning	81	73	81	61	88	89	88	93	92	92	92	91
Role Emotional	82	72	82	69	85	71	84	72	84	89	83	94
Role Physical	76	67	76	58	81	89	81	91	86	85	86	89
Social Functioning	84	69	84	63	87	78	87	82	87	90	87	92
Vitality	68	57	68	59	70	67	70	76	71	70	71	72